"*Bad Jobs*" for Families:

Job Quality and Family Outcomes in the Context of Labor Market Changes

By

So Jung Lim

A dissertation submitted in partial fulfillment of

the requirements for the degree of

Doctor of Philosophy

(Sociology)

at the

UNIVERSITY OF WISCONSIN-MADISON

2013

Date of final oral examination: 07/09/2013

The dissertation is approved by the following members of the Final Oral Committee:

James M. Raymo. Professor, Professor, Sociology

Carlson, Marcia. Professor, Professor, Sociology

Elwert, Felix. Professor, Associate Professor, Sociology

Schwartz, Christine. Professor, Associate Professor, Sociology

Smeeding, Timothy. Professor, Professor, Public Affairs and Economics

DEDICATION

This dissertation is lovingly dedicated to my wonderful daughter Allison (Jihoo): You have been my best cheerleader.

ACKNOWLEDGEMENTS

Without the support, patience and guidance of the following people, this dissertation would not have been completed. It is to them that I owe my deepest gratitude.

Foremost, I would like to express my sincere gratitude to my advisor Dr. James Raymo for his patience, support, and encouragement. I have been amazingly fortunate to have him as my advisor. I would also like to thank my dissertation committee: Dr. Marica Carlson, Dr. Felix Elwert, Dr. Christin Schwartz, and Dr. Timothy Smeeding, for their support and guidance. I am also grateful to Dr. Michel Guillot for his support and practical advice.

Special thanks to Steel Wagstaff for his editorial help. I am also grateful to my friends in Madison for their emotional support and friendship: Laure Blakeslee, Mei-Chia Fong, Nataile Kee, and IRP Writing Group (Jill Bowdon, Robert Klechen, Cher Li). In addition, I would like to offer my special thanks to Dr. Sharon Linzey for her support and prayers and Nanjoo Kim for her help and prayers.

Most importantly, I would like to express my heart-felt gratitude to my parents Jonghoon Lim and Soonja Park for their love, prayers, and support throughout my life. I also thank my aunt, Young-sook Hahan for her encouragement and prayers. Last but not the least, I am grateful for my daughter Allison who has been a perfect daughter for a working mom.

Finally, I appreciate the financial support from the Robert Wood Johnson Foundation for my dissertation research.

TABLE OF CONTENTS

ABSTRACT

My dissertation examines how changing labor market conditions in the post 1970s era, characterized by the deterioration and polarization of job opportunities and quality, have impacted key family outcomes in the United States. For this purpose, I use data from the National Longitudinal Survey of Youth 1979 and the NLSY79 Children and Young Adults to examine the relationships between various indicators of job quality and three key family outcomes: namely, marital formation, marital dissolution, and children's health. Built upon the growing body of literature on "bad jobs" and labor market changes, I incorporate various indicators of job quality, including the provision of health and pension benefits, nonstandard work schedules, and nonstandard employment.

Study findings suggest that job quality may be an important economic indicator for family outcomes (either practical or symbolic). I find that having employment with "bad job" characteristics, especially the lack of health insurance and pension benefits, significantly delays men's transition to first marriage. In addition, women's job quality is important for marital stability in that working in jobs without health insurance decreases the risk of divorce among women. I also find that a mother's low-quality nonstandard employment (e.g., part-time, contract work) is detrimental to her children's health, particularly so in single-mother families. The absence of health insurance from mother's nonstandard employment is associated with worse health outcomes for children in single-mother families than those in two-parent families.

As the first study to incorporate various measures of "bad job" quality in key family outcomes, my dissertation contributes to the theoretical discussions of the causes of family inequality since deteriorating job quality and increasing labor market inequality have been hypothesized as leading influences on family changes but have not yet been empirically tested.

Beyond theory, my research can also inform policy debates surrounding the linkages between work, family, and the well-being of both adults and children, as well as the implications of these relationships for the increasing inequality in the U.S. in the context of labor market changes.

Chapter 1

Introduction

I. Overview

The late twentieth century has been characterized by substantial changes in family life in the United States. Delayed marriage, high levels of divorce, and increased rates of cohabitation and nonmarital fertility are a few examples of such family changes (e.g., Casper and Bianchi 2002). These changes and their impact on inequality have been the subject of scholarly and public concern, especially since family behaviors with potentially negative consequences (e.g., divorce, nonmarital childbearing) tend to be concentrated among the disadvantageous (e.g., McLanahan 2004) and certain minority groups, e.g., blacks (e.g., Wilson 1987).

The period of substantial family changes has been also the time of rapid economic and labor market changes. Since mid-1970s, globalization, economic restructuring, and technological innovations have substantially altered employment landscapes in the United States. One important consequence of these changes is increased diversity and differentials in job opportunities and employment relations. From workers' perspective, these changes are associated with growing insecurity, inequality, and uncertainty in work and employment (Kalleberg 2009; Holzer et al. 2011). Discussions about the growth of "bad jobs" and contingent work, a decline in well-paid manufacturing jobs, and temporal changes in work (e.g., nonstandard work schedules) well reflect the rapid transformation of labor market and concerns about the consequences of these changes for workers and society (Kalleberg 2009, 2011; Osterman and Shulman 2011; Presser 2003).

These family and labor market changes are not only concurrent but also closely interrelated. Altering labor market context and the resultant changes in economic fortunes have been at the core of theoretical explanations for key family behaviors. The economic resources provided by employment have long been considered one of the primary determinants for marriage and divorce (Becker 1981; Oppenheimer 1988). The aforementioned labor market and economic changes, therefore, might have changed the nature of marriage bargain (Oppenheimer 1988) and inequality in employment opportunities may be linked to changes in the timing and patterns of union formation and dissolution (Conger, Conger, and Martin 2010; Oppenheimer et al. 1997). Altering employment opportunities and characteristics also have important implications for children's healthy development since parental employment has direct and indirect influences on parental resources such as income, time, and parenting quality (For a review, see Crosnoe and Cavanagh 2010).

The family literature is, however, limited in that most studies still conceptualize one's economic circumstances very narrowly, with a primary focus on income and education, often excluding employment from analyses (White and Rogers 2000). This is unfortunate given that the labor market has changed in a way which has increased diversity and differentials in employment in terms of both economic (e.g., wages, benefits) and noneconomic aspects (e.g., time and job stability) (Kalleberg 2011; Holzer et al. 2011; Presser 2003). As a consequence, narrow conceptualizations or even the exclusion of differentials in job quality in family studies prohibit us from understanding the economic circumstances of U.S. families in a broader social and economic context (Smock 2004; White and Rogers 2000). The need to incorporate measures that better reflect the nature and characteristics of employment has been raised repeatedly by family scholars (Conger, Conger, and Martin 2010; White and Rogers 2010).

Motivated by such realities and using nationally representative longitudinal data of adults (National Longitudinal Survey of Youth 1979) and children (NLSY79 Children and Young Adults), my dissertation begins to fill the gap in the family literature by examining the relationships between various indicators of job quality and three key family outcomes, i.e., marital formation, marital dissolution, and children's health. I focus on these three outcomes since employment quality and related economic resources form the basis of the economic foundation of marriage according to primary family theories (Becker 1981; Oppenheimer 1988, 1994). Marriage and divorce are also two behaviors at the core of theoretical discussions in the family literature since any changes in them are interrelated to other family outcomes (e.g., nonmarital fertility, cohabitation) (Amato 2000; Oppenheimer 2003; Seltzer 2000). More substantively, marriage and divorce have critical impacts on the overall well-being of all those involved, both adults and children (Waite 1995). Understanding the associations between parents' employment quality and children's outcomes is especially important in the U.S. where children's fortunes are increasingly determined by their parental socioeconomic and union status (McLanahan 2004). By examining these key family outcomes, I aim to provide a better picture of how inequality in employment quality is linked to intra- and inter-generational inequality.

As the first study to incorporate various measures of job quality, my dissertation contributes to the theoretical discussions of the causes of family inequality since deteriorating job quality and increasing labor market inequality have been hypothesized as leading influences on family changes but have not yet been empirically tested. Beyond theory, my research can also inform policy debates surrounding the linkages between work, family, and the well-being of both adults and children, as well as the implications of these relationships for the increasing inequality in the U.S. in the context of labor market changes in the post-1970s era.

II. Post-1970s Labor Market Changes: Decline and Polarization of Job Quality

Since the mid-1970s, work and the labor market context have undergone substantial transformations in the U.S. and other industrial countries. Driving forces for such marked transformations include globalization and deregulation, technological changes, the growth of knowledge-intensive work, and temporal changes in work in a 24/7 economy. As a result, the nature and quality of many jobs have been radically transformed as the deterioration and polarization of job quality have become characteristic features of the contemporary U.S. economy (e.g., Kalleberg 2009; Holzer et al. 2011). Changes in job quality are particularly important to our understanding of economic inequality in the United States as the risks of labor market changes become unevenly distributed. It is well documented that men have experienced a more significant decline in their economic standings relative to women (Fischer and Hout 2006). Those with low levels of educational attainment have lost substantial ground in the labor market as the labor market has changed in a way which favors educated and skilled workers (Autor, Katz, and Kearney 2006). Racial segregation has worsened, and African-Americans are particularly vulnerable to these changes, which has resulted in an increased concentration of poverty among this group (Fischer and Hout 2006). In addition to objective indicators, the perceived economic risk and instability of employment have also increased. A lifelong vocation becomes harder to achieve than before, and there is a growing fear about economic instability, with many workers worrying the possibility of future income decline (Gary 1998). The perception of economic risks is not limited to low wage workers, but has been found to be widespread across workers in most income distribution (Kalleberg 2009, 2011).

Conceptualization of job quality

In spite of a consensus that "good" jobs are declining, there is no established single indictor of what constitutes a "good job" since job quality and desirability are composed of several diverse aspects (for a thorough review, see Kalleberg 2011; also see Holzer et al. 2011). Aware of the multidimensionality of job quality, previous researchers have used several criteria to evaluate a job's overall quality. These criteria have included economic compensation, by which is typically meant direct earnings (i.e. wage) as well as fringe benefits resulting from employment (e.g., health insurance and pensions); job security; mobility and opportunities for advancement; and control and autonomy (For detailed discussion, see Kallberg 2011; Kalleberg, Reskin, and Hudson 2000; Holzer et al. 2011). It is, however, worth noting that some of job characteristics which are theoretically important components of job quality (e.g., job instability) are hard to measure and/or unavailable in most surveys. I will thus focus on several indicators of job quality that are most widely accepted and also available from the NLSY, the data source for this research, in the following section.

Wages: An employee's direct wage is the most widely accepted indicator of job quality since wages from employment are the major source of economic resources (Farber 1997; Jencks et al. 1998). Wages and salaries account for about three-fourths of family income in the United States, and the importance of wages in determining family's economic well-being is greater among low- and middle-income families with relatively little assets (Mishel, Bernstein, and Allegretto 2005). Two wage trends observed over the last few decades are particularly relevant to changes in job quality. First, stagnant overall and median wages have resulted in an erosion of real wages across the labor market. Second, wage inequality has widened, with top and upper-middle earners making comparatively more money while wages earned by lower-middle and bottom earners held steady. This rising wage inequality is one of important driving forces for the

decline of the middle-class in the United Sates (Fischer and Hout 2006) and have made wages a more critical determinant for one's economic status as economic inequality and insecurity have increased.

Fringe benefits: The second indicator of job quality that has recently received a great deal of attention is the provision of fringe benefits, especially health insurance and pension benefits. Faced by global competition, employers have increasingly sought to avoid providing health and pension benefits in order to save nonwage costs (Bosch, Mayhew, and Gautie 2010). Consequently, over the past several decades employment has been increasingly separated from employer-sponsored benefits (Ellwood et al. 2000). This erosion of employer-sponsored benefits has created a huge financial burden for workers and their families: the evidence suggests that only one out of four nonstandard workers (i.e., workers other than in regular, full-time jobs, see below for the definition of nonstandard work) are provided health insurance while three out of five full-time standard workers receive private health insurance from employment (Ditsler et al. 2005). Also, about one in five Americans spends more than ten percent of after-tax income on health care, including payment of health insurance premiums (Abelson 2010). Pension coverage has also declined since the 1970s. The proportion of workers receiving pensions from their employers declined from 50.6 to 42.8 percent between 1979 and 2006 (Mishel, Berstein, and Shierholz 2009). In addition to economic compensation, the provision of health insurance and pension plans can be considered a useful measure of job quality since the provision of fringe benefits are both often determined by structural factors and representative of workers' structured positions within the labor market (Kristal, Cohen, and Mundlak 2011). Since the decline in employer-provided health insurance and pensions is most pronounced among low wage jobs, the

provision of these benefits have contributed to the polarization of job quality in conjunction with earnings inequality (Kalleberg 2011; Price 2010).

For these reasons, wages and health and pension benefits together have become widely-used indicators for differentiating good and bad jobs (e.g., Kalleberg, Reskin, and Hudson 2000; Schmitt 2007). Kalleberg and colleagues (2000), for example, measured "badness" of employment based on three indicators: low wages (defined being in the bottom quintile of the wage distribution), no health insurance, and no pensions. Schmitt (2007) similarly defined "good jobs" as those which paid above inflation-adjusted median wages and featured employer-provided health insurance and pension coverage and defined a job to be bad if it offered below-median wages and no health and pension benefits.

Nonstandard employment: Another important labor market change that "bad job" literature has focused on is the growth of nonstandard employment. Nonstandard employment, also called contingent, nontraditional, or precarious work, is a term which refers to various employment arrangements that do not fit into the "traditional" standard employment, i.e., full-time, permanent employment. Examples of nonstandard employment include part-time, day labor, on-call work, temporary and contract work, and self-employment. Nonstandard employment has been received a great deal of attention in recent years since (1) its rising share in the labor force reflects structural shifts in employment relationships, (2) its precarious nature well demonstrates increasing economic insecurity and employment instability; and (3) its inferior job quality in terms of wages, job stability, benefits, structural protection may have negative consequences for workers and their families (e.g., Houseman and Osawa 2003; Kalleberg 2009). Nonstandard employment is usually considered as exemplars of "bad jobs" since many nonstandard employment arrangements are correlated with low wages, lack of fringe benefits, and job

instability (Ferber and Waldfogel 1998; Houseman and Osawa 2003; Kalleberg, Reskin, and Hudson 2000). The inferior job quality of nonstandard employment is demonstrated in that such bad job characteristics of nonstandard employment as low wages and lack of fringe benefits are not explained by individual human capital and demographic characteristics, family background, and industry and occupational characteristics (Kalleberg et al. 1997; Kalleberg, Reskin, and Hudson 2000).

Nonstandard work schedules: Economic transformation in the globalized economy has also resulted in substantial changes in the temporal organization of work. Most notable has been an increase in nonstandard work hours, which many believe has resulted from the growing demands of 24-hour service work (Presser 2003) and employment flexibility sought by both employers and employees, in part through controlling for work hours and schedules (Kalleberg, 2000). As a result, the proportion of workers with "standard schedules", i.e., 35-40 hours a week, distributed evenly from Monday through Friday, has been declining. According to Presser's estimate, roughly four out of ten workers aged 18 and over worked a nonstandard schedule in the late 1990s (2003). The consequences of rising nonstandard work schedules often include increases in both economic stressors (due to correlation with low wage jobs) and physical, psychological, and stressors resulting from working "nonstandard" hours like those commonly associated with evening shifts (for a review, see Presser 2003). More importantly, rising share of nonstandard work schedules increases work-time inequality and when taking into account such non-monetary aspects of employment as nonstandard hours, labor market inequality has been widened more than based solely on wages (or income) (Hamermesh 1999).

III. Job Quality and Family Outcomes

Decline and polarization in job quality should have substantial influence on individual workers, their families, and society (e.g., Kalleberg 2009). Growing evidence shows that the nature and quality of employment affect various outcomes such as short- and long-term financial well-being, physical and psychological health, and family relations (e.g., Benach and Muntaner 2007; Ferber and Waldfogel 1998; Kalleberg 2009; Presser 2003). Family literature suggests that these outcomes are important correlates or even determinants of key family outcomes; therefore, the changes in job opportunities and quality observed past decades discussed in the previous section may be closely related to (changes in) family behaviors (Conger, Conger, and Martin 2010; Smock 2004; White and Rogers 2000). I will discuss in detail how employment quality and characteristics might be linked to specific family outcomes in the following chapters. Here, I will briefly review some of the theoretical explanations and empirical evidence regarding the relevance of job quality for family outcomes.

First, the economic resources provided by employment are critical for the survival and material well-being of family members. As noted, wages and salaries are the major source of family income (Mishel, Bernstein, and Allegretto 2005). The importance of employment quality for the well-being of families is particularly salient in the U.S. context where key benefits (e.g., health insurance) rely on an employer-sponsored system. Therefore, the observed decline in the proportion of jobs with health and pension benefits, along with widening wage inequality, has resulted in diminished economic resources for workers to provide for their families, effects that have been particularly impactful on men, those without college degrees, and African-Americans (Fischer and Hout 2006; Holzer et al. 2011; Osterman and Shulman 2011). Not surprisingly, such deteriorating employment quality is linked to various family outcomes including retreat

from marriage, marital instability, and child development in the United States (e.g., Conger, Conger, and Martin 2010; Oppenheimer 1988; Wilson 1987; White and Rogers 2000).

Employment quality is also important for family outcomes since it may affect family life in indirect ways. There is evidence that economic instability and hardship increase stress and martial conflicts which may lead to marital disruption (Conger and Elder 1994; Conger et al. 1990; also see Conger, Conger, and Martin 2010 for a review). The nature and characteristics of parents' employment, such as work hours and schedules, are increasingly linked to children's various outcomes through both direct (e.g., income) and indirect (e.g., parenting quality) impact (Conger, Conger, and Martin 2010; Crosnoe and Cavanagh 2010).

In addition, job quality might be an important factor in understanding family behaviors due to its symbolic meaning as a marker of the economic feasibility of family life. In spite of the decline in marriage and persistently high levels of divorce, marriage still retains its symbolic meaning and has become a "marker of prestige" as well as the "achieved status" to signal the "attainment of a prestigious, comfortable, and stable style of life" (Cherlin 2004). The symbolic relevance of securing good employment on family life receives strong support from low-income family formation literature. Individuals' inability to meet the "economic bar", i.e., their inability to satisfy a minimum set of economic standards for marriage, which often require a "stable career" and "good job," is the major barrier to marriage among economically disadvantaged populations (Edin and Kefalas 2005; Smock, Manning, and Porter 2005). To the extent that a "good job" is a visible marker of one's suitability for marriage, job quality may affect both one's likelihood of marriage entry as well as their marital instability.

Lastly, linking job quality to family outcomes might help us to understand some key variations in family behaviors. For instance, securing a "good job" might be more important for

men's marriage relative to women since good employment might be an indicator of a man's ability to be a "good-provider," a role that is still widely perceived to be required of men. Even if women's labor force participation has increased, the gender gap in wages still exists and employed wives have remained "supplemental earners in their own and others' eyes" (Ferree 1980, 2010). Studies find that married women often do assume "supplementary roles" when faced by dual responsibilities from paid work and family: overwork results in women's labor force withdrawal but not necessarily men's (Cha 2010), mothers are penalized in earnings due to reduced labor force participation (Crittenden 2009; Budig and England 2001), and married women with high-powered careers are often forced to leave their jobs to attend to familial responsibilities (Stone 2007). All of this evidence implies that people's expectations of the quality of employment might be set differently for men and women. Evaluating gender differences in the relationships between job quality and family outcomes therefore may provide valuable insights into existing family theories. Of particular importance is the mixed predictions and empirical evidence on gender differences in the role of economic resources for marriage formation and dissolution, which I will focus on in the subsequent chapters.

V. Analytical strategy[1]

V.1. Data

In order to examine whether differences in job quality are related to differences in marriage entry and break-up and also whether such differences are associated with children's outcomes, I use nationally representative longitudinal data collected during the time of substantial labor market changes. Specifically, I use data from the National Longitudinal Survey of Youth 1979 (NLSY79) and the NLSY79 Children and Young Adults (NLSY79 Children). NLSY79 is a

[1] This section provides a brief description of data and methods. See each subsequent chapter for further details.

longitudinal survey of men and women born in the years 1957-64 (ages 14 to 22 years old in 1979) and provides information updated annually (biennially after 1994) on labor market activities and other significant life events (e.g., marriage and divorce). The initial sample size was 12,696 and the NLSY79 has high retention rates compared to other panel studies: in 1998/2000, around 85 percent of original sample (8,399 out of 12,696) was interviewed.

NLSY79 Children is a biennial survey, beginning in 1986, of the biological children born to NLSY79 female respondents. In addition to mothers' (and families') information from the original NLSY79, the child survey contains demographic, developmental, and health information on each child, which makes it exceptionally useful for examining intergenerational relations between parental employment quality and children's outcomes. Starting in 1994, children aged 15 and older were interviewed in a separate in-depth interview in addition to younger children sample (see Chapter 4 for details). The initial sample of children was not representative of all children in the U.S. due to young ages of mothers but the NLSY Children and Young Adults Survey become more similar to nationally representative data over time when the NLSY79 female respondents become mature (Bureau of Labor Statistics 2012). By 1998, the Children and Young Adults sample consists of 10,918 children (including 2,143 older children aged 15 and 20).

To fully take advantage of employment and marital history, I use data from the first wave to 2008, i.e., the most recent wave at the time of data analyses, and examine the relationships between job quality and marriage (Chapter 2) and job quality and divorce (Chapter 3). Chapter 4 evaluates how mother's employment quality (as measured by nonstandard employment) is associated with children's health outcomes. In this chapter, I use data from 1994 to 2008 since NLSY79 began to collect on nonstandard employment in 1994.

V.2. Methods

To evaluate the relationships of job quality with the transition to marriage (Chapter 2) and the risk of divorce (Chapter 3), I use discrete-time hazard models for predicting the event of interest. In Chapter 4, I estimate panel models that control for lagged measures of children's health considering the possibility of reverse casualty in that mother's employment might be affected by her children's health conditions.

V.3. Measures of job quality

In this study, I use several measures of job quality that reflect the changing nature and characteristics of employment as I discussed in the previous section. The rationale for including these indicators is based on previous research on "bad jobs" and employment quality (e.g., Houseman and Osawa 2003; Kalleberg, Reskin, and Hudson. 2000; Pressor 2003; Schmitt 2007). These measures of job quality are also chosen for the practical reason that data is available on these job characteristics from the National Longitudinal Surveys. More specifically, I consider lack of health and pension benefits, nonstandard work schedules, and part-time work (as a proxy of nonstandard employment for years when information on nonstandard employment is not available, i.e., 1979 to 1993) as "bad job" characteristics.[2]

I will use these measures to evaluate the role of each "bad job" characteristic is associated with the transition to first marriage and the risk of divorce (from first marriage) in Chapter 2 and Chapter 3. In Chapter 4, I evaluate the relationship of mother's employment quality with children's health outcomes by differentiating nonstandard employment and standard employment. Nonstandard employment is considered as a "bad job" due to inferior job quality

[2] I excluded low wages from the analyses in Chapter 2 and Chapter 3 since I control for the categorical measure of respondents' annual income which includes the bottom quartile (i.e., low wage jobs). The inclusion of the measure for low wages does little change (supplementary analyses) and I decided to drop it from the models for the sake of simplicity.

(e.g., low wages, no fringe benefits, instability, no union coverage, nonstandard schedules) (Houseman and Osawa 2003; Kalleberg, Reskin, and Hudson 2000) and potentially negative impact on workers (e.g., Ferber and Waldfogel 1998; Benach and Muntaner 2007) as noted. More substantively, nonstandard employment is particularly relevant to children's well-being because the expansion of nonstandard employment has been linked to the growth of mothers' labor force participation (Hakim 1997; Houseman and Osawa 2003; Kalleberg 2000). However, no study has directly evaluated how mother's nonstandard employment is related to children's health outcomes. In light of the correlation of nonstandard employment with "bad job" characteristics and the potentially moderating effects of family structure, I also test which specific job characteristics of nonstandard employment, i.e., low wages, no health insurance provision, nonstandard schedules, might help explain the association of mother's nonstandard employment with children's health outcomes, with a particular focus on family structure.

Chapter 2

"Bad Jobs" for Marriage: Job Quality and the Transition to First Marriage

Over the past few decades, we have observed dramatic changes in marriage in the United States including delayed marriage and increasing rates of cohabitation (e.g., Casper and Bianchi 2002). At the same time, marriage behaviors have increasingly diversified in such a way that behaviors with potentially negative consequences (e.g., non-marital childbearing, marital dissolution) tend to be more concentrated among the economically disadvantaged (e.g., McLanahan 2004) and within certain minority groups, and among African-Americans in particular (Ruggles 1994).

Sociological explanations for changes in marriage behaviors have long emphasized the importance of economic factors, many of which are closely related to labor-market behaviors. Earlier theories based on the specialization model predict that men's economic resources from employment are conducive to their marriage formation while women's participation in the labor force is negatively associated with marriage since employment both increases their economic independence and reduces their gains from marriage (e.g., Becker 1981). Later theoretical explanations argued that uncertainty in the labor market might have altered the nature of the marriage bargain (Oppenheimer 1988) and suggest that economic factors have become increasingly similar in their importance on marriage behaviors for both men and women (Sweeney 2002; White and Rogers 2000). In addition, unequal changes in the economic fortunes of different subgroups in the context of a changing labor market are hypothesized to be driving forces for diverging marriage patterns across these various subgroups. Most notable is the argument that the deteriorating economic standing of men, especially those with low educational attainment and who are low-skilled, is linked to delayed and less marriage and to educational and

racial differentials in marriage (Becker 1981; Oppenheimer, Kalmijn, and Lim 1997; Wilson 1987).

Although one's economic resources and labor market status are inseparable from their current employment, most previous studies have focused on education and income as a proxy for current and future economic prospects (White and Rogers 2000) and paid relatively little attention to individuals' employment. This is a serious limitation since the nature and quality of an individual's job, not just the mere fact of their having one, may increase in importance for marriage entry as job opportunities and employment quality have been diversifying in recent decades (e.g., Oppenheimer et al. 1997). Job quality may also matter for marriage formation in that having a "good" job typically signals the achievement of the appropriate socioeconomic resources and status expected for married couples (Cherlin 2004; Edin 2000). These possibilities, however, have not yet been empirically tested.

In this chapter, using data from the National Longitudinal Survey of Youth 1979 (NLSY79), I examine the extent to which the quality of jobs that individuals have are associated with the transition to first marriage. Specifically, I evaluate the role of various indicators of job quality on marriage entry including health insurance coverage and the provision of pension benefits, union protection, nonstandard hours, and part-time work, with a focus on differentials by gender and race. In doing so, my research will bridge disconnected literatures on work and labor market and on family formation by providing evidence on how job quality is intertwined with marriage behaviors. My study findings further contribute to the theoretical discussions of the causes of family inequality, including which have singled out the decline and polarization of job quality as leading influences on the retreat from marriage (e.g., Oppenheimer 1994; Smock 2004; White and Rogers 2000; Wilson 1987). In light of the benefits of marriage for various life

outcomes (e.g., Waite and Gallagher 2000) and policy efforts to promote healthy marriage, my research can also have important policy implications by helping identify effective policy interventions to remove the "economic bar" for marriage for both general population and subgroups.

