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The Effects of Children, Job Changes, and Employment Interruptions on Women's Wages

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THE EFFECTS OF CHILDREN, JOB CHANGES,
AND EMPLOYMENT INTERRUPTIONS ON WOMEN'S WAGES

A Dissertation Presented

by

JESSICA L. LOOZE

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

February 2015

Department of Sociology

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AND EMPLOYMENT INTERRUPTIONS ON WOMEN'S WAGES

A Dissertation Presented
By
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DEDICATION

for my family

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I am grateful to so many who have made this dissertation possible. I thank my dissertation committee for guiding me through this process. Michelle Budig has been a committed mentor and an inspiration to me. She has been a constant source of encouragement, yet has always challenged me to reach my full potential. Thank you for making me a better scholar. Sanjiv Gupta introduced me to the world of quantitative data analysis, and for that I am forever grateful. His knowledge in this field has always amazed and inspired me, and I hope that my work is as thoughtful and careful as his always is. Naomi Gerstel has provided me with thoughtful insight and has challenged and sharpened my thinking in so many ways over the years. Marta Murray-Close has shared with me the fundamentals of the discipline of Economics, and her energy and ideas are an inspiration to me. My scholarship has been profoundly shaped by each of you, and I am privileged to have worked with such remarkable individuals.

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ABSTRACT

THE EFFECTS OF CHILDREN, JOB CHANGES, AND EMPLOYMENT INTERRUPTIONS ON WOMEN'S WAGES

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In this dissertation, I build upon the literature examining the motherhood wage penalty. Although previous research has found that much of this penalty can be explained by differences between mothers and childless women in human capital acquisition, job experience, work hours, and unobserved characteristics, these reasons do not fully explain the penalty. The portion of the penalty that remains unexplained is often attributed to some combination of discrimination against women by employers and lower work effort among mothers. In this dissertation, I examine another plausible mechanism: I consider the role that job changes and employment exits play in creating this penalty. In doing this, I draw on economic theories of job mobility that posit job changes play an important role in shaping workers' wage trajectories. I also draw on signaling theory, which argues the reason workers leave their job and spend time in non-employment matters in shaping workers' future wages.

I use panel data from the National Longitudinal Survey of Youth, 1979 (NLSY79). This dataset follows a cohort of nearly 6,000 women who entered the labor market in the late 1970s and early 1980s, a time during which changing employers was becoming increasingly common. I use data from surveys conducted between 1979-2010 (the most recent year of data available). I apply event history and fixed effects models to examine how children shape women's job changes and employment exits, and how

these events, in turn, shape women's wages. Throughout this dissertation, I examine how motherhood intersects with race/ethnicity, spouse characteristics, birth timing, and education to shape women's labor market decisions and wage outcomes.

I found motherhood reduces the hazard that women will make the types of non-family voluntary job changes that often result in wage gains. I also found that different patterns of changing jobs and exiting the labor market contributes to roughly twenty percent of the unexplained motherhood wage penalty, and moreover, these differences help to explain why the wage penalty is largest for women who bear children early in adulthood. Finally, in examining the different reasons women spend time in non-employment, I found family-related interruptions are associated with larger short-term wage penalties compared to interruptions following a layoff, but the penalties for family-related interruptions persist over the long-term only among highly educated women.

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INTRODUCTION

It is well established that raising children negatively impacts women's wages. This phenomenon is often termed the wage penalty for motherhood (Budig and Hodges 2010; Budig and England 2001; Waldfogel 1997). A number of mechanisms have been found to contribute to this penalty, including differences between mothers and childless women in human capital acquisition, job experience, work hours, and unobserved characteristics. Yet scholars continue to find that even after considering an extensive list of potential differences, a portion of the wage penalty remains unexplained. This leads many to conclude that some combination of employer discrimination against mothers and lower productivity among mothers accounts for the remainder of the gap. It is likely however, that there are additional mechanisms contributing to this penalty that have yet to be explored. In this dissertation, I consider two potential mechanisms: job changes and employment interruptions.

Job changes have become increasingly common in the last 40 years (Hollister 2011; Kalleberg 2011) and they are one of the key ways through which workers increase or decrease their earnings (Bernhardt et al. 2001; Keith and McWilliams 1997; Keith and McWilliams 1999; Keith and McWilliams 1995; Topel and Ward 1992). Yet, surprisingly little attention has been paid to the role job changes might play in the motherhood wage penalty. Previous studies of the motherhood wage penalty that have considered job changes have often limited themselves to those changes taking place around the time of childbirth (Baum 2002; Budig and Hodges 2010; Gangl and Ziefle 2009). But these changes are only a tiny fraction of all the job changes mothers make throughout their time in the labor market, and moreover, job changes surrounding childbirth are not applicable to childless women, and it is likely that job changes among childless women are also contributing to the motherhood wage penalty.

Women's wages are shaped not only by the ways in which they *gain* job experience (i.e., through experience with many different employers vs. experience with only a few employers), but also by the ways in which they *lose* job experience (e.g, when leaving an employer is followed by a substantial period of time in non-employment). Researchers estimate that one-third to one-half of the motherhood wage penalty is due to lower job experience among mothers (Budig and Hodges 2010; Budig and England 2001; Gangl and Ziefle 2009; Klerman and Leibowitz 1999; Staff and Mortimer 2012). Not unlike previous research on women's job changes however, much of this work has implicitly assumed that reduced job experience is due to women's time away from employment in the months and years surrounding childbirth. While most mothers do take a break from employment during this time (Klerman and Leibowitz 1999), women spend time in non-employment for a variety of reasons throughout their time in the labor market. Yet little is known about how the wage consequences of these various interruptions might affect women's wages.

Women's experiences in the labor market, and their resulting wage trajectories, are not shaped by motherhood alone, but they are influenced in important ways by women's social location, including their race/ethnicity, spouse's work hours, birth timing, and education. In this dissertation, I examine how each of these aspects intersects with motherhood to shape women's job changes, employment interruptions, and resulting wage changes. These interactive analyses reveal important inequalities that exist among women, specifically among mothers, and they highlight the need to think about the motherhood wage penalty as it applies more specifically to particular groups of women.

This dissertation is divided into three chapters. In the first chapter, I examine how motherhood shapes women's job changes and employment exits. Here, I consider how both race/ethnicity and spouses' work hours intersect with motherhood to influence the reasons women changes jobs (and the reasons they do not). In chapter two, I illuminate why the job changes and employment exits examined

in chapter one matter, as I examine how these different events contribute to the motherhood wage penalty. In this chapter, I pay particular attention to how women's job changes and the resulting wage inequalities are shaped by the age at which women become mothers. In the third and final chapter, I examine how women's employment interruptions affect women's wages over the short- and long-term. Here I highlight differences in women's experiences by their education level.

For all of the analysis in this dissertation, I use panel data from the 1979-2010 waves of the National Longitudinal Survey of Youth, 1979 cohort (NLSY79). This rich dataset allows me to track the labor market activity and fertility patterns of a cohort of nearly 6,000 women for over 30 years. The survey follows a nationally representative sample of women in the U.S. through a time during which rapid changes took place in the labor market and moving from employer to employer became a defining feature of many workers' experiences (Hollister 2011; Kalleberg 2011). The findings I present here tell us much about women's (un)changing opportunities in the labor market and what might be done to increase these opportunities.

CHAPTER 1

WHY DO(N'T) THEY LEAVE?: MOTHERHOOD, MARRIAGE, RACE AND WOMEN'S JOB CHANGES

Introduction

Combining childrearing and paid employment is a challenge for many women. The seeming incongruence of these two activities has been at the center of much academic and popular debate in recent years (Belkin 2003; Blair-Loy 2003; Damaske 2011; Stone 2007; Williams 2000). Central to this debate is the concern that many mothers are both pulled away from, and pushed out of, the labor market, or that they move into less time-intensive (and often lower-paying) jobs. The existing literature on women's job separations reflects this concern, as implicit, if not explicit, in much of this work is the idea that the incompatibility of paid work and family life is the key motivation for women's separations. In this context, job separations among mothers are largely framed as negative events, at least in terms of their effects on earnings.

Lost in these discussions is the fact that movement among employers is often beneficial to wage growth. Studies of job mobility¹ find non-family voluntary job separations (i.e., separations motivated by a desire to seek out a better opportunity, or to escape an undesirable job) are often associated with wage gains (Bernhardt et al. 2001; Fuller 2008; Keith and McWilliams 1997). This is especially true during workers' initial years in the labor market, a time when movement from one employer to another is a particularly lucrative strategy (Topel and Ward 1992). Economists and sociologists have long been interested in the effects of job changes on workers' wages and resulting inequalities between and

¹ Here I am invoking the definition of job mobility commonly applied by economists, not necessarily by sociologists. Kalleberg (2011) explains this distinction, "Sociologists generally study the opportunities for advancement to better jobs by means of the concept of occupational mobility, which they have traditionally regarded as a primary indicator of social advancement and the 'openness' of societies. Economists usually analyze mobility by focusing on movement from one employer to another," (p. 120).

among workers. Much of this literature has focused on differences between men and women, and among workers of different racial/ethnic groups (Alon and Tienda 2005; Fuller 2008; Keith and McWilliams 1997; Kronberg 2013; Manning and Swaffield 2005; Oettinger 1996). Comparatively little attention has been paid to how job changes vary *among* women, especially with regards to their motherhood status, and how these differences might create earnings disparities (but see Fuller (2008); Looze (2014)). This is surprising, given the well-documented motherhood wage penalty. The prevailing assumption that mothers' job separations are primarily motivated by their attempts to balance the often competing demands of family and employment may account for this absence, as such separations might be rendered a "special case," irrelevant to the broader discussion of job mobility. Yet this assumption clouds our understanding of the varied ways motherhood might shape women's job mobility and resulting wages.

Alongside motherhood, marital status and race/ethnicity likely also play a key role in women's decisions to stay with their current employer, change jobs, or leave the labor market entirely. Recent work suggests spouses' employment hours play a key role in shaping women's labor market exits (Cha 2011; Shafer 2011). Similar effects might be found with regards to women's job changes, though this has not yet been examined. Historically, children have had less of an impact on the employment of Black and Hispanic women compared to white women in terms of labor force participation (Amott and Matthaei 1991). Yet to date, no one has examined how motherhood interacts with race/ethnicity to shape women's job changes.

In this chapter, I use data from the National Longitudinal Survey of Youth 1979 (NLSY79) and event history models to examine how motherhood influences women's job changes and employment exits. I distinguish among the different reasons women leave jobs: family-related voluntary, non-family-related voluntary, and involuntary (including layoffs and firings). I engage with the debate about the

difficulties of combining motherhood and employment by examining not only the circumstances under which women change jobs and leave the labor market, but also the circumstances under which they do not. I also broaden the literature on job mobility by examining how women's status as mothers influences their job changes and labor market exits in ways not previously considered. Finally, I examine how marriage and race/ethnicity intersect with motherhood to shape women's job changes and employment exits.

Background

As opportunities to advance within firms have declined in recent decades (DiPrete, Goux, and Maurin 2002) and jobs themselves have become less secure (Kalleberg 2009), workers are increasingly moving from one employer to another, rather than staying with the same company (Hollister 2011; Kalleberg 2011). This "externalization of job mobility" as Kronberg (2013) terms it, is responsible for much of workers' wage growth and losses over time, and the direction of these changes depends in large part on the reason workers leave a job.

Labor economists and sociologists often distinguish between two main types of job separations: voluntary and involuntary. Voluntary separations are conceptualized as being initiated by the worker and involuntary separations are conceptualized as being initiated by the employer. Importantly from a gender and family perspective, when data allows, voluntary separations can be disaggregated into those that are "family-related" (i.e., separations due to pregnancy, child care responsibilities, relocating for a spouse's job, etc.) and those that are "non-family-related" (i.e., leaving to search for or take another job to further one's career, leaving because of undesirable conditions at one's current job, etc.). Involuntary separations can be disaggregated into layoffs (usually due to downsizing or re-organization within a firm

rendering a particular job no longer necessary) and firings (often the result of malfeasance or incompetence on the part of the worker).

These distinctions are meaningful insofar as they are associated with different wage outcomes. Non-family voluntary separations often result in wage gains, while layoffs and firings often result in wage penalties (Fuller 2008; Keith and McWilliams 1997). Family-related job separations are also associated with wage penalties (Fuller 2008; Keith and McWilliams 1997). Part of these differences in wage outcomes have been attributed to job search behavior, as workers are more likely to have searched for a new job prior to a non-family voluntary separation than an involuntary one (Keith and McWilliams 1999). Finding a new job following an involuntary separation may not be easy, and individuals might feel pressured to take a lower paying job in order to secure some type of employment (Gangl 2006). In addition, employers' perceptions of workers' previous job mobility likely also affects wage outcomes (Fuller 2008). For example, if employers view non-family voluntary job separations as part and parcel of a finding the right job or building a career, but view involuntary job separations as indicative of lower ability or work effort among individuals, wage outcomes are likely to reflect these perceptions accordingly. Workers' may suffer wage losses following a family-related separation if they are willing to accept jobs that provide lower wages in exchange for "family-friendly" amenities that make combining paid employment and family life more manageable. This tradeoff is known as compensating differentials. Previous family-related separations might also raise concerns among employers. Whatever the specific mechanisms, prior research suggests that the reason workers leave their jobs matters for their subsequent wage growth.

Distinctions among types of separations can become murky of course. Qualitative research has revealed that when women report leaving a job for family-related reasons, the separation may not simply be in response to the demands of their family, but rather to the incompatibility of particular

workplaces and family-life (i.e., workplaces or supervisors that will not accommodate requests for part-time work or other flexible arrangements) (Damaske 2011; Stone 2007; Williams 2000). In a similar vein, involuntary separations can be a result of discriminatory responses to workers' caregiving responsibilities, as when workers find their position eliminated upon returning from family leave (Calvert 2010). Voluntary separations resulting in higher wages at a subsequent job might be considered "family-related" if they boost the economic stability of a woman's family. Thus, it is important to be mindful that the distinctions among family-related, non-family-related, and involuntary separations may not always be entirely clear. Nevertheless, empirical research suggests these categories serve as important indicators of the wage premiums or penalties workers will face in subsequent jobs.

Despite evidence that the reasons women leave their jobs matters for their future wages, previous research on women's job changes and employment exits has examined these events with no attention to the motivation (but see Felmler (1984)). Moreover, in line with the debate about women's abilities to combine paid employment with motherhood, much previous research on the effects of pregnancy and children on women's labor market participation focuses on employment exits; we know comparatively little about women's job changes. Below I outline what we know about the effects of motherhood on women's employment exits and job changes generally, and then discuss why these effects might vary by the reason for the change or exit. I then discuss how the effects of motherhood might be influenced by women's marital status, (or more specifically by their spouse's work hours) and race/ethnicity.

Previous Research on the Effects of Motherhood on Women's Job Changes and Employment Exits

Although conventional wisdom might lead one to expect both pregnancy and preschool children (those under age 6) to encourage employment exits among women, empirical findings are in fact, quite

mixed. Some find pregnancy positively associated with women's labor market exits (Glass 1988), while others find no effect (Budig 2003). Felmler (1995) finds preschoolers encourage labor market exits among women, while Budig (2003) finds they encourage labor market exits among women employed full-time, but have no impact on exits from part-time work. Taniguchi and Rosenfeld (2002) find preschoolers encourage exits among Black women, but not white or Hispanic women, whereas Glass (1988) finds preschool children have no significant effect on women's employment exits. Budig (2003) finds older children (those age 6 and older) decrease the likelihood that mothers exit both part- and full-time employment.

Less is known about how children influence women's *job changes*, sometimes referred to as *job-to-job mobility* (Felmler 1984; Felmler 1995) or *job-to-job transitions* (Royalty, 1998). Unlike employment exits, job changes involve little, if any, time between jobs. The distinction between job changes and employment exits is important, as the latter often results in wage penalties due to the intervening time away from the labor market. Studies that have examined the effects of children on women's job changes have produced mixed results. Glass (1988) finds that the presence of a preschooler (approaching significance) decreases the odds of changing jobs, and among pregnant women, the presence of a preschooler increases the odds of remaining in one's job. Her findings suggest that preschoolers discourage job changing and increase job stability among women. Felmler (1995) however, finds preschoolers increase women's hazard of changing jobs, though, in subsequent analyses she finds these job changes are most often into part-time work. She also finds a non-significant effect of school-age children on women's job changes.

These disparate findings regarding the effects of children on women's job changes and employment exits are no doubt in part due to the different datasets and cohorts these scholars use, as well as the different statistical analyses they apply. Yet it is also likely that some of the discrepancies in

their findings can be attributed to the fact that these scholars conflate the different reasons women change jobs. It is likely that motherhood encourage some types of job changes, while discouraging others. If these distinctions are not made, it is difficult to discern how motherhood is really shaping women's job mobility and what this might mean for women's wages.

Motherhood and Women's Employment Exits and Job Changes: Variation by Reason

How might motherhood² influence the different reasons women leave their jobs and the length of time they spend away? In Table 1.1, I provide an illustration of the relationships I expect. As discussed earlier, pregnancy and preschoolers likely encourage the types of family-related job separations that often result in wage penalties. Many workplaces continue to be structured around expectations of a disembodied worker who has few demands outside of work, including the demands of taking care of a family (Acker 1990; Williams 2000). At the same time, even among dual-earner heterosexual couples, mothers spend more time than fathers "orchestrating family life," doing things such as caring for and transporting children to school and other activities, and doing housework (Bianchi, Robinson, and Milkie 2006). Given this, many mothers (or expectant mothers) may change employers to find a more flexible work environment, reduce their hours, or obtain employment closer to home, or they may withdraw from the labor market altogether. Thus, I expect:

H1: Pregnancy and preschoolers will increase women's likelihood of *changing jobs* for family reasons.

H2: Pregnancy and preschoolers will increase women's likelihood of *exiting the labor market* for family reasons.

² I discuss motherhood (and operationalize it in my models) as both the presence of children at home as well as being currently pregnant. Though clearly these two states are not identical, many of the processes that influence both women's decisions about leaving a particular job and taking another (such as discriminatory practices among employers) are likely similar.

By contrast, motherhood may reduce the likelihood that women will engage in the types of non-family voluntary job changes that often results in wage gains. Child care arrangements, school location, or other child-related activities may limit the distance mothers are willing or able to travel to a new job (Hanson and Pratt 1991). Familiarity with one's employer may be especially valuable to mothers (and expectant mothers), because having an established relationship with an employer may allow mothers to negotiate for accommodations such as flex-time or telecommuting that may ease some of the burden of combining childrearing and paid work (Stone 2007). Legislation might also influence women's decisions, as the Family Medical Leave Act (FMLA) requires workers to have been employed with a company for a minimum of one year prior to taking leave (U.S. Department of Labor 2010).³ If mothers anticipate needing to take time away for childbirth or to care for their child, this requirement may encourage them to stay with their current employer rather than seek out a new opportunity.

Preschoolers might also limit women's opportunities to seek out a new job. Caring for young children requires time women might otherwise be able to spend searching for a new job (Parsons 1991). Childrearing reduces women's network size and the amount of contact women have with persons in their networks, especially among women with preschool children (Munch, McPherson, and Smith-Lovin 1997), which may limit women's information about new job opportunities. Discrimination by potential employers might also inhibit mothers' abilities to change jobs (Correll, Benard, and Paik 2007; Kennelly 1999). In an audit study, Correll, Benard, and Paik (2007) find female applicants without children were significantly more likely than equally qualified mothers to be called back for a job interview, suggesting there is discrimination against mothers in the hiring process. Moreover, in an analysis of interviews conducted with employers responsible for hiring workers in low-skill jobs (i.e., jobs requiring no more

³ Notably, not all women are eligible for FMLA benefits, as only employers with 50 or more employees are required to provide FMLA benefits. Furthermore, as the leave is unpaid, many women may not be in a position financially to take leave under the FMLA.

than a high school degree), Kennelly (1999) found employers repeatedly brought up concerns about hiring mothers for fear they would be late to or absent from work because of their children.

Cunningham and Macan (2007) found similar hesitancies expressed about pregnant women. For all of these reasons, mothers (or expectant mothers) might be less likely than childless women to engage in the types of non-family voluntary job changes that often result in wage gains. Thus, I expect:

H3: Pregnancy and preschoolers will decrease women's likelihood of *changing jobs* for non-family voluntary reasons.

As for non-family voluntary exits, the effects of preschoolers and pregnancy are less clear. Women might be leaving the labor market to return to school, because of ill health, or any number of reasons, and it is less clear how children and pregnancy might be influential in these exits. Thus, I have no expectations regarding how preschoolers and pregnancy will affect women's non-family voluntary exits.

Turning to involuntary exits (whether layoffs or firings), young children may place women at a greater risk if there are real or perceived differences in worker productivity among mothers and childless women. Even though research has cast doubt on the notion that mothers exert less effort at their jobs compared to childless women (Kmec 2011), mothers are nonetheless often seen as less competent and committed to the workplace (Correll, Benard, and Paik 2007). If employers indeed view mothers less favorably, mothers may be at greater risk of being fired and may be among the first to go when decisions about layoffs are being made. Young children and pregnancy might also inhibit women's ability to secure another job right away, making it more likely that she would experience an involuntary exit, rather than an involuntary change (which would occur if she was able to secure another job with little intervening time away from employment). Thus, I expect preschoolers and pregnancy to be

positively associated with involuntary employment exits, but negatively associated with involuntary job changes.

H4: Pregnancy and preschoolers will decrease women's likelihood of *changing jobs* for an involuntary reason.

H5: Pregnancy and preschoolers will increase women's likelihood of *exiting* the labor market for involuntary reasons.

The effects of pregnancy and preschoolers on women's decisions to change jobs and/or exit employment are likely not uniform, but instead are likely influenced by their social location, namely their marital status and the characteristics of their spouse, as well as their race/ethnicity. I now turn to a discussion of each of these factors and how they might interact with motherhood to influence women's job changes and employment exits.

Marriage and Mothers' Job Changes and Employment Exits

Alongside motherhood, women's marital status, and moreover, the characteristics of their spouses, likely influence their job changes and employment exits. As Stone (2007) argues, "Husbands are often overlooked, even by their wives, when we think about "family reasons" for quitting, so closely do we identify family with women, but it is husbands *and* children who account for why women (as wives and mothers) are so strongly pulled by family. Husbands' high demand jobs and high-demand intensive parenting combine on the family-front to set up one side of a potent double bind," (p.79).

Although marital status itself, as well as spouse income have less influence on women's employment than in the past (Cohen and Bianchi 1999), there is recent evidence to support Stone's assertion that husband's high demand jobs do have a significant impact on women's employment. Cha (2011) and Shafer (2011) both find that when husbands "overwork" (i.e., more than full-time employment) this increases the likelihood that wives will withdraw from the labor market. This may be

in part because the more time husbands spend doing paid work, the less time they spend doing housework (Bittman et al. 2003), which increases wives' responsibilities at home and decreases the time they have to devote to the labor market. Thus, if women have the means to do so, they may decide to withdraw from the labor market in order to direct their efforts at what needs taken care of at home.

Thus, I expect:

H6: Marriage to a spouse employed more than 50 hours per week will increase the positive effects of pregnancy and preschoolers on women's likelihood of changing jobs or exiting employment for family-related reasons.

Excessive employment hours among husbands might also influence women's willingness and/or ability to change jobs for non-family voluntary reasons. In the literature examining family migration, it is men's employment that is often prioritized in couples' decisions to relocate, even when women have higher occupational prestige (Boyle et al. 1999). Bielby and Bielby (1992) find that while a husband's potential loss from a move appears to deter wives from capitalizing on opportunities at a new location, a wife's potential loss does not deter husbands. Thus, even if women have the opportunity to change jobs to further their career, married women may be less willing than non-married women to capitalize on such opportunities. This may be especially true in couples where husbands work more than full-time, as men's excessive hours at work may signify that his job is prioritized. Moreover, wives' increased domestic load brought by husbands' overwork also lessens the amount of time women have available to search for and secure a new job. Thus, I expect:

H7: Marriage to a spouse employed more than 50 hours per week will increase the negative effects of pregnancy and preschoolers on women's likelihood of changing jobs for non-family voluntary reasons.

Race/Ethnicity and Mothers' Job Changes and Employment Exits

Historically, children have had less influence on Black and Hispanic women's employment compared to white women (Amott and Matthaei 1991). Black and Hispanic women have higher rates of

nonmarital births (Martin et al. 2013) and are less likely to be married than white women (Aughinbaugh, Robles, and Sun 2013). Moreover, for Black women especially, marriage does not provide the same levels of financial support that it does for white women (Hirschl, Altobelli, and Rank 2003; Willson 2003). High rates of unemployment, job instability, and low-wages among Black men leaves many Black women as primary breadwinners of their families.⁴ Thus, for many Black mothers, breadwinning is a central component of motherhood (Hill Collins 2000).