Theoretical and Empirical Background

Changes in marriage behaviors

Marriage behaviors in the U.S. in the late twentieth century have changed substantially. Rates of first marriage, for instance, have consistently declined, while the percentage of adults who had never married rose from 5 to 19 between 1970 and 2000 (Fischer and Hout 2006; Fitch and Ruggles 2000). Similarly, the median age at first marriage rose by about four years during the same period (Fischer and Hout 2006; Fitch and Ruggles 2000). Changing marriage behaviors have been the subject of concern since marital status is closely related to the well-being of both adults and children (See Waite 1995 for a review). Studies have repeatedly documented that married people enjoy higher household income, higher likelihood of home ownership, increased access to health insurance, and better physical and psychological health compared to their unmarried counterparts (e.g., Waite and Gallagher 2000). Children's outcomes are also influenced by parental marital status, which has diverged by socioeconomic status, with lower-educated mothers (who are likely to partner with lower-educated men) being increasingly less likely to be in marital union than their higher-educated counterparts (McLanahan 2004). Discussions about "American family decline" and the "Marriage movement" demonstrate scholarly and policy concerns about changes in marriage and their impact on the wellbeing of American families (e.g., Cherlin 2004; Popenoe 1993).

In addition to the magnitude and pace of changes in marriage, demographic data worryingly indicates that there are substantial socioeconomic differentials in the patterns of

marriage behaviors. Among the most notable differentials is the divergence by educational attainment. Studies find that those with less than high school education are increasingly likely to live outside marital union while college graduates are more likely to enter and stay in marriage than their counterparts with lower levels of education (e.g., Fischer and Hout 2006; McLanahan 2004). Also, educational homogamy in marriage has increased from 1960 to early 2000s, reflecting an ongoing decline in the odds of marriage between those with low levels of education and those with more education (Schwartz and Mare 2005). As a result, the marriage market seems to be segregated into three groups: college graduates; those with a high school degree/ some college education; and those with less than high school education (for a review, see Cherlin 2010).

At the same time, differences in the pattern of marriage have widened across racial/ethnic groups, in particular between African-Americans and whites. Only 52% of non-Hispanic black women are expected to marry by age 30 in contrast to 81% of non-Hispanic white and 77% of Hispanic women (Bramlett and Mosher 2002). This marital disparity by race and ethnicity implies that the "deinstitutionalization" of marriage appears to be more pronounced among African-Americans than other groups (Cherlin 2004; Kreider and Simmons 2003). Decline in marriage among African-Americans is interrelated with other family behaviors with potentially negative consequences for adults and children, including nonmarital birth, single-parenthood, and poverty, all of which are disproportionally prevalent among African-Americans (e.g., Seccombe 2000).

Job quality and the transition to first marriage

The aforementioned changes in marriage have long been linked to changes in economic resources and prospects. In this section, I will discuss some of the theoretical reasons and

empirical evidence which suggest that job quality might be a key factor in marriage and detail some of the limitations of previous studies which have largely ignored the nature and characteristics of employment.[3] I will also examine competing hypotheses as to whether or not job quality is equally important for marriage among men and women. Lastly, I will consider the possibility that differences in job quality might help us understand marital disparity by education and race as labor market inequality has widened across educational spectrum and racial groups.

Why does job quality matter for the transition to marriage?

The underlying assumption in the literature on the role of economic resources for marriage formation is that people intend to enhance economic well-being through marriage either by role complementarity (Becker 1981) or income maximization (Oppenhermer 1998, 1997). These theoretical constructs are mostly operationalized with two economic indicators, (family) income

[3] In this analysis, I focus only on the transition to first marriage as an outcome of interest and treat cohabitation as an exogenous covariate. The primary reason for this approach is that marriage has been the theoretical focus as an economic unit or as a symbolic marker of achievement (e.g., Becker 1981; Oppenheimer 1988; Cherlin 2004). Secondly, information on cohabitation from the NLSY79 was not available until 2000. Prior to 2000, whether respondent is cohabiting or not at the time of interview is include in the questionnaire but the beginning date and duration of cohabitation cannot be determined. The supplementary data on partners updated later provides a unique identifying number for each partner/spouse so that researchers can identify the duration and outcome (e.g., married or not) of cohabitation by matching the names of partners obtained at each survey (Gryn et al. 2000). There are still a couple of limitations of cohabitation data, however. Even with the method of matching, short-term cohabitations, e.g, cohabitations formed and dissolved between surveys are missed. This might result in loss of substantial proportion of cohabitation given the short duration of cohabitation in the U.S. (Casper and Bianchi 2002) and such undercount of short-term cohabitation could introduce bias if those in unstable cohabitation have different characteristics from those in longer cohabiting relationships.

In the subsequent analyses, I plan to expand current research from different approach with NLSY97 which includes complete information on union history. In specific, I will treat cohabitation and marriage as competing risks and evaluate whether the role of job quality on union formation differs depending on marriage or cohabitation. I will also test whether the origin state (e.g., cohabiting or never-married) matters in terms of the relationships between job quality and union formation. For instance, job quality might not be related to the odds of marriage once respondents are in cohabiting unions considering the threshold effect of earnings on union formation documented by prior research (e.g., Oppenheimer 2003).

and education (See White and Rogers 2000 for a detailed review). Employment (and labor market status) have received less attention relative to the other two indicators based on the assumption that economic resources and the dimensions of employment are effectively represented by income or education (Conger, Conger, and Martin 2010; White and Rogers 2000). This assumption, however, might not hold since employment heterogeneity is increasing and the nature and quality of job may signal independent dimensions of economic resources not captured by the conventional indicators of educational attainment and income.

Consider fringe benefits, e.g., health insurance and pension plans, which are increasingly becoming a component of "good jobs" (e.g., Kalleberg et al. 2000; Schmitt 2007). As reviewed in the previous chapter, health and pension benefits account for substantial economic compensation within jobs. By excluding fringe benefits, therefore, a substantial proportion of the economic rewards that an individual gets from his or her job is ignored. Fringe benefits might be also important for marriage because they can function as safety net against risks and/or signal long-term economic prospects. In light of rising health care costs, the decline in the number of jobs with health insurance coverage, and the high proportion of the adult population who are uninsured, having a job that provides health insurance for an individual and or their dependents can be an attractive asset in the marriage market (Edin 2000; Edin and Kefalas 2005). As far as I know, there are no studies which explicitly examine the role of health insurance on marital decisions, but anecdotal evidence indeed suggests that some marry in order for a "legal" spouse to be covered by health insurance from the other spouse's employment (New York Times 2008). In addition, employer-provided pension benefits can be seen favorable in the marriage market since pensions are a form of long-term financial investment which reduce the risk of economic insecurity at old age. Evidence suggests that long-term economic prospects are often

more important for marriage entry than pre-marital economic resources (e.g., Xie et al. 2003). In light of increasing life expectancy and individual's growing post-retirement financial needs (e.g., Glass and Kilpatrick 1998), pension benefits might also become important considerations related to a family's economic well-being for participants in the marriage market.

In addition to economic rewards, job quality might have symbolic meaning as an indicator of the economic feasibility of marriage. Literature suggests that people's perception of economic "readiness" for marriage is multidimensional; many researchers have spoken of an "economic bar" or a minimum set of standards which determine one's readiness for marriage as including stable employment and good career (e.g., Edin and Kefalas 2005; Smock, Manning, and Porter 2005). The economic bar for marriage seems to have been raised as marriage is increasingly a "marker of prestige," and the "attainment of a prestigious, comfortable, and stable style of life" (Cherlin 2004). Family literature, in particular, low-income family formation literature (e.g., Edin and Kefalas 2005) has documented how the rising "economic bar" makes the transition to marriage difficult for those with few employment opportunities. Precarious economic circumstances, often due to the inability to find a "good job" which enables them to pay bills, save for a wedding, and purchase a car and house, is the predominant reason for barriers to marriage mentioned among people in the working and lower-middle class as well as the most economically marginalized groups (Cherlin 2004; Edin 2000; Edin and Kefalas 2005; Huston and Melz 2004; Smock, Manning, and Porter 2005). It is worth noting that the perception of an "economic bar" to marriage is not limited to the low-income population and is widely spread among the lower middle-class, regardless of race and gender (e.g., Smock, Manning, and Porter 2005). To the extent that marriage is "achieved status" (Cherlin 2004) and a "statement about each partner's current and prospective class standing" (Edin 2000), a

"respectable, decent, stable job" is a visible marker of one's suitability for marriage. This symbolic meaning of economic resources for marriage formation has not been tested much by quantitative studies, though Schneider (2011) has recently found a positive association between marriage entry and both an individual's personal wealth and the market value of their assets. Though their study was not an explicit evaluation of a career job's symbolic importance for marriage, Oppenheimer and colleagues (1997, 2003) also found that men's career immaturity, which signals unstable labor market status and/or inability to meet expectations to support for a family, delays the transition to marriage, an association which they found was independent of both education and income. This evidence all implies that having a "good" job, in particular, one that provides fringe benefits like health insurance and pensions, may be a particularly important marker for family formation in an American labor context where employees historically receive these benefits through their employment. And the provision of fringe benefits are strongly correlated with other indicators of job quality such as union membership and stability, which have been found to improve workers' economic well-being as well as multiple other dimensions of their employment quality (Kalleberg 2011).

Is job quality more important for men's marriage entry than women's?

In spite of several reasons to expect that job quality might be important for people's decision to marry, theoretical predictions about whether the relationship between job quality and marriage differs between genders are ambiguous. Studies have repeatedly documented that men's economic standings, measured by education, income, or (un)employment, are strongly related to their marriage formation. However, empirical evidence is inconsistent with regard to the effects of women's economic resources on their likelihood of marriage (e.g., Xie et al. 2003). This inconsistency might result from different expectations and norms of provider roles by gender,

probably set higher for men than for women (e.g., Christiansen and Palkovitz 2001). As noted above, men's ability to provide for their families is at the core of theories on the economic determinants of marriage (Becker 1981; Oppenheimer 1988). Being a "good provider" means performing a complex, multidimensional role that involves satisfying the various needs of family members, such as food, clothing, shelter, access to medical care, and other necessities (Bernard 1981; Lamb 1996; Snarcey 1993). Health insurance is an undoubtedly important resource for families in that it directly affects well-being and health of family members. To lesser extent, pension coverage might be expected for men since it signals men's ability as a provider in the long-term. Therefore, employment quality (in the sense of its provision of fringe benefits) may be a criterion to determine whether men are perceived as ready to form a family in the eyes of potential partners since "in the predominant conception of the good provider role, a man's chief responsibility was his job, rendering the family to subordinate significance" (Palkovitz 1996).

Do differentials in job quality help explain marital disparity?

As noted, marriage behaviors have increasingly divided across sub-groups, most notably, by socioeconomic status and racial identity. Family scholars have pointed out differential changes in employment opportunities as one of the primary driving forces for these observed marital disparities (e.g., Edin and Kefalas 2005; Wilson 1987). The first related hypothesis is that deteriorating economic fortunes for those with low education are responsible for the marital divide by education (i.e. lower marriage rates and delayed marriage among less-educated men and women compared to their highly educated counterparts) (For a review, see White and Rogers 2000). This hypothesis has received a great deal of support in that income, the most widely used economic indicator, is closely related with educational attainment (Teachman, Tedrow, and Crowder 2000; White and Rogers 2000). Similarly, in light of the concentration of "bad jobs"

among those with low education and little human capital (Autor et al. 2005; Kalleberg et al. 1997), lower marriage rates among the less educated might be due to their higher likelihood of having "bad" jobs relative to highly-educated individuals.

Differences in job quality might be also responsible for racial divergence in marriage formation. As well documented, African-American men were particularly vulnerable to labor market changes in recent decades (Fischer and Hout 2006), and the erosion of African-American men's economic status and resultant decline in the pool of marriageable men is one of primary explanations for the retreat from marriage among African-Americans (e.g., Edin and Kefalas 2005; Wilson 1987). There is evidence that African-Americans consider economic stability more important than whites and that African-American women are more reluctant to marry men who possess fewer economic resources when compared to white women (e.g., Bulcroft and Bulcroft 1993). More direct accounts from African-American women – mostly low-income – confirm that they aspire to marry "up or not at all," indicating that they choose not to marry at all unless certain sets of requirements, including a "good job" are satisfied (Edin 2000). The symbolic importance of securing a high quality job may also more salient among African-Americans than whites. Women in the same study indicated that marriage is a statement about "class standing" (Edin 2000) and "marrying up" with a spouse with a "respectable, decent, stable job" is a legitimate way to gain the respect of their community. Although no study has directly linked differences in job quality to marriage disparity by race or ethnicity, Schnieder (2011) found that the wealth gap explains roughly 30% of black-white gap in marriage for men (Schnieder 2011). Considering all this evidence, some portion of the observed racial gap in marriage between African-American and white men would be reduced if they share similar job profiles.

However, it is also probable that the posited role of job quality in explaining racial disparity in marriage would receive little empirical support. The strong concern and anxiety of African-American women about the economic standings of potential spouses reflect worsening economic standings of African-American men and the resultant decline in the number of marriageable men (e.g., Wilson 1987). This mismatch between the economic expectations of marriageability and young men's ability to achieve those expectations suggests that, even if African-Americans highly value marriage, this expectation is unlikely realized. In this scenario, null or very weak association between job quality and marriage will emerge among African-Americans given that relatively few African-American men are able to secure quality jobs which can distinguish themselves from the pool of marriageable men.

Data and methods

Data

As noted, data come from the National Longitudinal Survey of Youth (NLSY79). In order to fully capture marital and employment history, I use data from 1979 to 2008 (i.e., the first wave to the most recent wave available at the time of data analysis). The analytical sample comprises a total of 62,754 person-years of records for never-married men (34,696) and women (28,058) who are at risk of first marriage after applying listwise deletion.[4]

[4] Listwise deletion might introduce bias if those with missing information (are thus excluded from the analyses) differ from those with complete information. For example, respondents without information on income tend to be economically disadvantaged, who are also likely to have low quality jobs and form unions outside marriage. To evaluate the role of selection, I added additional category to indicate income missing in supplementary analyses. The general conclusions do not change with the inclusion of this additional category and I therefore exclude the indicator of income missing for the sake of simplicity of analyses. In the subsequent revisions, I plan to use multiple imputation techniques in order to further examine the potential role of selection in the relationships between job quality and marital transition.

In this analysis, I use discrete-time hazard models for predicting the transition into first marriage. Estimating discrete-time hazard models is appropriate given the outcome of interest and the nature of the data (i.e., annual survey). This method also allows me to examine how individuals' entry into marriage varies in relation to their job quality while also taking the role of age (baseline hazard) into account. Based on the results of preliminary analyses, I specify the baseline hazard of first marriage using linear and squared measures of age.

Measures

First marriage: The risk for first marriage is assumed to start at age 18 and individuals in the analytic sample are censored at the earliest of the following three events: first marriage, loss to follow-up, or the most recent survey in 2008. Using information on marital status updated every survey and the date of first marriage provided for respondents who ever married, I created full marital history for all years between 1979 and 2008 so as to identify each respondent's marital status in a calendar year, i.e., never-married, first married between two year intervals, and staying in first-marriage. In doing so, I define first marriage when a respondent was classified as never-married in the previous year (t-1) but is married in year (t). Due to the transition from annual to biennial intervals in 1994, years when interviews are not conducted, e.g., 1995, 1997, are excluded from the analyses since I cannot obtain information on key independent and controls variables, e.g., annual income and nonstandard work schedules even if I have information on marital status for these years. This exclusion of odd years after 1994 might not pose a serious problem given that the NLSY79 cohort is already aged 30 to 37 in 1994, past prime ages of first marriage. According to supplementary analysis, 7,970 never-married respondents aged 18 and over made a transition to first marriage during the observation period

(1979 to 2008) and 397 first marriages (about 5%) are reported in years when the NLSY79 is not conducted, e.g., 1995, 1997, or 2007.

Job quality: As noted, I measure job quality using several indicators. In specific, the provision of health insurance and pension plan are created using information on fringe benefits for each job that a respondent has. Both the provision of health insurance and pension benefits are dichotomous variables, coded as 1 if a respondent's employer provides health insurance or pension benefits. Nonstandard work hours are based on survey information about work hours and shifts, which include the following categories: regular day shift, regular evening shift, regular night shift, shift rotation (changes periodically from days to evenings or nights), split shift, and irregular schedule or hours. Respondents who reported having anything other than a regular day shift were coded as 1 and those working a regular day shift were coded as 0 (e.g., Strazdins et al. 2006). Part-time employment is coded as 1 if a respondent's reported work hours total less than 35 hours per week. For nonstandard work hours and pension benefits, I include a category for missing when these questions are excluded from the survey. For example, the provision of pension benefits is only available from 1986 onward, which results in a huge reduction of person-years for the years prior to 1986 with listwise deletion.

Controls: All models also include controls that might be related to both job quality and marriage (e.g., Michael and Tuma 1985; Sweeney 2002). Specifically, I include well-established economic and human capital resources associated with marriage formation such as educational attainment, enrollment status, and individual annual income (measured in year (t-1)). Considering the possibility that the association between income and marriage might be non-linear, annual income is divided into quartiles based on annual income distribution, separately by

gender. Since unemployment is negatively associated with marriage (e.g., Sweeney 2002), I also include employment status to identify whether a respondent is employed or not at interview.[5]

I also control for demographic characteristics such as urban/rural residence, race, gender, parenthood, experience of premarital cohabitation that might be associated with employment and union formation (e.g., Lichter et al. 1992; See Teachman 2000 for review). Since earlier family background affects later family behaviors (Michael and Tuma 1985), I also control for mothers' educationat attainment and whether the respondent was in a two-parent family at age 14. These variables are measured at the time of first interview. Except for race, gender, and family background characteristics, all controls are time-varying, measured at every survey.

To address research questions raised in the previous sections, I estimate six models: the baseline model includes the aforementioned conventional indicators of economic resources and human capital, i.e., education, enrollment status, income, and employment status, net of individual demographic characteristics, family background. The next four models (Model 2 to Model 5) evaluate how the posited measures of bad jobs are associated with transition to first marriage by introducing each indicator of bad job characteristics. The final model (Model 6, full model) examine whether the associations between each indicator of job quality and marriage holds while controlling for various aspects of job quality and background characteristics.

Results

Table 2.1 presents sample characteristics by race and gender. On average, 7.2 percent of men and 8.2 percent of women marry in a given year but there are substantial racial differentials. Both African-American men and women are much less likely than their white and Hispanic counterparts to enter marital union. Family characteristics also show divergences along racial

[5] This group consists of those unemployed and out of labor force, who were collapsed into one group due to relatively small numbers.

categories, in particular between African-Americans and other two groups. More than two thirds of white men and women were in intact families at age 14, in contrast to about half of African-American men and women. African-Americans, both men and women, also come from more disadvantaged families, measured by mother's educational attainment. Lastly, African-American men and women are much more likely to have a child(ren) than whites and Hispanics at the time of the interview.[6] These contrasting racial differentials in marriage and family characteristics are consistent with literature documenting the diverging patterns of family and labor market behaviors across racial groups.

[Table 2.1 about here]

Turning to educational attainment and income, there are again contrasting racial differences, which are larger than gender differences. The proportion of respondents who reported having lower rates of education attainment (i.e., having completed less than high school) is much higher among African-Americans and the proportion of having university education among whites is more than twice compared to African-Americans and Hispanics. Also, both white men and women have much higher income relative to African-American and Hispanic respondents.

With regard to employment status and job quality, there are notable gender and race differences. In general, men have better job quality than women and whites fare better than other racial groups. Specifically, whites, both men and women, are more likely to be employed than African-Americans and Hispanics. Among those employed, African-Americans and Hispanics have inferior job quality compared to whites, with particularly highest proportion of having "bad

[6] The higher proportion of parenthood among African-Americans results from the fact that the measure for parenthood indicates whether respondent has a child at interview (not a childbirth between interviews) and the fact that African-Americans usually begin childbearing earlier than whites. So this measure reflects cumulative parenthood in a given year.

jobs" (i.e., low wage jobs without health insurance and pension benefits) among African-American males (23 percent of employed African-American men, author's tabulation). In addition, the proportions of those with "bad job" characteristics, i.e., low wages, no health and pension benefits, are higher among African-Americans and Hispanics relative to whites for both men and women. The prevalence of nonstandard work hours is similar among men (27.9 percent) and women (25.6 percent), reflecting relatively young age and marital status (i.e., never-married) of respondents in my analytic sample. Table 1 also shows that roughly one out of four women are working in part-time jobs.

Next, Table 2.2 to Table 2.9 present results from discrete-time hazard models to predict the likelihood of the transition to first marriage in a given year. Given the nature of outcome variables, i.e., whether a respondent married between two waves, logistic regression analysis is used. In light of the substantial gender and racial differentials in marriage formation and research questions which examine whether the relationships between job quality and marriage differ by gender and race in this study, I estimate models with a pooled sample (i.e., men and women together) and also separately by gender and race (e.g., Oppenheimer, Kalmijn, and Lim 1997; Sweeney 2002). All models include age and squared term of age as a baseline hazard and various controls that might be associated with job quality and marriage as noted above.

[Table 2.2 about here]

According to table 2.2 that reports results for men, men's economic resources are positively associated with marriage, consistent with existing theories and evidence. Specifically, college graduates are the most likely to enter marriage in a given year, 1.6 times higher than high school graduates at baseline (Model 1). Being in the top income quartile is also associated with a greater likelihood of marriage: Those from the highest quartile are 200 percent more likely than

those in the bottom quartile to marry. As for the racial differences in marriage entry, African-Americans are least likely to marry (32 percent less likely than whites, the reference group). But no differences in the odds of marriage are found between white and Hispanic men. Results from Model 1 also show that non-employed men are 29 percent less likely than those employed to marry.

The next four models (Model 2 – Model 5) evaluate how each indicator of job quality is related to marriage entry. I find that no health insurance (Model 2), no pension benefits (Model 3), nonstandard work hours (Model 4), and part-time job (Model 5) all reduces the chance of marriage, ranging from 11 to 20 percent. These results provide supporting evidence that health insurance, pension benefits, work schedules, and employment type represent important dimensions of economic resources and/or symbolic relevance for marriage formation not captured by income and education. In model 6 (full model), pension benefits lose significance in the presence of health insurance provision (supplementary analysis), implying that health insurance is a more important indicator for men's marriage relative to pensions. Working with nonstandard schedules is still associated with lower odds of marriage although the evidence becomes weaker (significant at $p<0.1$). Supplementary analysis also reveals that working with nonstandard schedules is negatively associated with the transition to marriage and this is due to the prevalence of nonstandard schedules among part-time workers. Results from Model 6 also show that part-time employment reduces the odds of marriage by 14 percent (compared to having a full-time job) even after taking into account other job characteristics (e.g., health and pension benefits, work schedules). This negative relationship of nonstandard employment with marriage entry is consistent with "bad job" literature documenting unstable labor market status and inferior job quality of nonstandard employment arrangements to full-time, standard jobs

(e.g., Houseman and Osawa 2003; Kalleberg, Reskin, and Hudson 2000). This finding thus implies that men with part-time jobs might not be seen financially or symbolically ready to form a family. The lower likelihood of marriage among black men and the strong positive association between university education and marriage observed in previous models, however, still hold even after controlling for various measures of job quality.

[Table 2.3, 2.4, and 2.5 about here]

Table 2.3 to Table 2.5 present results for men by race in order to examine racial differentials in the relationships between job quality and marriage formation. I find that at baseline higher education (i.e., college degree) and income are positively associated with marriage entry regardless of race. One small difference is that above median income significantly increase the odds of marriage among Hispanic men while white and black men in second to fourth quartiles have greater likelihood of marriage than those in the bottom quartile. Results from subsequent models (Model 2 to Model 5 of Table 2.3 to Table 2.5) show that there is some variability across racial groups in terms of the relationship between job quality and marriage entry and that this relationship may depend on the dimension of job quality. Specifically, results from Model 2 indicate that working on a job without health insurance significantly decreases the chance of marriage for all racial groups (significant at $p<0.1$ for Hispanics). This result is consistent with the prediction that health insurance might be one of resources or commodities expected for men as a provider. Interestingly, working on a job without pension benefits has a negative relationship with marriage for African-American men (Table 2.4, Model 4, $p<0.01$), but not for white and Hispanic men. Combined together, results from Model 2 and Model 3 of Table 2.4 suggest that both health and pension benefits are probably expected for African-American men as desirable or necessary resources as suitable

marriage partners. This finding provides supporting evidence that African-Americans, especially women, place much emphasis on economic resources (Edin 2000; Edin and Kefalas 2005). I also find that nonstandard work hours decrease the odds of marriage by 28 percent among Hispanic men but work schedules are not associated with marriage entry for white and black men. It is also worth noting that having a part-time job significantly lower the odds of marriage among white and Hispanic men, but not among Black men.

The results from the full model (Model 6) generally replicate the results of previous models that evaluate the role of each indicator of job quality on marriage formation: having a job without health insurance and part-time work decrease the odds of marriage for white men. For African-American men, pension benefits as well as health insurance are associated with the transition to marriage. However, health insurance and pensions are not related to the odds of marriage among Hispanic men, probably reflecting their poor employment conditions, as there is little variability in terms of job quality among young Hispanic men.

[Table 2.6 about here]

In the next several tables, I present the results of a comparable analysis for women. Model 1 of Table 2.6 (comparable to Table 2.2) shows that, similar to men, higher education and income significantly increase the odds of marriage for women. Women having some college or university education are 16 to 41 percent more likely than high school graduates to marry and those with above the median income have 47 to 63 percent higher odds of marriage relative to those from bottom income quartile (Table 2.6, model 1). Non-employment is negatively associated with marriage for women too. Model 2 to Model 5 report results of the models that add each indicator of job quality, i.e., the provision of health and pension benefits, nonstandard work schedules, and part-time employment progressively. In contrast to men, I find that only

two posited indicators of job quality (i.e., pension provision and part-time work) are related to women's marriage entry. The finding that only pensions, but not health insurance, are associated with women's marriage is interesting compared to strong associations of both health and pension benefits for men's marriage (Table 2.2). This result, however, is not unexpected. It is probable that health insurance might be seen as more urgent and critical to meet immediate needs of family (e.g., health care service, insurance premiums) and considered as a package of expectations for men's provider role but not necessarily for women. Studies indeed show that married women tend to rely on their husband's jobs for health insurance coverage and this is the primary reason why the proportion of women with health insurance drops substantially after divorce (Lavelle and Smock 2012). On the contrary, the nature of pensions such as the preparation for long-term economic security and the desire to save more (from multiple accounts) make women having a job with a pension more desirable in the marriage market than their counterparts without pension plans. Alternatively, it might be the case that pension provision is correlated with other dimensions of job quality that are particularly conducive to marriage such as family-supportive policies and environment (e.g., flex time) and job security (e.g., union coverage).

Results from the Model 5 of Table 2.6 indicate that, as was the case for men, a part-time job reduces the likelihood of marriage among women. Even if women are disproportionately represented in nonstandard employment arrangement, in particularly part-time jobs (Kalleberg 2000), my study finding implies that part-time work might signal women's unstable labor market status and is not conducive to transition to marriage. The strong negative relationship of having a job without pension benefits and part-time employment with women's marriage formation remains even when all of hypothesized job characteristics are included in the final model (Table

2.6, Model 6). It is also worth noting that the strong positive association between women's high income and education still hold even after controlling for several indicators of job quality and background characteristics.