Black and Hispanic women are also more likely than white women to live in extended family households and to both rely on and help out kin with practical tasks such as providing childcare, transportation help, and help around the household (Sarkisian and Gerstel 2012). Help with childcare especially might enable Black and Hispanic mothers to remain in their jobs. Glauber (2007) suggests kin support among Hispanics and Blacks may account for why she found no motherhood wage penalty among Hispanic women and unmarried Black women. Her findings suggest that children have less of an influence on Hispanic and Black women's employment decisions compared to white women. All of this suggests that Black and Hispanic women may be less likely than white women to move into part-time work or exit the labor market upon becoming pregnant or having a preschooler.

H8: The positive effects of pregnancy and preschoolers on women's likelihood of changing jobs or exiting employment for family-related reasons will be weaker among Black and Hispanic women compared to white women.

Extending this argument, it is conceivable that children may have smaller effects on Black and Hispanic women's decisions to change jobs voluntarily compared to white women. For instance, if kin are providing childcare, it may be easier for women to change jobs if it doesn't require a change in childcare location. Moreover, race/ethnicity often intersects with class, as Black and Hispanic women are more likely than white women to have less education and to be employed in low-wage jobs. These

⁴ Given that the vast majority of marriages are intraracial (Lofquist et al. 2012).

jobs are often unstable in terms of scheduling and they often require non-standard or irregular shifts (Clawson and Gerstel Forthcoming; Presser and Cox 1997). Negotiated accommodations with an employer, such as flexibility or telecommuting, are likely not taking place in these types of jobs to the same extent they are in more professional jobs. If women have fewer such benefits, changing to a job with higher wages is likely more appealing. Moreover, for Black women in particular, if they are the breadwinners of their families, they may be especially motivated to move to a higher paying job.

H9: The negative effects of young children on women's non-family voluntary changes will be stronger among white women compared to Black and Hispanic women.

This is not to say that job changing will be more common among Black and Hispanic women compared to white women, only that children will have less of an impact on women's decisions to change jobs. Previous literature finds white women change jobs more often than either Black or Hispanic women (Alon and Tienda 2005). Alon and Tienda (2005) suggest racial discrimination on the part of employers might make it more difficult for Black and Hispanic women to change jobs. Moreover, racial discrimination may be compounded with discrimination against mothers (regardless of whether or not women are in fact, mothers), making it especially difficult for Black and Hispanic women to change jobs. In the study cited earlier of interviews conducted with Atlanta-based employers responsible for hiring workers in low-skill jobs, Kennelly (1999) found many (white, male) employers conflated images of race and motherhood in ways largely damaging to the employment opportunities for Black women (regardless of their actual status as mothers). These employers drew upon stereotypical images of Black women as single mothers, and believed these women to be "loyal to their children first and their jobs second," (p. 181). Such beliefs on the part of employers likely make it more difficult for Black women to change jobs compared to white women, regardless of motherhood status.

Other Covariates of Women's Job Separations

Previous research documents a number of factors that likely influence women's job changes and employment exits. As Taniguchi and Rosenfeld (2002) note, "...women's job transitions involve not only family dynamics, but also employment processes that are shaped by their own work experience and resources accumulated over the life course as well as the opportunities and rewards derived from their current employment," (p. 460). Below I discuss various aspects of human capital, family structure, job characteristics, and unobserved heterogeneity that may influence women's job changes and employment exits.

Human capital consists of acquired skills, such as education and work experience, which make workers more productive and increase their earnings potential. Education should increase non-family voluntary job changes, but decrease other types of changes and all types of exits. College-educated women are more likely than non-college educated women to change jobs without a period of non-employment in between, while non-college educated women are more likely to leave a job and move into non-employment for a time (Royalty 1998). Women with less education are also more likely to withdraw from the labor market to deal with problems such as breakdowns in childcare, despite common assumptions that more highly educated women are the most able to, and so most often, exit the labor market (Clawson and Gerstel Forthcoming; Damaske 2011; Perry-Jenkins 2009).

Work experience should be negatively associated with all types of job changes and exits (in the years before retirement at least), as more time spent in the labor market allows women more time to find a better match between themselves and their job, and also indicates women have a shorter time period during which they can enjoy any benefits from a new job (Rosenfeld 1992). The negative effects of work experience likely dissipate at some point, so work experience squared likely also matters. Another indicator of human capital is an individual's cognitive skills, often quantified by scores on the

Armed Forces Qualifying Test (AFQT).⁵ Lower AFQT scores are likely associated with higher rates of employment exits, but not necessarily more job changes (as lower skills may mean individuals have fewer opportunities in the labor market).

In addition to motherhood and marital status, family structure also includes kin coresidence. Women who live with kin, such as parents, siblings, or others, might be more likely to change jobs voluntarily, especially if their kin are able to help with childcare during this transition, for example. Kin coresidence might also be positively associated with family-related job changes and exits as well however, especially if women's kin are themselves in need of care. Taking time off to care for coresiding kin might also increase women's risk of being laid off or fired. Welfare receipt is another resource that might shape women's job mobility, especially among unmarried women who lack other resources. For these women, receipt of AFDC/TANF might enable women to seek out another job or enable them to leave the labor market for a time.

Work behaviors include part-time status, hourly wages and total number of previous jobs. Previous work demonstrates women leave full-time and part-time work for different reasons (Budig 2003). Higher wages are an indicator of women's productivity in the labor market. Higher wages have been found to lower the likelihood of leaving a job (Felmlee 1995; Glass 1988; Light and Ureta 1992; Royalty 1998). Except perhaps for the very highest earning executives, relatively high wages may mean a worker has less to gain from a non-family voluntary job change. Higher wages also allow women to purchase better quality and more reliable care for their children, which may lessen their likelihood of leaving an employer for family-related reasons. At the same time however, higher wages might also

⁵ It is important to point out that while workers' cognitive skills are often conceived of as human capital investments, they are also an indicator of socio-economic background, as they reflect the quality of individuals' education and other life experiences.

indicate better opportunities in the labor market, so they may be positively associated with job changes. Taniguchi and Rosenfeld (2002) find workers who have a greater number of previous job changes are more likely to change jobs in the future.

Job characteristics include health care benefits, sector, union status, and gender composition of an occupation. Health insurance is a key determinant of women staying with a particular employer, especially for low-income mothers (Lee 2007). A lack of health insurance benefits may indicate a job of lower quality and one that might be more susceptible to involuntary layoffs. Job changing is more common in the private sector compared to the public sector (Farber 2008). Job separations are likely less common among workers covered by collective bargaining agreements, as workers are likely less willing to leave such jobs voluntarily and the terms of the agreements likely make involuntary separations less likely. Occupations with a higher percentage of female workers likely present fewer opportunities for women to move up within a firm, inducing women to either seek out another job or exit the labor market for any reason (Rosenfeld 1992).

It is likely that some degree of job changing is due to unobserved differences between workers. Aside from any measurable differences in workers' human capital, family structure, and job characteristics, some workers might be more inclined than others to change jobs more often, and for different reasons. Some statistical approaches, such as fixed effects regression models, help to mitigate the potential for bias caused by unobserved heterogeneity. These models require a sufficient number of events (job changes and exits) per person however in order to produce statistically sound results. For non-family voluntary and involuntary job changes and exits, which are relatively common, this assumption is easy to meet, but family-related job changes and exits are less common, rendering the results of these models much less reliable. Thus, I choose not to use fixed effects in my regression

models, but instead attempt to minimize unobserved heterogeneity by including measurable indicators of women's attitudes, aspirations, and socioeconomic background.

Women's desires to combine career and family might be negatively associated with family-related job changes and exits, while more egalitarian views of gender might be negatively associated with family-related job changes and labor market exits (Yoon and Waite 1994), but positively associated with non-family voluntary job changes. Women whose upbringing provided them more social, cultural and economic capital (through parents' education, occupational prestige, etc.) may have greater opportunities in the labor market, and therefore be more likely to engage in more non-family voluntary job changes and less likely to experience family-related and involuntary job changes and exits.

Method

Data

I use panel data from the 1979-2010 waves of the National Longitudinal Survey of Youth 1979 (NLSY79), a national probability sample of 12,686 individuals ages 14-22 in 1979. Respondents were interviewed annually between 1979 and 1994, and biennially thereafter. By 2010, respondents were between the ages of 45-53. Thus, I am able to track women through their early and mid-adulthood and observe completed fertilities for most women. This cohort is especially useful to study, as these women were establishing themselves in the labor market during the 1980s and 1990s, a time when changing opportunity structures in the U.S. labor market were having important consequences for job mobility and resultant inequality (Shin 2007).

The NLSY79 is an ideal dataset for the examination of women's employment histories, as each survey collects information on the start and stop dates of all jobs a respondent has held since the previous survey, the reason a respondent left each employer (when applicable), the reason women are not employed in a given week, and a variety of job characteristics such as hourly wages, fringe benefits,

occupation, industry, shift, and hours worked. In addition, the NLSY79 consistently asks questions about respondents' individual and family characteristics, including education, school enrollment, marital status, fertility, spouse's income and weekly hours worked, and presence of additional household members, that in addition to job characteristics, likely shape women's job changes and exits.

The NLSY79 event history calendar details each respondent's week-by-week labor market status: whether employed, unemployed, or out of the labor market. If a respondent is employed in a given week, that week is assigned a unique employer ID. This makes tracking changes from one employer to another relatively easy. In addition, at each interview, respondents are asked the reason they left any employers they are no longer working for. (Information is collected on up to five job separations since the last interview). Respondents are provided with a list of possible reasons and asked to choose one. These choices varied over the survey years. The first columns in Tables 1.2 and 1.3 show the response categories provided in the 1980 and 2000 surveys respectively. The 2000 survey clearly collected more detailed information than the 1980 survey. In order to calculate cumulative job changes and employment exits, I had to create categories that remained constant over the survey years. I followed others who have used the NLSY79 to examine different types of job separations (Fuller 2008; Keith and McWilliams 1999) in classifying four types of job changes: (1) family-related; (2) non-family voluntary; (3) layoffs; and (4) firings. The second columns of Tables 1.2 and 1.3 show how I recoded the original response categories to the categories used in my analysis.

To illustrate, Table 1.2 shows the response categories for the 1980 survey and my subsequent coding scheme. In this year, respondents were asked: "Which of the reasons on this card best describes why you happened to leave this job? Options on the card included: (1) layoff, plant closed, or end of temporary or seasonal job; (2) discharged or fired; (3) program ended; (4) quit for pregnancy or family reasons; (5) quit for other reasons. I included those who reported a job ended because a government

program ended with those laid off, as these workers likely had a sense that a job was going to be ending at a particular time (similar to a temporary job). Note however, that there are very few cases where respondents reported leaving a job because a program ended and the vast majority were among respondents still in school who had not yet entered the labor market (so were excluded from this analysis). Following others, (Fuller 2008; Keith and McWilliams 1997; Keith and McWilliams 1999; Keith and McWilliams 1995), I consider the “other” category non-family voluntary separations. Family-related separations are specified when respondents reported they quit a job for pregnancy or family reasons.

Table 1.3 shows the response categories for the 2000 survey and my subsequent coding scheme. In this year, respondents were asked: “Which of the reasons on this card best describes why you happened to leave this job? Options on the card included: (1) layoff; (2) plant closed; (3) end of temporary or seasonal job; (4) discharged or fired; (5) program ended; (6) quit for pregnancy or family reasons; (7) quite to look for another job; (8) quit to take another job; (9) quit for other reasons. Options 7-9 were collapsed into the non-family voluntary category.

Sample

My sample is drawn from the 5,827 women interviewed in 1979 who were not part of the military subsample.⁶ Of these, 5,576 were employed⁷ at some point between 1979-2010, so were “at risk” of leaving their job and are thus included in the analysis. Person-weeks are the unit of analysis.

Dependent Variables

⁶ I exclude 456 women who were part of the military subsample because the early career patterns of these women likely differ in important ways from those of the civilian population. In addition, women in this subsample were only interviewed through 1984, so the observation period is relatively short.

⁷ Here I define employed as in an employee job. I exclude spells of self-employment, as it makes little sense to talk about being laid off or fired from a self-employed job. Self-employment spells totaled n=1893, comprising 5.67% of all employment spells.

In event history analyses, the dependent variables are events. I examine six events in my analyses: (1) a family-related job change, (2) a family-related exit, (3) a non-family voluntary job change, (4) a non-family voluntary exit, (5) a non-family involuntary job change, (6) a non-family involuntary exit.⁸ I follow others (Felmlee 1995; Glass 1988; Royalty 1998; Taniguchi and Rosenfeld 2002) in defining a job change as a change in employers with no more than one month of non-employment in between; an exit then is a job separation followed by more than one month of non-employment. Thus, for example, if a woman reports leaving her job for a family-related reason and does not begin another job until 6 months later, this is considered a family-related exit. If a woman reports being fired from a job and begins another job 3 weeks later, this is considered an involuntary job change.⁹

This one-month distinction may raise concerns that women who are employed as teachers, for example, could report a 3-month break in employment during the summer, but not actually change jobs. Note however, that the NLSY79 distinguishes between *within-employer gaps* (such as would occur for teachers during the summer months) and *between-job gaps* (which occur between actual employer changes). Because I do not include the former as job changes, this should not provide a problem for my analysis. In any case, I ran an alternate set of models using 3 months as a cutoff for a job change and results were largely robust (see results from these models in Tables A.1.1 – A.1.3 in the Appendix).

Independent Variables

Key independent variables include whether or not a woman is currently pregnant, and the number children she has. To measure whether a woman is currently pregnant, I count back 40 weeks

⁸ Initial models revealed that both children and pregnancy have similar effects on layoffs and firings. Thus, I combined these into a single involuntary category to simplify the models presented.

⁹ While “family-related job changes” and “non-family voluntary job changes” are intuitive concepts, an “involuntarily job change” is less so, and sounds perhaps a bit strange. This distinction is simply meant to imply that while a worker separated from a job involuntarily, they were able to find another job relatively quickly (implying a job change) rather than spending a significant amount of time away from the labor market (an employment exit).

from the week that a child is born and consider these 40 weeks as pregnant. Pregnancy thus, is a dummy variable (1=pregnant). Measures for children are continuous variables.¹⁰ I distinguish between preschoolers (children age 5 and younger) and school-age children (ages 6-19), as previous research suggests the effects of children on women's employment vary by children's age (Budig 2003). Thus, I have two variables for children, the first indicating the number of preschoolers a woman has and the other indicating the number of school-age children. The focus of my analysis is on pregnancy and preschoolers, but I note significant findings regarding school-age children as appropriate.

Both pregnancy and number of children are time-varying variables, as they may change over time. Cox regression models easily accommodate time-vary covariates, though when the timing of the event(s) of interest are measured more precisely than other variables in the model, some ad hoc procedure is necessary to estimate the values of the predictor variables at the time of events occurring (Allison 2010). Such a procedure is not necessary for pregnancy and number of children, as the survey contains information on children's births to the day, making the number and ages of children women have in each week easy to determine. However, many of my control variables are measured only at the time of the survey. To handle instances where events were measured only at the time of the survey, I consider any change that occurred to have happened in the week following the previous survey (essentially lagging the variable by one or two years, dependent upon the gap between interviews). This avoids the potential for endogeneity, as it is possible that a job change or employment exit might actually induce a change in one of the covariates rather than the other way around.

¹⁰ In alternative models, I include categorical measures for number of preschool and school-age children women have in (zero, one, two or more). Results showed the effects of children on women's job changes and employment exits were largely monotonic, so I chose to present models that measure children continuously for ease of interpreting models that include interactions.

Key independent variables for the interactive models include spouse's work hours and race/ethnicity. Following Cha's (2011) definition of "overwork," I include a dummy variable indicating whether a woman's husband works 50 hours or more per week (1 = overwork). Race/ethnicity is measured as a series of indicator variables, coded as Black, Hispanic, or white (non-Black, non-Hispanic; the reference category).

Control Variables

I include a number of variables measuring demographic characteristics, human capital, family structure and other resources, work behaviors, and job characteristics, as well as measures of attitudes, aspirations, and socioeconomic background that previous research suggests are associated with job changes and employment exits.

Demographic Characteristics. Demographic characteristics¹¹ include rural vs. urban residence and region. Urban residence = 1. Four regions are distinguished: Northeast, Midwest, West, and South (the reference category).

Human Capital. Human capital includes education, work experience, work experience squared, and AFQT scores. Education is based on the highest grade completed in the survey year. I distinguish among four education categories: less than high school (11 years or less), high school graduate (12 years), some college (13-15 years), and college graduate (16 or more years). Work experience is measured in years and indicates the amount of time a woman has spent in the labor market since entry. Work experience squared is also included, as I anticipate the relationship between experience and job separations is not strictly linear. AFQT score is a continuous variable indicating the percentile of the respondents' score.

¹¹ Initial models controlled for age, but this resulted in problems with collinearity, as age was highly correlated with experience ($r = .9$), thus, I excluded age from the final models.

Family Structure and Other Resources. Measures for family structure and other resources include marital status, spouse income, kin coresidence and welfare receipt. Marital status is a categorical variable distinguishing among married (the reference category), cohabiting, never married, and divorced/separated/widowed. Spouse income (in 10,000s) is included, adjusted to 2010 dollars. Kin coresidence is a dichotomous variable indicating whether a woman lives with a parent or other adult relative (1 = coresides). Receipt of public assistance is a dichotomous variable indicating whether a woman received either AFDC or TANF (dependent upon the program in effect) during the survey year (1 = received public assistance).

Work Behaviors. Work behaviors include part-time status, average hourly wages, and total number of previous jobs. Part-time status is indicated by a dummy variable (employed less than 35 hours per week = 1). Average hourly wages in a woman's current job are measured in dollars and adjusted to 2010 dollars. I also include a continuous variable indicated the previous number of jobs a respondent has held.

Job Characteristics. Job characteristics include health insurance coverage, sector, union status, and percent female in an occupation.¹² I include an indicator variable distinguishing between the public and private sector (1= public sector). If a respondent reports being covered by a union contract in their job they are coded as 1. As the NLSY79 does not collect information on health insurance for all jobs,¹³ I follow (Kronberg 2013) in computing the percentage of employees covered by employer's health

¹² Questions regarding job satisfaction were only collected for the respondents' current job in the 1979-1993 surveys. Because these measures were not available for approximately 20% of jobs in the analysis, I exclude this variable from the final model. I did run some supplementary models with this variable included and as expected, job satisfaction lowered the likelihood that women left jobs for any reason.

¹³ Like job satisfaction, information on whether or not an employer offers health insurance is only collected for the respondents' current job in the 1979-1993 surveys. Data on health insurance benefits is not collected for any previous job the respondent may have held during the survey year.

insurance for each 3-digit census occupation-by-industry cell using the IPUMS (King et al. 2010).¹⁴

Percent female in an occupation is coded using the Dictionary of Occupational Titles (U.S. Bureau of the Census 1993).

Attitudes and Aspirations. Gender beliefs are measured by an eight-item scale comprised of statements such as “It is much better for everyone concerned if the man is the achiever outside the home and the woman takes care of the home and family.” Work and family aspirations are measured by a question asking whether the respondent would like to be working for pay or raising a family at age 35. Women who indicated they wanted to be raising a family only at age 35 were coded as 1 and women who indicated they wanted to be working, combining paid work and raising a family, or some other arrangement were coded as 0.

Socioeconomic Background. Measures included to control for socio-economic background include: parents’ education (highest grade completed),¹⁵ father’s occupational prestige, and whether or not the woman was raised in a two-parent household (1=two-parent household). Missing values were handled through imputation using the most recent value available or through mean/modal imputation when these values were not available. Means and standard deviations for all variables used in the analysis are presented in Table 1.4.

Statistical Models

Kaplan-Meier Estimator. I first descriptively examine time to each type of job change or employment exit using a variant of the Kaplan-Meier (KM) estimator known as the Anderson “landmark” method (Anderson, Cain, and Gelber 1983). The KM estimator is a nonparametric estimate of the

¹⁴ I ran supplementary models using the subsample of cases for which health insurance benefits were collected in the NLSY79 and the results were robust to the models that use the variable created from the IPUMS.

¹⁵ In cases where the education of both parents is known, I used the average. In cases where the education of only one parent is known, I used this value. Average years of education among fathers and mothers in the sample are very similar: fathers = 11.02, mothers = 10.95.

survivor function $S(t)$, which is the probability of survival (i.e., remaining with the same employer) past time t . The KM method is based on the calculation of a risk set at every point in time when at least one event (re-employment) occurred.

The KM estimator of the survival function is defined as

$$\hat{S}(t) = \prod_{j|t_j \leq t} \left(\frac{n_j - d_j}{n_j} \right)$$

where n_j is the number of individuals at risk at time t_j , and d_j is the number of failures at time t_j . The product is over all observed failure times less than or equal to t . The KM estimator allows for a comparison of survival curves among groups, insofar as these groups are designated by presumably time-invariant characteristics (i.e., comparing differences across racial/ethnic groups). Because the women in my sample become mothers at different points during the observation window, mothers and childless women are not static categories.

The Anderson landmark method is an extension of the KM estimator which allows for the comparison of survival curves of time-varying covariates. One limitation of the method is that it allows for the covariate to change only once and in one direction (i.e., from childless woman to mother). Hence, I am not able to compare survival curves for pregnant vs. non-pregnant women, as this time-varying covariate may change direction. Nor am I able to compare childless women to women with one vs. two or more children, as this would be too many changes. I plot the survival curves first for all women, then separately by race.

In addition to plotting the survival curves using the Anderson landmark method, I also test for significant differences between survival functions using the Mantel-Byar method, a variant of the log-rank test, which Anderson et. al (1983) advocate. The test works by comparing (at each failure time) the expected versus the observed number of failures for each group and then combining these comparisons

over all observed failure times. Plots of the survival functions and tests for significant differences will give a sense of the differences that may exist in the likelihood of changing jobs or exiting employment for various reasons between mothers and childless women. But these descriptive analyses do not consider the role of other factors in the duration of time women spend in non-employment (i.e., they do not include covariates). To examine these factors, I apply a series of Cox regression models, as detailed below.

Cox Regression Model. To examine the effects of motherhood on women's job changes and employment exits, I run a series of *competing hazards continuous-time event history models with repeated events*. Specifically I use a Cox regression model. I apply a *continuous-time* model because I am assuming women's job separations occur along a continuum, rather than at some discrete points in time. In general, events measured monthly, yearly, or at longer intervals are considered discrete, while events measured more precisely are considered continuous (Powers and Xie 2008). Because my dataset measures job separations to the week, I use continuous-time models. I observe *repeated events* because I am interested in all of the job separations a woman has experienced, not simply the first of these events. To examine repeated events, I treat each interval between events as a separate observation and pool these observations over all women to estimate a single model.

Competing hazards models estimate separate hazard rates for each event of interest. They essentially take the form of a multinomial logistic regression model with any number of competing outcomes. The basic competing hazards model is defined as

$$\log h_{ij}(t) = \alpha_j(t) + \beta_j x_i(t) \quad j = 1, \dots, 3$$

Where $x_i(t)$ is a vector of covariates, some of which may vary with time, and $\alpha_j(t)$ is some unspecified function of time (the baseline hazard function). Since the effects of covariates may be

different for different events, β is subscripted. The $\alpha(t)$ function is also subscripted to allow the dependence of the hazard on time to vary across events.

I estimate six separate hazards: (1) a family-related job change, (2) a family-related exit, (3) a non-family voluntary job change, (4) a non-family voluntary exit, (5) a non-family involuntary job change, (6) a non-family involuntary exit. In competing hazards models, all events not being estimated are treated as censored. Event history analyses offer two key advantages over conventional multivariate regression models. First, event history analyses allow for the inclusion of censored data, or cases in which the event(s) of interest did not occur within the observation window. So, those women who never experienced a particular type of job change or employment exit will still be included in my analyses. Second, event history analyses allow for the inclusion of time-varying covariates. This is crucial, since many characteristics, such as the number of children women have, their pregnancy and marital status, and their spouse's work hours, may change over time. In what follows, I summarize some of the main components of event history analyses.

Risk Set. Central to event history analyses is the notion of the risk set, or the set of individuals who are at risk of experiencing a particular event at a given point in time. The women in my sample are considered "at risk" of leaving a job once they have entered the labor market. I follow Fuller (2008) and Light and Ureta (1995) in defining entry into the labor market as the year a woman leaves full-time school and holds at least one job, providing she remains unenrolled (full-time) for at least one year. This ensures that job changes and employment exits that occurred while a woman was in high school or college full-time are excluded from the analysis, since job changing during this time is frequent and not necessarily related to later labor market behavior (Gardecki and Neumark 1998). Because some of the women in the NLSY79 did not begin participating in the survey until they were 21 or 22 (and so may have been already active in the labor market, particularly women who did not complete post-secondary

schooling) I do not have complete information for some of these women regarding the timing of, or reason for, any job changes or employment exits occurring prior to the survey beginning. This is known as left truncation, or late entry into the risk set, and is dealt with by simply not including the individual in the risk set until they are under observation.