[Table 2.7, 2.8, and 2.9 about here]

Table 2.7 to Table 2.9 present results for women by race, identical analyses for men (Table 2.3 – Table 2.5). Results of Model 1 generally replicate the finding for all women (Table 2.6): higher levels of educational attainment (i.e., completion of a university degree) and higher income increase the odds of marriage for women. With regard to the role of specific indicator of job quality on marriage entry, I find that for white women having a job that does not provide pension benefits decreases the odds of marriage by 26 percent compared to working on a job with pension plans. This finding might reflect inferior job quality and employment opportunities of African-American and Hispanic women than white women, which result in less variability in terms of pension coverage among African-American and Hispanic women. I also find that part-time employment is negatively associated with transition to marriage relative to full-time employment among white women (Table 2.7, Model 5). But for Black and Hispanic women employment type (i.e., full-time or part-time employment) is not significantly associated with the likelihood of marriage. It would be an interesting research question to explore in future studies why it is *only* among white women that nonstandard employment decreases the odds of marriage.

Conclusions and discussion

In this chapter, using data from the National Longitudinal Survey of Youth 1979 spanning from mid-1970s to late 2000's, I examined how job quality is associated with the transition to first marriage using various indicators of job quality, i.e., fringe benefits, work schedules, and

employment arrangements. Results from the discrete-time hazard models confirm that, two widely used economic indicators, namely education and income, are positively associated with marriage for both men and women. Being unemployed also decreases the likelihood of marriage, regardless of gender. More importantly, my study findings show that job quality matters for both men and women's marriage formation, *net of* education and income. For men, all indicators of bad jobs decrease the chance of marriage by 11 to 20 percent. Failure to secure a full-time, standard job also delays men's entry to marriage. This significant association between job quality and marriage holds across racial groups although this association differs depending on the dimension of job quality examined.

Compared to men, only two of four indicators of job quality are related to women's likelihood of marriage formation, suggesting that job quality may matter for men than women. As discussed, this gender difference in the relationship between job quality and marriage is consistent with previous research that repeatedly documented positive association between men's economic resources and marriage formation (e.g., Oppenheimer et al. 1997), but mixed results for women (e.g., Sweeney 2002; Xie et al. 2004). My finding may also reflect persistently stronger expectations for men to act within families as a provider (e.g., Ferree 2010; Palkvitz 1996), an expectation which requires men to provide various economic resources beyond income (e.g., Bernard 1981). Such expectations of a "good job" as a prerequisite for marriage are frequently listed as a major barrier to marriage among unmarried and cohabiting people from the low-income as well as middle-class (Smock, Manning, and Porter 2005).

More broadly, this gender difference in the relationship between job quality and marriage entry may reflect changes in the labor market context experienced by young men and women in recent decades (e.g., Smock 2004). Employment inequality and insecurity is widespread but

men have experienced more deterioration in employment opportunities and greater within-group inequality relative to women (e.g., Bernhard et al. 2011). These changes indicate that there exist more variability and inequality in terms of men's labor market standing, which has resulted in the greater importance of prioritizing men's economic resources and prospects upon marriage entry from women's perspectives (England 2004). In this sense, men's job quality might have become an indicator of importance in women's mate selection.

I hypothesized that differential job quality may help explain educational differences in marriage. But educational differences in the likelihood of marriage, in particular much higher odds of marriage among university graduates for both men and women, largely remain even after various job characteristics are taken into account. This result might be related to the nature of indicators of a "bad job" used in my study since such "bad job" characteristics are strongly correlated with low education (Kalleberg, Reskin, and Hudson 2000). It is also probable that the relationship of job quality with marriage may be different for those at different parts of the socioeconomic spectrum. For example, the relevance of private pension coverage (either practical or symbolic) may be different for those at the bottom of the wage-scale and those who belong to middle-class. One fruitful way to test this possibility might be the estimation of interactions between socioeconomic status and measures of job quality in marriage formation.

My results also document that differences in job quality do not take away the racial gap in marriage. African-American men and women are still much less likely than whites to marry even after various aspects of job quality and background characteristics are controlled for. It is probable that other dimensions of job quality not captured by the definition of a "bad job" I've used in my analyses (e.g., subjective job instability and tenure), might be more appropriate for understanding how job quality is linked to marriage behaviors among African-Americans. In

light of substantial racial differentials in marriage behaviors observed in the United States, additional future research with more through measures of job characteristics is needed to further evaluate these possibilities.

Finally, I would like to conclude by enumerating some of the limitations of the present study and offering some suggestions for future research. First, I measured job quality using several indicators beyond conventional measures of economic resources, including the provision of health insurance and retirement plan, nonstandard work schedules, and part-time work. Although these indicators are widely recognized measures for job quality, they are far from exhaustive. Some researchers, for instance, pay attention to other indicators of job quality, e.g., union coverage, collective bargaining rights, fixed-term employment (e.g., Kalleberg et al. 2000). Many panel data including NLSY79 are limited in that they provide relatively few indicators of job quality. One promising way to address this limitation might be to add indicators of job quality (e.g., average tenure and turnover rates) from other macro-level data sources (e.g., O'NET) to individual-level data. In addition, job quality might be a very subjective construct; therefore, characteristics such as job satisfaction, autonomy, or employee's perception of job stability that more directly reflect individuals' preference or priority could be helpful to examine how job quality affects marital decisions.

Second, I only examined how job quality is associated with the transition to first marriage and did not consider cohabitation. Marriage is the outcome that most theories have focused on; however, cohabitation should be also considered in the future studies considering the prevalence of cohabitation and evidence on the possibility that a perceived economic bar exists for marriage among cohabitors (Smock, Manning, and Porter 2005).

Third, it is worth noting that selection might be related to both individuals' job quality and their likelihood of marriage. I controlled for a range of compositional differences such as demographic, socioecomic, and family characteristics, but unobserved characteristics (e.g., attitudes) might still be responsible for the relationship between job quality and marriage formation. Future studies which deal more explicitly with unobserved heterogeneity, e.g., fixed-effects models, should help show the extent to which selection plays a role in the association between job quality and marriage behaviors.

Finally, I examined how differences in job quality are associated with marriage by evaluating the experience of NLSY79 cohort. Built upon the findings from this study, comparing the experiences of multiple birth cohorts, e.g., using NLSY79 and NLSY97, will be useful to evaluate the extent to which changes in job quality contributed to changes and inequality in marriage in the U.S.

Chapter 3

"Bad Jobs" for Marriage: Job Quality and the Risk of Divorce

Currently, the rate of divorce in the United States is among the highest of any of the industrialized countries (Bumpass 2004). Persistently high levels of divorce in the United States have long been a subject of concern for sociologists and policy makers, since divorce has negative implications for those involved, in particular for the well-being of children (McLanahan and Sandefur 1994). These demographic trends and substantive concerns have motivated a great deal of research on the causes of divorce. Since divorce occurs in the context of marital unions, prominent theoretical explanations for divorce (e.g., Becker 1981), like those which apply to marriage formation, have also focused on the role of economic prospects for marital stability.

However, divorce literature is limited in that it has historically paid less attention to differentials in employment quality as research on marriage has done. This is unfortunate, since to the extent that economic resources from employment are a critical source of economic stability the nature and characteristics of employment may be linked to marital stability (Becker 1981; Oppeheimer 1988). Furthermore, if marriage becomes a signal of "attainment of a prestigious, comfortable, and stable style of life" (Cherlin 2004), the symbolic importance of a "good job" that allows its holder to satisfy the basic expected economic standards of marriage may be critical for successful marriage. Therefore, the lack of attention to employment quality and characteristics in the divorce literature means that this literature, too often, has failed to fully situate marriage within its broader social and economic context (Kalleber 2009; Smock 2004).

Recognizing this limitation, in this chapter I examine the association between job quality and the risk of divorce from first marriage. I pay particular attention to gender differentials in

the role of job quality on marital stability since theoretical expectations and empirical evidence are mixed about the direction of the relationship of women's economic resources with the risk of divorce (for a review, see Amato 2010). In doing so, my research will extend the literature on the causes of divorce by taking employment quality into account, a feature which has been largely ignored by previous studies. More broadly, the results of this chapter, combined with research on marriage (Chapter 2), will help understand how marriage formation and dissolution are affected by a changing labor context increasingly characterized by a deteriorating and polarized job quality.

Theoretical and empirical background

U.S. divorce rates have risen dramatically since the mid-1960s. The crude divorce rate (i.e., number of divorces per 1,000 people in the population) increased 136% from 2.2 in 1960 to 5.2 in 1980 (Casper and Bianchi 2002). These rapidly increasing divorce rates peaked around 1980 and have declined slightly since then (Goldstein 1999). But the level of divorce in the United States is still high, remaining very close to the highest level among all industrialized countries. Estimates show that roughly half of first marriages will end in divorce (Schoen and Canudas-Romo 2006).

Existing theories and previous research

As was the case for marriage, predominant perspectives on divorce emphasize the economic benefits and stability generated from marriage (e.g., Becker 1981; Oppenheimer 1988, 1994). Therefore, economic resources, usually measured by income and education (as a proxy for economic prospects), are posited to be conducive to marital stability. Theoretical expectations are consistent that men's economic resources increase marital stability (Becker 1981; Oppenheimer 1988). However, predictions about the relationship of women's economic

resources with marital stability are inconsistent. According to the specialization model, a woman's economic independence has destabilizing effects because it reduces her expected gain from marriage (Becker 1981). However, the cooperation model suggests that wives' financial contributions will have stabilizing effect since labor market uncertainty and resultant changes in the marriage bargain have "made it difficult for husbands alone to provide financially for the family" (Oppenheimer 1988, 1994; also see Amato 2010 for literature review).

Empirical evidence confirms that men's economic resources are beneficial to marital stability (Amato 2010; White and Rogers 2000). Men's earnings are negatively associated with the risk of divorce (Hoffman and Duncan 1995; South and Lloyd 1995) and unemployed husbands' are twice more likely than employed husbands to divorce in five years of marriage (Bumpass et al. 1991). The inverse relationship between men's educational attainment and the risk of marital dissolution is also well documented (Raley and Bumpass 2003; Tzeng and Mare 1995).

By contrast, the empirical evidence for the association of women's economic resources with the risk of divorce is mixed. Studies document no relationship or a negative relationship of women's economic resources and divorce (Greenstein 1995; Hoffman and Duncan 1995; Sayer and Bianchi 2000; South and Lloyd 1995). Some studies have found a nonlinear relationship: women at the lower and higher end of income distribution are less likely to divorce relative to those in the middle (Heckert, Nowak, and Snyder 1998; Ono 1998). Interestingly, there is some evidence suggesting that women's employment increases the risk of marital dissolution, but the observed negative relation between women's education and divorce has become weaker over time (South 2001).

One explanation put forward to explain these inconsistencies argues that the stabilizing effect from wives' financial contribution might outweigh the destabilizing independence effect or vice versa (Amato 2010; Amato, Booth, Johnson, and Rogers 2007; Greenstein 1990; Oppenheimer 1988). Some researchers also point out that women's earnings and the risk of divorce might be non-linear (Heckert, Nowak, and Snyder 1998; Ono 1998) as suggested by the literature on women's economic resources and gender division of housework (Ferree 1990, 2010). Another possibility is that women's economic resources help them to leave troubled marriages and that the observed positive relationship, if any, between women's economic independence and divorce is a reverse causality (Sayer and Bianchi 2000; Schoen et al. 2002). Such mixed evidence does reflect theoretical inconsistences on the role of women's economic resources on marital stability. More importantly, these mixed findings across different indicators imply that the relationships between economic resources and marital stability are complex, particularly for women, and call for the need to broaden our conceptualization of economic factors in order to better reflect the multi-dimensionality of economic resources and understand the role of economic resources on marital stability.

Why does job quality matter for marital stability?

Given the centrality of economic standing and resources in theories on divorce, changes in employment opportunities and job quality in the past decades may have a substantial impact on marital stability. It is therefore surprising that the nature and characteristics of employment have received little attention in studies on divorce even as differentiating and deteriorating job quality has increasingly become the subject of much scholarly and public concern (Kallberg 2011; Holzer et al. 2011; Osterman and Shulman 2011). This lack of attention to (changes in) employment quality is also recognized by family scholars. There is a concern that studies of

divorce have not yet addressed the consequences of more recent changes in men's economic circumstances for marital stability and that a broad conception of socioeconomic standings, particularly one which includes education, earnings, employment characteristics and security, can extend research in a useful way (e.g., Smock 2004; White and Rogers 2000). This limitation may thus prohibit our understanding of the role that economic factors play in marital dissolution since there are several theoretical and empirical reasons to expect that job quality is an important dimension of economic resources for marital stability.

First of all, securing a high quality job is critical to ensure both current and future economic security. As noted, wages and salaries account for a substantial proportion of family income, especially among low- and middle-class families (Mishel, Bernstein, and Allegretto 2005). In addition, fringe benefits, as additional economic compensation brought by employment, are also critical for family economic security. Having a job with health insurance, for instance, may become more important in light of rising health care costs and employers' increasing reluctance to provide employees with health insurance as part of their employment package. Very little research has sought to establish linkages between the availability of health insurance and marital stability but anecdotal evidence indeed suggests that health insurance may keep some people from otherwise filing for divorce as "the need for insurance may prolong unhappy marriages" (Sack 2008). The provision of health insurance might be important for marital stability since marital union tends to involve children, and the healthy development of children is undoubtedly a top priority for parents. According to one recent survey, parents remain concerned about the coverage and costs of health insurance as well as the quality of health care their children can receive even when they have private health insurance (C.S. Mott Children's hospital national poll of children's health 2009). Having health insurance is probably

a more important consideration for women than it is for men. Evidence shows that 115,000 women lose their private insurance after divorce each year (Lavelle and Smock 2012), losses which are largely attributable to their being dropped from insurance which had been provided by their ex-husbands' employers. Such loss of health insurance is more problematic for women who are insured as dependents on their husbands' health insurance. Women with full-time work and higher education, who are more likely to have health insurance coverage through their own employment, are less affected by divorce (Lavelle and Smock 2012). Therefore, we might assume that a husband's employment in a job which provides health insurance for his entire family probably decreases the likelihood of divorce for women, since women are more likely than men to lose health insurance coverage upon marital break-up.

Retirement or pension benefits may be also important for economic security, especially from the long-term perspective. As is now well-documented, married people enjoy better financial well-being than their unmarried counterparts. One underlying reason is that married couples accumulate more assets, savings, and home ownership which they plan to transmit to their children out of consideration for their children's future economic well-being (Waite 1995). Therefore, having a job that comes with a pension or retirement plan might be conducive to marital stability since they help to ensure old-age economic security and reduce the burden of care incumbent upon children or other dependents. It is not clear, however, that the extent to which such a long-term perspective can have an immediate impact on current marital stability and whether there are gender differences in its importance of pensions on marital stability.

In addition to diminished economic resources, having a "bad job" may increase the risk of divorce through its indirect effect on marital quality and stability. Evidence suggests that economic pressures and insecurity are associated with marital instability and one mechanism is

that economic insecurity tends to increase husbands' hostility and wives' depression, which in turn reduces both spouses' relationship quality and marital happiness (Conger and Elder 1994; Conger et al. 1990: Conger, Conger, and Martin 2010). The possibility that the lack of economic resources or economic insecurity might be detrimental to marital stability is also documented from the low-income family formation literature. As discussed in previous chapters, women cite concerns about anticipated economic hardships after marriage due to men's inability to secure "good jobs" as one of their primary reasons for not marrying (Edin and Kefalas 2005). Therefore, a job with decent wages and fringe benefits, also correlated with other desirable job characteristics (e.g., job stability), might function as a buffer against economic uncertainty and insecurity (Oppenheimer 1988; Kalmijn and Luijkx 2005). This sense of security from good employment might become more important for marital stability as actual and perceived economic risk and insecurity has increased (Kalleberg 2009). There is some evidence that subjective indicators of job characteristics (e.g., distress and depression resulting from employment) is often a stronger predictor of family outcomes relative to objective job characteristics (e.g., job stressors) (Perry-Jenkins, Repetti, and Crouter 2000).

Job quality might also have symbolic relevance for marital stability. As previously discussed, marriage is increasingly a "marker of prestige," which signifies one's "attainment of a prestigious, comfortable, and stable style of life" (Cherlin 2004). In this sense, a "respectable, decent, stable job" is a visible marker that couples have achieved the suitable economic standing expected for marriage (Cherlin 2004; Edin 2000; Smock, Manning, and Porter 2005). The perception of an economic bar to marriage is frequently cited as a major barrier to marriage entry among people not only from low-income but also working and middle-class backgrounds (e.g., Edin and Kefalas 2005; Smock, Manning, and Porter 2005). If such a perception of an economic

bar to marriage exists, the pressure to maintain this standard might be even stronger for married couples. Inability to meet the economic standards expected for marriage might create tension and stressors for married couples. It is obvious that a failure to have a "real job" -- which equals a job with decent income and key fringe benefits -- falls behind the standard in couples' own as well others' eyes (Edin 20000; Kalleberg 2011). Indeed, low-income women point out that having "good jobs" signals a couple's class standing and permits them to take a visible place in their community; therefore, they would rather wait to marry until they (both themselves and future spouses) are considered ready (Edin 2000). This symbolic importance of securing a high quality job is probably more important for men than for women if the normalized role of provider is still most frequently assigned to and assumed by men (Ferree 2010; Palkovitz 1996). However, it is also worth noting that the symbolic importance of having a "good job" is mostly discussed within the context of marriage formation and theoretical predictions are not clear about the extent to which it matters for marital stability once couples step over the "economic bar".

In sum, theoretical predictions are in general consistent about the relationship of job quality with men's marital stability. But, as noted, it remains a question as to whether job quality still has the same symbolic importance once men enter into a marital union if the symbolic value of a "good job" overweighs the actual economic value derived from it. On the contrary, predictions about the relationships between women's job quality and marital stability are complex. If the nature of marriage bargain has changed in a way that favors both spouses' economic contribution, then women's having "bad jobs" would be expected to increase the risk of marital dissolution. But the economic independence which comes from working in a "good job" might help women escape unhappy marriages. In this scenario, having a high quality job might be positively associated with divorce (e.g., Amato 2010; Sayer and Bianchi 2000).

Alternatively, it is also plausible that women's domestic responsibilities and gendered expectations about parenting make women to choose jobs which are of not-so-great quality but which are conducive to their efforts to combine work with familial responsibilities, e.g., low-wage part-time work without benefits (Hakim 1995). This scenario also leads to similar predictions: bad jobs would either be negatively associated with divorce or job quality does not matter for marital instability.

Data and methods

Data

Data come from the National Longitudinal Survey of Youth (NLSY79). I use data from 1979 to 2008 (i.e., the first wave to the most recent wave available at the time of data analysis) as noted (See previous chapters for details). I estimate discrete-time hazard models of predicting divorce from first marriage. Specifically, individuals in marital union enter the observation window at the baseline survey and are censored at the earliest of the following three events: divorce, loss to follow-up, or the most recent survey in 2008. Based on preliminary analyses, the baseline hazard of divorce is specified using linear term of marital duration. Except for the measures that I include the indicator of missing, e.g., pension benefits (see below), missing cases are handled using list-wise deletion. After applying these restrictions, the analytical sample is comprised of a total of 52,953 person-years of records for men (25,341) and women (27,612) who are in their first marriage.

Measures

Divorce: Divorce is identified when a respondent who was in their first marriage at the previous year (t-1) left marital union at year (t) and is determined from respondents' marital history (e.g., date of first marriage and divorce) and annually updated information respondents provided about

their marital status.[7] Since the NLSY79 switched to biennial survey in 1994, 717 divorces (18.5%) out of 3,872 are lost due to the exclusion of odd years after 1994, e.g., 1995, 1997, and 2007. The exclusion of divorces that recorded in "off-years" (e.g., 1995) may introduce bias if those who divorce in years when the NLSY79 is not surveyed (e.g., 1995) substantially differ from those who divorce in years of interview (e.g., 1996). But this selection bias is very unlikely to happen unless there is a period effect that fluctuates in every other year.

Job quality: As descried before, I measure job quality with several indicators including pension benefits, nonstandard work schedules, and part-time work. See the section on methods in Chapter 3 for the construction of measures of job quality.

Controls: All models include controls that might be related to both job quality and divorce, such as economic and human capital characteristics (e.g., educational attainment, income), demographic characteristics (age, urban/rural residence, race, gender, parenthood, experience of

[7] While I focus on divorce, many studies of marital dissolution use separation as the event of interest. One of reasons to focus on divorce, not on separation, is that a couple of key independent variables are very sensitive to the legal termination of marriage. For instance, health insurance provision through spousal employment discontinues upon divorce, not upon separation. As noted, health insurance is often cited as a reason to keep unhappy marriages (Sack 2008). Therefore, the use of separation as an outcome of marital dissolution might underestimate the association of bad job quality, e.g., health insurance provision and marital dissolution by including couples who do not officially terminate marriage for the sake of health insurance and other benefits. In addition, although most separation result in divorce, many people attempt to reconcile or reunite during the course of separation and divorce. For this legal ambiguity of separation, some respondents who are separating identify their marital status as "married" or "divorced," instead of choosing "separated" if there is uncertainty about whether they may end up in reunification or divorce.

Nevertheless, the use of divorce might result in the treatment of some separations which likely end up divorce as being in marriage. If bad job quality is associated with separation to the similar extent that it is associated with divorce, my approach might underestimate the relationship between having a "bad job" and marital instability. In light of the higher proportion of permanent separation among Blacks compared to White, little racial differences in the association between job quality and marital dissolution in my analyses is possibly related to the use of divorce as a measure of marital dissolution. In the subsequent revisions, I plan to estimate alternative models with the combined measure of divorce and separation to test whether the role of job quality on marital instability is sensitive to the choice of measures for marital dissolution.

premarital cohabitation), and family background characteristics (mother's education, whether the respondent was in an intact family, etc.) (e.g., Raley and Bumpass 2003; Bumpass, Castro Martin, and Sweet 1991; Lillard, Brien, and Watie 1995; Waite and Lillard 1991). Also see Chapter 3 for further details on the construction of these control variables.

In addition to these controls, I also include age at first marriage since age at marriage and the risk of divorce have been shown to have an inverse association (e.g., DaVanzo and Rahman 1993). Since spousal characteristics may shape the respondent's job quality and the risk of divorce, I also control for spouse's economic and human capital resources and employment characteristics (e.g., Hoffman and Duncan 1995; South and Lloyd 1995). In specific, all models include spouses' annual income (logged), that is the total sum of income from employment, business, or military work in the past calendar year. Educational attainment of spouse is a categorical variable, consisting of no high school education, high school, some college, and college/university degree. The binary variable of spouse's employment status (1 = non-employed) is also included in all models. The final measure of spouses' job characteristics is whether a respondent has health insurance via their spouse's job. Since the source of respondents' health insurance is not available for some waves, I include a category of missing to maximize sample size.

Analytically, I estimate six models as did in the previous chapter. By doing so, I aim to evaluate the role of job quality on the entry to and exit from marriage in a parallel way. The baseline model begins with conventional indicators of economic resources and human capital available to a respondent and his/her spouse, as well as demographic and family background, and a spouse's employment status and health insurance coverage. The subsequent models (Model 2 to Model 5) examine the role of each hypothesized indicator of job quality (health insurance

provision, pension benefits, nonstandard work hours, part-time work) on marital instability. The final model (Model 6), which includes all of hypothesized measures of job quality, evaluate whether the relationships between each measure of job quality and the risk of divorce observed in the previous models remain the same in the presence of other dimensions of job quality. .

Results

Table 3.1 shows sample characteristics in terms of percentage and standard errors. Consistent with other studies, men in my analytical sample, who are in first marriage, have relatively high incomes: more than two-thirds of married men report income above the median. Roughly half of men have some college or university education and vast majority are employed. With regard to measures for job quality for men, the majority have employer-provided health and pension benefits, 77% and 66%, respectively. These statistics, again, reflect better employment quality for married men relative to their unmarried counterparts.

[Table 3.1 about here]

Turning now to examine women's employment characteristics in the analytic sample, married women do not have high incomes comparable to those earned by married men. As for employment status, about one in five married women are out of the labor force while majority of men are employed. Relative to married men, married women are also less likely to have jobs with employer-sponsored health insurance and pensions, 53.9% and 48.6%, respectively. They tend to work with nonstandard schedules and in part-time jobs more frequently than do married men. Considering that gender differentials in educational attainment are very small, women's inferior job quality implies that the economic resources earned through married women's employment are probably supplementary to those of men, either due to women's domestic responsibilities or social expectations of male provider role (Ferree 2010).

[Table 3.2 about here]

Table 3.2 presents results from discrete-time hazard models to predict the likelihood of marital break-up in a given year for men. Since divorce is our outcome of interest, I used logistic regression analysis. Results from the model 1 show that age at first marriage is inversely associated with divorce, consistent with prior studies (e.g., DaVanzo and Rahman 1993). The risk of divorce also decreases as marital duration goes up. As for the relationship of men's economic resources and human capital with marriage, college education significantly reduces the risk of divorce, as it is 41% less likely to occur for those with a college education than for those without a high school degree. Men's own income is not associated with the hazard of divorce but it is due to the fact that the inclusion of education takes away the negative association between high income and divorce (supplementary analysis). Results from Model 1 also show that wife's higher education and higher income decrease the risk of divorce, which appears to provide supporting evidence for the coprovider model that favors wives' economic contribution to family. But at the same time having a non-employed wife is also negatively associated with divorce suggesting that the relationships between married women's employment status and characteristics and marital stability are complex, often influenced by spousal characteristics. I will discuss this in further detail below (Table 3.3).

Model 2 to model 5 add each various indicators of job quality in order to evaluate the role of posited job characteristics on the risk of divorce among men. I find that none of indicators of job quality (low wages, lack of health and pension benefits, nonstandard work schedules, and part-time work) is significantly associated with marital instability once the economic resources and human capital of respondents (in particular education) and their spouses are taken into account. These results might also imply that, as previously noted, for men the economic bar for

marriage mainly functions upon marriage entry but once the bar is passed, it might not greatly affect marital stability. This is a speculative explanation which needs to be verified by future research.

[Table 3.3 about here]

Table 3.3 presents the results of a comparable analysis for women (who are in first marriage). Results for the baseline model show that longer marital duration and later age at first marriage reduce the risk of divorce for women as do for men. Among control variables, interestingly, black women have lower odds of divorce than white women, which is probably a reflection of the fact that black women tend to separate instead of filing for divorce so that the use of legal divorce in this analysis undercounts marital disruption of black women (e.g., Martin and Bumpass 1989). It might also result from the use of list-wise deletion because it could selectively include black women who are in first marriage and likely have better employment characteristics and thus have a lower risk of divorce compared to black women in non-marital union (who are excluded from the analytical sample). I will replicate my analyses using multiple-imputed data in subsequent revisions in order to test this possibility.

Turning next to women's own economic characteristics, I find that higher education, i.e., the possession of a university degree is negatively associated with divorce, which replicated the finding for educational attainment among men. Women's income is not related to the risk of divorce, but this is due to the correlation between women's income and employment status (supplementary analysis). Results from Model 1 also show that non-employed women are much less likely to divorce than those who are in the labor force. This negative association between women's labor force participation and divorce contrasts with the null association between men's income and marital instability (Model 1 of Table 3.2). Combined together, these results might

imply that women's withdrawal from the labor force is conducive to marital stability due to benefits from specialization (Becker 1981) and/or women's inability to leave marriage due to economic dependence (Sayer and Bianchi 2000; Schoen et al. 2002). At the same time, the mixed results for other indicators including education and income also imply that the relationships between women's economic resources and hazard are complex and multi-dimensional, depending on which dimensions of economic factors are examined.