Dependence among Observations. All women who are employed are at risk of a job change or employment exit from the time they enter the labor market (within the survey period) through the end of the survey period (or when they are last interviewed). Because many women change jobs and experience employment gaps many times throughout the survey, the women in my sample contribute multiple and varying numbers of observations (i.e., those with more job changes and exits have more spells). It is preferable to consider multiple events, rather than to only look at women's first job change or employment exit, because women likely experience more than one such event, and moreover, the covariates associated with job changes and employment exits may vary among events. When individuals contribute multiple observations to a sample, however, dependence among observations results. This dependence amounts to unobserved heterogeneity, as there are likely unmeasured, stable factors associated with individual women's job separations. Not accounting for this dependence can lead to standard error estimates that are biased downward and test statistics that are biased upward (Allison 2010). To adjust for this dependence and to obtain robust standard errors, I apply Huber-White estimates, treating individuals as clusters.¹⁶

Origin Time. The origin time for an observation period is reset to 0 every time a woman begins a new job. I could arguably, consider women's entrance into the labor market as the origin time, as it is

¹⁶ As noted previously, running fixed effects models with event history analyses are also possible and help control for unchanging unobserved heterogeneity among individuals. However, these models are only possible when a majority of persons in the sample experience more than one event. For some of my events – such as family-related changes and exits, I do not have enough cases with multiple events to accurately estimate fixed effects models.

possible that the hazard of changing jobs and/or exiting employment depends on time in the labor market rather than time in one's current job. But with repeated events, it is common to measure the time of an event as the time since the most recent occurrence (Allison 2010). When two or more different origin times are possible, it is appropriate to consider the other potential origin times as covariates in the models (Allison 2010). I do this by controlling for work experience.

Informative Censoring. All of the women in my sample still employed in 2010 will be censored in that year. This is the most recent year of survey data available, making it impossible for me to observe job changes or employment exits occurring after this time. This is known as right censoring and is easily accommodated in event history analyses. Some women will be censored before 2010 however, if they stop participating in the survey prematurely. If women drop out of the survey at random this does not pose a problem. If the process is not random however, this type of right censoring might lead to bias. For example, if the women who drop out of the survey are the same women who are more likely to exit the labor market and spend a long period of time in non-employment, my models will underestimate the median time to re-employment.

Tied Data. Because Cox proportional hazards models rely on the ordering of events in their estimation, "tied" data, which occurs when two or more individuals change jobs or exit the labor market in the same week, pose a challenge. To handle "tied" data, I apply the Efron method, which uses probability weights to adjust the risk sets (Cleves 2008).

Event History Modeling Strategy. I first fit a series of models to examine the effects of motherhood on women's job changes and employment exits for various reasons. I then run a series of models including interactions between motherhood and spouse's work hours and motherhood and race/ethnicity respectively.

Results

Descriptive Results

Survival estimates for all women are displayed in Figures 1a – 1f. Figures 1a and 1b compare the probability that mothers and childless women will “survive” in their job rather than experience a family-related job change or employment exit, respectively. In both plots, the curves for mothers fall more quickly than those of childless women, suggesting, not surprisingly, that mothers are more likely than childless women to change jobs or exit employment for family-related reasons (i.e., childless women “survive” longer). The p-values of the Mantel-Byar test confirm that these differences are significant ($p < 0.001$ in both instances), providing preliminary support for Hypotheses 1 and 2.¹⁷

Figure 1c shows a much different relationship. Here the curve for childless women falls quicker than that of mothers, suggesting that childless women are *more likely* than mothers to be changing jobs for non- family voluntary reasons ($p < .001$). Thus, as Hypothesis 3 predicts, it appears that children discourage the types of non-family voluntary changes that often result in wage gains. Figure 1d suggests childless women are more likely than mothers to have a non-family voluntary exit during their early years in the labor market, but this relationship reverses later on. Though difficult to discern from the plot itself, the Mantel-Byar test reveals mothers are significantly more likely than childless women to experience a non-family voluntary exit ($p < .01$).

Figures 1e and 1f show the survival plots regarding involuntary job changes and exits. As expected, mothers are less likely to change jobs following an involuntary separation ($p < .001$) and more likely to exit employment following such a separation ($p < .001$), providing support for hypotheses 4 and 5. In an additional analysis (not shown) I plotted the survival curves for involuntary separations

¹⁷ Recall from my earlier discussion that the Anderson landmark method can only be applied with covariates that change once and in one direction. Thus, I cannot test for differences by pregnancy status through these survival plots, as women may switch from states of non-pregnancy to pregnancy and back again many times.

regardless of subsequent time away (combining changes and exits) and found mothers were significantly more likely to experience an involuntary separation compared to childless women ($p < .001$).

Figures 1a-1f also note the total number of events experienced among women in the survey. It is important to point out that family-related job changes and employment exits are much less common than non-family voluntary job changes and employments. There were only 300 family-related changes, compared to 8,083 non-family voluntary changes. There were 1,984 family-related exits, compared to 8,188 non-family voluntary exits. These differences are important to bear in mind when thinking about women's job mobility: the vast majority of these events are due to reasons women do not directly ascribe to family.

Survival estimates broken down by race are displayed in Figures 2a – 7c. Figures 2a-2c and 3a-3c examine family-related changes and exits respectively. Surprisingly, in light of hypothesis 8, there are no notable differences by race. Figures 4a-4c, which show survival estimates for non-family voluntary changes do show interesting differences by race however. Though Mantel-Byar tests affirm mothers of all racial/ethnic groups are significantly less likely than childless women to experience a non-family voluntary change ($p < .001$), the curves reveal this difference is much smaller among Black women, and the curve actually reverses at one point. Non-family voluntary exits, shown in Figures 5a-5c, show similar patterns between white and Hispanic women, with childless women more likely than mothers to be exiting employment for non-family voluntary reasons. For Black women however, mothers are actually more likely to exit employment than childless women. Differences by motherhood status for involuntary changes (Figures 6a-c) are similar among white and Hispanic women, with mothers less likely to be changing jobs involuntarily. For Black women however, the gap between mothers and childless women is much smaller, and actually reverses during the later career, so that moms are more likely to be making these changes. Figures 7a-c show that across racial groups, mothers are more likely to exit

employment involuntarily (suggesting difficulty in acquiring another job following a layoff or firing) though this gap appears to be largest among Black women.

While the survival curves suggest some intriguing differences by both motherhood and race, they are only descriptive, in that they do not control for myriad other differences that likely contribute to women's job change and employment exits. For example, in additional plots, (not shown), I compared probabilities of any separation (including both changes and exits for any reason) and found mothers' curves fall slower, suggesting they stay longer with their employers – and hence are more stable workers. This may be due to mothers' person-week observations being when they are older, and less likely to change jobs. Thus, it is important to apply Cox regression models that control for experience and other factors to determine whether motherhood has an independent negative effect on women's likelihood of leaving their employer. I turn to the results from these models now.

Multivariate Results

Table 1.5 shows the estimates from the models that examine the competing hazards of changing jobs and exiting employment by reason.¹⁸ The first two sets of columns show the results (hazard ratios and coefficients) from the family changes and exits models, the second two columns show the results from the non-family voluntary models, and the remaining two columns show the results from the involuntary models. As anticipated, pregnancy and preschoolers encourage both job changes and employment exits for family-related reasons. Pregnancy increases the hazard of family-related job changes by nearly three and a half times ($p < .001$), and increases the hazard of an exit by nearly seven and a half times ($p < .001$). Each additional preschool child increases the hazard of a family-related job change by 79% ($p > 0.001$), and the hazard of an exit by 81% ($p < .001$). This is not surprising in light of

¹⁸ All variables included in the final models showed no signs of problems with collinearity, as all variance inflation factors were less than 2 (with the exception of experience and experience squared as expected).

what is known about the difficulties women have trying to balance the demands of motherhood and paid employment. Many pregnant women and those with preschoolers are likely changing jobs or leaving the labor market entirely. These findings echo the findings of the survival estimates presented earlier and provide further support for hypotheses 1 and 2.

The effects of pregnancy and preschoolers on women's job changes and employment exits extend beyond reasons directly ascribed to family, however. Pregnancy and preschoolers also influence women's non-family voluntary and involuntary job changes and employment exits. Pregnancy decreases the hazard of changing jobs for non-family voluntary reasons by 66% ($p < .001$) ($1 - .34 = .66$). This suggests it may be difficult for women who are pregnant to be hired into another job, and they may be loathe to leave the job they have to search for another one, especially in the years post-FMLA when individuals are required to be at a firm for at least one year to be eligible for time off following a baby. Perhaps these women have successfully negotiated with their employers arrangements that will allow them more flexibility at work. Whatever the mechanism(s), it appears that pregnancy constrains women's abilities to engage in the types of non-family voluntary job changes that are often associated with wage gains.

Preschoolers also have constraining effects on women's non-family voluntary job changes. Each additional preschooler reduces the hazard of such a change by 9% ($p < .001$). Many of the same mechanisms inducing pregnant women to remain with their employer (i.e., negotiated flexibility, fear of discrimination by potential employers) might also be encouraging mothers of preschoolers to stay in the same job rather than seeking out new (possibly more lucrative) opportunities. Thus, clearly not only are many mothers and expectant mothers likely incurring wage penalties when they change jobs and exit the labor market for family-related reasons, they are also likely incurring wage penalties by not

capitalizing on the potential benefits of changing jobs. This also echoes the findings of the survival estimates presented earlier and provides further support for hypothesis 3.

Findings regarding the relationship between both pregnancy and preschoolers and involuntary changes and exits are largely as expected. While pregnancy decreases the hazard of an involuntary job change by 61% ($p < .001$), it increases the hazard of an involuntary exit by 13% (though only marginally significant at $p = .075$). While preschool children have no effect on involuntary changes, each additional preschooler increases the hazard of an involuntary exit by 16% ($p < .001$). This suggests that when pregnant women and mothers of preschoolers are displaced from their jobs, they are spending longer periods of time away from the labor market before finding a new job. This provides support for hypotheses 4 and 5. Because the distinction between changes and separations is related to women's behavior following a job separation, in another model (not shown), I estimated the hazard of an involuntary separation, regardless of time away, and found pregnancy had no significant effects, but each preschool child increased women's hazard of such an event by 13% ($p < .001$).

Older children appear to have stabilizing effects on women's employment, as they either have no effect, or decrease the hazard of changing jobs and exiting employment for all reasons. This echoes Budig's (2003) findings that women with school-age children are less likely to leave the labor market. My findings suggest that women with school-age children are also less likely to change employers for non-family voluntary reasons. Each additional school-age child reduces the hazard of such a change by 14% ($p < .001$). It is unclear what this might mean for women's wages, as even though women might be missing out on potential wage gains through a non-family voluntary job change, they are also less likely to incur wage losses likely through both involuntary and family-related separations.

Turning to the hazard ratios for race/ethnicity across the models, there are clearly several important differences, especially with regards to the job change behavior of Black and white women.

Black women are less likely than white women to change jobs for family reasons or otherwise voluntarily. That Black women are 34% less likely ($p < .05$) than white women to change jobs for family reasons is particularly striking. Black women are also 11% less likely than white women to change jobs voluntarily ($p = .01$). Hispanic women's job change and employment exit behavior is similar to that of white women.

Education has stabilizing effects on women's employment for the most part. College graduates especially, are the least likely to be changing jobs and exiting the labor market. College graduates and women with some college are 29% and 22% less likely, respectively, to experience a family exit, compared to high school graduates. College graduates' likelihoods of experiencing an involuntary job change or job exit are roughly half that of high school graduates. Women with less than a high school degree have the most unstable employment. With the exception of family and non-family voluntary changes, they have greatest likelihood of experiencing all types of job changes and employment exits. The contrast between their likelihood of experiencing a non-family voluntary employment exit (20% greater than high school graduates; $p < .001$) and their likelihood of experience a non-family voluntary employment change (17% lower than high school graduates; $p = .001$) is particularly striking, and echoes previous research that less educated women are far more likely than more highly educated women to experience job-to-nonemployment transitions rather than job-to-job transitions (Royalty 1998).

Curiously, women with some college have the highest hazard of non-family voluntary job changes: 10% higher than the hazard of high school graduates ($p < .001$). This may indicate greater labor market opportunities for women with some college compared to those without any college. That the hazard ratio for non-family voluntary changes among college graduates is not positive or significant suggests perhaps college graduates more easily find good matches and are less willing to leave their jobs.

AFQT scores have little relationship to changes and exits, with the exception of slightly increasing the hazard of non-family voluntary changes and slightly decreasing the hazard of involuntary exits. This is again, likely reflective of greater opportunities for highly-skilled workers, as they are able to change jobs and are better situated to obtain new employment if they experience an involuntary separation from a job. As expected, work experience is negatively related to all types of job changes and exits. Work experience squared is also significant, suggesting experience matters only to a point.

Women's family structure and other resources also have important effects on their job changes and employment exits. Not surprisingly, married women are more likely than cohabiting, never married, and divorced women to change jobs and exit employment for family-related reasons. Marital status has little bearing on non-family voluntary changes, but marriage has stabilizing effects with regards to involuntary exits, as married women are less likely to experience an involuntary exit compared to never married women ($p < .05$).

Beyond marriage itself, characteristics of women's spouses also influence their job changes and employment exits. Spouse income has no effect on women's family-related job changes, but higher spousal incomes increase women's likelihood of a family exit slightly. Each additional \$10,000 in spousal income increases the hazard of a family exit by 0.2% ($p < .001$). Spouse income also appears to have stabilizing effects on women's employment as it slightly lowers the hazard of non-family voluntary changes as well as involuntary changes and exits ($p < .001$ in all instances). For non-family voluntary changes, this may indicate that women married to high earning spouses feel less pressure to themselves move into a higher paying job. The negative relationship between spousal income and involuntary separations likely reflects homogamy within marriages: that more privileged women married to higher earning husbands are less likely to be at risk of losing their jobs (because of the characteristics of the jobs, their own human capital, etc.).

Spouses' work hours influence women's job changes and exits, at least those motivated by non-family voluntary reasons. Women whose spouses work excessively long hours are 12% more likely to make a non-family voluntary exit ($p < .01$). This echoes the work of Cha (2011) and Shafer (2011) who find long work hours induce women's employment exits. Interestingly, while the direction of the hazard ratio for spouse overwork on family-related exits is positive, it is not significant. Notably, spouses' excessive work hours not only encourage exits, but they also discourage non-family voluntary job changes. Women married to overworking spouses have a 16% lower hazard of making a non-family voluntary job change than those who are not ($p < .001$). Perhaps women whose husbands work exceptionally long hours spend more time on housework and other domestic concerns so have less time to seek out another job. Or perhaps these women feel "locked" into the job they have if their husbands' job is prioritized (i.e., they may feel as though they could not relocate for another job if their husband is the primary breadwinner or if his job is otherwise given priority). Whatever the mechanism, much like pregnancy, young children, and high spouse incomes, excessive work hours appear to also decrease women's ability and/or willingness to change jobs, suggesting that each of these family factors may be inhibiting women's ability to seek out higher paying jobs and better career opportunities through job mobility.

A particularly interesting finding comes with regards to kin coresidence. Living with kin appears to have destabilizing effects on women's employment. With regards to employment exits, this suggests that although coresidential kin may provide women with resources such as childcare, financial and in-kind support, kin themselves may also require care and assistance that makes maintaining employment difficult for women. Yet, the increased hazard of non-family voluntary changes and involuntary changes among women coresiding with kin suggests that for some women, the resources provided by kin may enable them to seek out new employment opportunities.

Welfare receipt has little effect on women's employment other than to decrease the hazard of non-family voluntary changes. Perhaps women receiving AFDC have a difficult time acquiring employment so are hesitant to leave one employer in search of another. This is problematic, in light of research that shows job mobility is particularly important for wage growth among low-wage workers (Alon and Tienda 2005; Andersson, Holzer, and Lane 2005; Johnson and Corcoran 2003).

Turning to women's work behaviors, part-time work increases the hazard of non-family voluntary job changes and decreases the hazard of involuntary exits. Higher hourly wages slightly increase the hazard of non-family voluntary changes and well as involuntary changes and exits. The positive relationship between wages and job changes likely reflects greater opportunities in the labor market for high earners. The positive relationship between high wages and involuntary exits is somewhat puzzling, though it may be that high earners are able to spend greater periods out of the labor market following an involuntary separation if they have money set aside to cover their expenses for a time. As anticipated, greater numbers of previous jobs increase the hazard of job changes and employment exits, though only significantly for non-family voluntary and involuntary separations. This suggests that family-related changes and exits are not reflective of previous job change/exit behavior, but rather are motivated by other factors.

Somewhat surprisingly, job characteristics have little influence on women's family-related separations. They have no effects on family-changes, and only percent female in occupation and public sector employment matter for family-exits. A greater percentage of females in an occupation increases the hazard of family-related exits very slightly ($p < .001$) while public sector employment decreases the hazard by 25% ($p < .001$). Union coverage also decreases the hazard, but not significantly. For both non-family voluntary and involuntary changes and exits, positive job characteristics, for the most part,

reduce the hazard of the event occurring. Public sector employment and unionization lower the hazard of non-family voluntary job changes by 35% ($p < .001$) and 19% ($p < .001$) respectively.

Among the additional control variables, perhaps most interesting are the hazard ratios for gender egalitarian views. Women with more liberal gender views have higher hazards of changing jobs for any reason (though significant only for non-family and involuntary reasons), suggesting that if these women are unhappy in their current employment situation for whatever reason, they are more likely to seek out an alternative (or in the case of involuntary changes, if they lose their job unexpectedly, they are more likely than those with more conservative gender views to seek out employment sooner). Of note, women's aspirations for caring for family vs. working for pay in young adulthood have little bearing on their job changes and employment exits.

In sum, the models presented in Table 1.5 provide support for hypotheses 1-5, as I found both pregnancy and preschoolers increase the hazard of family-related changes and exits, as well as involuntary exits, but they decrease the hazard of non-family voluntary changes and involuntary changes. Thus, not only are mothers more often changing jobs or leaving the labor market to accommodate their families' needs, they are also less likely to be making the types of non-family voluntary job changes that are often associated with wage gains. Mothers are also more likely exiting employment following an involuntary separation, rather than finding another job relatively quickly. On all fronts then, motherhood appears to be impeding women's abilities to capitalize on wage gains through job mobility.

The question remains however, whether these patterns are consistent for all women, or whether there is variation across racial/ethnic groups and by marital characteristics. To examine this, I turn now to the results from the interaction models. Table 1.6 shows the results (hazards ratios and

coefficients) from the model interacting motherhood and excessive spouse work hours.¹⁹ Significant interaction terms indicate that the effects of motherhood do indeed vary by spouses' work hours. This is especially true with regards to family exits, where, unexpectedly, spouse overwork reduces the hazard for pregnant women. In Cox regression models, interaction effects are calculated by adding together the main effects coefficient and the coefficient from the interaction term, just as when calculating interaction effects in ordinary least squares models. To obtain the hazard ratios, the sums of the coefficients are then exponentiated. For example, the coefficient for pregnancy (for women without an overworking spouse; the reference category) is 2.09 ($p < .001$) and the coefficient for the interaction between pregnancy and spouse overwork is -0.55 ($p < .001$). Adding these coefficients together and exponentiating the sum results in a hazard ratio of $\exp(2.09 + -0.55) = 4.66$. This means that pregnancy increases the hazard of family exits by nearly twice as much for women not married to spouses working excessively long hours compared to those who are (8.05 vs. 4.66); difference significant at $p < .001$.

The interaction for preschool children and spouse overwork is not significant. This is surprising in light of Cha's (2011) finding that spouse overwork increases women's labor market exits, particularly among women with children. It is conceivable that women whose husband works excessively long hours may already be working part-time, which might decrease their need to leave employment entirely. To test this, I ran a model (not shown) including a three-way interaction among number of preschoolers, overwork, and part-time work. The hazard ratios for the three-way interaction was not significant however, suggesting differences in part-time work does not explain why these women are not more likely to be exiting for family-related reasons.

¹⁹ I chose to focus on interactions between spousal work hours and motherhood as the hazard ratios for spousal work hours in the initial model were particularly striking, and moreover, previous research indicates spousal work hours are most influential on the labor market behavior of women with children (Cha 2011). I also ran a series of models (not shown) interacting spouse income with the motherhood variables, but the hazard ratios for the interaction terms were largely insignificant, indicating that the effects of motherhood vary little with regards to spousal income. Thus, I only show and discuss the models interacting spouse employment hours and motherhood.

As anticipated, among mothers with preschoolers, spouse overwork further impedes their ability to change jobs voluntarily. For women not married to an overworking spouse, each additional preschooler lowers her hazard of changing jobs voluntarily by 7% ($p < .01$). For women who are married to an overworking spouse however, each additional preschooler lowers her hazard of changing jobs voluntarily by 21% ($p < .01$; interaction term significant at $p < .05$). This lends support to hypothesis 7, which predicted the effects of preschoolers on women's non-family voluntary job changes would be greatest among women married to spouses who work excessive hours.²⁰

In sum, the interaction models provide little support for hypothesis 6, as children do not have stronger effects on family-related changes and exits among women whose spouse works excessively long hours. They do support hypothesis 7, however, as among mothers of preschool children, spouse's excessive work hours further constrain her abilities to change jobs voluntarily.

Table 1.7 shows the hazard ratios for the models that interact motherhood with race/ethnicity. Looking first at racial differences in the effects of motherhood on family-related changes and exits, the results closely mirror the results of the survival curves, as there are few differences to note. This is surprising, in light of hypothesis 8, which anticipated motherhood would have a stronger impact on these events among white women than either Black or Hispanic women. In fact, the results show that pregnancy increases the hazard of a family-related exit slightly *more* for Black women compared to white women (marginally significant at $p = 0.073$). Overall however, children appear to have similar effects on women's family-related changes and exits across racial/ethnic groups.

Looking at non-family voluntary changes and exits however, important racial differences emerge. While in the aggregate model, preschoolers decreased the hazard of women changing jobs

²⁰ Of note, I ran additional models with 3-way interactions among preschoolers, spousal overwork, and race, but the hazard ratios were not significant, indicating there were no racial differences with regards to the relationship between spousal overwork and preschoolers on women's non-family voluntary job changes.

voluntarily, the models that include interactions for race/ethnicity show that these effects only hold for white women. The model that includes interaction terms reveals that each additional preschooler reduces the hazard of a non-family voluntary change by 16% ($p < .01$) for white women. For Blacks and Hispanic women however, preschoolers have no effect on women's job changes (indicated by running separate models with Black and Hispanic women as the reference categories). This provides support for hypothesis 9, which expected the negative effects of motherhood on women's non-family voluntary job changes to be stronger among white women compared to Black or Hispanic women.

When looking at non-family voluntary employment exits however, preschoolers *increase* the hazard for Black women by 15% ($p < .01$). The increased hazard among Black women with preschoolers aligns with research that finds children increase the likelihood of employment exits among Black women, but not white women (Taniguchi and Rosenfeld 2002). There are no significant racial differences in the relationship between motherhood and involuntary changes and exits.

Discussion

The focus of much previous scholarship examining the effects of pregnancy and children on women's labor market participation has been on outcomes such as movement into part-time work and exits from the labor market. While these transitions are no doubt important, this exclusive focus ignores other ways in which motherhood may influence women's opportunities in the labor market. In this paper, I take up an issue that has received little attention, considering how motherhood influences women's decisions to stay with their current employer or to pursue another job. I distinguish among the various reasons women report changing jobs or leaving the labor market, as previous research suggests the reason workers leave their job is closely linked to their subsequent wages.

I find that while pregnancy and preschoolers increase the likelihood that women will change jobs and exit the labor market for family reasons, they also *decrease* the likelihood of non-family voluntary job changes. This means that not only are mothers more likely to face wage losses from family-related changes and exits, they are also less likely to enjoy the wage gains that often come with non-family voluntary job changes. Moreover, family-related changes and employment exits constitute a small proportion of the changes and exits women make, as compared to non-family voluntary and involuntary changes and exits. Motherhood then, to some extent, immobilizes some women, as it renders them unable, or unwilling, to change jobs for reasons other than those they ascribe to their family. As changing employers is often one of the most effective means to wage growth, especially in an era of rapidly disappearing internal labor markets (DiPrete, Goux, and Maurin 2002), the ability to move freely through the labor market, enjoying a “boundaryless career” as some have conceptualized it (Arthur and Rousseau 2001) is often a necessity for wage growth. My results suggest that many mothers do not enjoy this freedom to the same extent that childless women do.

The immobilizing effects of motherhood operate differently across racial/ethnic groups however. As Browne and Misra (2003) note, “...any analysis of women that ignores race will be incomplete and may very well simply describe patterns for White women,” (p. 487). This indeed appears to be the case here, at least with regards to the effects of preschoolers on women’s non-family voluntary job changes. The models that include interactions between motherhood and race/ethnicity show preschoolers only constrain non-family voluntary job changes among white women; they have no effects on the non-family voluntary job changes of Black and Hispanic women. This aligns with research that shows the motherhood wage penalty is incurred primarily by white women (Glauber 2007). If indeed, differences in non-family voluntary job changes contribute to this penalty, it makes sense that

the penalty would be found in the group of women for whom young children constrain such changes the most.

The types of practical support, especially childcare, that Black and Hispanic women more often receive from kin, may enable these mothers to more easily change jobs. The possible effects of this support was seen in the initial model that showed kin coresidence was positively associated with job changing. If white women lack these types of supports, they may not be as easily be able to change jobs. Differences in the job change behavior of mothers across racial/ethnic groups might also be attributable to differences in negotiated job flexibility with employers. If white women have greater access to the types of accommodations that make combining childrearing with employment more manageable, they may be more inclined to stay with their current employer, rather than seek out another opportunity (even if the other opportunity offers higher wages). More detailed information on women's non-pecuniary job benefits are needed to test this.

It is important to point out that while preschoolers have the greatest effects on non-family voluntary job changes among white women, among women without children, Black women are significantly less likely than white women to be changing jobs. This echoes the findings of Alon and Tienda (2005), and suggests that Black women may have a more difficult time securing a new job. Thus, my findings do not imply that Black and Hispanic women are changing jobs more often than white women, only that children have larger effects on white women's changes than they do for Black and Hispanic women.

Notably, though preschoolers have no effect on Black women's non-family voluntary *job changes*, they increase the hazard that Black women will *exit employment* for non-family voluntary reasons. That preschoolers increase the hazard that Black women will leave the labor market (for all reasons) corroborates with research that finds young children are significant predictors of Black

women's labor market exits (Taniguchi and Rosenfeld 2002). That Black women with young children are exiting the labor market rather than changing jobs is concerning, as time away from the labor market likely results in wage penalties for these women.

Like motherhood, marriage also appears to immobilize women when it comes to non-family voluntary job changes, especially for women whose spouses are employed long hours. Stone (2007) argues that husbands play an integral role in women's decisions to leave the labor market, and my findings confirm this, as I find marriage, and moreover, higher spousal income and work hours positively related to women's hazard of leaving the labor market for a family-related reason. But my findings also suggest that women married to men working long hours are also less likely to be changing jobs voluntarily. Interaction models revealed that the negative effects of preschoolers on women's non-family voluntary job changes were even greater among women whose spouse overworks. Overwork likely signals a prioritizing of the husband's career (and likely a demanding job). The priority given to men's careers within these couples, and the increased burden women likely face at home, may render these women less able to change jobs to further their own career. This might be especially true if such a change would involve a geographic relocation.

Especially in the decade following the opt-out thesis, much attention has been paid to the reasons women leave the labor market, while little attention has been paid to the ways in which children may encourage women to stay in the labor market, and moreover with the same employer. My findings echo the assertion of Taniguchi and Rosenfeld (2002), who argue "...contrary to 'traditional' ways of thinking, being married and having children can be incentives and facilitators for obtaining and staying on a paid job..." (p.461). My findings suggest, that for white women in particular, and for women whose husbands overwork, preschoolers discourage non-family voluntary job changing. This can have positive effects on women's wages, insofar as time away from the labor market can have significant

negative effects on women's wages (Jacobsen and Levin 1995; Spivey 2005). Yet staying with the same employer, rather than seeking out new job opportunities may also have negative consequences for women's wages.

Lower rates of non-family voluntary job mobility may help explain the motherhood wage penalty, as this is a likely a key way through which mothers miss out on wage increases over time. Previous work on the motherhood wage penalty has focused solely on job changes in the months surrounding the birth of a child (Baum 2002; Budig and Hodges 2010), which are likely the types of family-related changes that produce penalties. Far less attention has been paid to the role fewer non-family voluntary changes among mothers compared to childless women may play in creating this penalty (but see Gangl and Ziefle (2009)). My findings suggest that differences in rates of non-family voluntary job changes by motherhood status may well be contributing to this penalty, especially among white women.

While the effects of motherhood, race, and marriage on women's non-family voluntary job changes especially are striking, it is important to note that the specific mechanisms contributing to these differences cannot be assessed with the current analysis. Do changes in network composition among mothers of preschoolers limit the information available to them about new job opportunities? What role do logistical considerations, such as the location of childcare arrangements, play in mothers' decisions to remain with their current employer? To what extent do the relationships women have with their current employer, providing them with accommodations such as flexible hours or telecommuting, and the fear that they will not find these benefits elsewhere, compel them to stay? These questions cannot be answered definitively with the current analysis. Future work is needed to examine more specifically the processes through which mothers and childless decide to change jobs.

Differences in the reasons that women change jobs matter in so far as they shape workers' wage trajectories over time. It is likely that the different wage trajectories borne out of women's job changes contribute to the motherhood wage penalty. In the next chapter I turn to this issue, as I examine how the different types of job changes and employment exits among women contribute to this wage penalty, and whether this varies by the timing of women's first birth.

CHAPTER 2

JOB CHANGES, EMPLOYMENT EXITS, AND THE MOTHERHOOD WAGE PENALTY

Introduction

Women pay a price for bearing and raising children, as studies consistently find mothers earn lower wages than childless women (Budig and Hodges 2010; Budig and England 2001; Waldfogel 1997). Much of the motherhood wage penalty, as this phenomenon has come to be known, has been attributed to differences in work experience, part-time work, job characteristics and unobserved differences between mothers and childless women, such as “career ambition,” that might influence wages. Yet even after considering an extensive list of potential differences between mothers and childless women, scholars continue to find that a portion of the motherhood wage penalty remains unexplained. This leads many to conclude that some combination of employer discrimination against mothers and lower productivity among mothers accounts for the remainder of the gap. It is likely however, that there are additional mechanisms contributing to the motherhood wage penalty that have yet to be explored. In this chapter, I consider one such possible mechanism: I examine how *job mobility*, or changing from one employer to another,²¹ shapes the impact of children on earnings.

In the first chapter of my dissertation, I examined how motherhood shapes women’s job changes and employment exits. I found that while motherhood, not surprisingly, increases the likelihood that women change jobs and exit the labor market for *family-related reasons*, pregnancy and school-age children actually *reduce* the likelihood of *non-family voluntary job changes*, and, at least among white

²¹ It is important to point out that the terms “job mobility” and “job changes” actually refer to “employer mobility” and “employer changes.” The NLSY79, along with other surveys commonly used to study mobility, do not track changes across “jobs” per se, but only across employers. As most scholars use the terms job mobility and job changes when talking about these transitions (Bernhardt et al. 2001; Fuller 2008; Kalleberg 2011; Keith and McWilliams 1999; Kronberg 2013; Light 2005), I follow this convention. Readers should be aware of this distinction however, as intrafirm mobility is not being examined here.

women, preschoolers also reduce the likelihood of such a change. These non-family voluntary job changes are precisely the types of changes that economists and sociologists have found to be associated with wage gains (Fuller 2008; Keith and McWilliams 1999; Looze 2014). If, as chapter one suggests, mothers are more likely than childless women to be experiencing a sort of “job lock” in that they are unable or unwilling to change jobs in order to move to a (presumably) higher paying job, this may have adverse effects on their wage growth over time, ultimately contributing to the motherhood wage penalty.

The motherhood wage penalty is larger for women who bear children in their 20s compared to those who delay childbearing until at least their 30s (Amuedo-Dorantes and Kimmel 2005; Taniguchi 1999).²² Differences in job change patterns among mothers and childless women might help to explain the higher wage penalties found among early child bearers. Wage increases associated with non-family voluntary job changes are highest for workers during their initial years in the labor market (Fuller 2008; Looze 2014). Women who become mothers while in their 20s may be missing out on (or passing up) opportunities to change jobs that would likely increase their wages, while women who delay childbearing until later in adulthood might be able to engage in non-family voluntary job changes early on. Thus, by the time these women become mothers, their wages may have benefitted from job changes taking place prior to motherhood. At the same time, women who give birth during their early 20s have more time during which they may be making job changes and employment exits in response to their families. Thus, higher wage penalties among early child bearers may not be due only to missed

²² Of note, Taniguchi (1999) finds no wage penalty for women who bear children as a teenager. She argues that these women were unlikely to have launched their work careers in any significant way, so the addition of a child likely had little effect on their wages. (See (Furstenberg 2003; Hotz, Williams, and Sanders 1997) for similar arguments).

opportunities for non-family voluntary job changes, but also to greater incidences of family-related job mobility.

In this chapter, I build upon my findings from chapter one, as I examine the wage consequences of the different types of job changes women make (or don't make). I look specifically at how differences in job change and employment exit behavior among mothers and childless women contribute to the motherhood wage penalty and how the wage returns to job changes and employment exits vary for women who became mothers at different ages. I use panel data from the 1979-2010 waves of the National Longitudinal Survey of Youth, 1979 cohort (NLSY79) and fixed effects models to answer the following research questions: Do different patterns (frequencies and kinds) of job changes and employment exits among mothers and childless women contribute to the motherhood wage penalty? If so, how might differences in job mobility help explain why the wage penalty is greatest for women who become mothers in early adulthood compared to those who delay motherhood?

In light of recent research that suggests the motherhood wage penalty is largely a phenomenon experienced by women with two or more children, while mothers of one child incur no significant penalty (Kahn, Garcia-Mangano, and Bianchi 2014), I also examine how job changes impact women's wages differently dependent upon the number of children they have. Doing so reveals important differences in the consequences of job changes and employment exits on the wages of mothers of varying parities.

In what follows, I first briefly review the motherhood wage penalty and the mechanisms known to contribute to it, focusing especially on what is known about the relationship between the motherhood wage penalty and the timing of women's first birth. I then outline why job changes and employment exits are important to consider when examining the motherhood wage penalty and discuss how scholars have treated these events in previous analyses, noting the limitations of these approaches

and pointing to the importance of a more careful consideration of job changes and employment exits as they contribute to mothers' disadvantage in the labor market. Following this discussion, I lay out the hypotheses my analysis will test.

Background

The Motherhood Wage Penalty and Birth Timing

Previous research that has considered why early child bearers pay the greatest penalty for motherhood has pointed to the importance of the accumulation of work experience *prior* to the birth of a child. Taniguchi (1999) finds work experience acquired before becoming a mother matters more for women's wage growth than work experience following childbirth. Related, Miller (2011) finds a flattening of women's wage profiles following motherhood. She argues this provides evidence of a "mommy track," characterized perhaps by reduced hours of employment as well as reduced opportunities for training and promotion following motherhood, as an explanation for higher wage penalties among early child bearers.

Timing of motherhood is often coupled with education, as many highly educated women delay childbearing until later in adulthood (Martin 2004). Thus, high wage penalties among early child bearers might also be due in large part to the opportunities afforded to women in the labor market vis-a-vis their education. Given their findings that mothers who are high school graduates or who have some college incur larger child penalties than either mothers who did not graduate high school or those who have a college degree, Anderson, Binder, and Krause (2003) suggest this may be due to the flexibility inherent to the types of jobs that women of different education levels are likely employed. They point out that high school graduates are more often employed in jobs that require women's presence during

regular office hours, while college graduates are more often employed in jobs that allow greater flexibility, such as enabling women to work in off hours or take work home.

Although arguments about the importance of work experience prior to motherhood and the flexibility women have in the workplace are plausible explanations for why young mothers (and those with high school degrees or some college) receive the highest wage penalties for motherhood, they likely are not the whole story. Although motherhood surely impacts, (and is impacted by), the opportunities afforded to women *within* workplace (in terms of putting women on a “mommy track,” or affecting women’s abilities to combine work and family in the face of rigid workplace expectations), motherhood also impacts women’s movement *among* workplaces, as my findings in chapter one make clear. Different patterns of women’s movement among workplaces may contribute to the motherhood wage penalty, in so far as job changes are intricately linked with wage gains and losses.

I am not the first to raise this possibility. In light of their findings of a wage *bonus* among highly educated women who delay childbearing until their 30s, Amuedo-Dorantes and Kimmel (2005) suggest, “the wage boost experienced by college-educated mothers may be the result of their search for family-friendly work environments, which, in turn, yields job matches with more female-friendly firms offering greater opportunities for advancement,” (p. 17). Although the authors make this supposition, it is purely conjecture, as they do not include job changes in their models of the motherhood wage penalty. In fact, the ways in which different types of job changes might impact mothers’ wages and contribute to the motherhood wage penalty has yet to be fully considered in any analysis of the motherhood wage penalty. In this paper, I undertake such an analysis.

Job Changes and Women’s Wages

As discussed in detail in chapter one, people change jobs for a variety of reasons, and the reasons workers change jobs matter for subsequent wages. Recall from chapter one that some job changes are *voluntary*, as individuals may choose to move to another job because it offers better pay, better working conditions, or greater opportunities. Some job changes are *involuntary*, as individuals may be displaced from their jobs by way of a layoff or being fired. Sometimes workers change jobs in response to the demands of family life. Though these “family-related” job changes are often considered “voluntary,” as they are perceived (even among workers themselves) as being employee-initiated rather than employer-driven, they in fact highlight the difficulties many workers face in trying to combine caring for family with often inflexible employment arrangements (see for example, Stone (2007)). Thus, job changes motivated by family responsibilities constitute a unique place in analyses of job separations,²³ and notably, their wage consequences are much more akin to those of involuntary separations rather than voluntary separations. I discuss this further below.

Workers who change jobs for non-family voluntary reasons enjoy wage gains greater than those received by workers who stay with the same employer (Alon and Tienda 2005; Andersson, Holzer, and Lane 2005; Fuller 2008; Johnson and Corcoran 2003; Keith and McWilliams 1997; Topel and Ward 1992).²⁴ This is especially true during workers’ initial years in the labor market. For example, using data

²³ It is also important to point out, as shown in chapter one, that these changes are relatively infrequent, especially compared to non-family voluntary job changes and job changes following a layoff, which are much more common among workers.

²⁴ Research shows that tenure also matters for workers’ wages (Altonji and Williams 2005), as many workers are able to enjoy upward mobility within the same organization over time. However, as noted, the prevalence of such internal labor markets has declined in recent decades (DiPrete, Goux, and Maurin 2002), leaving many workers without a way to move up within organizations. Thus, some scholars have made the argument that moving from one job to another is a particularly effective means of achieving wage growth in the current labor market (Arthur and Rousseau 2001). Of course, job changing is effective only to a point, as those who change jobs excessively are likely to have lower wages than either workers who change jobs moderately or stay with the same employer (Light 2005). This is in part because highly mobile workers also tend to spend greater periods of time away from the labor market (Light 2005). Related, this is why job changing is believed to be most effective for young workers, as changing employers among young workers is seen as normative behavior, part of finding a good job match, rather

from the NLSY79, Keith and McWilliams (1997) estimated that the young women in their sample who voluntarily changed employers for non-family voluntary reasons during their first three years in the labor market enjoyed an average annual wage increase of 8%, compared to 4% among those who remained with the same employer. Also using NLSY79 data, Fuller (2008) found women enjoy a wage increase of 3% for each voluntary job separation made during their first five years in the labor market (again, compared to staying with the same employer).²⁵ Job changes motivated by family-related reasons, layoffs, or firings often result in wage penalties, however. These studies estimate losses of approximately 3% for family-related job changes, 3% for firings and 1% for layoffs, again compared to workers who remain with the same employer (Fuller 2008; Keith and McWilliams 1997). Clearly, job changes, especially those made during the early years in the labor market, have important consequences for workers' wages, and these wage outcomes vary by the reason for the change.

Previous Research on the Contributions of Job Changes to the Motherhood Wage Penalty

Despite what is known about the wage consequences of different types of job changes, only a handful of scholars have considered the role job changes might play in creating the motherhood wage penalty. These scholars have taken one of two approaches: the first approach is to examine only those changes surrounding the birth of a child and the second approach is to examine cumulative job changes

than what may be perceived as chronic job movement (signifying perhaps a lack of commitment) among older workers.

²⁵ It is also important to point out that with regards to the wage gains for non-family voluntary job changes, these may be conservative estimates, as one might search for a job while currently employed and use a subsequent job offer to bargain for higher wages with a current employer (increasing the effect of tenure on one's wages). Such wage gains associated with job tenure may result in conservative estimates of the job change variables. On the other hand, in order to be enticed to change jobs, the wages offered by the new job must be greater than a workers' reservation wages, so that the worker is willing to change jobs. In this case, the returns to non-family voluntary job changes in particular might be biased upward. Both of these propositions are beyond the scope of this study, but should be pointed out. Regardless of these cautions however, ample economic and sociological evidence finds wage benefits associated with non-family voluntary job changes while controlling for job tenure. The precise estimates of these returns may be unclear however because of these confounding factors.

regardless of the reason. Scholars who have taken the first approach have often framed such changes as negative events, at least as far as wages are concerned. For example, Gangl and Ziefle (2009) remark, “job changes may imply loss of firm-, occupation-, or industry-specific human capital and will then similarly result in wage losses,” (p.344). Indeed, these authors, as well as Baum (2002), find returning to the same employer following childbirth lessens the motherhood wage penalty, suggesting that part of the wage penalty for motherhood may be due to women changing jobs following the birth of a child. It may be, as these authors imply, that many job changes made shortly after the birth of a child are motivated by family demands – the types of job changes that often result in a loss of wages.

At the same time however, some women may plan a post-birth job change in advance of the event. Women might remain at a job throughout pregnancy and childbirth in order to have access to accumulated sick time and other paid time off, as well as continuity of health care benefits, with a plan to change to a better job (i.e., higher pay) following the birth. For some women then, job changes following the birth of a child may result in wage gains. Budig and Hodges (2010) found some evidence of this. In their analysis of the motherhood wage penalty across the earnings distribution, they include an interaction term between number of children and a variable indicating a job change to determine whether changing jobs in the same year as giving birth impacts the size of the penalty. They found the interaction was non-significant for most women, but for women at the .50 and .75 quantiles of the earnings distribution the interaction was significant and positive, suggesting that for these women, changing jobs around the time of birth was beneficial to their wages. Estes and Glass (1996) also found evidence that changing jobs following childbirth has positive effects on mothers’ wages. In their longitudinal study of 324 women in the Midwest, women who changed jobs within 6 months to a year following childbirth increased their wages. In another study, although not focusing on the time immediately following birth, Glass (2004) found that the wage penalties mothers in professional and

managerial jobs received for accessing family-friendly policies at one employer were completely negated when they changed to a different employer. Taken together, these studies suggest job changes may be beneficial to mothers' wages.

The two sets of studies outlined above point to very different outcomes with regards to the wage penalties or premiums associated with job changes surrounding childbirth and during the early years of motherhood. These different outcomes can also be seen in a report issued by the U.S. Census Bureau that finds in the years 2005-2007, 28% of women who changed employers when returning to work following childbirth enjoyed increased wages, 42% had the same wages, and 31% lost wages (Laughlin 2011). What might explain these differences? It is likely that the wage outcomes of women's job changes are shaped in large part by the reason they changed jobs. Because none of the scholars who examined how job changes around the time of childbirth contribute to the motherhood wage penalty took into account the reason for a job change, it is difficult to discern the true effects of women's job changes on their wages, and moreover, on the motherhood wage penalty.

In addition to neglecting differences in the reasons mothers change jobs, there are two other limitations to simply examining the effects of job changes surrounding childbirth on the motherhood wage penalty. The first is that job changes at any single point in time provide very limited information about the effects of cumulative job mobility on wages (Fuller 2008; Keith and McWilliams 1995). Keith and McWilliams (1995) demonstrate that workers' wages are not simply affected by single job changes, but rather cumulative mobility history is important in understanding workers' wage trajectories. Second, it is not only mothers who change jobs. Childless women change jobs as well. In fact, as chapter one demonstrated, childless women are *more likely* than mothers to change jobs for non-family voluntary reasons. Thus, it may not only be the job mobility behavior of mothers that is contributing to the motherhood wage penalty; job mobility behavior of childless women may matter as well. Specifically,

greater numbers of non-family voluntary job changes among childless women might be driving up their wages relative to mothers. Focusing on job changes made by mothers surrounding childbirth ignores this possibility entirely. When thinking more specifically about wage penalties as they relate to birth timing, the years prior to women becoming mother (when they are still childless) are when women who delay child bearing are most likely engaging in the types of non-family voluntary job changes that may increase their wages. Thus, greater numbers of non-family voluntary changes among delayed child bearers before they become mothers may help explain their lower penalties (and perhaps even premiums, such as those that Amuedo-Dorantes and Kimmel (2005) found).

A few scholars have extended their analysis of women's job changes beyond those made immediately following birth to examine cumulative job separations among both mothers and childless women. Glauber (2007) included a measure of the total number of jobs women have ever held and found small positive effects. Gangl and Ziefle (2009) also included measures for total jobs ever held, (excluding those job changes made following a child-related employment break), and also found positive effects. These findings suggest that job separations²⁶ are often wage enhancing mechanisms, though again, the true effects of these separations are difficult to discern, as the scholars do not distinguish among the reasons for these separations. For example, the wage trajectory of a worker who has made four non-family voluntary job separations is likely very different from that of a worker who has been laid off four times, but cumulative measures of job separations mask these differences. Previous studies of job mobility make the problems inherent to including aggregate measures of job separations clear, as when measured in the aggregate, cumulative job separations have been found to result in no (Keith and McWilliams 1995) or even negative wage effects (Fuller 2008); yet when changes are disaggregated by

²⁶ Note the use of the term separations here, as these authors do not distinguish whether these were job changes or employment exits. They simply counted the number of jobs individuals had previously held.

reason, distinct patterns of wage returns emerge, rendering cumulative non-family voluntary separations positively associated with wages, and layoffs, firings, and family-related separations negatively associated with wages (as discussed above). Thus, including aggregate measures of cumulative job separations in wage models likely tells us very little about how movement among workplaces shapes women's wages.

Moreover, as discussed in detail in chapter one, the length of time workers spend between jobs should also impact workers' subsequent wages, with job changes followed by lengthy periods of time in non-employment incurring steeper wage penalties compared to those followed relatively quickly by another job. Measuring the total number of jobs women have held without accounting for whether or not there were gaps in employment between likely does not capture the true effects of job changes and/or employment exits on women's wages. Finally, neither Glauber (2007) nor Gangl and Ziefel (2009) examine to what extent women's mobility histories actually contributed to the motherhood wage penalty. They included these measures simply as control variables, but no mention was made as to how their inclusion changed (or did not) the coefficients for children. Changes in the size of these coefficients would signify that differences in women's job mobility histories do in fact contribute to the motherhood wage penalty.

The Present Study

I build upon all of these previous studies to examine how job changes and employment exits (or the lack thereof) among both mothers and childless women may contribute to the motherhood wage penalty. I move beyond simply examining job changes mothers make following the birth of a child, or including aggregate measures of the number of jobs women have held. Instead, I consider how *different types* of job changes and employment exits made by *both mothers and childless women* throughout

their time in the labor market might contribute to mothers' wage disadvantage, especially for women who bear children in early adulthood. In addition, I examine how the impact of job changes and employment exits on women's wages varies by parity, since as noted above, recent research suggests the motherhood wage penalty is not shared by mothers equally, but instead is a penalty most keenly felt by mothers of higher parities (Kahn, Garcia-Mangano, and Bianchi 2014). Below I discuss more specifically how the different types of job changes and/or employment exits women make might contribute to the motherhood wage penalty, focusing on family-related job changes and employment exits as well as non-family related voluntary job changes, and how this might vary by timing of motherhood. I then lay out the hypotheses I test.

Family-related job changes and employment exits. As I found in chapter one, family-related job changes and employment exits are overwhelmingly experienced by mothers, rather than childless women. Recall from chapter one that each additional preschool child increased the hazard of a family-related job change by 79% and the hazard of a family-related employment exit by 81%. This is not to say that family-related job changes and employment exits do not occur among childless women. Indeed they do, as my descriptive statistics below will show. But the fact that they are so much more common among mothers suggests that if these types of job changes and employment exits are associated with wage losses, and these losses are primarily experienced by mothers, part of the motherhood wage penalty can be attributed to mothers changing jobs or leaving the labor market for family-related reasons.

While, as noted above, previous studies have examined how job changes surrounding the birth of a child (job changes that are likely considered "family-related") contribute to the motherhood wage penalty, family-related job separations as reported by women themselves (see discussion in the Method section below) occur at times other than immediately following childbirth. In fact, my calculations

suggest that only one-third of reported family-related separations occurred in the same year women gave birth; the other two-thirds of these separations occurred at other times. Thus, focusing only on job changes made at birth potentially misses a large number of job changes and employment exits women make in response to their families. As mothers are more likely than childless women to be experiencing such events, I expect:

H1: Greater numbers of family-related job changes and employment exits among mothers will lower mothers' wages relative to childless women's.

Women who become mothers during their early 20s presumably spend more time as mothers throughout the life course compared to women who delay child bearing until later in adulthood. Thus, women who become mothers early have more time during which they are at a greater risk of engaging in family-related job mobility. Moreover, women who become mothers during their early 20s are more likely than women who delay child bearing to change jobs and exit the labor market in response to their families during their initial years in the labor market, a time when such changes may be especially detrimental to their wages. Given that early child bearers are more likely than delayed child bearers to be making family-related job changes and employment exits, especially during their initial years in the labor market, these differences may help explain why the motherhood wage penalty is highest for early child bearers. Thus, I expect:

H2: Family-related job changes and employment exits will be more penalizing to women who become mothers in their early twenties compared to those who delay childbearing until later in adulthood.