The results from the subsequent models (Model 2 to Model 5) show that, among the various indicators of job quality, the lack of health insurance from their own employment decreases a woman's risk of divorce by 22% compared to her counterpart with a job providing health insurance. If a woman's employment does not provide her with health insurance but she is insured through her husband's employment, her risk of divorce significantly decreases ($p<0.05$, results not shown). These results are consistent with the expectation that health insurance might be a key consideration for women's decision to stay in marriage if she cannot secure high quality employment that covers health insurance (Lavelle and Smock 2012; Sack 2008). Given that the loss of health insurance persists for a couple of years after divorce and contributes to financial hardship for divorced women (Lavelle and Smock 2012), reliance on a husband's health insurance may signal important economic benefits from marriage, independent of income and other economic indicators. The provision of pension benefits from women's employment, however, is not related to the hazard of divorce. According to supplementary analysis, divorce risks also decline ($p = 0.05$) if a wife receives health insurance from her husband *and* her job does not provide pensions. In addition, results from the full-model show that there is a weak evidence that women's nonstandard work schedules are negatively associated with marital stability ($p<0.1$) in the presence of other job characteristics. However, the relationships between

posited indicators of job quality and the risk of divorce observed in the previous models change little.

Conclusions and discussion

In this chapter, using National Longitudinal Survey of Youth (NLSY79), I examined the extent to which various measures of job quality are associated with marital instability while paying particular attention to gender differences in these associations. Prior research generally documents positive relationships between men's economic resources (mostly measured by income and education) and marital stability (Becker 1981; Oppenheimer 1988). This evidence implies that inferior job quality might increase men's risk of divorce since such job characteristics as low wages and the lack of fringe benefits are directly related to economic rewards from employment (Kalleberg 2011). Job quality might also matter for marital stability since the symbolic importance of good employment for marriage, as literature on union formation suggests, may create tension and conflict when couples cannot satisfy the basic economic standards expected for married couples (Edin and Kefalas 2005). Failure to secure a "good job" might be harmful for men's marital stability more than for women's, particularly if it compromises men's ability to function as in the expected "provider" role (Ferree 2010). In addition, in contrast to the consistent predictions about men's job quality and marital stability, there are competing hypotheses about the relationships between women's job characteristics and the risk of divorce. More specifically, the coprovider model suggests that women's having "good jobs" is conducive to marital stability through their economic contribution from employment. Women's high quality job, however, might increase the risk of divorce if it enhances women's economic independence (Becker 1992) or helps women escape from bad marriages (Amato 2010; Sayer and Bianchi 2000).

In sum, my results do not provide strong evidence for the hypothesized positive relationship between men's having "good jobs" and marital stability. None of the several measures of job quality is significantly associated with marital instability for men (Table 3.2). This null association of men's job quality with divorce indicates that the economic and symbolic relevance of job quality remains small once education and income, which are correlated with job quality, are controlled for. These findings also raise the possibility that the symbolic relevance of a "good job" for men to satisfy economic standards for marriage disappears once couples make the transition to marriage, which results in the null association between men's job quality and the risk of divorce.

Interestingly, my results show that women's withdrawal from the labor force decreases the risk of divorce while men's employment status is not related to marital dissolution once income and education are taken into account. This finding appears to be consistent with the economic independence hypothesis (Becker 1981) but it is also probable that non-employed women stay in marriage due to their inability to provide themselves (Sayer and Bianchi 2000; Schoen et al. 2002). Study finding that the provision of health insurance is significantly associated with women' marital stability adds supporting evidence for this possibility: if women are working in jobs without health insurance and receive health insurance coverage from husbands' employment, then the likelihood of divorce significantly decreases. Combined together, these findings seem to support the hypothesis that women's lack of ability to provide themselves (through high quality jobs that provide health insurance) decreases the risk of divorce by increasing women's gains from marriage.

My result is consistent with the importance of marital status for women in terms of health insurance coverage (Lavelle and Smock 2012) and the possibility of health insurance for women

to stay in marriage (e.g., Sack 2008). As far as I know, my study is one of the very few studies to examine the role of health insurance for marital stability as one of the economic benefits associated with marriage. As noted, previous studies on divorce mostly focused on income and education as a proxy for economic standing so that very little is currently known about how employment quality affects marital stability, especially from a quantitative approach. My study shows that the significant association between the availability of health insurance and women's divorce is independent of women and husbands' education, income, and employment status. This finding thus suggests that the economic resources considered by people who choose to stay in or away from marriage are multi-dimensional and that more broad measures are needed to fully understand such complex relationships (Amato 2000; Conger, Conger, and Martin 2010; Smock 2004). More importantly, considering job quality might help understand gender differentials in the role of economic resources on marital stability (which previous research have not reached a consensus) since expectations and responsibilities as a provider and caregiver might be very different depending on gender.

Lastly, I would like to discuss some limitations of the current research and offer a few suggestions for future research. Built upon my study findings, more research is needed to identify mechanisms linking job quality and marital stability. For example, employment quality could impact marital stability via the indirect effects of economic hardship and insecurity (Conger and Elder 1994; Conger et al. 1990: Conger, Conger, and Martin 2010). It is possible that poor job quality might increase stress, which in turn affects couple's relationships and ultimately can contribute to marital break-up. Unfortunately, NLSY79 provides relationship quality only for women and information on psychological or mental stress is also only available to middle-aged respondents (ages over 40). Research using data from other sources is needed to

identify pathways through which employment quality and characteristics might directly or indirectly contribute to other factors affecting marital instability.

Another limitation of using the NLSY79 is that I could not fully consider spouses' employment characteristics. Considering the finding that relationship between job quality and the risk of divorce differs by gender, studies using data with more detailed information on employment characteristic for both spouses will be helpful to fully understand the relationships between couples' employment dynamics and union dissolution.

Chapter 4

Mothers' Nonstandard Employment and Children's Health

The rise of nonstandard employment (i.e., part-time, temporary or contract work) in the U.S. and many developed economies over the past several decades has become a concern since it has potentially negative implications for workers, their families, and society (Kalleberg et at. 2000; Kalleberg 2009). Research shows that nonstandard employment tends to offer low wages, no fringe benefits, and is associated with job instability (Houseman & Osawa, 2003; Kalleberg et al., 2000). These "bad job" characteristics are connected to negative outcomes for workers, including short- and long-term financial well-being (e.g. Ferber & Waldfogel, 1998) and physical and psychological health (e.g., Kim et al., 2006; also see, Price & Burgard, 2007).

The literature on nonstandard employment is, however, limited in that it mostly focuses on adult workers' outcomes. To date, very little research has examined the implications of parents' nonstandard employment for children (Yoshikawa et al., 2006). This oversight is unfortunate, given that both the economic (e.g., income and benefits) and non-economic resources (e.g., time) from parental employment are critical for children's healthy development (Conger et al., 2010). Therefore, concerns about the inferior job quality of nonstandard employment suggest that parental nonstandard employment may have detrimental effects on children by compromising parental resources and parenting quality. Low wages and the absence of employer-provided health insurance, commonly found among nonstandard jobs, for instance, are well-established determinants of children's health (Conger et al., 2010; Seccombe, 2000).

Another reason to study the impact of nonstandard work on children is mothers' overrepresentation in nonstandard employment (Kalleberg, 2000; Houseman & Osawa, 2003).

Mothers' concentration in nonstandard employment is often attributed to flexibility associated with nonstandard jobs, which may help mothers balance work and family obligations (e.g., Blossfeld, 1997; Hakim, 1997). However, very few studies have examined whether children do in fact derive theorized benefits in terms of health outcomes when their mothers have nonstandard employment.

Finally, nonstandard employment is particularly important for children's health since it may exacerbate existing inequality among children by making those disadvantaged more vulnerable. Two different perspectives regarding maternal nonstandard work, i.e., one concerned about inferior job quality and another favoring flexibility, would each imply that whether mothers' nonstandard employment is beneficial or harmful for children depends largely on the availability of other resources that can buffer resource deficits from maternal nonstandard jobs (e.g., low wages, no health insurance). As a result, mothers' nonstandard work might be particularly detrimental to children's health in single-mother families where mothers play the role of both provider and parent. Such potentially negative association between single-mothers' nonstandard employment and children's health is worrisome in light of the prevalence of single-mother families and the generally unfavorable outcomes for children in these families (McLanahan & Percheski, 2008).

Motivated by the gap in the previous research, this study begins to document the relationship between mothers' nonstandard employment and children's health using nationally representative longitudinal data on children (NLSY79 Children and Young Adults) and mothers (National Longitudinal Survey of Youth 1979). Methodologically, I estimate panel models that control for children's previous health conditions given that children's health might also affect mothers' employment decisions. Study findings will expand our understanding of how mothers'

work affects children's well-being in the context of labor market changes, featured by rise in precarious work and deteriorating job quality (Autor et al., 2006; Kalleberg 2009, 2011). To the extent that mothers' nonstandard employment interacts with family structure in producing negative health outcomes for children, this study will also help shed light on the mechanisms of the transmission of intergenerational inequality (e.g., McLanahan and Percheski 2008).

Theoretical and empirical background

The expansion of nonstandard employment and adult outcomes

The expansion of nonstandard employment is a consequence of broader economic changes that we have observed in the post-1970s era, a period characterized by globalization, economic restructuring, and growing employment instability (Kalleberg, 2009). Nonstandard employment, also called nontraditional employment, precarious employment, or contingent work, refers to a variety of employment arrangements that do not fit into the traditional definition of work, i.e., standard, full-time employment (see Kalleberg, 2000 for a detailed review). Examples of nonstandard employment include part-time, temporary or contract work, on-call work, or self-employment and family work (Houseman & Osawa, 2003; Kalleberg, 2000). These employment arrangements are "non-standard" in that they lack one or more of three markers of standard employment: a direct relationship between employer and employee, full-time employment, and expectation of continuous relationship (e.g., Kalleberg 2000). From the perspective of workers, the increase of nonstandard jobs has potentially negative implications. Nonstandard employment tends to be "bad jobs" (e.g., jobs with low wages, no fringe benefits), even after taking into account workers' individual and family characteristics, occupational complexity, and industry (Kalleberg et al., 2000). In addition, employment insecurity (indicated by uncertain job duration) is more common within nonstandard employment arrangements and nonstandard workers are

less likely than regular full-time workers to be protected by a labor union (Kalleberg et al., 2000). Considering its low job quality, it is not surprising that nonstandard workers fare worse than standard employees on several outcomes. To name a few, nonstandard employment is negatively associated with economic well-being (e.g., Ferber & Waldfogel, 1998; Kalleberg et al., 1997) and contributes significantly to increased mental and physical health problems (De Witte, 1999; Hellgren & Sverke, 2003; Kim et al., 2006; Kim et al., 2008; Price & Burgard, 2007). Research has also found that nonstandard work hours (e.g., evening/night shift work) which are commonly found among nonstandard employment arrangements negatively affect workers' health outcomes and family relations (e.g., Presser 2003).

Relationships between mothers' nonstandard employment and children's health

The impact of maternal employment on children has been extensively studied and the cumulative evidence suggests that, on average, maternal employment has little to no effect on children's outcomes (Bianchi & Milkie, 2010). Rather, the relation between maternal work and children's outcomes depends on the nature and quality of her work (e.g., income, work hours and shifts) as the workforce has become more diverse (for a review, see Crosnoe & Cavanagh, 2010). Therefore, mother's nonstandard employment may have differential health impact on children compared to standard employment in light of heterogeneity in employment quality and characteristics between standard and nonstandard employment.

Theoretical expectations for the relationship between mothers' nonstandard employment and children's health are complex, however. Considering its association with "bad job" characteristics, mothers' nonstandard employment might have negative consequences for children's health (**Hypothesis 1a**). For instance, low wages and no provision of health insurance from mothers' nonstandard employment may restrict parental resources, which impacts

children's health. Diminished economic resources also have non-economic consequences, including poor home environment and lower parenting quality due to increased parental stress (Conger et al., 2010; Edin & Kissane, 2010). At the same time, it is also possible that mothers' nonstandard employment is positively associated with children's health (**Hypothesis 1b**). One of the primary explanations for the disproportionate representation of women in nonstandard employment focuses on the flexibility associated with nonstandard employment arrangements. The growth of nonstandard employment (e.g., part-time work) has been linked to increased labor force participation among mothers, who often prefer flexible employment options to combine work and family (Blossfeld, 1997; Hakim, 1997). According to this line of argument, maternal nonstandard employment may be beneficial for children's health if it helps mothers to take better care of children. The third possibility is a null association between mothers' nonstandard employment and children's health outcomes at an aggregate level, if hypotheses 1a and 1b are both equally operative **(Hypothesis 1c)**. It is also plausible that no association is found if the relation between maternal nonstandard employment and children's health depends on family context (i.e., the existence of interaction), which leads to hypothesis 2 (see below).

In other words, the complex and potentially offsetting effects of mothers' nonstandard employment on children's health (**Hypotheses 1a - 1c**) suggest an important role for family structure in conditioning this relationship. Mothers' nonstandard work might be particularly harmful for children's health in single-mother families since resources from maternal employment might be more critical for the well-being of children compared to two-parent families **(Hypothesis 2a)**. The flip-side to this hypothesis is that, in two-parent families, there is no negative association between mothers' nonstandard work and children's health, because a

father/partner can act as a buffer against any resource deficits resulting from mothers' nonstandard employment **(Hypothesis 2b)**.

Characteristics of nonstandard employment linked to children's health

To understand why and how maternal nonstandard employment is associated with children's health outcomes, it is important to examine which characteristics of nonstandard employment are responsible for any observed relationships. In this paper, I pay particular attention to wages, health insurance provision, and nonstandard work schedules—three well-established correlates of children's health.

Low wages: Lower wages imply fewer resources available to children. The deleterious effects of low income or poverty on children's physical and mental health are well documented (e.g., Bradely & Corwyn, 2002; Edin & Kissane, 2010; Schoon et al., 2003) and this resource scarcity can be expected to affect children's health in both direct and indirect ways. Lower wages, for example, directly reduce a parent's ability to provide his or her children with nutritious food or safe and clean housing, and the failure to provide these basic necessities might then result in malnutrition or exposure to environmental toxins, both of which correlate with worsened physical health outcomes (see Conger et al., 2010; Seccombe, 2000). Low income and poverty not only increase the risk of serious medical problems, but also that of going untreated (e.g., Budetti et al. 1999). In addition to physical health problems, children in poor families are more likely to be depressed, have low self-esteem, and show anti-social behaviors than non-poor children (e.g., Hammack et al., 2004; Takeuchi el al., 1991). Economic disadvantage may also affect children's health in indirect ways. Evidence suggests that economic hardship is associated with parental stress, a deteriorating home environment, compromised parenting quality, and abuse, which can in turn harm children's health (e.g., Conger et al., 2002; also see Edin &

Kissane, 2010). This negative impact of economic disadvantage on children's health produced by mothers' nonstandard employment should be more substantial among single-mother families than two-parent families since the mother's employment is likely to be the primary source of family income **(Hypothesis 3a)**.

Health insurance: One of the main reasons that employers hire nonstandard workers is to reduce the costs associated with full-time employment, such as health care costs (Blank, 1998). Indeed, only one in five nonstandard workers with part-time, temporary, or contract jobs receive health insurance through their employers, in contrast to three-quarters of standard full-time workers (Ditsler et al., 2005). Parental nonstandard work also affects whether or how children are insured: 18 percent of the children of nonstandard workers (i.e., either parent in nonstandard employment) were uninsured and 10 percent were relying on public health insurance (Clemans-Cope et al., 2010; Ditsler et al., 2005). Having no health insurance is associated with less frequent use of health care, poorer overall health, and more serious effects from illness among families (e.g., Budetti et al., 1999). The potentially negative effects of parental nonstandard work on children's health may have been mitigated by the expansion of public health programs like Medicaid and the State Children's Health Insurance Program (SCHIP). Indeed, the proportion of uninsured children has declined, and in 2009, almost 90 percent of children were insured, either by private insurance (55 percent) or public health programs (33 percent) (Kasier Commission on Medicaid and the Uninsured, 2011). But it is worth noting that the quality public health programs may be inferior to that of private programs (e.g., Finkelsten, et al. 2002; Modfidi, et al. 2002; Thomson et al., 2003). For instance, recipients of Medicaid (both children and adults) tend to use emergency rooms more than doctors' clinics and are less likely to receive continuous care than those covered by private health insurance (e.g., St. Peter et al., 1992). Also,

commercial health plans often discriminate against Medicaid-enrolled children, in terms of prenatal care, immunizations, well-child visits (Thomson et al., 2003), the use of controller medications for children with asthma (Finkelsten et al., 2002), and dental care (Modfidi et al., 2002). Nonstandard employment may cause interruptions in coverage and plan-switching due to job instability and the often temporary nature of nonstandard work. Evidence shows that interruption in health insurance coverage, regardless of duration, may result in poor health outcomes through a failure to utilize preventive health care (e.g., Hill & Shaefer, 2011; Kogan et al., 1995). This problem is exacerbated since families face a six-month waiting period before they are considered eligible for the SCHIP program. It is therefore possible that mothers' nonstandard employment may affect children's health negatively through the higher likelihood that children will be uninsured, have to rely on public health care, or experience disruption in continuous care (Clemans-Cope et al., 2010). This potentially negative effect of nonstandard employment on children's health is expected to be greater in single-mother families than two-parent families, assuming the absence of another worker to provide health-benefits from their employment **(Hypothesis 3b)**.

Nonstandard work hours: As noted, one of the primary driving forces for the expansion of nonstandard employment is employment flexibility from both employers and employees, in part through controlling for work hours and schedules (Kalleberg, 2000). However, evidence suggests that the primary reason for workers working nonstandard hours is the demands and nature of their jobs, not voluntary choices made by workers due to personal or familial reasons (e.g., presence of young children) and that most of the workers keeping nonstandard hours would prefer other schedules if they could choose (Presser, 2003). These findings suggest that

nonstandard work hours are often a non-voluntary choice, which might add work and family conflicts as well as stress to the family (e.g., Nomaguchi et al. 2005).

Researchers have repeatedly found that nonstandard work hours can have detrimental effects on workers' physical and mental health (Costa, 1996; Taylor et al., 1997) and family relationships and functioning (Presser, 2003; White & Keith, 1990). Working a nonstandard schedule is associated with elevated parental stress, which is linked to behavioral problems among young children (e.g., Deater-Deckard, 2005) and social and emotional difficulties among children in dual-earner families (Strazdins et al., 2006). There is also evidence that parents' nonstandard work schedules have a negative impact on parent-child relationships (La Valle et al., 2002) and interactions with their children such as reading, playing together, and helping with school work (Heymann & Earle, 2001). Therefore, maternal nonstandard work hours might affect children's health outcomes both by negatively impacting mothers' physical and psychological health as well as diminishing the amount and quality of parental time and involvement in children's lives (e.g., Han, 2005; Lovejoy et al., 2000). Again, such potentially negative impact of nonstandard work schedules of mothers on children's health can be exacerbated in single-mother families where mothers have difficulty finding stable child-care arrangements (Heymann, 2000) and are more likely to rely on multiple child-care arrangements (Morrissey, 2008) **(Hypothesis 3c)**.

Analytical strategy

Although there are several theoretical and empirical reasons to expect that mothers' nonstandard employment affects children's health, it is also worth noting that mother's employment might be affected by her children's health conditions. For example, we might observe a negative association between maternal nonstandard work and children's health if mothers choose

nonstandard employment (e.g., part-time job with reduced work hours) in order to care for a sick child. To address this concern, I estimate models that include lagged measures of health (e.g., House et al., 1988; Menaghan & Parcel, 1995; for details, see below) to account for children's pre-existing health conditions.

In addition, it is probable that both observed (e.g., education, gender) and unobserved characteristics of children (e.g., easy temperament) and/or mothers (e.g., stable personality), related to both mothers' employment type and family structure, are responsible for the relationship between maternal nonstandard work and children's health across different family types. For this reason, I include a rich array of controls that might affect mother's labor force participation and children's health (e.g., Kalil & Ziole-Guest, 2005; Lawson & Mace, 2008; Lovejoy et al., 2000)[8]. Specifically, in all models I control for demographic characteristics for mother and child, mother's human capital and ability, family characteristics, mother's health condition, and children's early health indicators.

Analyses are conducted separately for younger children (ages 4 to 14) and older children (ages 15 and 18) because the data collection method changes from mother's report to questionnaire administered directly to children when they turn 15, and measures for children's health outcomes are not perfectly comparable across the two data sets (see below).

[8] Although I control for children's previous health conditions and a range of compositional characteristics, unobserved characteristics (e.g., children's temperament or mothers' personality) might be also related to both maternal employment and children's health. For this reason, I estimated fixed-effects models which control for time-constant unobserved characteristics. Due to the nature of fixed-effects models and the use of binary health measures (e.g., having health limitations), estimating fixed-effects models resulted in a substantial reduction in the analytical sample size and less precise estimates. It was particularly the case for the older children's sample. Therefore, I decide not to report the results from fixed-models. Comparing the results from the two models, however, show that there may be some selection effects from unobserved heterogeneity (e.g., decline in coefficients), but the substantive conclusions are comparable between the two models.

Data and methods

Data

Data come from the National Longitudinal Survey of Youth (NLSY79) and the NLSY79 Children and Young Adults (NLSY79 Children). The NLSY79 is a longitudinal survey of 12,686 men and women born in the years 1957-64 (ages 14 to 22 years old in 1979) and provides information updated annually (biennially after 1994) on labor market activities and other significant life events. The NLSY79 Children is a biennial survey of the biological children born to NLSY79 female respondents that began in 1986. In addition to the maternal and family information from the original NLSY79, the child survey contains demographic, developmental, and health information for each child, making it an exceptionally useful data source for examining intergenerational relationships between parental employment and children's health.

The analytic sample includes data from 1994 to 2008 since the NLSY79 began to collect detailed information on various nonstandard employment arrangements in 1994. The year 2000 was excluded because the type of employment (i.e., standard/nonstandard employment) could not be identified in the survey instrument used in that wave. As noted, analytical samples include a younger children's sample (ages 4 to 14) and an older children's sample (ages 15 to 18). The lower age limit for younger children is set at age 4, an age when both health measures are available (see below). I excluded from the analysis children not residing with their mother at the time of the interview and those who themselves are (or ever were) married or have biological child(ren). Missing values for variables, except children's health outcomes, mother's employment type, and family structure, were imputed using Stata's ICE routine (Imputation by Chained Equations). The prevalence of missing data ranges from 0.04% for mothers' health limitations to 14.19% for family income. The final analytical sample size after imputing 5

complete data sets is 23,196 observations for younger children and 11,476 for older children, though the specific sample size varies by health outcomes. Average number of children per mother is 2.75 in the younger children sample and 2.77 for older children.[9] Robust standard errors are estimated to address non-independence resulting from multiple observations of the same children.

Measures

Children's health outcomes: Younger children's health conditions are measured as health limitations and anxiety/depression symptoms. The former is a binary variable (1= yes; 0= no) based on mothers' reports indicating whether a child has any health condition that limits usual childhood activity, school attendance, school work, or requires medical treatment/medicine/special equipment (e.g., Chen et al., 2007; Christopher & Sidhu, 2005). The latter is constructed from anxiety/depression scores, a subscale of the Behavioral Problems Index (BPI) for children ages four to fourteen. Developed by Zill and Petersen (1986), the BPI contains 32 items on which mothers report on their child's externalizing and internalizing behavioral problems. Responses are 3 (often true), 2 (sometimes true), or 1 (never true). The depression/anxiety subscale is one of six BPI subscales and includes items that how often the child is unhappy/sad/depressed, has sudden changes in moods/feelings, overly fearful/nervous, feels worthless/inferior, and feels/complains about being unloved. This subscale is widely used as an indicator of a child's emotional and psychological health among researchers using the CNLSY97 data (e.g., MeLeod & Shanahan, 1993; Sen & Swaminathan, 2007). I used scores

[9] I also estimated models with only the youngest children as a sensitivity test. The substantive results are similar to those estimated with all children, and I included all children in the analyses in order to maximize sample size.

standardized by children's age, with higher scores indicating more anxiety/depressive symptoms reported.

For children ages 15 and older, I use three self-rated health outcomes: health limitations, self-rated health, and CES-D scale. Children are coded as 1 if they report having health limitations, or physical, emotional, or mental conditions that limit their ability to attend school or do regular school work, and 0 if they do not. Older children's depressive symptoms are measured with the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977), which includes 7 items about depressive symptoms (e.g., sad, depressed) experienced in the previous week. Responses are on a 4-point Likert scale (where 1 = rarely and 4 = all the time, recoded to a 0-3 scale) and the items are summed to create a total score (alpha = 0.71). Self-rated health originally has five categories: poor, fair, good, very good, and excellent. Since more than two-thirds of older children rate their health as very good and excellent, and these responses are associated with better long-term health outcomes (Sudano & Baker, 2006), I created dichotomous variable, recoding 'very good' or 'excellent' as 1 and otherwise as 0 (e.g., Langton & Berger, 2011). The lagged measures of health refer to children's health conditions observed at the previous interview (i.e., year t-2) for continuous health outcomes (e.g., depressive symptoms). For binary outcomes, those who had ever had health limitations or rated their health very good/excellent are recoded as 1 (otherwise 0).

Mother's employment: Mother's employment refers to her current or most recent job since the last interview. I identify mother's employment type using information on job characteristics that classifies standard and nonstandard employment (e.g., temporary, contract work), class of workers that classifies self-employees and family workers, and work hours (to identify regular part-time workers). This categorization is consistent with the criteria used in earlier studies (e.g.,

Ferber & Waldfogel, 1998; Houseman & Osawa, 2003; Kalleberg, 2000). Of those employed, about one third have nonstandard employment and the majority of nonstandard employees are part-time workers (63%), followed by self-employees/family workers (25%), and temporary workers (11%) (author's tabulation)[10]. These figures are comparable to those reported in other national surveys such as CPS (e.g., Kalleberg et al. 2000). Those who have no job reported for the past two years are recorded as non-employed. Due to the small cell size, I do not distinguish among unemployed mothers whether they are laid off, unemployed but looking for work, or have left the labor force entirely. I will not pay much attention to non-employed mothers since the primary research question of this study is differences in children's health by mothers' employment type. But I will highlight some important findings of how mothers' non-employment is associated with children's health.

Family structure: Two-parent families include married parents as well as cohabiting families because resident partners (both biological and non-biological) could also buffer resource deficits resulting from mothers' nonstandard employment (e.g., income, co-parenting, health insurance).[11] Single-mother families include mothers who were never-married, divorced, widowed, or separated (Carlson & Corcoran, 2001)[12].

---

[10] Considering potential within-group heterogeneity among nonstandard jobs, I conducted supplementary analyses only with part-time workers who tend to have lower quality jobs than other nonstandard employees. See results section for more details.

[11] Non-biological partners may contribute less than biological fathers in terms of economic resources and parenting, so the mixture of non-biological partners and biological fathers in the current analysis may yield conservative estimates. Consistent with this possibility, estimated differences in children's health between standard and nonstandard employment are larger in the supplementary analysis that restrict two-parent families to only biological-father families. However, the general conclusions do not differ from the two analyses.

[12] In two-parent families, I did not differentiate whether or not spouses or partners had nonstandard employment, because of the limited information available concerning the employment characteristics of spouses/partners.