Non-family-related job changes. By contrast, non-family voluntary job changes²⁷ are experienced by childless women more often than mothers. In chapter one I found that school-age children reduce the likelihood of such a job change by 14% and preschoolers reduce these job changes by 9%. (In subsequent analyses, recall that I found the effects of preschoolers was only significant among white women, reducing the likelihood of job changes for these women by 16%.) The stabilizing effects of children suggests a sort of “job lock” among mothers, especially white mothers, who are more likely than childless women to stay with an employer. Thus, I expect:

H3: Fewer non-family-related job changes among mothers will raise childless women’s wages relative to mothers’.

Differences in job mobility patterns among mothers and childless women might also help to explain smaller wage penalties for motherhood experienced by women who delay childbearing until later in adulthood. Spending more years in the labor market childless enables these women more time to engage in the types of non-family voluntary changes that are associated with wage growth. Moreover, as the wage returns to these types of job changes are greater for childless women compared to mothers (Fuller 2008; Looze 2014), delayed child bearers are likely gaining more for the non-family voluntary job changes they are making prior to becoming mothers compared to women who bear children earlier and make non-family voluntary job changes when they are mothers. Thus, I expect:

H4: Women who delay childbearing until later in adulthood will benefit more from non-family-related job changes compared to women who bear children early in adulthood.

Additional Covariates of Women’s Wage, Job Changes, and Employment Exits

As outlined above, previous research suggests the need to control for several mechanisms known to influence women’s wages and contribute to the motherhood wage penalty. These include

²⁷ I focus here only on job changes, not employment exits, as non-family voluntary employment exits (as demonstrated in my models below) are associated with wage losses rather than gains.

family structure and other resources, human capital, work effort, job characteristics, and unobserved heterogeneity.

Family structure and other resources include marital status, spouse's income, coresidence with kin, and receipt of public assistance. Although marriage is associated with higher wages among women, married and previously married women incur larger wage penalties for motherhood than never married women (Budig and England 2001; Glauber 2007). The relationship between kin coresidence and wages is unclear. Living with kin may provide additional resources (such as child care and transportation) that may increase women's abilities to engage in the labor force. Living with kin might inhibit women's labor market participation however, if coresiding kin are themselves in need of care (Sarkisian and Gerstel 2012). Receipt of public assistance may lower wages if these benefits provide women with an alternative source of income, or if women must remain under a certain earnings threshold to continue receiving benefits. Budig and Hodges (2010) do not find evidence of this tradeoff occurring however.

Human capital includes work experience, tenure, and education. As noted above, reduced work experience among mothers accounts for much of the motherhood wage penalty (Budig and England 2001; Gangl and Ziefle 2009), particularly among more highly educated workers (Budig and Hodges 2010). Wages increase with employer tenure (Altonji and Williams 2005). Higher education is expected to be associated with higher earnings among workers.

Work effort includes annual weeks, weekly hours, and school enrollment. Differences in annual weeks and weekly hours employed between mothers and childless women contribute to the wage penalty, especially for workers at the median and lower end of the income distribution (Budig and Hodges 2010). As previously mentioned, part-time work contributes to the motherhood wage penalty (Budig and England 2001). School enrollment likely lowers wages in the short-term if women reduce

their efforts in the labor market for a time to pursue more education, though additional credentials gained through schooling likely increase workers' wages over the long-term.²⁸

Job characteristics have been found to contribute little to the motherhood wage penalty, suggesting that compensating differentials are not a significant factor in mothers' lower wages (Budig and England 2001; Estes and Glass 1996; Gangl and Ziefle 2009). Self-employment has been found to be associated with lower wages, however, especially among women in non-professional self-employment (Budig 2006). Arguably, job characteristics may be endogenous to wages, and thus problematic to include in the models, yet many previous analyses of the penalty have included job characteristics (Budig and Hodges 2010; Budig and England 2001; Gangl and Ziefle 2009).

Another important factor influencing women's wages is unobserved differences among women that may be associated with wages, job mobility, and birth timing. For example, an unobserved characteristic such as "career ambition" might increase a woman's propensity to work in a more lucrative job *and* encourage her to delay childrearing until later in her career (or forego childrearing altogether). In an effort to reduce unmeasured heterogeneity and in the tradition of much of the literature on the motherhood wage penalty, I use within-person fixed effects regression models. In these models all time-invariant (fixed) characteristics of each individual drop out of the regression equation. Fixed characteristics include both unmeasured time-invariant characteristics, such as "career ambition,"²⁹ as well as measured time-invariant characteristics, such as race/ethnicity and socioeconomic background. Within-person fixed effects models rely on within-person changes in the

²⁸ Previous analyses have often considered school enrollment human capital. While additional credentials gained through schooling may increase workers' wages over the long-term, school enrollment itself likely lowers the time women have to devote to work in the short-term. Thus, the highest grade completed variable will account for increased credentials, while the coefficient for enrollment should be negative, capturing these short-term losses.

²⁹ Note however, that career ambition might not be fixed, but may be shaped in part by conditions in the labor market and aspects of women's particular workplaces. See the discussion below about the limitations of fixed effects models.

independent variables to predict changes in the dependent variable. The model compares each woman's year-specific wage to her mean wage over the entire observation period.

Method

Data

I use panel data from the 1979-2010 waves of the National Longitudinal Survey of Youth (NLSY79), a national probability sample of 12,686 individuals ages 14-22 in 1979. Respondents were interviewed annually between 1979 and 1994, and biennially thereafter. The NLSY79 is an ideal dataset for the examination of women's employment histories, as each survey collects information on the start and stop dates of all jobs a respondent has held since the previous survey, the reason a respondent left each employer (when applicable), the reason women are not employed in a given week, along with a variety of job characteristics. In addition, the NLSY79 consistently asks questions about respondents' individual and family characteristics, including education, school enrollment, marital status, fertility, spouse's income and weekly hours worked, and the presence of additional household members.

The NLSY79 provides an event history calendar that details, on a week-by-week basis, respondents' labor market status: whether they are employed, unemployed, or out of the labor market. If a respondent is employed in a given week, that week is assigned a unique employer ID. This makes tracking changes from one employer to another relatively easy. In addition, at each interview, respondents are asked the reason they left any employers they are no longer working for. Information is collected on up to five job separations since the last interview. By linking the information on the reason for leaving one's job to the employment history calendar, I am able to identify the weeks in which particular types of job separations occurred as well as the length of time that passes between jobs.

With regards to the reasons for leaving an employer, respondents are provided with a list of possible reasons and asked to choose one. Some survey years collected more detailed information on the reasons for leaving a particular employer than others, but in order to capture cumulative changes and exits over time, I had to create categories that remained constant over time. I follow others who have used the NLSY79 to examine job separations (Fuller 2008; Keith and McWilliams 1999) in defining four types of job changes: (1) family-related; (2) non-family voluntary; (3) layoffs; and (4) firings. Tables 2.1 and 2.2 provide examples of the response categories provided to respondents, how these changed over the survey years, and how I recoded these various responses for the current analysis.

Table 2.1 shows the response categories for the 1980 survey and my subsequent coding scheme. In this year, respondents were asked: “Which of the reasons on this card best describes why you happened to leave this job? Options on the card included: (1) layoff, plant closed, or end of temporary or seasonal job; (2) discharged or fired; (3) program ended; (4) quit for pregnancy or family reasons; (5) quit for other reasons.”³⁰ Table 2.2 shows the response categories for the 2000 survey and my subsequent coding scheme. In this year, respondents were asked: “Which of the reasons on this card best describes why you happened to leave this job? Options on the card included: (1) layoff; (2) plant closed; (3) end of temporary or seasonal job; (4) discharged or fired; (5) program ended; (6) quit for pregnancy or family reasons; (7) quit to look for another job; (8) quit to take another job; (9) quit for other reasons. Options 7-9 were collapsed into the non-family voluntary category.

Sample

³⁰ As Table 2.1 illustrates, I included those who reported a job ended because a government program ended with those who reported being laid off, as these workers likely had a sense that a job was going to be ending at a particular time (similar to a temporary job). Note however, that there are very few cases where respondents reported leaving a job because a program ended and the vast majority of these cases were among respondents still in school who had not yet entered the labor market (so were excluded from this analysis).

My sample is drawn from the 5,827 women interviewed in 1979 who were not part of the military subsample.³¹ I define labor market entry as the year a woman leaves full-time school and holds at least one job, provided she remains unenrolled (full-time) through the following year. This definition of labor market entry is consistent with previous studies of job mobility (Fuller 2008; Light and Ureta 1992). Because within-person fixed effects measure changes in the dependent variable based on changes in the independent variables, the model requires valid observations for the dependent variable (wages) from at least two survey years. Thus, only those person-year observations where women report being employed at least one week are included (81,619). Of these, observations missing wage data were excluded (3,085 person-years), as were those women for whom only one wage observation is available following all other exclusions (75 person-years). I excluded 462 person-years during which respondents reported living outside of the U.S., because labor market structures vary widely in other countries. I also excluded 289 person-years where respondents reported working for a family-business, as both job mobility and wage growth likely vary from that of women in other types of employment arrangements. My final sample is made up of 5,545 women averaging 14.0 person-years each (range = 2-24), for a total of 77,703 person-years.

Dependent Variables

The dependent variable is the natural logarithm of the hourly wage of the respondent's current or most recent job. I use the natural logarithm rather than the dollar amount since wages cannot be negative and so that results can be interpreted as percentages. Following other analyses of the motherhood wage penalty (Budig and Hodges 2010), I bottom and top-code wages at \$1 and \$200 to

³¹ I exclude 456 women who were part of the military subsample because the early career patterns of these women likely differ in important ways from those of the civilian population. In addition, women in this subsample were only interviewed through 1984, so the observation period is relatively small.

minimize the effects of outliers without changing the distribution.³² Unstandardized wages were used in my analyses, as year dummies were included in the models.

Independent Variables

The key independent variable in any analysis of the motherhood wage penalty is a measure of the number of children women have. As much work on the motherhood wage penalty suggests that the relationship between number of children and women's labor market outcomes is not strictly linear, and women of higher parities incur especially large wage penalties (Budig and England 2001; Glauber 2007; Kahn, Garcia-Mangano, and Bianchi 2014), I measure number of children by a series of dummy variables indicating whether women have 0 (the reference), 1, 2, or 3 or more children.

Other key independent variables in my analysis included measures for the number of different types of job changes and employment exits women have made. Just as in chapter one, I define a job change as a change in employers with no more than one month of non-employment in between, and an employment exit as a job separation followed by more than one month of non-employment.³³ As detailed above, I distinguish among four different reasons women may report leaving their jobs: (1) family-related reasons, (2) non-family voluntary reasons, (3) layoffs, (4) firings.³⁴ In initial models, I included measures for cumulative numbers of changes/exits for each of these reasons, resulting in eight different measures (i.e., family-related changes, family-related exits). However, these models revealed wage penalties similar in magnitude for layoffs and firings regardless of time away, and consistently yielded non-significant results for job changes induced by layoffs and firings (likely due to the small

³² I also tried an alternative specification, bottom-coding at \$0.50 rather than \$1.00; results were robust.

³³ I also run sensitivity analyses with a 3-month cutoff, presented in Table A.2.2 in the Appendix.

³⁴ I did not distinguish between layoffs and firings in the final models presented in chapter one because initial models indicated no difference in the effects of children on these two events. I do distinguish between them in this chapter however, as previous work suggests there are different wage penalties associated with these, the latter carrying a larger penalty (Fuller 2008; Keith and McWilliams 1999).

number of such events), so in the final models presented here, I combined layoff changes and exits into a single category and firings changes and exits into a single category. This gave me six categories: (1) family-related job changes, (2) family-related employment exits, (3) non-family voluntary changes, (4) non-family voluntary exits, (5) layoffs, and (6) firings. I top-code cumulative measures at the 99th percentile to reduce the distorting effects of outliers.

To examine variation by motherhood timing, I created a categorical variable noting the timing of first birth. I followed the age cutoffs applied by the Centers for Disease Control (CDC) in assessing national trends in childbearing (Martin et al. 2013). These categories include: (1) 15-19 years,³⁵ (2) 20-24 years, (3) 25-29 years, (4) 30 and over.^{36,37} Childless women were the reference category. It is important to point out that because timing of first birth is a time-invariant variable it cannot be included in the fixed effects model directly. (It is a “fixed” effect that will be netted out of the model.) It can however, be interacted with other variables, which is what I do in this analysis.

Control Variables

Family Structure and Other Resources. Controls for family structure and other resources include marital status, spousal income, kin coresidence, and welfare receipt. Marital status is measured by a series of dummy variables indicating whether a woman is married, cohabiting, previously married (i.e., divorced, separated, widowed), or never married and not currently living with a partner (the reference category). Spouse’s income is measured in \$10,000 increments and is calculated only for married

³⁵ My sample includes a few women who had their first child younger than 15; 462 person-years (0.70% of my sample) had their first child when they were 13 or 14.

³⁶ The CDC further distinguishes among women who give birth between the ages of 30-34, 35-39, and 40-44, but breaking the 30 and over category up in this way yielded categories too small to provide meaningful results.

³⁷ The NLSY79 provides information on when women first gave birth, but does not provide information on the years in which women adopted children or became a step-mother. In cases where women did not have biological children, but did have either adopted or step-children, I used the household roster to determine the first year in which these children were living in the woman’s household, and then considered her age during that year to be the time at which she became a mother.

women. (Spouse's income among all non-married women is coded as 0; the inclusion of the marital status indicator controls for the potential distorting effect of these zeroes for unmarried women). Kin coresidence is measured by a dummy variable (1= living with kin). Receipt of public assistance is a dichotomous variable indicating whether a woman received either AFDC or TANF (dependent upon the program in effect) during the survey year (1 = received public assistance).

Human Capital. Controls for human capital include work experience and experience squared, job tenure, and education. Work experience is measured in years and indicates the amount of time a woman has spent in the labor market through the year prior to the survey. Work experience squared is also included, as the relationship between experience and wages is not expected to be strictly linear. Job tenure is measured in years and indicates the length of time a woman has been working/worked for her current/most recent employer. Education is a continuous variable indicating the number of years of schooling a woman has completed.

Work Effort. Controls for work effort include part-time employment, annual weeks employed, and school enrollment. Part-time employment is measured by a dummy variable indicating whether a woman is employed less than 35 hours per week in her current/most recent job (1 = part-time). Annual weeks employed is a continuous variable indicating the number of weeks worked during the previous year (range 1-52). School enrollment is a dichotomous variable indicating whether a woman was enrolled in college (most often part-time) during the survey year (enrolled =1).

Job Characteristics. Job characteristics include class of worker, union status, percent female in an occupation, non-standard shift, industry, and health care benefits. All job characteristics refer to a woman's current/most recent job. Class of worker is an indicator variable distinguishing among public sector employment, private sector employment, and self-employment. If a respondent reports being covered by a union contract in their job they are coded as 1. Percent female in an occupation is coded

using the Dictionary of Occupational Titles (U.S. Bureau of the Census 1993). Nonstandard shift is a dummy variable indicating whether the job requires a shift other than 9am-5pm (1=nonstandard). Industry is indicated by a series of dummy variables indicating whether women are employed in: (1) agriculture, forestry, fishing, hunting, and mining; utilities; (2) construction; (3) manufacturing; (4) wholesale and retail trade; (5) transportation and warehousing; (6) information; (7) finance, insurance, real estate, rental and leasing; (8) professional, scientific, and technical services; (9) management, administrative, and waste management services; (10) educational services; (11) health care and social assistance; (12) arts, entertainment and recreation; (13) accommodations and food services; (14) public administration; and (15) other services. Health insurance coverage is indicated by a dummy variable (1=health insurance coverage).

Statistical Model

I use within-person fixed effects regression models to analyze pooled time-series cross-sectional data. Within-person fixed effects models rely on within-person changes in the independent variables to predict changes in the dependent variable. The model compares each woman's year-specific wage to her mean wage over the entire observation period. Because I examine multiple observations of the same individuals over a period of time, person-years are my unit of analysis. The model is:

$$Y_{it} = b_0 + \sum b_k X_{kit} + e_{it}$$

where

$$e_{it} = u_i + v_t + w_{it}$$

Y is the dependent variable for the i^{th} individual at time t , b_0 is the intercept, b are the coefficients of k time-varying independent variables (X_s), and e is the error term, which represents purely random variation at each point in time for each individual. The error term includes the individual component of error (u), the timewise component of error (v) and the purely random component of error (w).

As previously noted, fixed effects regression models are used to reduce unmeasured heterogeneity. Time-varying observed characteristics are controlled for in fixed models just as in conventional OLS models. Any time-invariant characteristics (either observed or unobserved), are controlled for in the structure of the fixed effects model. Indicator variables for each year are included to control for period effects such as recessions.

An important limitation of fixed effects models is that they do not control for time-varying unobserved characteristics. If for example, a woman's career ambition changes upon the birth of a child and this in turn affects her wages, the regression estimates will still be biased. Another limitation of fixed effects is that because they include only those person-years that women are employed, they are vulnerable to sample selection bias if women's exits from the labor market are not random. (This means that only those women more highly committed to the labor market will be included in the model, and wage penalties for family-related quits, for example, may be underestimated). This is likely not a serious problem, as previous studies of the motherhood wage penalty that have employed Heckman selection models to address this bias have found estimates from the selection models to be largely similar to those of the nonselection models (Glauber 2007).

In spite of these limitations, fixed effects models are one of the best methods currently available for controlling for unobserved heterogeneity (Allison 2009). Random effects models are another popular method for analyzing panel data, but unlike fixed effects, which allow for correlations of any form

between unobserved and observed variables, random effects require that these correlations be completely random. If this assumption is not met, random effects models are subject to bias. To assess the appropriateness of fixed effects in my analysis, I conducted the Hausman test on all of my models. The Hausman test uses chi-square tests to compare the coefficients obtained in fixed effects models to those of random effects models. In all cases the p-values were significant ($p < .001$), indicating that fixed effects is the more appropriate model.

Analytic Strategy

I first calculated the means and proportions of the variables used in my fixed effects models separately for mothers and childless women and ran two-group comparison tests to determine if they were significantly different. I then ran simple analysis of variance tests (ANOVAs) with pairwise comparisons to compare means of different types of job changes and employment exits across categories of birth timing and by motherhood status. For these comparisons, I first calculated and compared means across the entire observation period and then calculated and compared means during women's first five years in the labor market. This allowed me to examine aggregate measures over time and to look more closely at what happens during women's initial years in the labor market.

Following these bivariate analyses, I ran a series of fixed effects regression models to examine how job changes and employment exits contribute to the motherhood wage penalty. The first model includes the standard variables used in previous analyses of the penalty (i.e., family structure, human capital, work effort). Subsequent models add controls for job changes and employment exits to determine how these change the children coefficients. I then ran a series of fixed effects models interacting birth timing with types of job changes and employment exits to examine how the wage returns to these different types of changes and exits vary by birth timing. In some models I include

three-way interactions among changes/exits, birth timing, and labor market timing, to further examine how the wage effects of job mobility among women who become mothers at different times are shaped by mobility timing.

Results

Descriptive Results

Table 2.3 lists the unadjusted means and standard deviations, as well as proportions where appropriate, of the variables used in the fixed effects regression models. Descriptive statistics were calculated separately for mothers and childless women. Two-group tests were then conducted to determine whether the means and proportions were significantly different between mothers and childless women. Note that because of the person-year structure of the data, the same woman may have contributed observations as both a childless woman and as a mother. Unadjusted means and proportions should be interpreted with caution, as mothers' person-years were often contributed when women are older and have more work experience. For example, these results show mothers' unadjusted average hourly earnings were higher than those of childless women (\$10.64 per hour vs. \$8.99 per hour; $p < .001$), and mothers average significantly more cumulative job changes and exits (because they are older, so have accumulated more changes over time), even though, as demonstrated in chapter one, mothers are actually less likely than childless women to experience many types of job mobility, particularly non-family voluntary job changes.

The consequences of using person-year data are also apparent when looking at mean birth timing. The majority of mothers in the sample gave birth as teenagers. This does not mean that the majority of the women in my sample are teenage mothers, but rather that those who gave birth as teenagers contributed most (if not all) of their person-years as mothers, while women who delayed child

bearing contributed many person-years as childless women. Thus, again, these unadjusted means and proportions should be interpreted with caution.

To help make the comparisons between mothers and childless women clearer, I next ran simple analysis of variance tests (ANOVAs) to examine how timing of first birth (a time-invariant characteristic) is related to the number of different types of job changes and employment exits women make. Because childless women in this bivariate analysis are those women who remain childless throughout the survey, the average number of job changes and employment exits they experienced provides a clearer sense of the differences between mothers and childless women in terms of the number of job changes and employment exits experienced, and how these vary by timing of motherhood.

Bivariate Results

Table 2.4 shows the mean number of job changes and employment exits by type for each group, as well as the results from bonferroni post hoc tests for significance. The first column shows the average number of family-related job changes experienced by each group. Women who became mothers in their early twenties averaged the most at 0.058. Women who became mothers at age 30 or later averaged half this at 0.025. Childless women averaged the least of any group at just 0.012. Pairwise comparisons showed significant differences between all groups. The second column shows the average number of family-related *employment exits* experienced by each group. Here a similar pattern emerges: women who became mothers in their early twenties averaged the most (0.422) and mothers who delayed child bearing until later in their 20s or until their 30s or later averaged substantially (and significantly) fewer (0.221 and 0.104 respectively). Notably, regardless of birth timing and motherhood status, the average number of family-related employment exits are higher than the average number of family-related job changes, suggesting that when women leave an employer for a family-related reason, they are more

often spending more than a month away from the labor market rather than starting a different job right away.

That both family-related job changes and employment exits are most common among women who became mothers in their early twenties is noteworthy, as this is precisely the time when many young women (especially those who do not attend or complete college) are entering the labor market. Of note, among those women who became mothers between the ages of 20-24, 82% of my person-year sample was high school graduates or women with some college. (Nine percent were high school dropouts and the remaining 9% were college graduates.) This confirms what I suggested above: that education and birth timing are indeed related. Thus, the wage penalties found among early child bearers is likely to due a combination of women becoming mothers as they enter the labor market and the labor market constraints faced by women without a college degree (i.e., less flexibility as discussed above). With regards to family-related job separations at least, children seem to have the greatest effects on the labor market decisions of these women, suggesting these types of job changes and exits in particular may be contributing to the larger wage penalties these women receive.

Column 3 of Table 2.4 shows the breakdown of the average number of non-family voluntary changes. As anticipated, women who became mothers at younger ages experienced fewer non-family voluntary changes compared to those who delayed motherhood as well as to childless women. Women who became mothers between the ages of 20-24 averaged 0.902 such changes, compared to 1.016 among the 25-29 group, 1.235 among the 30 or older group, and 1.139 among childless women; mean differences between groups all significant at $p < .05$. Interestingly, women who delayed childbearing until at least age 30 actually averaged the *most* changes, even more than childless women. That women who delayed motherhood until later in adulthood actually average the most non-family job changes suggests that these women may indeed use their time prior to becoming a mother to find a good “job match.” By

contrast, lower average non-family voluntary job changes among women who became mothers at younger ages speaks to the difficulties these women likely had in their abilities to change jobs (recall the findings from chapter one).

Column 4 of Table 2.4 shows the average number of non-family voluntary exits. Women who became mothers when they were a teenager averaged the most (1.086), while women who delayed childbearing until age 30 or later averaged the fewest (0.966). This highlights the labor market instability of younger mothers. The last two columns of Table 2.4, which show the average number of layoffs and firings, also highlight this instability. Women who became mothers as teenagers averaged 1.453 layoffs and 0.377 firings, significantly more than any other group. Women who delay childbearing until at least age 30 have the greatest labor market stability in terms of averaging the fewest firings (0.174) and tying with women who gave birth in their mid-late 20s for the fewest layoffs (1.260 and 1.220 respectively; difference not significant).

Interestingly, childless women experience significantly more involuntary job separations than women who became mothers in their mid-twenties or later. Recall from Tables 2.1 and 2.2 that the layoff category includes women working in temporary jobs, so it may be that childless women are electing into more temporary employment arrangements compared to mothers (who need more stable income). More layoffs among childless women compared to early child bearers might also be explained in part by Kahn et al's (2014) observation regarding selection into childlessness however. As they argue, "Childless women in their 40s or 50s are an interesting combination of those who remained childless voluntarily (positively selected for having chosen a career or other pursuits instead of motherhood) and those who ended up childless against their own will (negatively selected either because of infertility, poor health, the inability to find a suitable partner, or family demands such as caring for aging or disabled relatives, all of which might also affect their market performance)," (pp. 69-70). This negative

selection into childlessness may help explain the fact that these women experience more layoffs compared to delayed childbearers and fewer non-family-related voluntary changes.

The results from Tables 2.4 suggest that differences in job changes and employment exits by motherhood status and motherhood timing may, in fact, contribute to the motherhood wage penalty and help explain why this penalty is greatest for women who became mothers in their early 20s. Women who became mothers in their early 20s average the most family-related job changes and exits (events expected to result in wage losses) and the fewest non-family voluntary job changes (events expected to result in wage gains). By contrast, women who delay child bearing until at least age 30 average the fewest family-related job changes and employment exits of any group of mothers and the most non-family voluntary job changes.

Although Table 2.4 shows the mean number of different type of job changes and employment exits by motherhood status and birth timing throughout the entire observation window, it is also informative to understand women's job mobility patterns during their initial years in the labor market, given that much research suggests job mobility is most common during, and has the greatest impact on workers' wages during this time. To this end, Table 2.5 shows the mean number of different types of job changes and employment exits made during women's *first five years in the labor market*, again broken down by both motherhood status and birth timing. I do not spend as much time interpreting this table, but do point out a few key findings below.

Family-related job changes and employment exits during women's initial years in the labor market is most common among early child bearers. Delayed child bearers and childless women make few such changes during these initial years. Women who became mothers at younger ages experienced fewer non-family voluntary changes compared to those who delayed motherhood and to childless women. The differences in averages during the first five years are even more striking than the overall

averages (shown in Table 2.4), as teenage mothers and women who became mothers during their early twenties average approximately half and three-quarters respectively, of the number of non-family voluntary changes experienced by women who delay motherhood until at least their 20s. Teenage mothers averaged 0.218 non-family voluntary changes during their first five years in the labor market and women who became mothers during their early twenties averaged 0.324. By contrast, women who became mothers between the ages of 25-29 averaged 0.417 such changes and women who delayed motherhood until age 30 or later averaged 0.475. Notably, even during women's initial years in the labor market, women who delayed childbearing until at least age 30 averaged more non-family voluntary changes compared to childless women (0.475 vs. 0.441), though this difference is not significant.

The final three columns of Table 2.5 reveal some interesting contrasts to the patterns seen in Table 2.4. Recall that when looking at average numbers of non-family voluntary exits, layoffs, and firings across the observation window, teenage mothers averaged the most, suggesting this group experienced the greatest labor market instability. When looking at averages during the first five years however, teenage mothers actually experience fewer non-family voluntary exits and layoffs than other groups (differences among groups only significant for non-family voluntary exits). Delayed mothers averaged the most non-family voluntary exits of any group, though only significantly greater than teenage mothers and women who became mothers during their early 20s. This raises some important questions about what these women were doing when they left the labor market. Perhaps several of these women worked for a time and then went back to school. Or perhaps they were able to spend more time away from the labor market when searching for a "better match." More details about the reason these women were away from the labor market are necessary.

Unlike the averages over the entire observation period, young mothers averaged more firings during their early years in the labor market compared to women who delayed motherhood. Teenage

mothers averaged 0.121 firings during their first five years in the labor market and women who became mothers during their early 20s averaged 0.127. This compares to 0.096 among those who became mothers in their later 20s, 0.070 among those who delayed motherhood past age 30, and 0.100 among childless women. It appears then that during their early years in the labor market, when young mothers presumably have the greatest difficulty combining motherhood and employment, they are at the greatest risk of being fired. This important finding gets lost when averaging firings across women's entire career.

To examine whether the differences in job changes and employment exits by motherhood status and birth timing help explain the motherhood wage penalty, I now turn to the results of my fixed effects models.

Multivariate Results

To examine how job changes and employment exits contribute to the motherhood wage penalty, I first ran models including the standard variables used in previous analyses of the penalty (i.e., family structure, human capital, work effort). I ran one such model excluding job characteristics, and then another including job characteristics.³⁸ After running these base models, I ran a series of models adding measures for job changes and employment exits one at a time to see whether and how the addition of these variables changed the coefficients for children. The children coefficients from each of these models are presented in Table 2.6 (full results from the base model are shown in Table A.2.1 in the Appendix). The first three columns display the coefficients from the models excluding job characteristics. The second three columns display the coefficients from the models including job characteristics. In the

³⁸ As job characteristics are arguably endogenous to both wages and job changes, it may be problematic to include them in the wage models. However, as much previous literature on the motherhood wage penalty has included measures for job characteristics regardless of their potential for endogeneity, I chose to include them here in one set of models. This will ensure that job changes themselves are contributing to the wage penalty, beyond the characteristics of the jobs.

discussion below, I focus on the models excluding job characteristics, though I also briefly discuss the results from the models that include these controls.³⁹

The first row of Table 2.6 shows the coefficients for 1, 2 and 3 or more children respectively, from the base model, which controls for family structure and resources, human capital, and work effort. Similar to estimates in previous analyses of the motherhood wage penalty (Budig and England 2001; Glauber 2007; Kahn, Garcia-Mangano, and Bianchi 2014), I found the penalty is greatest among women of higher parities. Women with only one child face a penalty of only 1.5% ($p < .05$), compared to a penalty of 5.7% ($p < .001$) among women with two children, and a penalty of 8.0% ($p < .001$) among women with three or more children. In model 2, I added the cumulative number of job changes and employment exits women have experienced, regardless of reason. This is similar to previous approaches (Gangl and Ziefle 2009; Glauber 2007). Adding these aggregate measures made virtually no difference to the estimates of the child(ren) penalty. The penalty for two children is reduced from 5.7% to 5.3%, and the penalty for three or more children is reduced from 8.0% to 7.8%. It is clear that accounting for women's job changes and employment exits without distinguishing among the reasons for the changes explains very little of the motherhood wage penalty.

³⁹ I also ran models excluding self-employed women (see Table A.2.3 in the Appendix). These models yielded results similar to those in the models presented and discussed in the main text, though the wage penalties for motherhood are notably smaller. This is likely because, as Budig (2006) finds, non-professional self-employed women incur large wage penalties, thus, excluding these women from the wage models reduces the wage penalty. I choose to include self-employed women in the full models (even though they were excluded from the models presented in chapter one), for a number of reasons. Conceptually, it is appropriate to include self-employed women in this analysis, whereas it was not appropriate in chapter one. My outcome variable in this chapter is wages, rather than the *event* of a change/exit. With the event history models in chapter one I was predicting events, and predicting layoffs and firings among self-employed women simply made no sense. But here, I am predicting wage growth/declines among women, and how this is impacted by job changes. So I may have (several) women who were self-employed (i.e., perhaps doing in-home childcare) while their children were young, but then changed jobs (presumably to a higher paying job) when their child got a little older, boosting their wages. If I exclude self-employed women from the analysis, I will miss these effects.

What happens when job changes and exits are disaggregated by type however? In models 3-11, I take up this question. I begin by adding measures for family-related job changes, family-related employment exits, and then both of these events in models 3-5. Adding family-related changes (model 3) reduced the penalty for one child by 7% ($[1.5-1.4]/1.5$), two children by 5% ($[5.7-5.3]/5.7$), and for three or more children by 5% ($[8.0-7.6]/8.0$). It appears then, that family-related job changes do not account for much of the motherhood wage penalty. Family-related *exits*, however, (examined in model 4), were found to reduce the penalty by 20% for mothers with one child (and render the penalty no longer statistically significant), to reduce the penalty by 12% for mothers with two children and by 11% for women with three or more children. This suggests the time women take away from the labor market to care for their family contributes to a nontrivial portion of the motherhood wage penalty. Adding *both* family-related job changes and employment exits (model 5) reduces the penalty for one child by 27%, and reduces the penalty for two or more children by 16%.

The estimates from models 3-5 provide support for hypothesis one, as family-related job changes and exits together help to explain between 16-27% of the unaccounted for wage penalty mothers face. This suggests family-related job mobility, especially family-related employment exits, among mothers contributes to their reduced wages. It is important to remember here that it is not simply job changes surrounding the time of birth that are lowering mothers' wages. Recall that approximately two-thirds of women's family-related job separations come at times other than the year that women have a child. Thus, family-related changes and exits made at various times throughout women's careers are working to lower their wages. Moreover, the greatest effects are coming from family-related exits rather than job changes, suggesting the need to look beyond job changes to consider how family-related job mobility more broadly shapes women's wages.

What about *non-family* voluntary job changes? In hypothesis 3, I predicted that these types of changes also contribute to the motherhood wage penalty, as it is likely that childless women's (and delayed child bearers') greater ability to engage in these types of changes will be driving up their wages relative to (young) mothers. In model 6, I added non-family voluntary job changes to the base model and found these changes reduce the penalty for one child by only 7% (from 1.5% to 1.4%). For women with two children, however, these job changes reduce the penalty by 12% from 5.7% to 5.0%, and for women with three or more children, these job changes reduce the penalty by 11%, from 8.0% to 7.1%. This suggests that indeed, lower rates of non-voluntary job changes among mothers (young mothers especially) contributes to the motherhood wage penalty. This appears to be especially true for mothers with two or more children. If mothers (with two or more children) and childless women were changing jobs for non-family voluntary reasons at similar rates, the motherhood wage penalty would be reduced by roughly 12%.

Because family-related job changes and employment exits, and non-family voluntary job changes all reduced the coefficients for children when added separately to the base model, I ran a model including all of these changes and exits to see how they might work in tandem. This model (model 7) yielded the greatest reduction in the size of the child(ren) coefficients compared to all other models I ran. The penalty for one child was reduced by 33% (and rendered no longer significant); the penalty for two children was reduced by 28% from 5.7% to 4.1%, and the penalty for three or more children was reduced by 29% from 8.0% to 5.7%. That family and non-family voluntary job changes and employment exits account for *roughly a third of the motherhood wage penalty* is striking, and suggests that if mobility patterns among mothers and childless women (and among early mothers and delayed mothers) were more similar, we would see much smaller motherhood wage penalties, especially among early child bearers.

Models 8-10 added measures for cumulative non-family voluntary exits, layoffs, and firings, respectively, to the models. None of these models changed markedly from the base model, although interestingly, each type of job separation entered here worked to increase the motherhood wage penalty slightly. This is likely because, as chapter one finds, motherhood, especially among women with schoolage children, reduces the hazard of each of these events occurring. Thus, the negative wages associated with these events are more often experienced by childless women, so including them in models of the motherhood wage penalty works to actually increase the penalty associated with children. The increases were very small, but this is nevertheless interesting to note.

Model 11 adds all types of job changes and employment exits, disaggregated by reason, to the model. While the penalty for children is reduced substantially from the first model, the reductions are not as great as those seen in the model including only the voluntary separations (both family and non-family). In this final model, the wage penalty for one child is reduced by 20% (and is rendered non-significant), and the penalties for two and three or more children are reduced by 19% from the base model.

In sum, these models show that aggregate measures of job changes and employment exits do little in the way of helping explain the motherhood wage penalty. When job changes and employment exits are broken down by reason however, it is clear family-related employment exits and non-family voluntary job changes are important drivers of the motherhood wage penalty. Family-related employment exits explain 20% of the wage penalty incurred by mothers with one child and 12-13% of the penalty incurred by mothers with two or more children. Non-family voluntary job changes account for roughly 12% of the penalty incurred by mothers with two or more children. Together, family-related job separations and non-family voluntary job changes account for roughly a third of the penalty incurred by mothers across parities. Non-family voluntary job exits, layoffs, and firings, all work to increase the

penalty slightly, likely because childless women are more likely than mothers to experience these types of wage decreasing events, thus, mothers' wages are inflated slightly prior to accounting for these events in the wage models. Models that include controls for all different types of job changes and employment exits reduces the wage penalties associated with children by approximately 20%. Clearly a substantial portion of the motherhood wage penalty can be accounted for by differences in the types of job changes and employment exits women and childless women make, as well as the rates at which they make such changes.

Turning briefly to the estimates from the models that includes controls for job characteristics, (the second set of columns in Table 2.6), the results are similar to the models that exclude job characteristics, though the penalties are slightly smaller in the model that includes job characteristics. (This is to be expected, as family-friendly job characteristics have been found to account for a small portion of the motherhood wage penalty.) The overall story remains the same however: the child penalty is reduced substantially when the disaggregated measures for job changes and employment exits are added. When measures for family-related job changes and exits are added (model 5), the penalty for two or more children is reduced by 17%; when non-family voluntary job changes are added to the model (model 6), the penalty for two or more children is reduced by 11-13%.

The models presented in Table 2.6 demonstrate that differences in the job change patterns of mothers and childless women are behind a substantial portion of the motherhood wage penalty. Mothers', especially young mothers', greater likelihood of engaging in family-related job changes and employment exits are lowering wages, as are their decreased likelihood of engaging in non-family voluntary job changes. Models that focus only on job changes surrounding the time of childbirth, or that include measures for job separations without considering the reason for the separation or the time until

the next job have thus overlooked the true impact of job changes and employment exits on women's wages, and what this means for the motherhood wage penalty.

Table 2.6 showed how different types of job changes and employment exits either lessened or exacerbated the motherhood wage penalty by indicating how the coefficients for children changed when different types of job changes and employment exits were added to the model. I found that indeed, different patterns of job changes and employment exits help explain a substantial portion of the motherhood wage penalty. But how do these job changes and employment exits themselves impact women's wages, and how does this vary by birth timing? Table 2.7 shows the coefficients for the job change and employment exit variables. The first row contains the estimates from the full model presented in Table 2.6 (model 11), which included all types of job changes and exits. Family-related changes are associated with the highest penalties, as women are estimated to incur a wage penalty of 7.4% for each such change they make ($p < .001$). Family-exits also predict penalties of 3.2% each ($p < .001$). Non-family voluntary job changes on the other hand, were associated with wage gains of just over 5% ($p < .001$). Non-family voluntary employment exits, layoffs and firings were all associated with wage penalties. The predicted effects of these different types of job changes/exits on women's wages are similar to those found in previous research (Fuller 2008; Keith and McWilliams 1999).

How do these penalties vary by birth timing? The remaining rows of Table 2.7 show the results from the models interacting each type of job change and employment exit with timing of motherhood. The regression was run repeatedly using each birth category as the base in order to determine whether the wage penalties/premiums for each category were significantly different from zero. Looking at the results from these interactions, it is clear that the benefits and detriments of different types of job changes and employment exits are far from uniform between mothers and childless women and across women who became mothers at different times.

One of the most striking findings is that childless women receive the largest penalties for family-related job changes and employment exits. Childless women are predicted to incur a wage loss of 23% for each family-related job change and a wage loss of 19.4% for each family-related employment exit. It is important to point out that these are women who remained childless throughout the survey period, so it is likely that the majority of these job changes/exits are not due to pregnancy.⁴⁰ Instead, these women are changing jobs and exiting the labor market for some other family-related reason. While family-related job mobility is experienced by childless women less often than mothers, it clearly is more penalizing to these women. Perhaps these women are relocating because of a spouse's job and are unable to find a job that pays as well. If this is the case, childless women might feel less pressure than mothers to find a high-paying job (or any job at all) since they may not have as many financial responsibilities. It might also be the case that these women are changing jobs or taking time away from the labor market to care for a sick spouse or an ailing parent. Perhaps this type of carework is even more penalizing to women's wages than that done by mothers. More research on family-related job mobility among childless women is needed to sort this out.

Family-related job changes are most penalizing to women who became mothers during their twenties. Women who became mothers between the ages of 20-24 are predicted to receive a wage penalty of 6.7% for each family-related job change ($p < .01$) those who became mothers between the ages of 25-29 are predicted to receive a wage penalty of 10.4% for each family-related job change ($p < .001$). Teenage mothers and women who delay child bearing until their 30s or later receive no significant penalty for family-related job changes. A slightly different pattern emerges when looking at

⁴⁰ It is possible that some women who became pregnant and then miscarried left the labor market because of the pregnancy (a family-related reason). These women would be counted as childless women in my analysis as they never gave birth to a child. It is unlikely though that women leaving the labor market on account of a pregnancy, miscarrying, and then never having a live birth is very common, especially given that many miscarriages take place relatively early in pregnancy and most labor market exits occur in the later months of pregnancy (Laughlin 2011).

family-related employment exits. Here we see the largest penalties among women who become mothers at later ages. Women who became mothers between the ages of 25-29 receive a wage penalty of 6.1% for each family-related exit ($p < .001$) and women who became mothers at age 30 or later are predicted to receive a wage penalty of 12.0% ($p < .001$) for each family-related exit. Curiously, women who had their first child between the ages of 20-24 are predicted to enjoy small but significant *wage premiums* for family-related employment exits on the magnitude of a 2.0% increase for each such exit. Why might early child bearers see small wage premiums for such exits when every other group of women is predicted to incur significant penalties? To examine this further, in an additional analysis (not shown) I re-ran the regression models including three-way interactions among family-related employment exits, birth timing, and timing of the change (first five years in the labor market, years 6-10, 11-15, and year 16 or later) to examine whether timing of the employment exit mattered. These models revealed that family-related employment exits made during the first five years in the labor market yield the largest penalties for women who gave birth in their early 20s, with predicted penalties of 6.0% for each such exit ($p < .01$). The penalties declined markedly over time however, resulting in (non-significant) penalties of 1.7% and 0.4% in years 6-10 and 11-15 respectively, and in small (though also non-significant) wage premiums for family-related exits occurring when women have surpassed 15 years in the labor market. Thus, the wage effects of these later family-related exits appear to be driving the wage premium seen by the women who became mothers between the ages of 20-24. Perhaps as these women's children grow they are beginning to think about paying for college tuition and so may seek out a higher paying job. This raises some important questions about the more specific reasons that women change jobs and leave the labor market for reportedly family-related reasons when their children are older, as likely these changes and exits are not motivated by childbirth or child care responsibilities.

Results for non-family voluntary job changes are also interesting, as delayed child bearers are predicted to receive the largest benefits for such changes. Women who delay motherhood until at least age 30 are predicted to gain 6.4% for each such change ($p < .001$). Women who became mothers in their early and mid-late 20s are predicted to receive slightly smaller, but not significantly different, wage boosts of 6.1% and 5.5% respectively ($p < .001$ in both instances). The high wage returns to these job changes among mothers who bear children relatively early in their careers (during their early 20s) suggests that if these women were able to capitalize on making such changes during this time, their wages would increase and we would see a smaller motherhood wage penalty. As delayed child bearers are more often making these changes, their ability to enjoy these wage gains is driving up their wages relative to younger mothers.

Teenage mothers gain the least from non-family voluntary job changes, but nevertheless notably increase their wages when they do. Teenage mothers are predicted to enjoy a 3.7% wage increase for each non-family voluntary job change ($p < .001$). This echoes previous work that I have done (Looze 2014), that finds women with less than a high school degree (which teenage mothers overwhelmingly are) gain the least from non-family voluntary job changes. Given this finding, I argued this is especially problematic for these women, as voluntary job changing is a particularly important strategy for increasing wages among less educated workers (Alon and Tienda 2005; Andersson, Holzer, and Lane 2005; Johnson and Corcoran 2003). Thus, teenage mothers may have a tough time increasing their wages substantially even when changing jobs.

Women who remained childless throughout the observation period were predicted to enjoy wage gains of 4.3% for each non-family voluntary job change ($p < .001$). Like the differences in job mobility patterns, the stark contrast in the size of the wage returns between delayed child bearers and childless women points to the possibility of negative selection into childlessness driving these results. All

of these findings point to the importance of examining the wage trajectories of women based on motherhood timing, rather than simply examining a mother/childless women dichotomy, as clearly it is women who delay child bearing rather than those who remain childless, who are engaging most often in the types of non-family voluntary job changes that increase their wages, and moreover, their wages benefit the most when they do.

Discussion

That motherhood, especially for women with two or more children, is associated with lower wages, even after differences in human capital, family structure, work effort, job characteristics, and unobserved differences between mothers (of various parities) and childless women have all been accounted for, has been of great interest to scholars in recent years. Most have attributed this motherhood wage penalty to some combination of discrimination against mothers on the part of employers and lower work effort on the part of mothers. This analysis has showed that another important mechanism is contributing to the motherhood wage penalty: differences in the types of job changes and employment exits mothers and childless women make.

Previous analyses of the motherhood wage penalty have paid surprisingly little attention to the role job changes might play, despite much sociological and economic literature that suggests job changes are key mechanisms shaping workers' wages. Analyses of the motherhood wage penalty that have considered the role of job changes have either focused on those changes following the birth of a child, ignoring the reason for these changes, as well as the job changes that childless women make, or they have included measures of cumulative job separations without considering the reason women leave their jobs or the length of time they spend away. In this analysis, I disaggregated the various reasons women report leaving their jobs (family-related, non-family related voluntary, layoffs, and

firings) and distinguished between *job changes* (job separations followed soon by another job) and *employment exits* (job separations followed by a spell of non-employment). By making these distinctions, I was able to show more clearly how job mobility shapes women's wages, and how these different events contribute to the motherhood wage penalty.

My results showed that controlling for cumulative numbers of job separations (an approach others have taken) does little to explain the motherhood wage penalty. When considering the various types of job changes and employment exits women make however, it becomes clear that these events have important effects on women's wages. After controlling for other variables known to contribute to the motherhood wage penalty, including human capital, family structure, and work effort, adding measures for cumulative family-related job mobility (job changes and employment exits) reduced the remaining penalty by roughly 20%. Family-related employment exits accounted for much of this reduction, while family-related job changes did little to change the penalty, suggesting it may not be the job change itself that is lowering women's wages substantially, but rather the gap in employment between jobs.

While some might argue that these family-related job changes and employment exits are most likely taking place surrounding the time of birth, so are captured in analyses that consider job changes at this time, my calculations suggest *two-thirds* of women's family-related job separations took place in years other than those in which they gave birth to a child. Thus, it is not only job changes and employment exits immediately surrounding birth that are contributing to the motherhood wage penalty, but such events occurring at various times throughout women's careers that are likely lowering their wages.

The motherhood wage penalty is not simply due to women's (primarily mothers') family-related job changes and employment exits however. Differences in *non-family voluntary job changes* are also

accounting for a notable portion of the penalty. Adding a measure for women's cumulative non-family voluntary job changes to the standard model of the motherhood wage penalty reduced the penalty for mothers with two or more children by approximately 12%. Recall from chapter one that motherhood reduces the likelihood that women will engage in these types of job changes. Pregnancy and school-age children reduced the hazard of experiencing a non-family voluntary job change, and at least among white women, preschoolers also reduced the hazard of such a change. This suggests that if mothers were able to engage in the same amount of non-family voluntary job changing that childless women are enjoying, we would see a smaller motherhood wage penalty.

Overall, differences between mothers and childless women in the number of family-related job changes and employment exits they make, as well as the number of non-family voluntary changes they experience account for *approximately one third* of the remaining wage penalty. This is a substantial portion of the motherhood wage penalty. It appears then, that the motherhood wage penalty cannot be attributed simply to employer discrimination or lowered work effort among mothers. Instead, differences in the ways in which women move among employers accounts for much of this penalty. These differences have received little attention in previous analyses of the motherhood wage penalty, but clearly they are important mechanisms contributing to the penalty.

In addition to demonstrating that job changes and employment exits play an important role in explaining the motherhood wage penalty, this analysis has also shown that different patterns of job changes and employment exits may also help explain the larger motherhood wage penalty found among early child bearers. Much previous work on the motherhood wage penalty has been framed in such a way that posits a mother/childless woman dichotomy, yet this may not be the most appropriate conceptualization of how this penalty plays out. Fixed effects models, which are often used in analyses of the motherhood wage penalty, do not actually compare the wages of childless women and mothers,

but rather, they compare each woman's wages in the years before and after becoming a mother. As women become mothers at various points throughout adulthood, the timing of this shift is exceedingly important in understanding the wage penalty for motherhood.

My analysis demonstrates that women who became mothers as teenagers and in their early 20s experienced more family-related job changes and employment exits, and fewer non-family related voluntary job changes compared to women who delayed child bearing until their late 20s and into their 30s and beyond. This is especially true during women's first five years in the labor market. As family-related job changes and employment exits are associated with wage losses (again, most especially during the initial years of labor market experience), this suggests that young mothers' wages are negatively impacted by such changes. At the same time, these same young mothers are missing out on the types of non-family voluntary changes that are likely to increase their wages. If young mothers were to have fewer family-related job changes and employment exits, and more non-family voluntary job changes, their wages would like look more similar to the wages of delayed child bearers and childless women.

Among women who delayed child bearing until at least age 30, I found these women average more non-family related voluntary changes than any other group, even women who remain childless. This is especially true during women's initial years in the labor market. Moreover, the wages of these women benefit the most for these changes. Delayed child bearers' enjoy a wage increase of 6.4% for each non-family voluntary job change they make, more than any other group (though only significantly different from teenage mothers and childless women). These finding lend support to Amuedo-Dorantes and Kimmel's (2005) suggestion that part of the benefits to delaying child bearing is women's abilities to find a good a job match *before* becoming a mother. It is important to point out that while Amuedo-Dorantes and Kimmel use the language of "family-friendly," (i.e., "the wage boost experienced by

college-educated mothers may be the result of their search for family-friendly work environments, which, in turn, yields job matches with more female-friendly firms offering greater opportunities for advancement,” (p. 17)), this should not be confused with women’s motivation to change jobs prior to becoming a mother. Many of these delayed child bearers may be changing jobs to increase their wages and otherwise advance their careers as much as possible before having children. It is likely that when asked why they are changing jobs, these women do not report they are trying to find a “family-friendly” work environment prior to having children, but rather they are seeking out better opportunities for themselves. The presumed “family-friendliness” of such work environments is likely a by-product of the types of jobs that delayed child bearers (and more often highly educated) women are employed in (i.e., jobs that offer greater flexibility, etc.). More detailed examinations of the specific reasons women report leaving their jobs are necessary in order to map out a more comprehensive understanding of the relationship between job changing and women’s wage trajectories.