Job characteristics: Low wages, a dichotomous variable, are coded as 1 if employed mothers' hourly wages are located in the bottom quintile of the distribution of hourly wages for all women's jobs in a given year (Kalleberg et al., 2000). Non-employed mothers are coded as 1. Children's health insurance is a categorical variable with four groups: no health insurance; employer-provided/private health insurance; Medicaid; and a mixture of private health insurance and Medicaid. The last category captures children living in households with income under certain limits (depending on family size) thus making them eligible for Medicaid regardless of their insurance coverage. Nonstandard work hours are based on the information on work hours and shifts, which include the following categories: regular day shift, regular evening shift, regular night shift, shift rotation (changes periodically from days to evenings or nights), split shift, and irregular schedule or hours. Mothers having other than a regular day shift were coded as 1 and those working a regular day shift were coded as 0 (e.g., Strazdins et al., 2006). Mothers who are not employed are coded as 0.

Controls: Mothers' characteristics include age (in years), race (Hispanic, Black, or non-Hispanic White), and education (in years). The Armed Forces Qualifications Test (AFQT) is included as another measure of a mother's cognitive ability or human capital (Kalil & Ziol-Guest, 2005). The AFQT, administered in 1980, assesses paragraph comprehension, arithmetic reasoning, word knowledge, and mathematics knowledge. The total score was divided by 10 to yield a range of 1 to 100. Children's characteristics include age (in years), gender, and early health conditions such as preterm birth (recoded as 1 if less than 37 gestation weeks) and low birth weight (recoded as 1 if weighed less than 5.5 pounds at birth). Family characteristics include the number of children (1, 2, or 3 or more) in a household because family size is often negatively associated with children's healthy development (e.g., Lawson & Mace, 2008). Adult members can help moderate effects of maternal employment on children (e.g., Kalil & Ziole-Guest, 2005), so the

presence of any other adults other than parent/partner(s) in the household (1 = yes) is included. The final measure of family characteristics is net family income in the past year (in thousands of dollars).

Methods

I estimate panel models that include lagged measures of children's health as a regressor in order to estimate relationships between children's health and mothers' nonstandard employment, net of children's previous health conditions. Children's health outcome in year t, i.e., H_{it} can be summarized as below:

$$H_{it} = \beta_0 + \beta_1 H_{it-2} + \beta_2 E_{it} + \beta_3 F_{it} + \beta_4 (E_{it} * F_{it}) + \beta_5 Z1_{it} + \beta_6 Z2_i + u_{it}$$

In this notation, *i* denotes individual child, and t denotes (survey) time. β_0 represents an intercept and H_{it-2} is lagged health. E is a categorical variable of mothers' employment status/type during the past two years and F is a dichotomous variable of family structure, distinguishing single-mother families from two-parent families. $E_{it} * F_{it}$ is the interaction between mothers' employment type and family structure. Z1 is a vector of time-varying variables (e.g., job characteristics such as low wages and health insurance provision, and covariates such as mother's health limitations), and Z2 is a vector of time-constant variables (e.g., gender of child, a mother's AFQT scores). u is an error term.

I estimate Logistic regression models for binary health outcomes (i.e., having health limitations, reporting very good/excellent health) and Ordinary Least Squares regression models for continuous health outcomes (i.e., depressive symptoms). In order to evaluate the series of hypotheses elaborated above, I estimate seven models: the baseline model evaluates the relationship between mother's employment type and children's health, net of controls and lagged measures of health. The second model adds family structure and the third adds the interaction

between mothers' employment and family structure. Then, low wages, health insurance, and nonstandard schedules are included in model 3 to model 5 to ascertain which specific characteristics of nonstandard employment are responsible for the relationships observed in model 3. The full model (model 7) includes all three posited bad job characteristics of nonstandard employment as well as control variables and lagged measures of children's health.

Results

Table 4.1 and Table 4.2 present descriptive statistics (percentages, means, and standard deviations) of the variables used in the analysis for the entire sample and by mother's employment type, for younger and older children respectively. Table 4.1 and Table 4.2 show that both younger and older children of nonstandard employed mothers tend to have more health limitations and depressive symptoms than children whose mothers work with standard employment. On the contrary, older children with mothers in nonstandard employment are more likely than those whose mothers have standard employment to rate their health very good or excellent although the group difference is not statistically significant.

[Table 4.1 and Table 4.2 about here]

As expected, mothers with nonstandard employment are almost twice as likely to receive low wages as standard workers. The coverage and source of children's health insurance also vary depending on mothers' employment type. Children are more likely to be uninsured and rely on public health insurance if their mothers have nonstandard jobs.

There are notable several differences in the background characteristics between non-employed mothers and employed mothers. Non-employed mothers, for example, report more health limitations, have less education and lower AFQT scores than their counterpart in the labor force. Their children are also more likely to be born preterm and to have lower birth weight than

children of employed mothers. However, mothers' with nonstandard employment are similar to those with standard employment in many aspects including the level of education, AFQT scores, and family income. Table 4.3 summarizes health measures by mothers' employment type and family structure. Within single-mother families, there is a clear difference between standard employment and the other two groups. For all health outcomes, children of mothers having standard employment fare better than other two groups (i.e., not employed or nonstandard employment, $p<0.001$). When looking at two-parent families, however, such clear differences do not exist between standard employment and the other two groups. In specific, children of non-employed mothers, both younger and older, report more health limitations than those whose mothers have standard-employment. On the contrary, younger children of mothers with nonstandard employment have more depressive symptoms compared to children of mothers with standard employment (i.e., $p<0.001$).

[Table 4.3 about here]

Table 4.4 and Table 4.5 present results from multivariate regression analyses for younger children (ages 4 to 14).[13] Results from the Model 1 show that, controlling for various compositional characteristics of children, mother, and household along with children's previous health conditions, mothers' nonstandard employment is not associated with younger children's health outcomes. According to supplementary analysis, younger children whose mothers work in nonstandard employment have higher anxiety/depressive symptoms compared to children

[13] As noted, I conducted supplementary analyses only with part-time workers out of the consideration of potential within-group heterogeneity among nonstandard jobs. Results from the part-time sample are almost the same, except that low wages as well as health insurance provision help explain the significant interaction of nonstandard employment and single-mother family.

whose mothers have standard employment and this significant association disappears when children's previous health is controlled for (results not shown).

[Table 4.4 & Table 4.5 about here]

In Model 2, family structure is introduced. Younger children in single-mother families have higher anxiety/depressive scores relative to those in two-parent families. Mother's nonstandard employment appears to be associated with more anxiety/depressive symptoms than standard employment when family structure is taken into account ($p<0.1$). In addition, there is weak evidence that living in single-mother families is positively associated with the risk of having health limitations ($p<0.1$). However, adding it results in very little change in the observed relation between mothers' nonstandard employment and children's health limitations in model 1.

Model 3 adds interaction terms for mothers' employment type and family structure. Results from model 4 indicate that association between mothers' nonstandard employment and younger children's anxiety/depressive symptoms depends on family structure, with particularly harmful effects on children in single-mother families (Hypothesis 2a). On the contrary, such interaction effects are not found for younger children's risk of having health limitations. In addition, single-mothers' non-employment is associated with increased anxiety/depressive symptoms (Model 3, Table 4.5). Such positive relationship between anxiety/depressive symptoms and mothers' non-employment is not found in two-parent families (supplementary analysis, $p<0.001$).

The subsequent models (Model 4 to Model 6) adds low wages, health insurance, and nonstandard work schedules to evaluate what specific characteristics of nonstandard employment are responsible for the observed relationships in the previous model (Hypothesis 3a and 3c). The

coefficients for health insurance show that public health insurance is positively associated with the risk of having health limitations and anxiety/depressive symptoms relative to private health insurance. Interestingly, the coefficient for having no insurance is negative and significant for the risk of having health limitations. Considering that younger children's health outcomes are obtained from mothers' reports, it might be the case that mothers' perceptions of health limitations are correlated with the type of children's health insurance. For instance, mothers who see no obvious physical health issues with their children may not actively seek health insurance even if they are eligible for public programs. It is also possible that without routine care from a health care provider, mothers do not detect their children's health problems. There is suggestive evidence for these speculations, showing that almost two-thirds of uninsured children are in fact eligible for Medicaid or CHIP and that different selection factors might operate among the uninsured population (Kaiser Commission on Medicaid and the Uninsured, 2012). In addition, I find that low wages increases the likelihood of reporting greater anxiety/depressive scores (Table 4.5, Model 4). Nonstandard work schedules are, however, not associated with either health outcome. More importantly, the inclusion of job characteristics does not explain the significant interaction of nonstandard employment and single-mother family for anxiety/depressive symptoms. It is also worth noting that the lower anxiety/depressive scores of children with stay-home mothers in two-parent families are no longer significant when nonstandard work schedules are introduced (Table 4.5, Model 6). Considering the coefficient for children of non-employed single-mothers (still significantly associated with higher anxiety/depressive scores), this suggests that having stay-home-mothers seems to be beneficial for children probably through more time and higher quality care in two-parent families but not in single-mother families where mother's non-employment might be detrimental to the economic well-being of family.

[Table 4.6, Table 4.7, & Table 4.8 about here]

Table 4.6 to Table 4.8 present the results for older children. Results from The baseline models show that mothers' employment type (i.e., whether a mother works in a nonstandard job) is associated with none of health outcomes among older children. These null associations between mothers' nonstandard employment and older children's health outcomes, however, may disguise complexity due to the moderating role of family structure in these associations (Hypothesis 2a and 2b). Indeed, I find that significant interaction between nonstandard employment and single-family structure in terms of depressive symptoms ($p = 0.05$) and self-rated health, which provides supporting evidence for Hypothesis 2a. But, in two-parent families, there is no significant association between mothers' nonstandard work and older children's risk of having health limitations and more depressive symptoms and even positive interaction is found in terms of self-rated health outcomes. These results are consistent with Hypothesis 2b that mothers' nonstandard work might not be harmful for children in two-parent families where a father/partner can act as a buffer against any potential resource deficits from mothers' nonstandard employment.

In the next three models (Model 4 to Model 6), I add low wages, health insurance, and nonstandard schedules to ascertain what specific characteristics of nonstandard employment are responsible for the significant interaction of nonstandard work with single-mother family structure observed in the previous model. The most notable change is the disappearance of significant interaction between nonstandard employment and single-mother families for both depressive symptoms (Table 4.7, Model 5) and very good/excellent health (Table 4.8, Model 5) with the inclusion of health insurance (Hypothesis 3b). The coefficients for health insurance suggest that children with no health insurance coverage and public health insurance are less

likely to rate their health very good/excellent compared to those with private health insurance. Children having both private and public health insurance also report more depressive symptoms than children with private insurance. These results are consistent with Hypothesis 3b, which predicts that mothers' nonstandard employment may be harmful for children's health through the higher likelihood that children will be uninsured, have to rely on public health care, or experience disruption in continuous care (Clemans-Cope et al., 2010), and the lack of health insurance from mothers' nonstandard employment is particularly problematic in single-mother families in the absence of a spouse/partner who tend to have better jobs with health insurance coverage compared to women. Lastly, results from the final model (Model 7) are largely the same as the previous model (Model 6).

Conclusions and discussion

In this study, using data from the National Longitudinal Survey of Youth (NLSY79) and NLSY79 Children and Young Adults (CNLSY79) I examined relationships between mothers' nonstandard employment and children's health. Results from the panel models that control for children's previous health conditions show that the association between mothers' nonstandard employment and children's health depends on family structure. Specifically, I found that maternal nonstandard employment is associated with more depressive symptoms for both younger and older children and poor self-rated health among older children, *only* in single-mother families. These results are consistent with the expectation that whether mothers' nonstandard employment is beneficial or harmful for children's health may depend on family context and that it is potentially detrimental in single-mother families that have fewer protective resources in the absence of spouse/partner (Hypothesis 2a).

Results also show that health insurance plays an important role in helping to explain older children's worse health in single-mother families with nonstandard employment (Hypothesis 3b).

As discussed, differences in the coverage and source of health insurance between standard and nonstandard employment are greater among older children than younger children (Table 1b). And these differences are even bigger when examined by mothers' employment type and family structure: about 1 in 5 older children living with single-mothers in nonstandard employment are uninsured while fewer than 1 in 10 children of single-mothers in standard employment are uninsured (author's own tabulation). Also, older children are more likely to rely on public health insurance (about 50%) if their single-mother works in nonstandard employment, compared to those whose single mother works with standard employment (about 20%). Research evidence suggests that uninsured and publicly insured children might suffer from worse health due to inadequate preventive care, poorer quality of care, differential treatment (often associated with public health insurance), and interruptions in health insurance coverage (Kogan et al. 1995; Hill and Shaefer 2011). Future research needs to directly identify the mechanisms of how single-mothers' nonstandard employment affects their older children's health through health insurance provision. One possibility is to study changes in children's health insurance coverage and use in relation to changes in mothers' employment type (e.g., from standard to nonstandard employment) across different family types.

In light of labor market changes (e.g., a decline in full-time, standard employment and an increase in nonstandard employment) and demographic trends (e.g., the rising prevalence of single-mother families), the findings of this study have significant implications not only for children's overall well-being but also for understanding processes of social inequality. The significant interaction of nonstandard employment and single-parent family structure suggests that already disadvantaged single-mothers and their children are rendered even more vulnerable by recent labor market changes. Given the importance of family structure as a mechanism of

reproducing inequality (McLanahan & Percheski, 2008) and the lingering effects of early childhood health on various outcomes at later ages (Palloni, 2006), mothers' job quality, in conjunction with family structure, might shape another pathway of intergenerational transmission of inequality through children's bad health.

Study findings also have implications for the consequences of welfare policy on children's well-being. Under the current welfare regime (Personal Responsibility and Work Opportunity Act, PRWORA), which promotes the self-sufficiency through employment, recipients are required to make a transition to work. But new jobs created in the labor market are increasingly low-quality nonstandard employment (Houseman & Osawa, 2003), and the education and skill levels of many single-mothers leave few options other than nonstandard employment. The detrimental effects produced by the combination of family structure and the "bad" job quality of nonstandard employment implies that mothers' employment may not necessarily bring about the desired improvement in children's overall well-being (Edin & Kissane, 2010). Therefore, policies will need to take into account the labor market context faced by single-mothers as well as the various outcomes that mothers' employment likely brings about, including its potential impact on children's health.

Finally, I would like to address the limitations of the present study and offer suggestions for future research. First, I did not differentiate fathers' or partners' employment type or job characteristics because the NLSY79 does not provide detailed information on them. Evaluating the impact of both fathers' and mothers' (non-)standard employment on children's well-being is important when two-parent families are increasingly dual-earner households. Future research should also identify direct linkages between maternal nonstandard employment and children's health. Nonstandard employment, for instance, is associated with increased symptoms of

depression (e.g., Quesnel-Vallee et al., 2010) and mental health complaints (Hellgren & Sverke, 2003), which in turn affect children's health via lower quality parenting (Conger et al., 2010; Lovejoy et al., 2000). In addition, unobserved characteristics of children and/or mothers (e.g., personality, unmeasured health conditions) might be related to mothers' nonstandard employment and children's health as discussed before. Studies using different data sources and statistical methods that deal more effectively with selection and endogeneity will help us understand the extent to which mother's nonstandard employment affects children's health and the extent to which selection accounts for the observed relationship.

Taken together, this study contributes to our understanding of how changes in workforce affect workers and their families by bridging disconnected literatures on work and family. More substantively, my findings are consistent with a growing body of research which demonstrates that the relationships between maternal work and children's outcomes have become more complex alongside increase in employment diversity (Crosnoe & Cavanagh, 2010). Given our limited understanding of how family and work characteristics impact healthy child development, linking nonstandard employment to children's well-being deserves more research and attention in the future.

Chapter 5

Conclusions and discussion

My dissertation examines how changing labor market conditions in the post 1970s era, characterized by the deterioration and polarization of job opportunities and quality, have impacted key family outcomes in the United States. For this purpose, I use data from the National Longitudinal Survey of Youth 1979 and the NLSY79 Children and Young Adults and evaluate the extent to which job quality and the unequal distribution of "bad jobs" across different sub-groups are associated with the transition to first marriage, marital dissolution, and children's health outcomes. Built upon the growing body of literature on "bad jobs" and labor market changes (e.g., Holzer et al. 2011; Houseman and Osawa 2003; Kalleberg 2011; Osterman and Shulman 2011), I incorporate various indicators of job quality, including low wages, the provision of health and pension benefits, nonstandard work schedules, and nonstandard employment. In doing so, I attempt to overcome the limitations of a family literature which has very narrowly conceptualized one's economic resources and paid little attention to employment quality (Smock 2004; White and Rogers 2000).

Results of my research provide supporting evidence that job quality may be an important economic indicator for family outcomes (either practical or symbolic). I find that having "bad job" characteristics, especially the lack of health insurance and pension benefits, significantly delays men's transition to first marriage. In addition, women's job quality is important for marital stability in that working in jobs with low wages and no health insurance decreases the risk of divorce among women. I also find that a mother's low quality nonstandard employment (e.g., part-time, contract work) is detrimental to her children's health, particularly for single-

mother families where a mother's employment is the primary source of income and benefits. Futhermore, the absence of health insurance from a mother's nonstandard employment is associated with worse health outcomes for children in single-mother families than those in two-parent families.

My results indicate that, among various indicators of job quality, the provision of health insurance is significantly associated with all of three family outcomes that I examine in this study, i.e., marriage, divorce, and children's health. Given the erosion of employer-sponsored benefits and rising health care costs (Ellwood et al. 2000; Kalleberg 2011), health care provision might have become an important economic resource for the well-being of families in the United States, for both adults and children. These findings are consistent with the "bad job" literature that increasingly considers health insurance as an indicator which helps determine employment quality (e.g., Kalleberg, Reskin, and Hudson 2000; Kristal, Cohen, and Mundlak 2011; Schmitt 2007). In addition, my research indicates that pensions are important dimension of employment quality for family outcomes in the United States in that they are conducive to marriage formation for both men and women.

Another important indicator of job quality that is related to family outcomes is nonstandard employment. I find that nonstandard employment decreases the likelihood of marriage, regardless of gender, and interacts with family structure to produce poor health outcomes among children in single-mother families. As discussed in the previous chapters, the expansion of nonstandard employment is a good example of increasing job insecurity and declining overall job quality in the past decades (Kalleberg 2011; Uchitelle 2006). For this reason, "bad job" literature has paid a growing attention to the potentially detrimental effects of nonstandard employment on workers, their families, and society (e.g., Benach and Muntaner

2007; Kalleberg 2009). My results contribute to this growing body of literature by documenting evidence on the association between the poor quality of nonstandard employment and family outcomes.

In sum, the findings of my dissertation provide evidence that employment quality and characteristics are potentially important aspects of economic resources, independent of education and income. These findings have important theoretical implications since economic resources are at the core of explanations for key family behaviors such as marriage, divorce, and nonmarital childbearing (e.g., Becker 1981; Edin and Kefalas 2005; Oppenheimer 1988, 1994; Wilson 1987). By incorporating theoretical and empirical evidence from various literatures, my study bridges disconnected literatures surrounding the consequences of the rapid labor market transformation on workers, families, and society. My dissertation research also has important empirical and policy implications in that the life outcomes of adults and children are substantially affected by family circumstances (McLanahan 2004; Waite 1995).

Lastly, I would like to broadly discuss several limitations of my research and provide suggestions for future research. First, I evaluate job quality with several indicators but they are far from exhaustive in their efforts to reflect the multi-dimensions of job quality. Job instability (both objective and subjective), for example, might negatively affect marriage formation and increase marital instability, but the useful measure for job stability is not available in the NLSY data as well as in many other individual-level data. One creative approach to overcome this limitation will be the combination of external data (e.g., CPS, O'NET) that include detailed information on employment quality and characteristics with individual level data.

Second, even though I take into account various demographic, family, and socioeconomic characteristics, unobservable heterogeneity (e.g., personality) might still affect

one's chance of securing a "good job" and becoming a "good marriage partner." Future research with other data sources and analytical approaches (e.g., fixed-effects models, evaluation of family outcomes related to changes in job quality) needs to replicate my results to delineate any causal relationships between job quality and family outcomes.

Third, more research is needed to examine whether other family behaviors not considered in my dissertation are affected by one's job quality and characteristics. For instance, having a "bad job" is probably a major reason for couple to cohabit instead of marrying and/or to delay childbearing. It is also useful to extend my research by considering more complex models in which childbearing, nonmarital union formation, and marriage are modeled as part of the simultaneous and interrelated process (e.g., Lillard et al.1995; Brien et al. 1999).

Fourth, my research findings raise another important research question, namely, whether the significance of job quality for family outcomes grew over time. In light of widening economic inequality and labor market uncertainty, securing a "good job" might have become (or might become) increasingly critical for family building and stability. To test this possibility, one might compare the experiences of different birth cohorts (e.g., The NLSY79 and NLSY97 cohorts).

Lastly, it is useful to examine the relationship between job quality and family outcomes in a comparative perspective. A comparative perspective is particularly effective to ascertain whether the relationship of job quality with family behaviors is unique to the U.S. context (e.g., labor market regulations, employer-sponsored system). One fruitful strategy will be to merge individual-level data with national-level contextual data (e.g., Comparative Family Policy Database) and employing multi-level analysis in order to examine how political, social, and economic factors shape the interaction of inequality in employment quality and family behaviors.

References

Abelson, Reed. 2010. “Employers Pushed Cost for Health on Workers.” New York Times, 3 September 3: B1, B4.

Amato, Paul R. 2010. "Research on Divorce: Continuing Trends and New Developments." *Journal of Marriage and the Family* 72:650-666.

Amato, Paul R., Allen Booth, D R Johnson Amato, Paul R, Alan Booth, David R Johnson, and Stacy J Rogers. 2007. *Alone together: How marriage in America is changing*: Harvard University Press.

Autor, David H., Lawrence F. Katz, and Melissa S. Kearney 2006. “The Polarization of the U.S. Labor Market.” American Economic Review 96(2):189-94.

Becker, Gary S. [1981] 1992. *A Treatise on the Family*. Reprint, Cambridge, MA: Harvard University Press.

Benach, Joan, & Carles Muntaner. 2007. “Precarious Employment and Health: Developing a Research Agenda.” *Journal of Epidemiology and Community Health.* 61: 276-277.

Bernard, Jessie. 1981. "The good-provider role: Its rise and fall." *American Psychologist* 36:1-12.

Bernhardt, Annette D, Martina Morris, Mark S. Handcock, and Marc A Scott. 2001. *Divergent paths: Economic mobility in the new American labor market*: Russell Sage Foundation.

Blank, Rebbeca M. 1998. Contingent work in a changing labor market. In R. B. Freeman & P. Gottschalk *(Eds.), Generating jobs: How to increase demand for less-skilled workers (p*p. 258-294). New York: Russell Sage Foundation.

———. 2009. "The New American Model of Work-Conditioned Public Support." Pp. 176-198 in *United in Diversity?: Comparing Social Models in European and America*, edited by Albert, Jens and Neil Gilbert. New York, NY: Oxford University Press.

Blossfeld, Hans-Peter. 1997. Women's part-time employment and the family cycle: A cross-national comparison. In Hans-Peter Blossfeld & Catherine Hakim (Eds.), *Between equalization and marginalization: women working part-time in Europe* (pp. 315-324). New York: Oxford University Press.

Bradley, Robert H., and Robert F. Corwyn. 2002. Socioeconomic status and child development. *Annual Review of Psychology* 53:371-399.

Brien, Michael J, Lillard, Lee A, & Waite, Linda J. (1999). Interrelated family-building behaviors: Cohabitation, marriage, and nonmarital conception. *Demography, 36*(4), 535-551.

Budetti, John, Lisa Duchon, Cathy Schoen, and Janet Shikles. 1999. *Can't afford to get sick: A reality for millions of working Americans*, vol. 347: Commonwealth Fund, Task Force on the Future of Health Insurance for Working Americans.

Bramlett, Matthew D and William D Mosher. 2002. "Cohabitation, marriage, divorce, and remarriage in the United States." *National Center for Health Statistics. Vital Health Stat* 23:1-32.

Bulcroft, Richard A and Kris A Bulcroft. 1993. "Race differences in attitudinal and motivational factors in the decision to marry." *Journal of Marriage and the Family.* 55:338-355.

Bumpass, Larry. L. 2004. "Social Change and the American Family." *Annals of the New York Academy of Sciences* 1038:213-219.

Bumpass, Larry L., Teresa Castro Martin, and James A. Sweet. 1991. "The Impact of Family Background and Early Marital Factors on Marital Disruption." *Journal of Family Issues* 12:22-42.

Bureau of Labor Statistics, U.S. Department of Labor, and National Institute for Child Health and Human Development. Children of the NLSY79, 1979-2010. Produced and distributed by the Center for Human Resources Research, The Ohio State University. Columbus, OH: 2012.

Bosch, Gerhard, Ken Mayhew, and Jérôme Gautié. 2010. "Industrial relations, legal regulations, and wage setting." In *Low Wage Work in the Wealthy World*, New York: Russell Sage Foundation: 91-146.

Budig, Michelle J and Paula England. 2001. "The wage penalty for motherhood." *American sociological review 66*:204-225.

Carlson, Marcia J and Mary E Corcoran. 2001. "Family structure and children's behavioral and cognitive outcomes." *Journal of Marriage and Family* 63:779-792.

Casper, Lynne M. and Suzanne M. Bianchi. 2002. *Continuity and Change in the American Family.* California: Sage Publications, Inc.

Cha, Youngjoo. 2010. "Reinforcing Separate Spheres The Effect of Spousal Overwork on Men's and Women's Employment in Dual-Earner Households." *American Sociological Review* 75:303-329.

Chen, E., A.D. Martin, and K.A. Matthews. 2007. "Trajectories of socioeconomic status across children's lifetime predict health." *Pediatrics* 120:297-303.

Cherlin, Andrew J. 2004. "The Deinstitutionalization of American Marriage." *Journal of Marriage and Family* 66:848-861.

———. 2010. *The Marriage-Go-Round: The State of Marriage and the Family in America Today. New York*: Vintage.

———. 2010. "Demographic trends in the United States: A review of research in the 2000s." *Journal of Marriage and Family* 72:403-419.

Christopher Auld, M, & Sidhu, Nirmal. 2005. Schooling, cognitive ability and health. *Health Economics, 14*(10), 1019-1034.

Clemans-Cope, L., G Kenney, and A Lucas. 2010. "Health Insurance in Nonstandard Jobs and Small Firms: Differences for Parents by Race and Ethnicity." Brief 12. *The Urban Institute*.

Conger, Rand D and Glen Holl Elder. (Eds.). 1994. "Families in troubled times: Adapting to change in rural America." Transaction Publishers.

Conger, Rand D, Glen H Elder Jr, Frederick O Lorenz, Katherine J Conger, Ronald L Simons, Les B Whitbeck, Shirley Huck, and Janet N Melby. 1990. "Linking economic hardship to marital quality and instability." *Journal of Marriage and the Family*: 643-656.

Conger, Rand D., Katherine .J. Conger, and Monica .J. Martin. 2010. "Socioeconomic status, family processes, and individual development." *Journal of Marriage and Family* 72:685-704.

Crittenden, Ann. 2009. "The Mommy Tax (2001)." *Women's Lives: Multicultural Perspectives.*

Crosnoe, Robert. and Shannon E. Cavanagh. 2010. "Families With Children and Adolescents: A Review, Critique, and Future Agenda." *Journal of Marriage and Family* 72:594-611.

Christiansen, Shawn L and Rob Palkovitz. 2001. "Why the “Good Provider” Role Still Matters Providing as a Form of Paternal Involvement." *Journal of Family Issues* 22:84-106.