What of childless women? My findings suggest that women who remain childless do not experience as many non-family job changes compared to women who delay motherhood, nor are they compensated as highly when they do. Moreover, women who remain childless also experience more layoffs than delayed child bearers. These findings support arguments about negative selection into childlessness, as perhaps the same women who do not fare so well in the labor market are also less likely to ever become mothers (i.e., whether because of poor health or other limiting factors). It is especially striking that although women who remain childless average fewer job changes and employment exits due to family-related reasons than mothers of any birth timing, childless women are penalized most harshly when they do. Future work is needed to understand the types of family-related job mobility that childless women engage in and why these events are so detrimental to their wages.

Overall, these findings have shown that differences in the types and amounts of job changes and employment exits women make helps explain a portion of the motherhood wage penalty and why this penalty is so large for young mothers. From an analytical perspective, this underscores the importance of looking beyond discrimination and work effort as explanations of the motherhood wage penalty, and instead examining other differences in women's labor market trajectories as shaped by both motherhood status and birth timing in explaining this penalty. From a policy perspective, my findings point to the need to find ways to make changing jobs easier for young mothers, by doing things such as ensuring women have access to quality and affordable child care at flexible locations so that they can more easily relocate jobs. It also means working to standardize benefits such as flexible work hours and telecommuting across workplaces to the extent possible, so that when women do have access to such benefits, they don't feel locked into a particular job, hesitant that they will not be able to secure such flexibility with another employer.

My dissertation thus far has shown that motherhood impacts women's decisions to change jobs and exit the labor market for various reasons, and that these job changes and exits in turn, affect women's wages. I have found that children encourage the types of family-related job changes that are so often associated with wage losses and discourage the types of non-family related voluntary job changes that are often associated with wage gains. Moreover, I have found that the differences in these patterns of job changing and employment exits have important consequences for women's wages, and these consequences vary by motherhood timing. In the next chapter, I look more closely at the amount of time women spend away from the labor market during each of these transitions, what women are doing during this time away, and how this impacts the wage penalties (or premiums) women incur for their employment interruptions.

CHAPTER 3

WHILE AWAY: DO THE REASONS FOR EMPLOYMENT INTERRUPTIONS

MATTER FOR WOMEN'S WAGES?

Introduction

The first two chapters of my dissertation focused largely on women's *job changes*, movement from one employer to another with little time in between. Yet, as has been demonstrated, women do not always leave one job and begin another right away; often there is an intervening interruption in employment. Such interruptions tend to have detrimental effects on workers' wages (Baum 2002; Bertrand, Goldin, and Katz 2010; Hewlett and Luce 2005; Jacobsen and Levin 1995; Spivey 2005). In fact, a substantial portion of the motherhood wage penalty has been attributed to employment interruptions among mothers (Anderson, Binder, and Krause 2002; Baum 2002; Gangl and Ziefle 2009; Lundberg and Rose 2000; Phipps, Burton, and Lethbridge 2001; Staff and Mortimer 2012). The assumption is often that women's employment interruptions are primarily due to their responsibilities for caring for children, but this is not always the case. Women interrupt employment for a number of reasons: they may be laid off from a job and spend subsequent time in unemployment, they may return to school, they may quit a job to deal with a health problem, they might be incarcerated, or leave the labor market for any other number of reasons. Yet we know little about whether and how the wage consequences of employment interruptions might vary by the *reason* for the interruption.

In this final chapter of my dissertation, I take up this issue, as I examine how different types of employment interruptions impact women's wages. I use panel data from the 1979-2010 waves of the National Longitudinal Survey of Youth, 1979 cohort (NLSY79) and within-person fixed effects models to examine whether and how the effects of employment interruptions on women's wages vary by the

reason for the interruption. I continue to focus on the four types of job separations captured in the NLSY79 (family-related, non-family voluntary, layoffs, and firings). I focus especially on how the wage effects associated with family-related interruptions compare to interruptions for layoffs, as these are two of the most common, and arguably most comparable, types of interruptions women make. In addition, I examine both the short- and long-term effects of employment interruptions, as previous research points to evidence of a “rebound effect” whereby wage penalties for interruptions are highest immediately following the interruption and then dissipate over time (Corcoran, Duncan, and Ponza 1983; Jacobsen and Levin 1995; Kunze 2002; Mincer and Ofek 1982). I examine whether and how such rebound effects might vary by the reason for the interruption. Importantly, my analysis also examines how the short- and long-term wage consequences of different types of employment interruptions vary by education, given that education is a key factor shaping women’s experiences and opportunities in the labor market.

I ground my analysis in two key theories. The first, applied most often by economists, is *signaling theory*. Signaling theory considers what employment interruptions may “signal” to future employers in terms of workers’ competence and commitment. The second, applied most often by sociologists, is *gendered organizations theory*. Gendered organizations theory considers how workplaces are structured in ways that (among other things) penalize workers who have caregiving responsibilities. Building on both of these theories, I consider what family-related employment interruptions in particular might signal to future employers, and how these signals might differ from those of interruptions made for other reasons, particularly layoffs.

In what follows, I discuss what is known about the wage consequences of employment interruptions. I begin by addressing the basic human capital arguments for why employment interruptions should matter for workers’ wages, as well as “signaling” theory and its extension that argues employment interruptions should impact workers’ wages differently dependent upon the reason

for the interruption. I then turn to a discussion of gendered organizations theory and describe why family-related employment interruptions might be more penalizing than other types of interruptions (namely layoffs). Finally, I discuss the “rebound” phenomenon, and why this phenomenon may vary by the reason women leave a job. Throughout the discussion, I address how wage penalties for different types of interruptions, as well as their dissipation or persistence, might vary by women’s education.

Background

Employment Interruptions and Wages

Neoclassical economic theories of human capital posit periods of non-employment will result in lowered wages among workers for three reasons (Corcoran, Duncan, and Ponza 1983; Jacobsen and Levin 1995; Mincer and Polachek 1974). First, when individuals are away from the labor market, they acquire less experience and seniority than individuals of comparable ages who worked continuously, and they may miss opportunities for on-the-job training. Second, individuals’ skills may depreciate during an interruption.⁴¹ Third, individuals who anticipate an interruption in employment might invest less initially in on-the-job training and other firm specific capital than workers who do not anticipate interruptions (Gronau 1988).⁴²

In addition to these human capital, or “supply side” explanations, scholars have also pointed to “demand side” explanations, suggesting that employers may view gaps in employment as a signal that individuals who spent time in non-employment are not as committed to their work as those who remained continuously employed (Albrecht et al. 1999; Gibbons and Katz 1991; Hotchkiss and Pitts 2010; Jacobsen and Levin 1995; Vishwanath 1989). In support of this, Hotchkiss and Pitts (2010) found labor market

⁴¹ See (Edin and Gustavsson 2008) for evidence supporting this.

⁴² This anticipation argument has been widely contended, see (England et al. 1988; Okamoto and England 1999).

intermittency is penalized more severely during times of slack labor markets (i.e., higher unemployment). They found, for example, wage penalties of approximately 1% for every additional year of non-employment during 1992, when the national unemployment rate was 7.5%, compared to wage penalties of just 0.4% for every additional year of non-employment during 2000, when the national unemployment rate was 4%. They argued that employers are likely to view labor market intermittency as an “undesirable” worker characteristic, and are better able to act on their preferences to pay these workers less during times of slack labor markets.

Extending this “signaling theory,” it is possible that beyond having experienced a break (or several breaks) in employment, the *reason* for an employment interruption may also influence employers’ perceptions of workers, rendering some interruptions more detrimental to workers’ future wages than others. For example, Gibbons and Katz (1991) found that workers displaced from their jobs after a plant closing had higher post-unemployment wages than workers who were displaced through individual layoffs (controlling for pre-displacement wages). This difference suggests workers who were laid off individually rather than as part of a mass layoff may be viewed with greater trepidation by future employers.

In a test of signaling theory, Albrecht et al. (1999) used longitudinal data on several cohorts of Swedish workers born between 1949 and 1969 to examine the wage penalties workers received for employment interruptions. The data they used allowed them to examine the reason workers reported being not employed. These reasons included: parental leave, household time (not on official parental leave), unemployment, military service, other activities (i.e., traveling abroad), and “diverse,” which they defined as “the summation of several short (less than three months) episodes of nonwork,” (p.298). They ran fixed effects models separately for men and women and found the penalties for employment breaks vary dependent upon the reason workers are away, as well as by workers’ gender. For example, they found time spent in unemployment results in larger penalties than interruptions for any other

reason for both men and women, but the penalty is larger among men. They interpreted their results as “casting doubt on human capital depreciation as the sole explanation of the negative coefficient on time out in earnings functions,” (p. 310), and argue instead that employers view career interruptions (and moreover *particular types* of career interruptions) as signals of future career commitment.

In another test of signaling theory, Phipps, Burton, and Lethbridge (2001) used cross-sectional GSS data from Canada along with OLS regression models to determine how employment interruptions contribute to the motherhood wage penalty. They distinguished among interruptions for what they termed “demand reasons” (including layoffs and business closures), health, and child-related reasons. (They excluded interruptions due to education, immigration, and other, as well as workers who have retired.) Similar to Albrecht et al. (1999), they modeled cumulative time spent in each of these non-employment activities. They found larger penalties for unemployment compared to child-related interruptions. They also found the penalties for health-related interruptions non-significant.

Both Albrecht et. al (1999) and Phipps et al.’s (2001) findings lend support to signaling theory, as they found different-sized penalties for different types of interruptions. What neither of these studies take into account however, is that penalties for time away likely do not remain constant over time, and an interruption occurring several years ago may not have the same effects on women’s wages as an interruption occurring more recently. Previous research has demonstrated that the wage consequences of employment interruptions are most severe when workers re-enter employment, and they lessen over time (Corcoran, Duncan, and Ponza 1983; Jacobsen and Levin 1995; Kunze 2002; Light and Ureta 1995; Mincer and Ofek 1982). Some have argued this is because human capital can be quickly “restored” after an interruption (Mincer and Ofek 1982).⁴³ Others have pointed to temporary mismatches between

⁴³ Mincer and Ofek (1982) also argued that human capital can be “restored” more quickly than it can be built from scratch in explaining their findings of rapid wage growth among workers with previous interruptions.

workers' skills and the jobs they find themselves employed in immediately following as an interruption (Corcoran and Duncan 1979). In other words, it may be that upon re-entering employment, it takes a woman awhile to find a job that fits her skills (and hence, her corresponding compensation-level). Whatever the mechanism, studies that have considered both the short-and long-term wage consequences of employment interruptions have found the former to be much larger than the latter.

Most previous work comparing the short-and long-term consequences of employment interruptions has either focused on a single type of interruption (often those following a layoff (Stevens 1997; White 2010)), or has examined interruptions with no regard to the reason (Corcoran 1979; Corcoran, Duncan, and Ponza 1983; Jacobsen and Levin 1995; Light and Ureta 1995; Spivey 2005). The only exception is Kunze (2002) who used longitudinal data from IABS to examine a sample of young skilled workers in West Germany. In her study, Kunze considered both the reason (distinguishing among interruptions due to unemployment, parental leave for women, military service for men, and "other" interruptions) and how long ago an interruption occurred. She found that among women, parental leave had markedly higher and longer lasting wage penalties compared to unemployment. This suggests that the speed with which workers' wages are able to recover following an interruption may depend in part upon the reason for the interruption.

In this analysis, I build upon the work of Kunze (2002), as well as others, as I examine the short-and long-term wage penalties for different types of employment interruptions among a sample of U.S. women. Unlike many previous scholars, I focus not on what women report doing while they are not employed, but rather, I consider the reason women reported leaving the labor market in the first place. I do this for two key reasons. First, it is likely that employers are more concerned with why women left their previous job (i.e., Were they laid off? Did they quit to care for their children? Were they fired?),

rather than what they reported doing during the break.⁴⁴ Second, women's reporting of what they were doing during employment interruptions is not always entirely clear, for reasons I will detail more below. As a result, I chose to compare the wage consequences of women's employment interruptions following job separations due to the four reasons I have been focusing on throughout this dissertation: family-related reasons, layoffs, firings, and non-family voluntary reasons.

When I refer to employment interruptions in this analysis, I am only considering those interruptions lasting at least six months. This is the cut-off applied by many others who have examined the effects of employment interruptions on wages (Jacobsen and Levin 1995; Phipps, Burton, and Lethbridge 2001; Spivey 2005). Interruptions of only a few months are likely much less consequential to women's wages than longer interruptions. Perhaps more importantly, family-related interruptions lasting only a few months are likely indicative of maternity leave, which has been legally guaranteed for many (but not all) workers since the passage of FMLA in 1993, and many women had access to maternity leave even before this (Waldfogel 1999). The wage consequences of interruptions during job-protected leave are likely very different than those of longer periods with no protections.

To further avoid the potential of counting time spent on maternity leave or as part of FMLA as an employment interruption, I consider only those breaks that are followed by a change in employers, excluding any breaks that women might make while working with the same employer. This is because previous research has found returning to the same employer following a child-related interruption does not produce wage penalties in the same way that changing employers after such a break does (Baum

⁴⁴ Of course employers may also be interested in whether or not women are acquiring additional skills while not employed, but this is not captured very well in the dataset. With regards to human capital investments during employment interruptions, only information about school enrollment is known; no other information is available about potential human capital building experiences (i.e., volunteering, etc.)

2002; Phipps, Burton, and Lethbridge 2001). In this analysis, I am interested in what different types of employment breaks might signal to *future* employers rather than present employers.

The two research questions that I address in this chapter are as follows: First, do the wage consequences of employment interruptions vary in size dependent on the reason for the interruption? In particular, I am interested in whether family-related interruptions are more detrimental to women's wages compared to layoff-induced interruptions. Second, do the wage consequences of some types of employment interruptions persist longer than others? In particular, I examine whether women are able to recover more quickly from family-related interruptions compared to layoffs. For both of these questions, I examine variation by education level. I now explore these questions in more detail as I discuss what is known about each of the interruptions of interest.

Different Reasons, Different Consequences

Gendered organizations theorists argue workplaces, although ostensibly gender-neutral, are structured upon gendered processes (Acker 1990; Britton 2000; Williams 2000). Jobs are expected to be filled by workers who have no competing responsibilities, such as caring for a family. Workplaces reward those workers who succeed in meeting this ideal and penalize those who fail. Thus, women who take time away from employment to care for their children are likely penalized. Future employers might be wary of these women's (lack of) commitment to the labor market and consequently, might hire them into lower-paying positions or offer lower starting wages than a comparable new hire who has had no such interruption.

There is evidence that family-related employment interruptions have negative consequences for women's wages. However, it is important to point out that oftentimes studies purport to examine the wage consequences of women's "family-related" employment interruptions, when in actuality they are

examining the wage consequences of women's employment interruptions for any reason. For example, in their much cited research, Jacobsen and Levin (1995) introduce their findings by arguing, "women who leave the labor market for family reasons often return to wages lower than those of women who did not..." (p. 14). A careful reading of their analysis, however, reveals that these authors are only assuming the breaks they examine are for "family reasons." They model the effects of women's employment breaks (lasting at least six months) without actually considering the reason(s) for these interruptions. Similarly, much of the literature on the motherhood wage penalty that has considered the role of employment interruptions presumes these interruptions are related to women taking time out to care for children (Anderson, Binder, and Krause 2002). But as previously noted, and as demonstrated in my descriptive findings below, women interrupt their employment for any number of reasons, not only to care for children. Assuming that women's employment interruptions are all due to family responsibilities, as much previous research has done, makes it difficult to discern the true effects of family-related interruptions on women's wages.

Some of the clearest evidence of wage penalties directly tied to family-related interruptions can be seen in studies that have examined the consequences of women's time away from the labor market immediately following childbirth. For example, Aisenbrey, Evertsson, and Grunow (2009) found that women who spend even a few months away from the labor market following the birth of a child are at a significantly greater risk of moving to a job of lower occupational prestige than women without an interruption. Baum (2002) found employment interruptions to give birth have negative effects on women's wages, but these effects disappear when women return to their pre-birth employer rather than changing jobs upon returning to the labor market.

These studies demonstrated that time away from the labor market following the birth of a child (especially when women start work with a new employer) has negative consequences. However, as I

discussed in chapter two, family-related job mobility (both job changes and employment exits) are not limited to the time during which women give birth. In fact, my calculations suggest that only one-third of family-related job separations reported by women in the NLSY79 were in the same year that women gave birth; the other two-thirds were at another time. The extent to which family-related employment interruptions occurring at times *other than childbirth* affect women's wages has been paid little attention. An important exception is Gangl and Ziefle (2009) who used the NLSY79 sample and measured the wage outcomes of employment interruptions occurring when a woman's youngest child is less than 6 years old (excluding time spent in unemployment, school, training, and the military). They found that each year of a "child-related work interruption," as they term them, results in a roughly 5% wage penalty for mothers, and accounts for between 7-11% of the motherhood wage penalty.⁴⁵ Although these results suggest that employment interruptions in the years beyond childbirth are no doubt penalizing to women's wages, the authors did not examine whether family-related interruptions are any more or less penalizing than interruptions for other reasons.

How then might the penalties for family-related interruptions compare to interruptions for other reasons, namely layoffs? It has been well-documented that layoffs have negative effects on workers' wages (Bernhardt et al. 2001; Gangl 2006; Jacobsen, LaLonde, and Sullivan 1993; Ruhm 1991; Stevens 1997; White 2010). These effects have been brought to the public's attention especially in recent years, as the recession in 2008 brought a sharp rise in unemployment and lost wages among workers (Katz 2010). Yet, it is likely that time spent in unemployment and time spent caring for family may send different signals to future employers. Given the amount of downsizing and restructuring that has taken place within many firms in recent decades (Cappelli et al. 1997), long before the most recent recession, employers may more often view periods of unemployment as an unfortunate circumstance

⁴⁵ This reduction was found in a model not controlling for job characteristics.

affecting an individual, rather than some inherent (problematic) quality of the individual. On the other hand, interruptions due to family are often seen by many (perhaps especially by employers) as individual decisions, in spite of much evidence to suggest that women's decisions to leave the labor market are often a result of the incompatibility of particular jobs with family life (Stone 2007; Williams 2000). Given this, employers may judge employment interruptions due to unemployment less harshly than interruptions for family. Thus, I expect:

H1: Family-related employment interruptions will result in steeper wage penalties upon re-entry into the labor market compared to interruptions due to unemployment.

Is this true among all women however? Or does this vary by education? Gendered norms requiring complete devotion to the workplace regardless of other commitments are especially pronounced in the types of professional and managerial jobs highly-educated women are often employed (Williams 2000). Blair-Loy (2003) argues the "work devotion schema" which "demands that one give an immense time commitment and strong emotional allegiance to one's firm or career," (p. 7) is characteristic of professional work.⁴⁶ Thus, it is likely that family-related employment exits will be most penalizing to highly-educated women, while women with less education may not be penalized as harshly. I found some evidence of this in previous work, where I found family-related job separations⁴⁷ resulted in the largest wage penalties for college-graduates compared to all other education groups (Looze 2014).

The hefty wage penalties for interruptions among highly-educated women are evidenced by the fact that work experience among mothers matters more for high-earning women compared to low-and middle-earning women, in terms of which mechanisms contribute to the motherhood wage penalty across the earnings' spectrum (Budig and Hodges 2010). This is likely due to the fact that the jobs highly-educated

⁴⁶ Blair-Loy's work referenced here focuses on women employed in the financial sector.

⁴⁷ Note that I did not control for amount of time away following a separation in these models. So it is unclear whether this penalty is associated with job changes, employment interruptions, or both.

professional women are often employed in are characterized by steeper wage trajectories than those jobs less-educated/low-earning women are often employed. If women with less education have less to gain from staying at a job, they also have less to lose when they leave. Moreover, highly-skilled (often highly-educated) women enjoy larger returns to experience than less-skilled (less-educated) women (England et al. Under review). Thus, the same amount of time away from the labor market likely results in proportionally larger wage losses for more highly-educated women, compared to women with less-education, as highly-educated women are missing out on greater potential gains during their time away.

Although theory suggests, and empirical evidence supports, that family-related interruptions are most penalizing to highly-educated women, the relationship between education and unemployment is less clear. Some work suggests that workers with less education suffer more adverse consequences for unemployment than highly educated workers. For example, in their analysis of job separations among male workers in two cohorts of the National Longitudinal Surveys, Bernhardt et. al (2001) found layoffs were most detrimental to the wages of less-educated/low-earning workers, while highly-educated/high earning workers' saw their wages little affected by layoffs. Given this, they argued "highly credentialed, well-connected workers regard each short-term project as a springboard to a better-paying position, while at the bottom, a growing number of retail workers, data entry clerks, and telemarketers are consigned to a succession of low-paying, dead-end jobs."

On the other hand, Gangl (2006) used SIPP data and difference-in-difference propensity score matching. He found post-unemployment earnings losses were more pronounced among high-wage earners and highly-educated workers compared to low-wage earners and less-educated workers. These disparate findings make it difficult to determine whether I should expect higher or lower penalties for unemployment among workers of various education levels. Regardless, given the pervasiveness of gendered expectations undergirding the workplaces of professional women especially, I anticipate these

women will see the largest penalties for family-related interruptions, rendering the gap in penalties for these interruptions and those associated with employment the largest for highly-educated women.

Thus, I expect:

H2: The gap in wage penalties for family-related employment interruptions and interruptions due to unemployment will be largest among more highly-educated women compared to less-educated women.

Variation in Rebound Effects?

Even if family-related employment interruptions carry the steepest penalties for women, particularly highly-educated women, in the short-term, do these effects persist as long as they might for other types of interruptions? Much has been written about the “scarring effects” of unemployment. Being laid off and enduring subsequent spells of unemployment has lasting negative consequences on workers’ wages, occupational prestige, and other measures of job quality (Brand 2006; Couch and Ptacek 2010; Ellwood 1983; Farber 2003; Gangl 2006; Jacobsen, LaLonde, and Sullivan 1993; Lippmann and Rosenthal 2008; Ruhm 1991; White 2010). For example, using data from the NLSY79, White (2010) found five years after a layoff, workers who had been laid off earned nearly 11% less than similar workers who were not laid off during the same period. In another study, using data from the Wisconsin Longitudinal Survey (WLS) and both difference-in-difference models and matching estimations, Brand (2006) found that workers who were laid off at least once between 1975 and 1992 were in jobs with lower occupational status and authority, and were less likely to be employed in jobs that offered pension benefits and health insurance in 1992, compared to similarly qualified workers who had never experienced a layoff during that time. Thus, for workers, it appears that the wage (and other) consequences of unemployment last for several years.

In contrast to the “scarring effects” of unemployment, research suggests the negative effects of family-related interruptions may not be as long-lasting. Buam (2002) argues the penalties women receive for spending time away from work around childbirth are only temporary, disappearing after two years. Related, though not considering interruptions directly, some scholars have found evidence that the motherhood wage penalty (due in large part to lower work experience among mothers) is only a short-term phenomenon that disappears over time. For example, Anderson, Binder, and Krause (2003) found that the motherhood wage penalty is larger among women with very young children compared to women with older children, and the penalty is greatest when women first return to work following childbirth. The authors suggest one reason for this may be that women’s first job following childbirth might not be their best match, but that over time they find a better (higher paying) job. Similarly, Kahn, Garcia-Manglano, and Bianchi (2014) found that the motherhood wage gap persists into women’s 40s and 50s only for those women of high parities (3 or more children). For all other women, by the time they reach their 40s, the wage gap between mothers and childless women has narrowed considerably from what it was during their 20s and 30s. These studies all suggest that while women may incur steep penalties for family-related employment interruptions in the short-term, such interruption may not matter much over the long-term. Given this, I expect:

H3: The wage penalties associated with family-related employment interruptions will not be as long-lasting as the wage penalties associated with interruptions following layoffs.

Considering differences in education, it is likely that the negative wage effects of family-related interruptions will be more persistent among those with more education. As noted above, the wage returns to experience are larger among highly-educated women compared to women with less education. Given the flatter trajectory of wages women with less education face, as well as the lower

returns to experience they enjoy, these women should be able to catch up to their peers who did not take time out for family more quickly than highly-educated women who interrupted their employment. Thus, even though I anticipate the wage effects of family-related employment interruptions will be shorter-lived than the wage effects of unemployment interruptions, it is likely that the wage effects of family-related interruptions will be longer lasting among more highly-educated women, (though still not as long as unemployment).

H4: Family-related employment interruptions will have more persistent effects on more highly-educated women compared to women with less education.