C.S. Mott Children’s hospital national poll of children’s health. 2009. Vol. 6. Issue 1. Retrieved from http://www.mottnpch.org.

DaVanzo, Julie and M Omar Rahman. 1993. "American families: Trends and correlates." *Population Index*: e350-386.

De Witte, H. (1999). Job insecurity and psychological well-being: Review of the literature and exploration of some unresolved issues. *European Journal of Work and Organizational Psychology, 8*(2), 155-177.

Ditsler, Elaine, Peter Fisher, and Colin Gordon. 2005. "On the Fringe: The Substandard Benefits of Workers in Part-Time, Temporary, and Contract Jobs." New York: The Commonwealth Fund.

Edin, Kathryn. 2000. "What do low-income single mothers say about marriage?" *Social Problems* 47:112-133.

Edin, K., & Kissane, R. J. 2010. Poverty and the American Family: A Decade in Review. *Journal of Marriage and Family, 72*(3), 460-479.

Edin, Kathryn and Maria Kefalas. 2005. *Promises I can Keep: Why Poor Women Put Motherhood before Marriage*. Berkeley, CA: University of California Press.

Ellwood, David T., Rebecca M. Blank, Joseph Blasi, Douglas Kruse, William A. Niskanen, and Karen Lynn-Dyson. 2000. *A Working Nation: Workers, Work, and Government in the New Economy*: Russell Sage Foundation Publications.

England, Paula. 2004. "More mercenary mate selection? Comment on Sweeney and Cancian (2004) and Press (2004)." *Journal of Marriage and Family* 66:1034-1037.

Farber, Henry S. 1997. *Job creation in the United States: Good jobs or bad?*: Industrial Relations Section, Princeton University.

Ferber, M. A., & Waldfogel, J. 1998. The long-term consequences of nontraditional employment. *Monthly Labor Review, 121*(5), 3-12.

Ferree, Myra M. 1990. "Beyond separate spheres: Feminism and family research." *Journal of Marriage and the Family* 52:866-884.

———. 2010. "Filling the Glass: Gender Perspectives on Families." *Journal of Marriage and Family* 72:420-439.

Finkelstein, J.A., Lozano, P., Farber, H. J., Miroshnik, I., & Lieu, T. A. 2002. Underuse of controller medications among Medicaid-insured children with asthma. *Archives of Pediatrics & Adolescent Medicine* 156, 562-567.

Fischer, Claude S and Michael Hout. 2006. *Century of Difference: How America Changed in the Last One Hundred Years*. New York: Russell Sage Foundation Publications.

Fitch, Catherine A and Steven Ruggles. 2000. "Historical Trends in Marriage Formation: The United States 1850–1990." Pp. 59-88 in *The Ties That Bind: Perspectives on Marriage and Cohabitation*, edited by Waite, Linda J. Aldine de Gruyter New York.

Glass Jr, J. Conrad, and Beverly B. Kilpatrick. 1998. "Financial Planning for Retirement: An Imperative for Baby Boomer Women." *Educational Gerontology: An International Quarterly* 24 (6): 595-617.

Goldstein, Joshua R. 1999. "The Leveling of Divorce in the United States." *Demography* 36:409-414.

Greenstein, Theodore N. 1990. "Marital Disruption and the Employment of Married-Women." *Journal of Marriage and the Family* 52:657-676.

———. 1995. "Gender Ideology, Marital Disruption, and the Employment of Married-Women." *Journal of Marriage and the Family* 57:31-42.

Hakim, Catherline. 1997. A sociological perspective on part-time work. In H.P. Blossfeld & C. Hakim (Eds.), *Between equalization and marginalization: women working part-time in Europe*. New York: Oxford University Press.

Hammack, P.L., Robinson, W.L.V., Crawford, I., & Li, S. T. 2004. Poverty and depressed mood among urban African-American adolescents: A family stress perspective. *Journal of Child and Family Studies* 13, 309-323.

Hellgren, J., & Sverke, M. 2003. Does job insecurity lead to impaired well-being or vice versa? Estimation of cross-lagged effects using latent variable modelling. *Journal of Organizational Behavior, 24*(2), 215-236.

Hill, H. D., & Shaefer, H. L. 2011. Covered today, sick tomorrow? Trends and correlates of children's health insurance instability. *Medical Care Research and Review, 68*(5), 523-536.

Heckert, D Alex, Thomas C Nowak, and Kay A Snyder. 1998. "The impact of husbands' and wives' relative earnings on marital disruption." *Journal of Marriage and the Family 60*:690-703.

Hoffman, Sandra D. and Greg J. Duncan. 1995. "The Effect of Incomes, Wages, and AFDC Benefits on Marital Disruption." *Journal of Human Resources* 30:19-41.

Holzer, Harry J., Julia I. Lane, David B. Rosenblum, and Fredrik Andersson. 2011. *Where Are All the Good Jobs Going. What National and Local Job Quality and Dynamics Mean for US Workers.* New York, NY: Russell Sage Foundation.

Hoschild, A. and A. Machung. 1989. "The Second Shift: Working Parents and the Revolution at Home." *New York: Viking*.

House, J.S., Landis, K.R., & Umberson, D. 1988. Social relationships and health. *Science, 241*(4865), 540-545.

Houseman, Susan N., and Machiko Ōsawa. 2003. The Growth of Nonstandard Employment in Japan and the United States: A Comparison of Causes and Consequences. Pp. 175-211 in *Nonstandard Work in Developed Economies: Causes and Consequences*, edited by Houseman, Susan N. and Machiko Ōsawa. WE Upjohn Institute.

Huston, Ted L and Heidi Melz. 2004. "The case for (promoting) marriage: The devil is in the details." *Journal of Marriage and Family* 66:943-958.

Jencks, Christopher., Lauri Perman, and Lee Rainwater. 1988. "What Is a Good Job - A New Measure of Labor-Market Success." *American Journal of Sociology* 93:1322-1357.

Kaiser Commission on Medicaid and the. 2011. Health Coverage of Children: The Role of Medicaid and CHIP.

Kalil, A., & Ziol-Guest, K. M. 2005. Single mothers' employment dynamics and adolescent well-being. *Child Development, 76*(1), 196-211.

Kalleberg, Arne L. 2009. Precarious Work, Insecure Workers: Employment Relations in Transition. *American Sociological Review* 74:1-22.

———. 2011. *Good Jobs, Bad Jobs*. New York: Russell Sage Foundation.

Kalleberg, Arne L., Barbara F. Reskin, and Ken Hudson. 2000. "Bad jobs in America: Standard and Nonstandard Employment Relations and Job Quality in the United States." *American Sociological Review* 65:256-278.

Kim, I-H., Muntaner, C., Khang, Y-H., Paek, D., & Cho, S-I. 2006. The relationship between nonstandard working and mental health in a representative sample of the South Korean population. *Social Science & Medicine,* 63, 566-574.

Kim, M-H., Kim, C-y., Park, J-K., & Kawachi, I. 2008 Is precarious employment damaging to self-rated health? Results of propensity score matching methods, using longitudinal data in South Korea. *Social Science & Medicine* 67, 1982-1994.

Kogan, M. D., Alexander, G. R., Teitelbaum, M. A., Jack, B. W., Kotelchuck, M., & Pappas, G. 1995. The Effect of Gaps in Health Insuarnce on Continuity of a Regular Source of Care among Preschool-aged Children in the United-States. *Jama-Journal of the American Medical Association, 274*(18), 1429-1435.

Langton, Callie E. and Lawrence M. Berger. 2011. "Family Structure and Adolescent Physical Health, Behavior, and Emotional Well-Being." *Social Service Review* 85:323-357.

Kreider, Rose Marie and Tavia Simmons. 2003. *Marital status: 2000*: US Department of Commerce, Economics and Statistics Administration, US Census Bureau.

Kristal, Tali, Yinon Cohen, and Guy Mundlak. 2011. "Fringe Benefits and Income Inequality." *Research in Social Stratification and Mobility* 29:351-369.

Lavelle, Bridget and Pamela J. Smock. 2012. “Divorce and Women’s Risk of Health Insurance Loss.” *Journal of Health and Social Behavior*. 20:1-19.

Lawson, D.W., & Mace, R. 2008. Sibling configuration and childhood growth in contemporary British families. *International Journal of Epidemiology, 37*(6), 1408-1421.

Lichter, Daniel T, Diane K McLaughlin, George Kephart, and David J Landry. 1992. "Race and the retreat from marriage: A shortage of marriageable men?" *American Sociological Review* 57:781-799.

Lillard, Lee A. and Linda J. Waite. 1995. "'Til death do us part: Marital disruption and mortality." *American Journal of Sociology* :1131-1156.

Lovejoy, M. C., Graczyk, P. A., O'Hare, E., & Neuman, G. 2000. Maternal depression and parenting behavior: A meta-analytic review. *Clinical Psychology Review, 20*(5), 561-592.

Martin, Teresa Castro and Larry L Bumpass. 1989. "Recent trends in marital disruption." *Demography* 26:37-51.

McLanahan, Sara. 2004. "Diverging Destinies: How Children are Faring under the Second Demographic Transition." *Demography* 41:607-627.

McLanahan, Sara and Gary Sandefur. 1994. *Growing Up With a Single Parent: What Hurts, What Helps.* Cambridge, MA: Harvard University Press.

Menaghan, E. G., & Parcel, T. L. 1995. Social Sources of Change in Children's Home Environments - The Effects of Parental Occupational Experiences and Family Conditions. *Journal of Marriage and the Family, 57*(1), 69-84.

Menéndez, María, Joan Benach, Carles Muntaner, Marcelo Amable, and Patricia O'Campo. 2007. "Is precarious employment more damaging to women's health than men's?" *Social Science & Medicine* 64:776-781.

Michael, Robert T. and Nancy Brandon Tuma. 1985. "Entry into Marriage and Parenthood by Young Men and Women: The Influence of Family Background." *Demography* 22:515-544.

Mishel, Lawrence R, Jared Bernstein, and Sylvia A Allegretto. 2005. *The State of Working America, 2004-05.* Ithaca, N.Y: ILR Press.

———. 2009. *The State of Working America, 2008-09.* Ithaca, N.Y: ILR Press.

Ono, Hiromi. 1998. "Husbands' and Wives' Resources and Marital Dissolution." *Journal of Marriage and the Family* 60:674-689.

Oppenheimer, Valerie Kincade. 1988. "A Theory of Marriage Timing." *American Journal of Sociology* 94:563-591.

Oppenheimer, Valerie Kincade. 1988. "A Theory of Marriage Timing." *American Journal of Sociology* 94:563-591.

———. 1994. “Women’s Rising Employment and the Future of the Family in Industrial Societies.” Population and Development Review, 20: 293-342

———. 2003. "Cohabiting and marriage during young men’s career-development process." *Demography* 40:127-149.

Oppenheimer, Valerie. Kincade., Matthijs Kalmijn, and Nelson Lim. 1997. "Men's Career Development and Marriage Timing during a Period of Rising Inequality." *Demography* 34:311-330.

Osterman, Paul and Beth Shulman. 2011. *Good Jobs America: Making Work Better for Everyone*: Russell Sage Foundation.

Palkovitz, Rob. 1996. "Parenting as a generator of adult development: Conceptual issues and implications." *Journal of Social and Personal Relationships* 13:571-592.

Palloni, Alberto. 2006. Reproducing inequalities: Luck, wallets, and the enduring effects of childhood health. *Demography, 43*(4), 587-615.

Perry-Jenkins, Maureen, Rena L. Repetti, and Ann C. Crouter. 2000. "Work and Family in the 1990s." *Journal of Marriage and Family* 62:981-998.

Popenoe, David. 1993. "American Family Decline, 1960-1990: A Review and Appraisal." *Journal of Marriage and the Family* 55:527-542.

Presser, Harriet B. 2003. *Working in a 24/7 economy: Challenges for American families*: Russell Sage Foundation Publications.

Price, Brooks. 2010. Recent Trends in Compensation Inequality. Pp. 63-98 in *Labor in the New Economy*, edited by Abraham, K.G., James R. Spletzer, and Michael Harper. University of Chicago Press.

Price, R.H. & Burgard, Sarah A. 2008. The new employment contract and worker health in the United States. In R. F. Schoeni *(Ed.), Making Americans Healthier: Social and Economic Policy as Health Policy (pp. 201-225).* New York: Russell Sage Foundation.

Quesnel-Vallée, Amélie, DeHaney, Suzanne, & Ciampi, Antonio. 2010. Temporary work and depressive symptoms: A propensity score analysis. *Social Science & Medicine, 70*(12), 1982-1987.

Radloff, L. S. 1977. The CES-D scale. *Applied psychological measurement, 1*(3), 385-401.

Raley, R. Kelly. and Larry Bumpass. 2003. "The Topography of the Divorce Plateau: Levels and Trends in Union Stability in the United States After 1980." *Demographic Research* 8:245-260.

Raymo, James. M. and Miho Iwasawa. 2005. "Marriage Market Mismatches in Japan: an Alternative View of the Relationship between Women's Education and Marriage." *American Sociological Review* 70:801-822.

Ruggles, Steve. 1994. "The origins of African-American family structure." *American Sociological Review.* 59:136-151.

Sack, Kevin. (2008, August 13). Health Benefits Inspire Rush to Marry, or Divorce. *New York Times*. Retrieved from http://www.nytimes.com.

Sayer, Liana C. and Susan M. Bianchi. 2000. "Women's Economic Independence and the Probability of Divorce." *Journal of Family Issues* 21:906-943.

Schmitt, John. 2007. "The Good, the Bad, and the Ugly: Job Quality in the United States over the Three Most Recent Business Cycles." Washington, DC: Center for Economic and Policy Research.

Schneider, Daniel. 2011. "Wealth and the Marital Divide" *American Journal of Sociology*. 117:627-667.

Schoen, Robert and Vladimir Canudas-Romo 2006. "Timing Effects on Divorce: 20th Century Experience in the United States." *Journal of Marriage and Family* 68:749-758.

Schoon, I., Sacker, A., & Bartley, M. 2003. Socio-economic adversity and psychosocial adjustment: a developmental-contextual perspective. *Social Science & Medicine, 57*(6), 1001-1015.

Schwartz, Christine R and Robert D Mare. 2005. "Trends in educational assortative marriage from 1940 to 2003." *Demography* 42:621-646.

Seccombe, Karen. 2000. "Families in poverty in the 1990s: Trends, causes, consequences, and lessons learned." *Journal of Marriage and the Family* 62:1094-1113.

Seltzer, Judith A. 2000. "Families formed outside of marriage." *Journal of Marriage and Family* 62:1247-1268.

Smock, Pamela J. 2004. "The Wax and Wane of Marriage: Prospects for Marriage in the 21st Century." *Journal of Marriage and Family* 66:966-973.

Smock, Pamela J., Wendy D. Manning, and Meredith Porter. 2005. "'"Everything's There except Money": How Money Shapes Decisions to Marry among Cohabitors." *Journal of Marriage and Family* 67:680-696.

South, Scott J. 2001. "Time-Dependent Effects of Wives' Employment on Marital Dissolution." *American Sociological Review* 66: 226-245.

South, Scott J. and Kim M. Lloyd. 1995. "Spousal Alternatives and Marital Dissolution." *American Sociological Review* 60:21-35.

Stone, Pamela. 2007. *Opting out?: Why women really quit careers and head home*: Univ of California Press.

Strazdins, Lyndall, Mark S. Clements, Rosemary J. Korda, Dorothy H. Broom, and Rennie M. D'Souza. 2006. "Unsociable Work? Nonstandard Work Schedules, Family Relationships, and Children's Well-Being." *Journal of Marriage and Family* 68:394-410.

Sweeney, Megan. M. 2002. "Two Decades of Family Change: The Shifting Economic Foundations of Marriage." *American Sociological Review* 67:132-147.

Takeuchi, D.T., Williams, D.R., & Adair. R.K. 1991. Economic stress in the family and children's emotional and behavioral problems. *Journal of Marriage and the Family, 53,* 1031-1041.

Teachman, Jay D., Lucky M. Tedrow, and Kyle D. Crowder. 2000. "The Changing Demography of America's Families." *Journal of Marriage and Family* 62: 1234-46.

Trivedi, A.N., & Ayanian, J.Z. 2006. Perceived discrimination and use of preventive health services. *Journal of general internal medicine, 21*(6), 553-558.

Tzeng, Jessie M. and Robert D. Mare. 1995. "Labor-Market and Socioeconomic Effects on Marital Stability." *Social Science Research* 24:329-351.

Uchitelle, Louis. 2006. The Disposable American: Layoffs and Their Consequences. New York: Knopf.

Xie, Yu., James M. Raymo, Kimberly Goyette, and Arland Thornton. 2003. "Economic Potential and Entry into Marriage and Cohabitation." *Demography* 40:351-367.

Waite, Linda J. and Maggie Gallagher. 2000. *The case for marriage*: Doubleday.

Whtie, Lynn K. and Stacy J. Rogers. 2000. "Economic Circumstances and Family Outcomes: A Review of the 1990s." *Journal of Marriage and Family* 62:1035-1051.

Wilson, William Julius. 1987. *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy* Chicago, IL: University of Chicago Press.

Yoshikawa, Hirokazu, Thomas S. Wesiner, and Edward D. Lowe. 2006. *Making it work: Low-wage employment, family life, and child development*. New York: Russell Sage Foundation Publications.

Table 2.1. Sample Characteristics

Variables	Men	Women	Men			Women		
			White	Black	Hispanic	White	Black	Hispanic
First marriage	7.2	8.2	9.1	4.5	7.1	11.1	4.8	8.5
Age	26. 3 (6.6)	26.3 (6.8)	25.1 (5.9)	27.7 (7.1)	26.5 (6.9)	24.8 (5.9)	27.9 (7.3)	26.4 (7.0)
Two-parent family at age 14[a]	65.4	63.9	76.8	50.0	66.1	77.6	47.7	66.2
Ever cohabited[a]	14.5	15.9	9.9	19.9	16.2	15.3	15.8	17.7
Parenthood[a]	22.3	36.8	7.9	41.1	22.3	15.2	59.3	37.1
Residence								
Urban	83.1	83.7	78.6	84.2	93.9	79.8	83.8	94.7
Rural	16.9	16.3	21.4	15.8	6.1	20.2	16.2	5.3
Mother's education								
Less than high school	42.3	44.2	25.1	54.6	70.3	26.3	55.5	68.6
High school	39.8	36.9	50.1	33.4	20.1	45.9	31.9	22.8
Some college/University	17.9	18.9	24.8	12.0	8.9	27.8	12.6	8.6
Education								
Less than high school	22.8	16.3	16.4	27.5	31.3	11.1	19.8	22.3
High school	43.4	39.8	41.7	47.8	38.8	38.4	41.8	38.4
Some college	21.9	28.6	23.9	18.8	22.7	28.3	28.3	30.9
University or more	12.0	15.3	18.0	5.9	7.2	22.1	10.1	8.9
Currently enrolled in school[a]	16.9	20.1	21.6	11.1	15.8	25.2	14.4	20.3
Income								
First quartile	31.3	22.2	22.0	44.0	31.1	11.0	33.6	24.8
Second quartile	27.7	23.0	27.4	27.2	29.4	21.1	25.6	21.4
Third quartile	23.3	28.1	26.9	18.4	23.6	32.0	23.4	29.0
Fourth quartile	17.7	26.7	23.7	10.4	15.9	35.9	17.4	24.8
Employment status								
Not-employed[a]	11.3	19.9	6.6	17.3	11.9	9.7	30.0	22.9
Job Characteristics								
No health insurance*[a]	40.7	46.3	38.0	42.2	45.7	45.1	44.7	54.3
No pension benefits*	51.6	56.3	48.3	54.4	55.7	51.9	58.3	63.8
Missing**								
Nonstandard work hours*	27.9	25.6	26.3	28.6	31.1	23.4	26.4	30.0
Missing**	11.9	11.7	12.5	11.4	11.5	12.2	11.2	11.1
Part-time job*[a]	19.4	25.2	17.8	21.9	18.7	23.5	25.2	30.5
N	34,696	28,058	17,030	12,236	5,430	12,318	11,518	4,222
%	100	100	0.49	0.35	0.16	0.44	0.41	0.15

* Percentage among employed respondents

** Missing indicates survey years when information is not avaiable

[a] Dichotomous variable

Table 2.2. Odds-Ratios of First Marriage Estimated from Discrete-Time Hazard Models for Men

Variables	**Model 1**	**Model2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Age	1.10**	1.09*	1.14**	1.09*	1.09*	1.11**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Age (squared)	1.00**	1.00**	1.00**	1.00**	1.00**	1.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Education						
Less than high school	0.97	0.99	0.98	0.97	0.97	0.99
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
High school (omitted)						
Some college	1.10	1.10	1.08	1.10	1.11+	1.09
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
University or more	1.57**	1.54**	1.53**	1.55**	1.57**	1.51**
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.10)
Currently enrolled in school[a]	0.80**	0.82**	0.80**	0.81**	0.85*	0.87*
	(0.05)	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)
Ever cohabited[a]	1.13+	1.14+	1.14+	1.13+	1.13+	1.14+
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Two-parent family at age 14[a]	1.07	1.06	1.06	1.06	1.07	1.06
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Mother's education						
Less than high school	0.94	0.94	0.94	0.94	0.94	0.93
High school (omitted)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Some college/University	0.91	0.91	0.91	0.91	0.91	0.91
Race	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Hispanic	0.98	0.98	0.98	0.98	0.98	0.98
White (omitted)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Black	0.68**	0.67**	0.67**	0.67**	0.67**	0.66**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Rural residence[a]	1.28**	1.28**	1.28**	1.28**	1.28**	1.28**
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	
Parenthood[a]	1.08	1.09	1.09	1.08	1.08	1.09
Income	(0.07)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
First quartile (omitted)						
Second quartile	1.38**	1.34**	1.36**	1.39**	1.37**	1.32**
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Third quartile	1.68**	1.57**	1.62**	1.69**	1.62**	1.53**
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Fourth quartile	2.08**	1.91**	1.98**	2.10**	1.99**	1.84**
Employment status	(0.15)	(0.14)	(0.14)	(0.15)	(0.14)	(0.14)
Not-employed[a]	0.71**	0.76**	0.71**	0.69**	0.68**	0.72**
Job Characteristics	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.05)
No health insurance[a]		0.80**				0.84**
		(0.04)				(0.05)
No pension benefits			0.81**			0.88
			(0.06)			(0.07)
Missing (No pension benefits)			1.03			1.08
						(0.10)
Nonstandard work hours				0.89*		0.91+
				(0.05)		(0.05)
Missing (Nonstandard work hours)				1.08		1.02
				(0.07)	(0.07)	(0.07)
Part-time job[a]					0.80**	0.86*
					(0.05)	(0.06)
N	34696	34696	34696	34696	34696	34696
Log-likelihood	-8339.14	-8329.37	-8333.24	-8335.14	-8333.18	-8320.70

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01

Standard Errors in Parentheses

Table 2.3. Odds-Ratios of First Marriage Estimated from Discrete-Time Hazard Models for White Men

Variables	**Model 1**	**Model2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Age	1.20**	1.19**	1.23**	1.17**	1.18**	1.19**
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Age squared	1.00**	1.00**	1.00**	1.00**	1.00**	1.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Education						
Less than high school	1.06	1.08	1.07	1.06	1.06	1.09
	(0.09)	(0.10)	(0.10)	(0.09)	(0.09)	(0.10)
High school (omitted)						
Some college	1.15+	1.15+	1.14	1.15+	1.16+	1.15+
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
University or more	1.49**	1.47**	1.48**	1.47**	1.49**	1.46**
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Currently enrolled in school[a]	0.80**	0.83*	0.81*	0.82*	0.86+	0.88
	(0.07)	(0.07)	(0.07)	(0.07)	(0.08)	(0.08)
Ever cohabited[a]	1.06	1.06	1.06	1.06	1.06	1.06
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Two-parent family at age 14[a]	1.07	1.07	1.07	1.07	1.07	1.07
Mother's education	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Less than high school	1.00	1.00	1.00	1.00	1.00	0.99
High school omitted	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Some college/University	0.89+	0.89	0.89	0.89+	0.89+	0.89
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Rural residence[a]	1.37**	1.37**	1.36**	1.37**	1.36**	1.36**
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Parenthood[a]	0.90	0.92	0.91	0.90	0.90	0.92
Income	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
First quartile (omitted)						
Second quartile	1.39**	1.36**	1.38**	1.40**	1.37**	1.35**
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Third quartile	1.62**	1.54**	1.60**	1.64**	1.56**	1.50**
	(0.15)	(0.14)	(0.15)	(0.15)	(0.14)	(0.14)
Fourth quartile	2.19**	2.04**	2.14**	2.22**	2.08**	1.98**
Employment status	(0.20)	(0.19)	(0.20)	(0.21)	(0.20)	(0.19)
Not-employed[a]	0.79**	0.83*	0.79**	0.78**	0.76**	0.80**
Job Characteristics	(0.06)	(0.07)	(0.06)	(0.06)	(0.06)	(0.07)
No health insurance[a]		0.82**				0.85*
No pension benefits			0.92			1.00
			(0.09)			(0.11)
Missing No pension benefits			1.12			1.15
Nonstandard work hours				0.94		0.97
				(0.06)		(0.07)
Missing Nonstandard work hours				1.13		1.06
				(0.09)		(0.10)
Part-time job[a]					0.78**	0.82*
					(0.07)	(0.07)
N	17,030	17,030	17,030	17,030	17,030	17,030
Log-likelihood	-4868.52	-4864.14	-4866.65	-4866.53	-4863.96	-4858.90

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01

Standard Errors in Parentheses

Table 2.4. Odds-Ratios of First Marriage Estimated from Discrete-Time Hazard Models for Black Men

Variables	**Model 1**	**Model2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Age	1.06	1.04	1.12	1.05	1.06	1.12
	(0.07)	(0.07)	(0.08)	(0.07)	(0.07)	(0.09)
Age (squared)	1.00+	1.00+	1.00*	1.00+	1.00+	1.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Education						
Less than high school	0.77*	0.78*	0.77*	0.77*	0.77*	0.78*
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
High school (omitted)						
Some college	1.04	1.02	0.99	1.04	1.04	0.99
	(0.13)	(0.13)	(0.12)	(0.13)	(0.13)	(0.12)
University or more	1.89**	1.83**	1.76**	1.88**	1.89**	1.74**
	(0.29)	(0.28)	(0.27)	(0.29)	(0.29)	(0.27)
Currently enrolled in school[a]	1.07	1.10	1.08	1.08	1.06	1.09
	(0.16)	(0.17)	(0.16)	(0.17)	(0.16)	(0.17)
Ever cohabited[a]	1.26+	1.26+	1.27+	1.26+	1.26+	1.27+
	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)
Two-parent family at age 14[a]	1.02	1.01	1.02	1.02	1.02	1.01
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Mother's education						
Less than high school	0.87	0.87	0.87	0.87	0.87	0.87
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
High school (omitted)						
Some college/University	0.94	0.95	0.95	0.94	0.94	0.94
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Rural residence[a]	1.02	1.01	1.02	1.02	1.02	1.02
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Parenthood[a]	1.30*	1.31**	1.30**	1.30**	1.30*	1.32**
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Income						
First quartile (omitted)						
Second quartile	1.56**	1.48**	1.48**	1.57**	1.56**	1.46**
	(0.19)	(0.18)	(0.18)	(0.19)	(0.19)	(0.18)
Third quartile	1.99**	1.83**	1.83**	2.00**	2.00**	1.79**
	(0.25)	(0.24)	(0.24)	(0.26)	(0.26)	(0.24)
Fourth quartile	1.94**	1.76**	1.76**	1.95**	1.95**	1.70**
Employment status	(0.30)	(0.28)	(0.27)	(0.30)	(0.30)	(0.27)
Not-employed[a]	0.61**	0.67**	0.62**	0.60**	0.61**	0.66**
Job Characteristics	(0.07)	(0.08)	(0.07)	(0.07)	(0.07)	(0.08)
No health insurance[a]		0.76**				0.79*
		(0.08)				(0.09)
No pension benefits			0.66**			0.72*
			(0.09)			(0.11)
Missing (No pension benefits)			0.98			1.08
			(0.16)			(0.20)
Nonstandard work hours				0.87		0.85
				(0.10)		(0.10)
Missing (Nonstandard work hours)				1.04		0.92
				(0.13)		(0.14)
Part-time job[a]					1.03	1.16
					(0.14)	(0.16)
N	12,236	12,236	12,236	12,236	12,236	12,236
Log-likelihood	-2125.57	-2122.16	-2120.55	-2124.57	-2125.55	-2117.36

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01

Standard Errors in Parentheses

Table 2.5. Odds-Ratios of First Marriage Estimated from Discrete-Time Hazard Models for Hispanic Men

Variables	**Model 1**	**Model2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Age	0.99	0.98	0.99	0.99	0.97	0.97
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.09)
Age (squared)	1.00	1.00	1.00	1.00	1.00	1.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Education						
Less than high school	1.04	1.05	1.04	1.03	1.04	1.04
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
High school (omitted)						
Some college	0.99	0.98	0.98	0.99	1.01	0.99
	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)
University or more	1.62*	1.57*	1.60*	1.60*	1.61*	1.55*
	(0.34)	(0.34)	(0.34)	(0.34)	(0.34)	(0.33)
Currently enrolled in school[a]	0.56**	0.57**	0.56**	0.58**	0.62**	0.63*
	(0.10)	(0.10)	(0.10)	(0.11)	(0.11)	(0.12)
Ever cohabited[a]	1.12	1.13	1.12	1.10	1.12	1.11
	(0.21)	(0.21)	(0.21)	(0.21)	(0.21)	(0.21)
Two-parent family at age 14[a]	1.15	1.14	1.15	1.14	1.15	1.13
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
Mother's education						
Less than high school	0.91	0.90	0.91	0.90	0.90	0.89
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
High school (omitted)						
Some college/University	0.98	0.96	0.98	0.98	0.97	0.97
	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
Rural residence[a]	1.38	1.35	1.37	1.38	1.36	1.35
	(0.29)	(0.28)	(0.29)	(0.29)	(0.28)	(0.28)
Parenthood[a]	0.93	0.91	0.93	0.93	0.91	0.91
	(0.16)	(0.15)	(0.16)	(0.16)	(0.15)	(0.15)
Income						
First quartile (omitted)						
Second quartile	1.06	1.02	1.03	1.06	1.05	1.01
	(0.17)	(0.16)	(0.17)	(0.17)	(0.17)	(0.17)
Third quartile	1.38*	1.29	1.34+	1.38*	1.33+	1.26
	(0.22)	(0.21)	(0.22)	(0.22)	(0.22)	(0.21)
Fourth quartile	1.51*	1.38+	1.46*	1.52*	1.43*	1.34
Employment status	(0.27)	(0)	(0.27)	(0.27)	(0.26)	(0.26)
Not-employed[a]	0.61**	0.66**	0.62**	0.59**	0.59**	0.61**
	(0.09)	(0.11)	(0.10)	(0.09)	(0.09)	(0.10)
Job Characteristics						
No health insurance[a]		0.78+				0.84
		(0.10)				(0.11)
No pension benefits			0.80			0.87
			(0.15)			(0.18)
Missing (No pension benefits)			0.87			0.92
			(0.18)			(0.22)
Nonstandard work hours				0.72*		0.75+
				(0.11)	(0.11)	(0.11)
Missing (Nonstandard work hours)				0.96		0.97
				(0.15)		(0.18)
Part-time job[a]					0.68*	0.76
					(0.12)	(0.13)
N	5,430	5,430	5,430	5,430	5,430	5,430
Log-likelihood	-1315.58	-1313.65	-1314.87	-1312.98	-1312.83	-1309.57

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01

Standard Errors in Parentheses

Table 2.6. Odds-Ratios of First Marriage Estimated from Discrete-Time Hazard Models for Women

Variables	**Model 1**	**Model2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Age	0.99	0.98	1.00	0.98	0.98	0.99
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Age (squared)	1.00*	1.00*	1.00*	1.00+	1.00+	1.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Education						
Less than high school	0.89	0.89	0.89	0.89	0.89	0.89
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
High School (omitted)						
Some college	1.16*	1.16*	1.15*	1.16*	1.16*	1.15*
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
University or more	1.41**	1.41**	1.39**	1.40**	1.40**	1.38**
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Currently enrolled in school[a]	0.83**	0.83**	0.83**	0.84**	0.86*	0.86*
	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)
Ever cohabited[a]	1.09	1.09	1.10	1.09	1.09	1.10
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Two-parent family at age 14[a]	1.06	1.06	1.06	1.06	1.06	1.06
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Mother's education						
Less than high school	1.03	1.03	1.03	1.03	1.03	1.03
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
High school (omitted)						
Some college/University	0.88*	0.88*	0.88*	0.88*	0.88*	0.88*
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Race						
Hispanic	0.88+	0.88+	0.88+	0.88+	0.87*	0.87*
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
White (omitted)						
Black	0.58**	0.58**	0.57**	0.58**	0.57**	0.57**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Rural residence[a]	1.11+	1.11+	1.11+	1.11+	1.11+	1.11+
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Parenthood[a]	0.99	0.99	0.99	0.99	0.99	0.99
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Income						
First quartile (omitted)						
Second quartile	1.15+	1.15	1.14	1.16+	1.20*	1.20*
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Third quartile	1.47**	1.46**	1.44**	1.48**	1.47**	1.47**
	(0.13)	(0.13)	(0.12)	(0.13)	(0.13)	(0.13)
Fourth quartile	1.63**	1.61**	1.58**	1.64**	1.61**	1.59**
	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)
Employment status						
Not-employed[a]	0.78**	0.79**	0.79**	0.77**	0.76**	0.75**
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Job Characteristics						
No health insurance[a]		0.97				1.05
		(0.06)				(0.07)
No pension benefits			0.83*			0.83*
			(0.07)			(0.08)
Missing (No pension benefits)			0.97			0.97
			(0.08)			(0.10)
Nonstandard work hours				0.92		0.95
				(0.05)		(0.06)
Missing (Nonstandard work hours)				1.02		0.99
				(0.07)		(0.08)
Part-time job[a]					0.86*	0.87*
						(0.06)
N	28,058	28,058	28,058	28,058	28,058	28,058
Log-likelihood	-7351.50	-7351.36	-7349.01	-7350.23	-7348.42	-7345.52

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01

Standard Errors in Parentheses

Table 2.7. Odds-Ratios of First Marriage Estimated from Discrete-Time Hazard Models for White Women

Variables	**Model 1**	**Model2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Age	1.03	1.03	1.05	1.02	1.02	1.03
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Age (squared)	1.00*	1.00*	1.00*	1.00+	1.00*	1.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Education						
Less than high school	0.88	0.88	0.88	0.88	0.88	0.88
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
High school (omitted)						
Some college	1.15+	1.15+	1.14	1.16+	1.15+	1.15+
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
University or more	1.25*	1.25*	1.23*	1.24*	1.24*	1.22*
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Currently enrolled in school[a]	0.78**	0.78**	0.78**	0.79**	0.81*	0.81*
	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)	(0.07)
Ever cohabited[a]	1.02	1.02	1.04	1.03	1.02	1.03
	(0.09)	(0.09)	(0.10)	(0.10)	(0.10)	(0.10)
Two-parent family at age 14[a]	1.05	1.05	1.05	1.05	1.05	1.06
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Mother's education						
Less than high school	0.98	0.98	0.99	0.98	0.98	0.98
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
High school (omitted)						
Some college/University	0.87+	0.87+	0.88+	0.88+	0.88+	0.88+
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Rural residence[a]	1.06	1.06	1.06	1.06	1.05	1.05
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Parenthood[a]	0.80*	0.80*	0.81+	0.80*	0.80+	0.81+
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Income						
First quartile (omitted)						
Second quartile	1.00	1.00	0.99	1.01	1.05	1.05
	(0.12)	(0.12)	(0.12)	(0.13)	(0.13)	(0.13)
Third quartile	1.25+	1.23+	1.22	1.26+	1.26+	1.25+
	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)
Fourth quartile	1.45**	1.42**	1.40**	1.46**	1.43**	1.41**
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)
Employment status						
Not-employed[a]	0.82*	0.83*	0.82*	0.80*	0.79**	0.77**
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Job Characteristics						
No health insurance[a]		0.94				1.05
		(0.07)				(0.09)
No pension benefits			0.74*			0.74*
			(0.09)			(0.09)
Missing (No pension benefits)			0.90			0.88
			(0.10)			(0.11)
Nonstandard work hours				0.89		0.93
				(0.07)		(0.07)
Missing (Nonstandard work hours)				1.04		1.04
				(0.09)		(0.10)
Part-time job[a]					0.84*	0.85+
					(0.07)	(0.07)
N	12,318	12,318	12,318	12,318	12,318	12,318
Log-likelihood	-4127.64	-4127.36	-4124.45	-4125.92	-4124.96	-4121.21

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01

Standard Errors in Parentheses

Table 2.8. Odds-Ratios of First Marriage Estimated from Discrete-Time Hazard Models for Black Women

Variables	**Model 1**	**Model2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Age	0.88*	0.88*	0.90	0.88*	0.88*	0.92
	(0.05)	(0.06)	(0.06)	(0.06)	(0.05)	(0.07)
Age (squared)	1.00	1.00	1.00	1.00	1.00	1.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Education						
Less than high school	0.84	0.83	0.84	0.83	0.84	0.83
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
High school (omitted)						
Some college	1.21	1.20	1.19	1.21	1.21	1.19
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
University or more	1.67**	1.67**	1.65**	1.67**	1.67**	1.65**
	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)
Currently enrolled in school[a]	0.87	0.86	0.87	0.86	0.87	0.87
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Ever cohabited[a]	1.25	1.25	1.26	1.25	1.25	1.26
	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)	(0.18)
Two-parent family at age 14[a]	1.08	1.08	1.08	1.08	1.08	1.07
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Mother's education						
Less than high school	1.03	1.03	1.03	1.03	1.03	1.03
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
High school (omitted)						
Some college/University	0.97	0.96	0.97	0.97	0.97	0.97
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
Rural residence[a]	1.21	1.21	1.21	1.21	1.21	1.21
	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)
Parenthood[a]	1.34**	1.34**	1.34**	1.34**	1.34**	1.34**
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
Income						
First quartile (omitted)						
Second quartile	1.42*	1.42*	1.42*	1.42*	1.42*	1.43*
	(0.20)	(0.20)	(0.20)	(0.20)	(0.21)	(0.21)
Third quartile	1.70**	1.74**	1.69**	1.70**	1.70**	1.72**
	(0.26)	(0.27)	(0.26)	(0.26)	(0.26)	(0.27)
Fourth quartile	1.75**	1.81**	1.72**	1.75**	1.75**	1.76**
	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)	(0.32)
Employment status						
Not-employed[a]	0.73**	0.71**	0.73**	0.73**	0.73**	0.70**
Job Characteristics	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
No health insurance[a]		1.06				1.10
		(0.13)				(0.15)
No pension benefits			0.93			0.90
			(0.15)			(0.15)
Missing (No pension benefits)			1.07			1.11
			(0.18)			(0.22)
Nonstandard work hours				1.01		1.00
				(0.12)		(0.12)
Missing (Nonstandard work hours)				0.97		0.90
				(0.13)		(0.14)
Part-time job[a]					0.99	0.97
					(0.12)	(0.13)
N	11,518	11,518	11,518	11,518	11,518	11,518
Log-likelihood	-2076.32	-2076.19	-2075.96	-2076.29	-2076.32	-2075.47

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01

Standard Errors in Parentheses

Table 2.9. Odds-Ratios of First Marriage Estimated from Discrete-Time Hazard Models for Hispanic Women

Variables	**Model 1**	**Model2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Age	1.13	1.13	1.13	1.13	1.12	1.12
	(0.11)	(0.11)	(0.12)	(0.12)	(0.11)	(0.13)
Age (squared)	1.00*	1.00*	1.00*	1.00*	1.00*	1.00+
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Education						
Less than high school	1.06	1.06	1.06	1.06	1.06	1.06
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)
High school (omitted)						
Some college	1.10	1.10	1.10	1.10	1.10	1.11
	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)
University or more	1.82**	1.82**	1.83**	1.82**	1.81**	1.84**
	(0.40)	(0.41)	(0.41)	(0.41)	(0.40)	(0.41)
Currently enrolled in school[a]	0.96	0.96	0.96	0.96	1.02	1.01
	(0.15)	(0.15)	(0.15)	(0.15)	(0.16)	(0.16)
Ever cohabited[a]	1.21	1.21	1.21	1.21	1.21	1.21
	(0.23)	(0.23)	(0.23)	(0.23)	(0.23)	(0.23)
Two-parent family at age 14[a]	1.09	1.09	1.10	1.10	1.09	1.10
	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)
Mother's education						
Less than high school	1.31+	1.31+	1.31+	1.31+	1.30+	1.30+
	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)
High school (omitted)						
Some college/University	0.86	0.86	0.85	0.86	0.87	0.86
	(0.21)	(0.21)	(0.21)	(0.21)	(0.21)	(0.21)
Rural residence[a]	1.56+	1.56+	1.56+	1.56+	1.58+	1.58+
	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)
Parenthood[a]	0.77	0.77	0.78	0.77	0.78	0.78
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Income						
First quartile (omitted)						
Second quartile	0.95	0.95	0.95	0.95	1.00	1.01
	(0.20)	(0.20)	(0.20)	(0.20)	(0.22)	(0.22)
Third quartile	1.47+	1.47+	1.48+	1.47+	1.48+	1.51+
	(0.30)	(0.30)	(0.30)	(0.30)	(0.31)	(0.32)
Fourth quartile	1.42	1.41	1.43	1.42	1.40	1.43
	(0.32)	(0.33)	(0.33)	(0.32)	(0.31)	(0.34)
Employment status						
Not-employed[a]	0.81	0.81	0.81	0.80	0.78	0.77
	(0.13)	(0.14)	(0.13)	(0.13)	(0.13)	(0.14)
Job Characteristics						
No health insurance[a]		0.99				1.03
		(0.15)				(0.17)
No pension benefits			1.05			1.06
			(0.23)			(0.24)
Missing (No pension benefits)			1.03			1.04
			(0.23)			(0.26)
Nonstandard work hours				0.97		1.02
				(0.15)		(0.16)
Missing (Nonstandard work hours)				0.99		1.00
				(0.17)		(0.20)
Part-time job[a]					0.81	0.80
					(0.13)	(0.14)
N	4,222	4,222	4,222	4,222	4,222	4,222
Log-likelihood	-1127.20	-1127.19	-1127.17	-1127.18	-1126.39	-1126.31

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01

Standard Errors in Parentheses

Table 3.1. Sample Characteristics

Variables	**Men**	**Women**
Divrce	2.0	2.1
Demographic Characteristics		
Age at first marriage	23.7 (3.9)	22.4 (3.9)
Marital duration	7.8 (6.0)	8.1 (6.1)
Race		
White	64.6	65
Black	17.7	17.3
Hispanic	17.8	17.7
Premarital cohabitation	23.3	23.3
Parenthood	73.2	74
Rural residence[a]	25.6	22.9
Family background		
Mother's education		
Less than high school	36.2	39.6
High school	44.4	42.4
Some college/University	19.4	18
Two-parent family at age 14[a]	76.7	76
Spouse Characterisitcs		
Education	11.2	12.7
Less than high school	42.5	41.4
High school	23.4	21.3
Some college	23	24.7
University or more		
Spouse income (logged)	6.7 (4.4)	9.0 (3.2)
Spouse is not employed[a]	25.1	4.2
Spouse provides respondent's health insurance	19.6	59.4
Missing**	19.4	23.4
Respondent's Characterisitcs		
Income		
First quartile	11.3	21.4
Second quartile	19.9	24.9
Third quartile	29.4	25.6
Fourth quartile	39.4	28.2
Education		
Less than High school	12.5	8.4
High school	42.3	41.4
Some college	20.1	25.1
University or more	25.1	25.1
Employment status		
Not-employed[a]	2.2	18.3
Job Characteristics		
No health insurance*[a]	23.5	46.1
No pension benefits*	33.9	51.4
Missing**	23.1	27.7
Nonstandard work hours*	21.2	15.8
Missing**	9.0	7.9
Part-time job*[a]	4.7	21.9
N	25,341	27,612

* Percentage among employed respondents

** Missing indicates survey years when information is not avaiable

[a] Dichotomous variable

Table 3.2. Odds-Ratios of Divorce Estimated from Discrete-Time Hazard Models for Men

Variables	**Model 1**	**Model2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Marital duration	0.97**	0.97**	0.97*	0.97**	0.97**	0.97*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Age at first marriage	0.94**	0.94**	0.95**	0.94**	0.94**	0.95**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Premarital cohabitation	1.15	1.15	1.16	1.15	1.15	1.16
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Two-parent family at age 14[a]	0.79*	0.79*	0.79*	0.79*	0.79*	0.79*
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Mother's education						
Less than high school	0.97	0.97	0.97	0.97	0.97	0.97
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
High school (omitted)						
Some college/University	1.08	1.08	1.08	1.08	1.07	1.07
	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)
Race						
Hispanic	0.86	0.86	0.86	0.86	0.86	0.87
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
White (omitted)						
Black	1.10	1.10	1.10	1.10	1.10	1.10
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
Rural residence[a]	1.10	1.10	1.11	1.11	1.10	1.10
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Parenthood[a]	0.71**	0.71**	0.72**	0.71**	0.71**	0.73**
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Education						
Less than high school	0.89	0.89	0.88	0.89	0.89	0.89
	(0.12)	(0.12)	(0.12)	(0.13)	(0.12)	(0.13)
High school (omitted)						
Some college	0.95	0.95	0.95	0.95	0.94	0.94
University or more	0.59**	0.59**	0.59**	0.60**	0.59**	0.60**
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Income						
First quartile (omitted)						
Second quartile	1.06	1.06	1.05	1.06	1.07	1.05
	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)
Third quartile	1.10	1.11	1.08	1.10	1.12	1.09
	(0.17)	(0.18)	(0.17)	(0.17)	(0.18)	(0.18)
Fourth quartile	1.02	1.03	0.99	1.01	1.04	0.99
	(0.16)	(0.16)	(0.16)	(0.16)	(0.17)	(0.17)
Spouse Education						
Less than high school (omitted)						
High school	0.80	0.80	0.80	0.80	0.80	0.80
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Some college	0.97	0.98	0.97	0.97	0.98	0.98
	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)
University or more	0.67+	0.67+	0.67+	0.67+	0.67+	0.68+
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
Spouse income (logged)	0.95**	0.95**	0.95**	0.95**	0.95**	0.95**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Spouse is not employed[a]	0.63**	0.63**	0.64**	0.63**	0.63**	0.64**
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Spouse provides respondent's health insurance	1.33*	1.32*	1.24+	1.34*	1.32*	1.24+
	(0.15)	(0.15)	(0.16)	(0.16)	(0.16)	(0.16)
Mssing (Spouse provides health insurance)	1.08	1.08	1.08	1.09	1.08	1.08
	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)
Employment status						
Not-employed[a]	1.23	1.22	1.22	1.24	1.23	1.19
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)
Job Characteristics						
No health insurance[a]		1.03				1.00
		(0.12)				(0.13)
No pension benefits			1.01			1.01
			(0.13)			(0.14)
Missing (No pension benefits)			1.19			1.26
						(0.23)
Nonstandard work hours				1.13		1.11
				(0.13)		(0.12)
Missing (Nonstandard work hours)				0.99		0.89
				(0.15)		(0.15)
Part-time job[a]					1.20	1.16
					(0.21)	(0.21)
N	25,341	25,341	25,341	25,341	25,341	25,341
Log-likelihood	-2443.83	-2443.80	-2443.09	-2443.22	-2443.34	-2441.83

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01

Standard Errors in Parentheses

Table 3.3. Odds-Ratios of Divorce Estimated from Discrete-Time Hazard Models for Women

Variables	**Model 1**	**Model2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Marital duration	0.96**	0.96**	0.98+	0.96**	0.96**	0.98+
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Age at first marriage	0.92**	0.92**	0.94**	0.92**	0.92**	0.94**
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)
Premarital cohabitation	1.33**	1.33**	1.36**	1.33**	1.33**	1.35**
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
Two-parent family at age 14[a]	0.83+	0.82+	0.82*	0.83+	0.82+	0.82*
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Mother's education						
Less than high school	0.83+	0.83+	0.83+	0.83+	0.82+	0.82+
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.08)
High school (omitted)						
Some college/University	0.98	0.98	0.98	0.97	0.98	0.98
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Race						
Hispanic	0.77+	0.77+	0.78+	0.78+	0.77+	0.78+
	(0.10)	(0.10)	(0.11)	(0.11)	(0.10)	(0.11)
White (omitted)						
Black	0.72*	0.71*	0.72*	0.72*	0.72*	0.70*
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Rural residence[a]	1.20+	1.21+	1.20+	1.20+	1.21+	1.21+
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Parenthood[a]	0.67**	0.68**	0.67**	0.66**	0.67**	0.69**
Education	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	
Less than high school	1.14	1.15	1.14	1.14	1.14	1.15
High school (omitted)	(0.17)	(0.18)	(0.18)	(0.17)	(0.17)	(0.18)
Some college	0.82+	0.82	0.82+	0.82+	0.82	0.82+
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
University or more	0.65**	0.65**	0.65**	0.65**	0.65**	0.65**
Income	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
First quartile (omitted)						
Second quartile	0.94	0.93	0.93	0.92	0.97	0.92
	(0.14)	(0.13)	(0.13)	(0.13)	(0.14)	(0.14)
Third quartile	1.05	0.95	0.98	1.04	1.05	0.91
	(0.16)	(0.15)	(0.15)	(0.16)	(0.16)	(0.15)
Fourth quartile	1.18	1.03	1.08	1.19	1.17	0.97
Spouse Education	(0.19)	(0.18)	(0.18)	(0.19)	(0.19)	(0.17)
Less than high school (omitted)						
High school	1.13	1.14	1.12	1.13	1.14	1.13
	(0.16)	(0.16)	(0.15)	(0.15)	(0.16)	(0.16)
Some college	1.02	1.03	1.01	1.01	1.02	1.02
	(0.17)	(0.17)	(0.16)	(0.16)	(0.17)	(0.17)
University or more	0.92	0.94	0.92	0.92	0.93	0.94
	(0.17)	(0.18)	(0.17)	(0.17)	(0.17)	(0.18)
Spouse income (logged)	0.96**	0.96**	0.96**	0.96**	0.96**	0.96**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Spouse is not employed[a]	0.84	0.85	0.86	0.84	0.84	0.86
	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)
Spouse provides respondent's health insurance	1.14	1.21	1.00	1.09	1.15	1.03
	(0.16)	(0.17)	(0.16)	(0.15)	(0.16)	(0.16)
Mssing (Spouse provides health insurance)	0.78	0.83	0.83	0.77	0.79	0.85
Employment status	(0.13)	(0.14)	(0.15)	(0.13)	(0.14)	(0.15)
Not-employed[a]	0.74*	0.80+	0.74*	0.79+	0.73**	0.81
Job Characteristics	(0.09)	(0.10)	(0.09)	(0.10)	(0.09)	(0.11)
No health insurance[a]		0.76*				0.78+
		(0.09)				(0.10)
No pension benefits			0.80			0.89
			(0.11)			(0.13)
Missing (No pension benefits)			1.36+			1.45*
			(0.23)			(0.27)
Nonstandard work hours				1.18		1.23+
				(0.14)		(0.15)
Missing (Nonstandard work hours)				1.27+		1.08
				(0.18)		(0.16)
Part-time job[a]					0.88	0.90
					(0.10)	(0.11)
N	27,612	27,612	27,612	27,612	27,612	27,612
Log-likelihood	-2605.56	-2602.69	-2599.23	-2603.69	-2605.01	-2595.54

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01

Standard Errors in Parentheses

Table 4.1. Sample Characteristics for Younger Children (ages 4 to 14)

Variables	Total	Mother's Employment Type		
		Standard Employment	Nonstandard Employment	Non-Employment
Children's health outcomes				
Having helath limitations[a]	12.1	11.6	12.05*	13.57***
Deperession scores	101.92 (12.96)	101.54 (12.86)	102.30 (12.94)***	102.28 (13.22)***
Very good/excellent health[a]	N/A	N/A	N/A	N/A
Having health limitations (lagged)[a]	16.1	15.3	16.5***	17.4***
Depressive symptoms (lagged)	101.45 (12.92)	101.02 (12.90)	101.77 (12.91)***	102.06 (12.96)***
Very good/excellent health (lagged)[a]	N/A	N/A	N/A	N/A
Mother's employment type				
Standard employment	48.4	100.0	N/A	N/A
Nonstanard employment	30.8	N/A	100.0	N/A
Non-employment	20.8	N/A	N/A	100.0
Job characterisitcs				
Low wages [a]	44.5	23.3	40.2	100.0
Children's health insurance				
Not insured	8.3	7.6	9.9	7.7
Private health insurance	71.6	79.4	72.5	52.1
Public health insurance	13.1	8.0	11.3	27.5
Both private and public health insurance	7.0	5.0	6.3	12.6
Nonstandard work hours	18.4	17.6	32.1	0.0
Family structure				
Two-parent family	74.4	70.3	81.2	74.0
Single-mother family	25.6	29.7	18.9	26.0
Child characteristics				
Child age (years)	9.53 (3.06)	9.75 (3.02)	9.43 (3.03)	9.16 (3.13)
Gender				
Male	50.7	50.3	50.9	51.5
Female	49.3	49.8	49.1	48.5
Preterm birth [a]	12.6	13.4	11.4	12.5
Low birth weight [a]	8.1	8.3	6.9	9.7
Mother's characterisitcs				
Mother's age (years)	37.97 (4.68)	38.02 (4.66)	38.15 (4.63)	37.57 (4.75)
Race				
Hispanic	21.5	21.9	18.8	24.9
Black	28.3	34.1	19.6	27.7
Non-Hispanic White	50.2	44.1	61.7	47.5
Education (in years)	13.17 (2.48)	13.31 (2.32)	13.41 (2.49)	12.48 (2.70)
Having health limitations [a]	10.1	5.8	7.4	24.2
AFQT scores	41.22 (28.87) (28.67)	40.57 (27.20)	46.18 (29.18)	35.37 (30.87)
Family characteristics				
Family income (in 1,000 dollars)	59.00 (78.26)	56.22 (61.21)	63.58 (79.73)	58.67 (106.30)
Number of children in household				
1	12.6	16.7	9.4	7.8
2	40.5	44.8	40.6	30.2
3 +	46.9	38.5	50.1	62.0
Presence of adult in the household [a]	17.8	19.1	15.3	18.4
Observations per data set	23,196	11,231	7,135	4,829

[a]: Dichotomous variable

* p<0.05; ** p<0.01; *** p<0.001; reference is standard employment

Table 4.2. Sample Characteristics for Older Children (ages 15 to 18)

Variables	Total	Mother's Employment Type		
		Standard Employment	Nonstandard Employment	Non-Employment
Variables				
Children's health outcomes				
Having helath limitations [a]	9.8	9.0	10.14***	11.88***
Deperession scores	0.64 (0.49)	0.63 (0.48)	0.64 (0.49)	0.66 (0.53)**
Very good/excellent health[a]	67.8	68.0	68.9	65.68***
Having health limitations (lagged)[a]	6.6	6.3	6.2	8.40***
Depressive symptoms (lagged)	0.63 (0.51)	0.64 (0.51)	0.63 (0.51)	0.61 (0.51)*
Very good/excellent health (lagged)[a]	44.3	44.9	44.0	42.92**
Mother's employment type				
Standard employment	56.7	100.0	N/A	N/A
Nonstanard employment	26.8	N/A	100.0	N/A
Non-employment	16.6	N/A	N/A	100.0
Job characterisitcs				
Low wages [a]	42.2	25.2	42.5	100.0
Children's health insurance				
Not insured	13.5	11.8	16.7	13.9
Private health insurance	64.5	73.1	61.8	39.6
Public health insurance	16.4	10.7	16.0	36.8
Both private and public health insurance	5.6	4.3	5.6	9.8
Nonstandard work hours	20.0	19.3	30.7	0.0
Family structure				
Two-parent family	68.6	66.5	74.4	66.7
Single-mother family	31.4	33.5	25.6	33.3
Child characteristics				
Child age (years)	16.39 (1.11)	16.42 (1.10)	16.34 (1.10)	16.36 (1.11)
Gender				
Male	51.3	50.8	51.5	52.6
Female	48.7	49.2	48.5	47.4
Preterm birth [a]	11.6	11.6	11.0	12.1
Low birth weight [a]	8.0	7.6	7.4	10.5
Mother's characterisitcs				
Mother's age (years)	41.07 (4.47)	41.17 (4.37)	41.12 (4.53)	40.63 (4.67)
Race				
Hispanic	22.0	21.9	19.5	26.3
Black	34.3	36.7	26.0	39.6
Non-Hispanic White	43.7	41.3	54.5	34.2
Education (in years)	12.79 (2.40)	13.04 (2.25)	12.87 (2.33)	11.80 (2.71)
Having health limitations [a]	14.4	8.2	11.3	40.9
AFQT scores	35.80 (27.51)	36.76 (26.11)	39.04 (28.72)	27.24 (28.45)
Family characteristics				
Family income (in 1,000 dollars)	57.01 (64.44)	56.62 (53.36)	59.86 (63.98)	53.70 (93.41)
Number of children in household				
1	17.5	20.3	15.1	11.7
2	39.5	43.2	37.4	30.4
3 +	43.0	36.5	47.5	57.9
Presence of adult in the household [a]	47.1	47.2	45.8	48.9
Observations per data set	11,476	6,501	3,072	1,903

[a]: Dichotomous variable

* p<0.05; ** p<0.01; *** p<0.001; reference is standard employment

Table 4.3. Summary of Health Measures by Mothers' Employment Type and Family Structure

	Younger children (ages 4-14)		Older children (ages 15-18)		
	Health Limitations	Anxiety/ Depressive symptoms	Health Limitations	Depressive symptoms	Very Good/ Excellent Health
Mother's employment type and family structure					
Two-parent, Standard employment	11.22	101.22	9.13	0.62	69.36
Two-parent, Nonstandard employment	11.43	101.73***	9.72	0.61	71.43**
Two-parent, Not employed	12.94***	101.01	10.57**	0.63	70.38
Single-mother, Standard employment	12.36	102.31	8.74	0.65	65.2
Single-mother, Nonstandard employment	14.7†††	104.79†††	11.37†††	0.72†††	61.51††
Single-mother, Not employed	15.37†††	106.32†††	14.49†††	0.74†††	56.28†††

Note : *** two-tailed t-test, reference is two-parent, standard employment (* p<0.05; ** p<0.01; *** p<0.001)
††† two-tailed t-test, reference is single-parent, standard employment († p<0.05; †† p<0.01; ††† p<0.001)

Table 4.4. Coefficients for Younger Children from the Logistic Regression Models

	Having Health Limitations						
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Mother's employment type							
Non-employment	0.050	0.054	0.048	0.002	0.001	0.053	-0.019
	(0.068)	(0.068)	(0.077)	(0.090)	(0.079)	(0.079)	(0.091)
Standard employment (omitted)							
Nonstandard employment	-0.012	-0.008	-0.033	-0.043	-0.036	-0.038	-0.046
	(0.058)	(0.058)	(0.066)	(0.067)	(0.066)	(0.067)	(0.068)
Single-mother family[a]		0.109+	0.079	0.079	0.047	0.078	0.047
		(0.064)	(0.082)	(0.082)	(0.083)	(0.082)	(0.083)
Mother's employment type * Family structure							
Nonstanard employment * Single-mother			0.146	0.131	0.056	0.141	0.046
			(0.112)	(0.113)	(0.117)	(0.113)	(0.117)
Non-employment * Single-mother			0.146	0.106	-0.012	0.151	-0.026
			(0.118)	(0.124)	(0.125)	(0.118)	(0.129)
Job characterisitcs							
Low wages[a]				0.062			0.035
				(0.066)			(0.068)
Children's health insurance							
Not insured					-0.319**		-0.324**
					(0.104)		(0.105)
Private health insurance (omitted)							
Public health insurance					0.306***		0.298***
					(0.082)		(0.084)
Both private and public health insurance					0.239*		0.232*
					(0.103)		(0.105)
Nonstandard work hours						0.030	0.028
						(0.071)	(0.072)
Child characteristics							
Child age (years)	-0.039***	-0.040***	-0.040***	-0.040***	-0.038***	-0.040***	-0.038***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Female[a]	-0.329***	-0.329***	-0.328***	-0.329***	-0.324***	-0.328***	-0.324***
	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)
Preterm birth [a]	0.080	0.079	0.079	0.080	0.084	0.079	0.084
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Low birth weight [a]	0.164	0.158	0.156	0.155	0.144	0.156	0.144
	(0.109)	(0.109)	(0.109)	(0.109)	(0.107)	(0.109)	(0.107)
Lagged measure of health	2.946***	2.943***	2.942***	2.942***	2.932***	2.943***	2.932***
	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)
Mother's characterisitcs							
Mother's age (years)	-0.029***	-0.029***	-0.029***	-0.029***	-0.031***	-0.029***	-0.031***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Education (in years)	0.010	0.010	0.010	0.011	0.014	0.010	0.015
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Race							
Hispanic	-0.205**	-0.208**	-0.209**	-0.206**	-0.215**	-0.208**	-0.212**
	(0.072)	(0.072)	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)
Black	-0.160*	-0.187**	-0.188**	-0.185*	-0.228**	-0.188**	-0.227**
	(0.070)	0.072	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)
Non-Hispanic White (omitted)							
Having health limitations[a]	0.441***	0.433***	0.433***	0.429***	0.404***	0.432***	0.402***
	(0.076)	(0.077)	(0.077)	(0.077)	(0.078)	(0.077)	(0.078)
AFQT scores	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Family characteristics							
Number of children in household							
1 (omitted)							
2	-0.273***	-0.260***	-0.259***	-0.260***	-0.270***	-0.259***	-0.270***
	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)
3 +	-0.364***	-0.348***	-0.348***	-0.350***	-0.382***	-0.349***	-0.384***
	(0.076)	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)
Presence of adult in the household[a]	-0.075	-0.094	-0.094	-0.093	-0.083	-0.094	-0.083
	(0.067)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)
Family income (in 1,000 dollars)	-0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-1.210***	-1.265***	-1.253***	-1.287***	-1.240***	-1.265***	-1.267***
	(0.246)	(0.248)	(0.249)	(0.252)	(0.253)	(0.250)	(0.256)
Observations per data set	23196	23196	23196	23196	23196	23196	23196

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01, *** p<0.001

Standard Errors in Parentheses

Table 4.5. Coefficients for Younger Children from the Ordinary Least Squares Regression Models

	Anxiety/Depressive Symptoms						
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Mother's employment type							
Non-employment	0.046	0.081	-0.436	-0.953*	-0.617*	-0.385	-0.912*
	(0.281)	(0.281)	(0.313)	(0.378)	(0.314)	(0.316)	(0.381)
Standard employment (omitted)							
Nonstandard employment	0.334	0.383+	0.172	0.059	0.105	0.126	-0.013
	(0.224)	(0.224)	(0.250)	(0.254)	(0.250)	(0.254)	(0.258)
Single-mother family[a]		1.134***	0.592+	0.576+	0.470	0.580+	0.457
		(0.256)	(0.317)	(0.316)	(0.318)	(0.317)	(0.318)
Mother's employment type * Family structure							
Nonstanard employment * Single-mother			1.525***	1.347**	1.021*	1.473**	0.886+
			(0.451)	(0.460)	(0.469)	(0.455)	(0.478)
Non-employment * Single-mother			2.278***	1.840**	1.630**	2.339***	1.436*
			(0.554)	(0.581)	(0.571)	(0.555)	(0.592)
Job characterisitcs							
Low wages[a]				0.666*			0.459+
				(0.265)			(0.272)
Children's health insurance							
Not insured					0.767+		0.698+
					(0.394)		(0.396)
Private health insurance (omitted)							
Public health insurance					1.751***		1.644***
					(0.366)		(0.371)
Both private and public health insurance					0.743+		0.639
					(0.431)		(0.437)
Nonstandard work hours						0.310	0.301
						(0.283)	(0.282)
Child characteristics							
Child age (years)	0.339***	0.335***	0.336***	0.336***	0.342***	0.336***	0.341***
	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
Female[a]	0.389*	0.400*	0.413*	0.408*	0.432*	0.411*	0.425*
	(0.193)	(0.192)	(0.192)	(0.192)	(0.192)	(0.192)	(0.192)
Preterm birth [a]	-0.234	-0.236	-0.257	-0.259	-0.241	-0.257	-0.242
	(0.355)	(0.352)	(0.353)	(0.354)	(0.355)	(0.353)	(0.356)
Low birth weight [a]	0.332	0.255	0.226	0.220	0.166	0.223	0.163
	(0.435)	(0.434)	(0.436)	(0.436)	(0.435)	(0.436)	(0.435)
Lagged measure of health	0.527***	0.525***	0.524***	0.524***	0.522***	0.524***	0.522***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Mother's characterisitcs							
Mother's age (years)	-0.137***	-0.133***	-0.133***	-0.133***	-0.139***	-0.131***	-0.137***
	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.024)	(0.024)
Education (in years)	-0.111*	-0.109*	-0.109*	-0.100+	-0.072	-0.108*	-0.067
Race	(0.053)	(0.053)	(0.053)	(0.054)	(0.054)	(0.054)	(0.054)
Hispanic	-0.585*	-0.592*	-0.601*	-0.574*	-0.686*	-0.590*	-0.650*
	(0.280)	(0.279)	(0.279)	(0.279)	(0.280)	(0.279)	(0.281)
Black	-0.724**	-0.998***	-1.048***	-1.046***	-1.210***	-1.054***	-1.203***
	(0.273)	(0.276)	(0.276)	(0.276)	(0.277)	(0.276)	(0.278)
Non-Hispanic White (omitted)							
Having health limitations[a]	1.774***	1.702***	1.600***	1.567***	1.428***	1.588***	1.406***
AFQT scores	0.007	0.008	0.008+	0.010*	0.011*	0.008+	0.012*
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Family characteristics							
Number of children in household							
1 (omitted)							
2	0.318	0.458	0.454	0.452	0.427	0.454	0.428
	(0.303)	(0.305)	(0.305)	(0.305)	(0.305)	(0.305)	(0.305)
3 +	-0.087	0.078	0.087	0.059	-0.041	0.075	-0.063
	(0.31)	(0.311)	(0.312)	(0.312)	(0.313)	(0.312)	(0.314)
Presence of adult in the household[a]	-0.168	-0.340	-0.345	-0.343	-0.311	-0.350	-0.316
	(0.273)	(0.275)	(0.274)	(0.274)	(0.274)	(0.274)	(0.274)
Family income (in 1,000 dollars)	-0.006***	-0.005***	-0.005***	-0.004***	-0.004**	-0.005***	-0.004**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	51.872***	51.461***	51.699***	51.416***	51.385***	51.585***	51.103***
	(1.447)	(1.445)	(1.450)	(1.451)	(1.451)	(1.456)	(1.457)
Observations per data set	12,466	12,466	12,466	12,466	12,466	12,466	12,466

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01, *** p<0.001

Standard Errors in Parentheses

Table 4.6. Coefficients for Older Children from the Logistic Regression Models

	Having Health Limitations						
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Mother's employment type							
Non-employment	-0.001	-0.002	0.008	-0.057	-0.057	0.042	-0.040
	(0.101)	(0.101)	(0.123)	(0.140)	(0.125)	(0.124)	(0.141)
Standard employment (omitted)							
Nonstandard employment	0.017	0.019	-0.044	-0.058	-0.047	-0.064	-0.072
	(0.083)	(0.083)	(0.101)	(0.103)	(0.101)	(0.103)	(0.104)
Single-mother family[a]		0.075	0.026	0.025	-0.020	0.020	-0.026
		(0.084)	(0.110)	(0.110)	(0.110)	(0.110)	(0.111)
Mother's employment type * Family structure							
Nonstanard employment * Single-mother			0.180	0.159	0.045	0.151	0.010
			(0.135)	(0.137)	(0.141)	(0.137)	(0.143)
Non-employment * Single-mother			0.016	-0.041	-0.178	0.056	-0.150
			(0.148)	(0.159)	(0.156)	(0.150)	(0.163)
Job characterisitcs							
Low wages[a]				0.097			0.027
				(0.094)			(0.098)
Children's health insurance							
Not insured					0.020		0.017
					(0.119)		(0.118)
Private health insurance (omitted)							
Public health insurance					0.491**		0.489**
					(0.128)		(0.134)
Both private and public health insurance					0.426**		0.424**
					(0.158)		(0.160)
Nonstandard work hours						0.165	0.172
						(0.106)	(0.107)
Child characteristics							
Child age (years)	-0.205**	-0.205**	-0.206**	-0.206**	-0.207**	-0.206**	-0.207**
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Female[a]	0.214**	0.214**	0.214**	0.215**	0.215**	0.213**	0.214**
	(0.069)	(0.069)	(0.069)	(0.069)	(0.069)	(0.069)	(0.069)
Preterm birth [a]	0.169	0.169	0.168	0.168	0.173	0.166	0.170
	(0.121)	(0.121)	(0.121)	(0.121)	(0.121)	(0.121)	(0.121)
Low birth weight [a]	-0.129	-0.131	-0.130	-0.133	-0.162	-0.132	-0.164
	(0.146)	(0.146)	(0.146)	(0.146)	(0.146)	(0.146)	(0.145)
Lagged measure of health	2.350**	2.350**	2.349**	2.349**	2.335**	2.347**	2.333**
	(0.098)	(0.098)	(0.098)	(0.098)	(0.098)	(0.098)	(0.098)
Mother's characterisitcs							
Mother's age (years)	0.013	0.013	0.013	0.013	0.011	0.014	0.012
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Education (in years)	-0.006	-0.007	-0.007	-0.005	0.001	-0.007	0.002
Race	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Hispanic	-0.185+	-0.189+	-0.192+	-0.187+	-0.208+	-0.188+	-0.203+
	(0.019)	(0.018)	(0.018)	(0.019)	(0.019)	(0.018)	(0.019)
Black	-0.177+	-0.194*	-0.193*	-0.191+	-0.246*	-0.197*	-0.249*
	(0.096)	(0.098)	(0.098)	(0.098)	(0.100)	(0.098)	(0.100)
Non-Hispanic White (omitted)							
Having health limitations[a]	0.556**	0.552**	0.553**	0.544**	0.504**	0.547**	0.495**
	(0.093)	(0.093)	(0.094)	(0.094)	(0.094)	(0.094)	(0.095)
AFQT scores	0.004*	0.005*	0.005*	0.005*	0.005**	0.005*	0.005**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Family characteristics							
Number of children in household							
1 (omitted)							
2	-0.143	-0.134	-0.132	-0.131	-0.134	-0.131	-0.134
	(0.100)	(0.101)	(0.101)	(0.101)	(0.101)	(0.101)	(0.101)
3 +	-0.119	-0.106	-0.104	-0.107	-0.142	-0.104	-0.143
	(0.104)	(0.105)	(0.105)	(0.105)	(0.105)	(0.105)	(0.105)
Presence of adult in the household[a]	0.094	0.088	0.089	0.091	0.111	0.088	0.111
	(0.077)	(0.077)	(0.077)	(0.077)	(0.078)	(0.077)	(0.078)
Family income (in 1,000 dollars)	-0.000	-0.000	-0.000	-0.000	0.000	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.039	0.005	0.033	-0.023	-0.074	-0.050	-0.175
	(0.654)	(0.656)	(0.656)	(0.656)	(0.659)	(0.655)	(0.658)
Observations per data set	11,476	11,476	11,476	11,476	11,476	11,476	11,476

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01, *** p<0.001

Standard Errors in Parentheses

Table 4.7. Coefficients for Older Children from the Ordinary Least Squares Regression Models

	Depressive Symptoms						
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Mother's employment type							
Non-employment	0.008	0.008	0.005	0.001	0.003	0.009	0.003
	(0.620)	(0.610)	(0.350)	(0.040)	(0.190)	(0.550)	(0.160)
Standard employment (omitted)							
Nonstandard employment	0.010	0.010	-0.001	-0.002	-0.002	-0.003	-0.004
	(0.940)	(0.980)	(0.110)	(0.190)	(0.130)	(0.250)	(0.330)
Single-mother family[a]		0.011	0.000	0.000	-0.001	-0.000	-0.002
		(1.050)	(0.020)	(0.010)	(0.110)	(0.010)	(0.140)
Mother's employment type * Family structure							
Nonstanard employment * Single-mother			0.037+	0.035+	0.032	0.034+	0.029
			(1.940)	(1.840)	(1.640)	(1.810)	(1.470)
Non-employment * Single-mother			0.015	0.010	0.007	0.018	0.008
			(0.640)	(0.430)	(0.310)	(0.810)	(0.340)
Job characterisitcs							
Low wages[a]				0.007			0.005
				(0.610)			(0.430)
Children's health insurance							
Not insured					-0.003		-0.003
					(0.180)		(0.210)
Private health insurance (omitted)							
Public health insurance					0.010		0.009
					(0.580)		(0.540)
Both private and public health insurance					0.052*		0.051*
					(2.080)		(2.050)
Nonstandard work hours						0.017	0.017
						(1.340)	(1.340)
Child characteristics							
Child age (years)	0.008	0.008	0.008	0.008	0.008	0.008	0.008
	(1.620)	(1.620)	(1.620)	(1.620)	(1.640)	(1.610)	(1.630)
Female[a]	0.071**	0.071**	0.071**	0.071**	0.072**	0.071**	0.071**
	(8.630)	(8.630)	(8.630)	(8.630)	(8.630)	(8.630)	(8.630)
Preterm birth [a]	0.004	0.005	0.005	0.005	0.005	0.004	0.005
	(0.310)	(0.320)	(0.330)	(0.340)	(0.330)	(0.310)	(0.330)
Low birth weight [a]	0.001	0.001	0.000	0.000	0.001	-0.000	0.001
	(0.0070)	(0.050)	(0.020)	(0.010)	(0.060)	(0.000)	(0.030)
Lagged measure of health	0.549**	0.549**	0.548**	0.548**	0.548**	0.548**	0.548**
	(41.090)	(41.080)	(41.010)	(41.030)	(40.920)	(41.010)	(40.940)
Mother's characterisitcs							
Mother's age (years)	-0.002*	-0.002*	-0.002*	-0.002*	-0.002*	-0.002+	-0.002*
	(1.980)	(2.000)	(2.010)	(2.020)	(2.190)	(1.880)	(2.070)
Education (in years)	-0.003	-0.003	-0.003	-0.003	-0.002	-0.003	-0.002
	(1.160)	(1.210)	(1.210)	(1.140)	(1.090)	(1.160)	(1.000)
Race							
Hispanic	-0.013	-0.014	-0.014	-0.014	-0.014	-0.014	-0.014
	(1.120)	(1.150)	(1.190)	(1.150)	(1.121)	(1.160)	(1.150)
Black	-0.016	-0.018	-0.019	-0.018	-0.021+	-0.019+	-0.021+
	(1.400)	(1.590)	(1.620)	(1.600)	(1.780)	(1.660)	(1.800)
Non-Hispanic White (omitted)							
Having health limitations[a]	0.062**	0.062**	0.061**	0.060**	0.059**	0.060**	0.058**
	(4.240)	(4.220)	(4.150)	(4.090)	(4.000)	(4.100)	(3.920)
AFQT scores	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.410)	(0.350)	(0.310)	(0.250)	(0.170)	(0.350)	(0.180)
Family characteristics							
Number of children in household							
1 (omitted)							
2	-0.040**	-0.039**	-0.038**	-0.039**	-0.039**	-0.038**	-0.039**
	(3.010)	(2.920)	(2.910)	(2.910)	(2.930)	(2.900)	(2.930)
3 +	-0.031*	-0.030*	-0.029*	-0.030*	-0.031*	-0.029*	-0.031*
	(2.350)	(2.210)	(2.180)	(2.200)	(2.310)	(2.190)	(2.330)
Presence of adult in the household[a]	-0.009	-0.009	-0.009	-0.009	-0.008	-0.009	-0.008
	(0.840)	(0.910)	(0.890)	(0.870)	(0.800)	(0.900)	(0.810)
Family income (in 1,000 dollars)	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(1.290)	(1.010)	(0.990)	(0.940)	(0.800)	(0.950)	(0.730)
Constant	0.297**	0.294**	0.298**	0.294**	0.298**	0.290**	0.287**
	(3.300)	(3.250)	(3.300)	(3.250)	(3.310)	(3.200)	(3.160)
Observations per data set	8,126	8,126	8,126	8,126	8,126	8,126	8,126

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01, *** p<0.001

Standard Errors in Parentheses

Table 4.8. Coefficients for Older Children from the Logistic Regression Models

	Very Good/Excellent Health						
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Mother's employment type							
Non-employment	0.112+	0.111+	0.197*	0.222*	0.232**	0.191*	0.222*
	(1.7000	(1.680)	(2.420)	(2.470)	(2.820)	(2.320)	(2.430)
Standard employment (omitted)							
Nonstandard employment	0.053	0.048	0.131*	0.137*	0.148*	0.134*	0.151*
	(0.990)	(0.900)	(1.990)	(2.060)	(2.250)	(2.020)	(2.250)
Single-mother family[a]		-0.177**	-0.071	-0.071	-0.052	-0.071	-0.052
		(3.300)	(1.040)	(1.040)	(0.760)	(1.030)	(0.750)
Mother's employment type * Family structure							
Nonstanard employment * Single-mother			-0.186*	-0.177*	-0.114	-0.181*	-0.110
			(2.070)	(1.960)	(1.240)	(2.010)	(1.180)
Non-employment * Single-mother			-0.106	-0.083	-0.010	-0.113	-0.020
			(0.083)	(0.101)	(0.090)	(1.120)	(0.180)
Job characterisitcs							
Low wages[a]				-0.039			0.004
				(0.670)			(0.070)
Children's health insurance							
Not insured					-0.257**		-0.257**
					(3.300)		(3.260)
Private health insurance (omitted)							
Public health insurance					-0.242**		-0.244*
					(2.640)		(2.530)
Both private and public health insurance					-0.217+		-0.218+
					(1.790)		(1.790)
Nonstandard work hours						-0.031	-0.034
						(0.490)	(0.550)
Child characteristics							
Child age (years)	-0.305**	-0.305**	-0.305**	-0.305**	-0.300**	-0.305**	-0.300**
	(13.100)	((13.100)	(13.120)	(13.110)	(12.870)	(13.120)	(12.870)
Female[a]	-0.303**	-0.303**	-0.303**	-0.303**	-0.304**	-0.303**	-0.304**
	(6.570)	(6.570)	(6.560)	(6.560)	(6.580)	(6.550)	(6.580)
Preterm birth [a]	-0.151+	-0.154+	-0.155+	-0.156+	-0.155+	-0.155+	-0.155+
	(1.840)	(1.880)	(1.890)	(1.900)	(1.890)	(1.890)	(1.880)
Low birth weight [a]	0.149	0.157	0.162+	0.163+	0.168+	0.163+	0.169+
	(1.550)	(1.570)	(1.690)	(1.700)	(1.770)	(1.700)	(1.780)
Lagged measure of health	1.265**	1.262**	1.261**	1.261**	1.256**	1.261**	1.256**
	(22.830)	(22.750)	(22.740)	(22.730)	(22.640)	(22.740)	(22.640)
Mother's characterisitcs							
Mother's age (years)	0.002	0.003	0.002	0.002	0.004	0.002	0.004
	(0.370)	(0.430)	(0.400)	(0.410)	(0.740)	(0.360)	(0.690)
Education (in years)	0.027*	0.028*	0.029*	0.028*	0.022+	0.029*	0.021+
	(2.100)	(2.250)	(2.260)	(2.180)	(1.680)	(2.250)	(1.670)
Race							
Hispanic	-0.007	0.002	0.002	-0.000	0.012	0.001	0.011
	(0.100)	(0.030)	(0.030)	(0.000)	(0.180)	(0.020)	(0.170)
Black	0.058	0.102	0.106	0.105	0.123+	0.107	0.124+
	(0.890)	(1.540)	(1.610)	(1.590)	(1.820)	(1.620)	(1.830)
Non-Hispanic White (omitted)							
Having health limitations[a]	-0.366**	-0.358**	-0.347**	-0.343**	-0.324**	-0.346**	-0.323**
	(5.800)	(5.680)	(5.470)	(5.390)	(5.060)	(5.450)	(5.030)
AFQT scores	0.005**	0.005**	0.005**	0.005**	0.004**	0.005**	0.004**
	(3.710)	(3.610)	(3.540)	(3.480)	(3.170)	(3.550)	(3.190)
Family characteristics							
Number of children in household							
1 (omitted)							
2	0.054	0.034	0.033	0.033	0.026	0.033	0.026
	(0.840)	(0.530)	(0.510)	(0.510)	(0.410)	(0.510)	(0.400)
3 +	-0.067	-0.096	-0.100	-0.099	-0.093	-0.100	-0.093
	(1.010)	(1.440)	(1.510)	(1.480)	(1.380)	(1.510)	(1.380)
Presence of adult in the household[a]	-0.047	-0.033	-0.033	-0.033	-0.036	-0.032	-0.036
	(0.920)	(0.650)	(0.640)	(0.660)	(0.710)	(0.640)	(0.700)
Family income (in 1,000 dollars)	0.002**	0.001**	0.001**	0.001*	0.001*	0.001*	0.001*
	(3.490)	(2.640)	(2.580)	(2.520)	(2.000)	(2.570)	(2.000)
Constant	4.707**	4.762**	4.734**	4.756**	4.755**	4.749**	4.769**
	(10.560)	(10.660)	(10.590)	(10.610)	(10.600)	(10.580)	(10.570)
Observations per data set	9,973	9,973	9,973	9,973	9,973	9,973	9,973

[a] Dichotomous variable

+ P<0.1, * P<0.05, ** P<0.01, *** p<0.001

Standard Errors in Parentheses