Method

Data

I use panel data from the 1979-2010 waves of the NLSY79, a national probability sample of 12,686 individuals ages 14-22 in 1979. Respondents were interviewed annually between 1979 and 1994, and biennially thereafter. The NLSY79 is an ideal dataset for the examination of women's employment and non-employment histories, as each survey collects information on the start and stop dates of all jobs a respondent has held since the previous survey, the reason a respondent left each employer (when applicable), the reason women are not employed in a given week, as well as a variety of job characteristics. The NLSY79 also asks questions about respondents' individual and family characteristics, including education, school enrollment, marital status, fertility, and spouse's income that likely shape women's employment interruptions and wages.

Sample

My sample is drawn from the 5,827 women interviewed in 1979 who were not part of the military subsample.⁴⁸ I define labor market entry as the year a woman leaves full-time school and holds at least one job, provided she remains unenrolled (full-time) through the following year. This definition of labor market entry is consistent with previous studies of job mobility (Fuller 2008; Light and Ureta 1992). Because within-person fixed effects measure changes in the dependent variable based on changes in the independent variables, the model requires valid observations for the dependent variable (wages) from at least two survey years. Thus, only those person-year observations where women report being employed at least one week are included (81,619). Of these, observations missing wage data were excluded (3,085 person-years), as were those women for whom only one wage observation is available following all other exclusions (75 person-years). I excluded 462 person-years during which respondents reported living outside of the U.S., because labor market structures vary widely in other countries. I also excluded 289 person-years where respondents reported working for a family-business, as both employment interruptions and wage growth likely vary from that of women in other types of employment arrangements. My final sample is made up of 5,545 women averaging 14.0 person-years each (range = 2-24), for a total of 77,703 person-years.

Dependent Variable

The dependent variable is the natural logarithm of the hourly wage of the respondent's current or most recent job. I use the natural logarithm rather than the dollar amount since wages cannot be negative and so that results can be interpreted as percentages. Following others who have examined

⁴⁸ I exclude 456 women who were part of the military subsample because the early career patterns of these women likely differ in important ways from those of the civilian population. In addition, women in this subsample were only interviewed through 1984, so the observation period is relatively small.

wages using the NLSY79 (Budig and Hodges 2010), I bottom and top-code wages at \$1 and \$200 in order to minimize the effects of outliers without changing the distribution of the dependent variable.

Independent Variables

Key independent variables include measures of employment breaks (and when they occurred) for the aforementioned reasons: family-related, non-family related voluntary, layoffs, and firings. As discussed in detail in chapter one, the NLSY79 collects data on the reason respondents left any employer they are no longer working for (up to five job separations per interview). Respondents are provided with a list of possible reasons and asked to choose one.⁴⁹ I matched these job separations to the event history calendar available in the NLSY79 in order to determine how long women spent in non-employment following a job separation. As noted above, I followed others who have examined the effects of employment interruptions on wages (Jacobsen and Levin 1995; Phipps, Burton, and Lethbridge 2001; Spivey 2005), by considering only those employment interruptions lasting at least six months.

I created a series of dummy variables indicating how long ago each type of interruption took place. This is the approach taken by both Kunze (2002) and Spivey (2005), both of whom used longitudinal data and created a series of dummy variables noting whether or not a worker had an interruption in the previous year, 1 year ago, and further back. For example, if a woman experienced one interruption total, and the interruption occurred in the year 2000, the interruption dummy indicating whether she had experienced an interruption in the past year would be coded as a 1 for the year 2000, but 0 in all years before and after, while the interruption dummy indicating whether she had experienced an interruption in the past two years would be coded as a 1 for the year 2001, but 0 in all years before and after, and so on. If a woman experienced two interruptions total, the first in 1996 and

⁴⁹ See Tables 1.2 and 1.3 in chapter one for a list of response categories and how I classified these as either family-related, non-family related voluntary, layoff, or firing.

the second in 2000, the interruption dummy indicating whether she had experienced an interruption in the past year would be coded as a 1 for the years 1996 and 2000, and 0 in all other years, while the interruption dummy indicating whether she had experienced an interruption in the past two years would be coded as a 1 for the years 1997 and 2001, and 0 in all other years, and so on.

Although Kunze (2002) and Spivey (2005) included dummy variables for each year, Jacobsen and Levin (1995) took a simpler approach and categorized interruptions as they occurred a certain number of years ago by the following: 0-1 years ago, 2-3 years ago, 4-5 years ago, 6-10 years ago, and 11-20 years ago. Collapsing the interruption dummies into these categories results in much less unwieldy models. I apply the same categories as Jacobsen and Levin (1995) with an additional category of 21-30 years ago.⁵⁰ Although Jacobsen and Levin (1995) only examine whether or not an interruption (for any reason) occurred in a given time period, I examine whether a particular type of interruption occurred during each period. Thus I have a series of dummy variables indicating how long ago a woman experienced each family-related interruption, how long ago she experienced each layoff-induced interruption, how long ago she experienced each firing-induced interruption, and how long ago she experienced each non-family voluntary interruption.

As discussed earlier, I include only those employment breaks that are followed by a change in employers in my analysis; I exclude any breaks that women might make while working with the same employer. This avoids the problem of counting time spent in maternity leave or as part of FMLA as an interruption in employment. While in some sense these are considered ‘breaks’ from employment, I am interested in what different types of employment breaks might signal to *future* employers rather than

⁵⁰ Jacobsen and Levin only examined interruptions dating back 20 years ago, but as I have data spanning 30 years, my models include interruptions in these early years.

present employers. The impact of taking leave on workers' wages is another interesting issue (see for example Judiesch and Lyness (1999)), but that is outside the scope of this study.⁵¹⁵²

As I mentioned earlier, my analysis focuses on the reason women leave their employer, rather than what they reported doing in the weeks they were not employed. In addition to the conceptual framework of my dissertation, which focuses on the reason women leave their employers, how motherhood shapes these transitions, and what this means for women's wages, I focus on the reason women leave their employers for two reasons I addressed earlier. First, it is likely that employers are more concerned with why women left their previous job rather than what they reported doing during the weeks they are not employed. The NLSY79 does not collect detailed information about additional experiences, skills, or training acquired through activities not directly tied to the labor market during these breaks (aside from school enrollment), so it is impossible to determine how these different activities might impact women's future wages. The second reason is that women's reporting of what they were doing during employment interruptions is not always entirely clear, as I explain below.

The NLSY79 collects information on what women report doing during the weeks they are not employed. The event history calendar tracks whether women are unemployed (meaning they are not employed, but looking for work) or out of the labor force (meaning they are not employed, and not looking for work). If a woman reports being out of the labor force for any number of weeks (hence, not looking for work), she is asked, *"What would you say was the main reason that you were not looking for*

⁵¹ Moreover, it is difficult to accurately identify some within-tenure family-related breaks in the NLSY79, as the survey did not identify women on paid maternity leave prior to 1988. Women on paid leave were counted as employed until this point. This means that women without access to paid leave would have been identified as taking a break from their job, but women with access to paid leave would have not (even though they were not physically at their jobs). This likely underestimates the effects of maternity leave on women in the types of "good jobs" that are most likely to offer paid maternity leave, though this likely affects a small proportion of women, especially during the 1980s. Regardless, none of this matters for the present analysis, as I focus here only on *between job* interruptions.

⁵² Note that if women are penalized for within-employer breaks, the estimates presented in this paper regarding penalties for between-employer breaks will be conservative estimates.

work during that period?” Her answer is recorded and then the interviewer categorizes her response on a designated list of categories. These categories changed slightly over the many rounds of the NLSY79. Tables A.3.1 and A.3.2 in the Appendix provide examples of the categories used in the 1979 and 2010 surveys.

Column 1 of Table A.3.1 shows the categories used in the 1979 survey and column 1 of Table A.3.2 shows the categories used in the 2010 survey. Using these categories (as well as similar categories used in the other survey years) I collapsed them into five common categories to examine what women reported doing during their time out of the labor market. The second columns of these tables illustrate how I collapsed these categories into one of the following: (1) family-related reasons (including pregnancy, child care problems, and family responsibilities); (2) return to school/training; (3) health problems; (4) incarceration⁵³; and (5) other reasons.

The problem with using these categories to examine cumulative time spent in each activity to compare the wage penalties (such as the approach Albrecht et al. (1999) took) can be seen in Table A.3.3 in the Appendix. Table A.3.3 shows the proportion of women who report engaging in each of these activities in the week following each type of employer separation (family-related, layoff, firing, non-family voluntary). While 51% of the women who reported leaving an employer for a family-related reason reported not looking for work in the following week because of family responsibilities, 39% of these women reported not looking for work in the following week due to “other” reasons. Thus, it may be that models that distinguish between time spent for “other” reasons and time out for family are

⁵³ Weeks spent in incarceration were only specifically recorded in survey years 1989-1996; presumably they were captured in the “other” category in other survey years. However, the number of women in the NLSY79 who reported being sentenced to a correctional facility is incredibly small (56) and most of these were sentenced to youth facilities; only 13 reported being sentenced to an adult facility (<http://www.nlsinfo.org/content/cohorts/nlsy79/topical-guide/crime/crime-delinquency-arrest-records>). Thus, it is not likely that the estimates for time spent in incarceration would change much even if this was captured specifically in each year.

really capturing the same thing in two different places. Moreover, only 43% of women who were laid off from a job report “looking for work” (hence being unemployed) in the following week. Thirty-four percent of these women report not looking for work (rather than being unemployed) for “other” reasons. In addition, as can be seen across job separation reasons, the “other” category comprises a substantial proportion of women in each category, making it uncertain what this “other” category is capturing, and more importantly, it may be under- or over-estimating the penalties for all of the other categories. Finally, women may report doing several of these activities during a period of non-employment, and many women report “looking for work” during their final weeks of non-employment. Thus models that look at cumulative time spent in unemployment are not capturing time spent out after a layoff (as intended) but time spent out after any given reason. For all of these reasons, I focus on the reason women left an employer, rather than what they reported doing in the interim.

Education is another key independent variable. Education is a categorical variable based on the highest grade completed in the survey year. I distinguish among five education categories: less than high school (11 years or less), high school graduate (12 years), some college (13-15 years), college graduates (16 years), and post-college-graduates (more than 16 years). I interacted these education variables with the interruption variables to determine how the penalties for various types of interruptions at different times vary by education.

Control Variables

Family Structure and Other Resources. Controls for family structure and financial resources include the number of children women have⁵⁴ (including biological, adopted and step children), marital

⁵⁴ I held this constant at the greatest number of children reported through the end of the survey year. If I simply used the number of children in the household, mothers whose children have grown and moved away would no longer be considered mothers.

status, spouse's income and kin coresidence. Number of children is measured as a count variable (0, 1, 2, 3 or more children), as I found in chapter two, and as previous research suggests the effects of children on women's wages are not monotonic (Budig and England 2001; Glauber 2007; Kahn, Garcia-Mangano, and Bianchi 2014). Marital status is a categorical variable distinguishing among married, cohabiting, never married (the reference category), and divorced/separated/widowed. Spouse's income is measured in \$10,000 increments and is calculated only for married women. (Spouse's income among all non-married women is coded as 0). Controlling for marital status accounts for the otherwise distorting effects of the 0s among all non-married women. Kin coresidence is a dummy variable, coded 1 if women report living with a family member (aside from a spouse or child).

Human Capital. Controls for human capital (in addition to education) include work experience, work experience squared, and tenure. Work experience is measured in years and indicates the amount of time a woman has spent in the labor market since entry through the year prior to the survey. Work experience squared is also included, as the relationship between work experience and wages is not expected to be strictly linear. Job tenure is measured in years and indicates the length of time a woman has been working/worked for her current/most recent employer.

Work Behaviors. Work behaviors include part-time status and school enrollment. Part-time status is indicated by a dummy variable (employed less than 35 hours per week = 1). School enrollment is a dichotomous variable indicating whether a woman was enrolled in college (most often part-time) during the survey year (enrolled =1).

Statistical Model

I apply within-person fixed effects regression models to analyze pooled time-series cross-sectional data. Because I examine multiple observations of the same individuals over a period of time, person-years are my unit of analysis. The model is:

$$Y_{it} = b_0 + \sum b_k X_{kit} + e_{it}$$

where

$$e_{it} = u_i + v_t + w_{it}$$

Y is the dependent variable for the i^{th} individual at time t , b_0 is the intercept, b are the coefficients of k time-varying independent variables (X s), and e is the error term, which represents purely random variation at each point in time for each individual. The error term includes the individual component of error (u), the timewise component of error (v) and the purely random component of error (w).

Fixed effects regression models are used to reduce unmeasured heterogeneity, or unmeasured differences. This is important to consider when modeling the wage effects of time spent in non-employment, as some women might “select” into time away for family (or another reason), and it may be the characteristics of these women, rather than the employment interruption itself, that account for any wage penalties. For example, an unobserved characteristic such as “career ambition” might both encourage a woman to remain in the labor market (rather than interrupt her employment) and also increase her wages. If career ambition is not accounted for in the model, one might overestimate the effects of an employment interruption on any change in women’s wages.

In within-person fixed effects models, time-varying observed characteristics (those that can be objectively measured) are controlled for just as in conventional OLS models. All time-invariant (fixed)

characteristics of each individual drop out of the regression equation because they are captured in the “fixed effect” of the model calculation. Fixed characteristics include both unmeasured time-invariant characteristics such as “career ambition” as well as measured time-invariant characteristics such as race/ethnicity and socio-economic background. Within-person fixed effects models rely on within-person changes in the independent variables to predict changes in the dependent variable. The model compares each woman’s year-specific wage to her mean over the entire observation period. This allows for an estimate of the change in a woman’s wages attributable to time spent in non-employment for various reasons, net of control variables, by comparing the years before and after these employment gaps. Indicator variables for each year are included to control for period effects such as recessions.

An important limitation of fixed effects models is that they do not control for time-varying unobserved characteristics. Another limitation of fixed effects models is that because they include only those person-years that women are employed, they are vulnerable to sample selection bias if women’s exits from the labor market are not random. (This means that only those women more highly committed to the labor market will be included in the model, and wage penalties for family-related employment interruption, for example, may be underestimated, if many of these women never return to the labor market). In spite of these limitations, fixed effects models are one of the best methods currently available for controlling for unobserved heterogeneity (Allison 2009). Random effects regression is another popular method for analyzing panel data, but unlike fixed effects models that allow for correlations of any form between unobserved and observed variables, random effect models require that these correlations be completely random. If this assumption is not met, random effects models are subject to bias. To assess the appropriateness of fixed effects in my analysis, I conducted the Hausman test on all of my models. The Hausman test uses chi-square tests to compare the coefficients obtained in

fixed effects models to those of random effects models. In all cases the p-values were significant ($p < .001$), indicating that fixed effects is the more appropriate model.

I first run a model that examines the effects of different types of employment interruptions among all women. Next, I add interaction terms between the interruption variables and education. I checked all models for collinearity using the “collin” command in Stata. Variation Inflation Factor (VIFs) for all variables were below 2.50, indicating collinearity is not a problem, with the sole exception of high VIF scores for the experience and experience squared measures, which are as expected.⁵⁵

Results

Descriptive Results

Table 3.1 lists the unadjusted means and standard deviations, as well as proportions where appropriate, of the variables used in the fixed effects regression models. Interestingly, similar proportions of women report interrupting employment to care for family and interrupting employment following a layoff during each period of time. Roughly 5% of the sample reported experiencing each of these interruptions during the past 0-1 year, 6-7% report doing so in the past 6-20 years, and 2% report doing so 21-30 year ago. That similar proportions of women experience each type of interruption in each time period makes for a nice comparison of the wage consequences of these. By contrast, far fewer women report being fired during any period. This proportion hovers between 1-2% during all time periods. Interruptions for non-family voluntary reasons are most commonly experienced. Approximately

⁵⁵ Including a variable and its squared term will result in collinearity, as the variables are highly correlated for obvious reasons. Some scholars suggest centering variables before creating powers, but the p-values for the squared term will be the same regardless of whether they are centered or not, so collinearity among variables and their square has no adverse effects on regression models (Allison 2012).

10% of the sample report experiencing such an interruption in any given time period, with the exception of 21-30 years ago.⁵⁶

Table 3.2 shows how the proportion of the sample experiencing each type of interruption in any given time period varies by education. Not surprisingly, across interruption types, women with the least education are more likely to experience an interruption compared to women with more education. For example, while 7% of women with less than high school reported having a family-related interruption in the past 2 years (0-1 years ago), only 2% of college graduates and post-graduates did. Similarly, while 9% of women with less than high school reported having a layoff-induced interruption in the past 2 years, only 3% of college graduates and post-graduates did. Firings were reported by approximately 2-3% of women with less than a high school degree during each time period, while a very negligible proportion of college-graduates and post-graduates reported being fired. Sixteen percent of women with less than high school reported a no-family voluntary interruption in the past 2 years compared to only 6% of college graduates and 5% of post-graduates.

Multivariate Results

Table 3.3 shows the coefficients and corresponding standard errors obtained from the within-person fixed effects regression model estimating the effects of employment interruptions on women's wages. The results from the fixed effects model make two things clear. First, the reason for an employment interruption matters, as there is great variation in the magnitude of the penalty women receive dependent upon the reason they left an employer. Second, there is evidence of a "rebound"

⁵⁶ The small proportion of women reporting any type of interruption in years 21-30 is due to sample attrition. Women who contribute person-years 21-30 years ago are those women who are/were still taking part in the survey during the most recent rounds. Those women who dropped out of the survey earlier are coded as 'no' if there is no observation (hence no interruption) 21-30 years ago.

effect, as across interruption types, more recent interruptions are associated with larger wage penalties compared to interruptions made in the past.

Looking first at the differences in the size of the penalty across reasons, there appears to be some support for hypothesis 1, as at least in the short-term, the wage penalties associated with family-related interruptions are larger than those associated with layoffs. Family-related interruptions occurring within the last 0-1 year are associated with a 10% wage penalty ($p < .001$), while layoff-induced interruptions occurring during this same time are associated with a 7% penalty ($p < .001$). Family-related interruptions occurring 2-3 years ago are associated with wage penalties of 4% ($p < .001$), compared to penalties of 2% ($p < .01$) for layoff-induced interruptions occurring during the same time. Wald tests revealed the difference in penalties for these two types of interruptions occurring 0-1 years ago was marginally significant at $p = .08$, and the difference at 2-3 years not statistically significant. Nevertheless, the difference in the size of the coefficients themselves are noteworthy, suggesting women are penalized more (at least in the short-term) for taking time out to care for their family compared to spending time in unemployment following a layoff.

It is interesting that interruptions for non-family voluntary reasons taking place within the past 0-1 year are associated with penalties very similar in size to those of family-related employment interruptions (non-family voluntary interruptions are associated with a 9% wage penalty ($p < .001$)). This is especially noteworthy when recalling my findings from chapter one that preschoolers increase the likelihood of non-family voluntary exits among Black women. Clearly, these exits are as harmful to women's wages as family-related exits, at least in the short-term. Thus, even though children do not appear to encourage what are reported as family-related employment interruptions among Black women, the types of interruptions children *do* encourage penalize to women's wages equally.

Interruptions following a firing within the last 0-1 year are associated with wage penalties of 12% ($p < .001$) and interruptions following a firing within the last 2-3 years are associated with wage penalties of 6% ($p < .001$). These penalties are larger than the wage penalties associated with family-related and layoff-induced interruptions (significant at $p < .05$ for differences between layoffs and firings at both time periods, difference not significant for firings and family-related, based on Wald tests). The large penalties associated with these interruptions are illustrative of how harmful being fired is to women's wages.

All of the short-term wage penalties estimated in the regression model are similar in size to those found by Spivey (2005). She found penalties of 9.5% for interruptions (for any reason) occurring in the past year, 3.2% for interruptions occurring 1 year ago, and 4.8% for interruptions occurring 2 years ago. Separating out the penalties associated with different interruption types as my models do, reveals variation in the penalties not only for different lengths of time but variations in penalties for different types of interruptions.

Another important question this analysis aims to answer is whether or not these penalties persist over time, and how this persistence may vary by interruption type. The coefficients associated with the periods of time spanning back through 21-30 years ago are designed to answer this. Looking first at the coefficients for family-related interruptions, it is clear that women suffer the largest penalties for interruptions occurring in recent years; interruptions that occurred more than 10 years ago have no significant penalty. While it is unclear why family-related interruptions occurring 6-10 years ago carry significant (and lasting) wage penalties and those that occurred 4-5 years ago did not, the general pattern still suggests that penalties associated with family-related employment interruptions are largely a short-term phenomenon that dissipates over time.

In stark contrast, the penalties associated with layoff-induced interruptions are rather persistent over time. Interruptions following layoffs that occurred as far back as 11-20 years ago still carry a wage penalty of 4%, while interruptions following layoffs even longer ago (21 to 30 years) are associated with penalties of 3% (marginally significant at $p=0.7\%$). These findings align with much literature that suggests layoffs are “scarring” events in workers’ lives that have lasting consequences for their wages. This also lends support to hypothesis 2, which predicted the wage penalties associated with layoffs would be longer lasting than those associated with family-related interruptions.

“Scarring effects” can also be seen with firings. Although wage penalties associated with firings are sharpest in the short-term, most especially those occurring within the past 0-1 year, penalties associated with firing-induced interruptions that occurred even 20 years ago remain substantial and significant. Firings that occurred 11-20 years ago are associated with a 3% wage penalty ($p<.05$). This suggests that like layoffs, firings taking place early on in workers’ labor market experience have lasting negative consequences for wages.

While interruptions following firings and layoffs act similarly with regard to the persistence of their respective wage penalties, non-family voluntary interruptions are more similar to family-related interruptions. For non-family voluntary interruptions, penalties are large in the short-term, but dissipate over time. In fact, non-family voluntary interruptions that occurred more than 3 years ago have no bearing on women’s wages. While the nature of this category makes it difficult to tell why women interrupted their employment, it is clear that these interruptions matter little over the long term.

In sum, the model suggests the short-term penalties associated with employment interruptions are larger for family-related interruptions compared to layoff-induced interruptions. Thus, arguably, employers penalize women more for spending time away with their family compared to spending time in unemployment. However, the negative wage consequences of family-related interruptions dissipate

over time, while the consequences of unemployment persist throughout women's work lives. Penalties for firings carry the largest short-term penalties of any interruption, and these effects also persist over time. The penalties for non-family voluntary interruptions are similar to those of family-interruptions in that they are sharpest in the short-term, but matter little over the long run.

How do the short- and long-term consequences of different types of employment interruptions vary with women's education? In Table 3.4 I present the relevant coefficients from the models that interact education with the interruption variables to determine the moderating effects of education. To obtain these coefficients (and determine whether or not the slopes were significantly different from zero), I re-ran the model five times with each respective education group as the reference category. The main effects coefficients from each of the five models are presented here.

The first thing that is noticeable is that the short-term wage consequences of family-related interruptions are endured only by those women with at least a high school diploma. Among women with less than a high school degree there is no significant wage penalty associated with family-related interruptions occurring in the past 0-1 year; the penalty for high school graduates and above ranged from 10-13% (significant for all groups at $p < .05$, except for post-graduates, for whom the penalty was marginally significant at $p = 0.057$).

Interestingly, neither the least nor the most educated women incur significant short-term wage penalties for layoffs, only high school graduates and women with some college do. Women with some college incur the largest penalties, with a 12% penalty for a spell of unemployment in the past 2 years ($p < .001$). High school graduates face a smaller, but still significant penalty of 7% ($p < .01$). That neither high school dropouts nor college graduates or post-graduates incur wage penalties for recent layoffs may help to make some sense of the disparate findings discussed earlier regarding the links between education and wage penalties for layoffs. Women with the least education may not be penalized for

relatively short term layoffs because they have little to lose in the first place. Women with college degrees and beyond have more skills to draw on upon re-entry to the labor market, so may fare better following a layoff. That leaves those in the middle who appear to suffer the most after a layoff.

The large short-term penalties for family-related interruptions and the lack of short-term penalties for layoffs among college graduates and post-graduates provides support for hypothesis 2, which predicted the gap in short-term penalties between family-related interruptions and layoffs would be greatest among the most highly educated women. College graduates incur a wage penalty of 13% for family-interruptions made in the past 0-1 year ($p < .05$) compared to no significant penalty for layoffs made during the same time. Post-graduates incur a penalty of 10% for family-related interruptions during this time ($p = 0.057$) and no significant penalty for layoffs. For women with less than a high school degree, neither type of interruption has significant effects on women's wages, thus the gap is nonexistent. For women in the middle of the educational spectrum, the penalties are much more similar, though working in opposite directions. For high school graduates, family-related interruptions carry 11% penalties ($p < .001$) compared to 7% for layoffs ($p < .05$). For women with some college, the penalty associated with layoffs is 12% ($p < .001$), compared to 10% for family-related interruptions ($p < .001$). It is not entirely clear why the penalty for layoffs is larger than family-related employment interruptions among women with some college.

Firings are associated with short-term penalties across education groups, though they are not significant among post-graduates, likely due to the small proportion of highly educated women who experience interruptions for this reason. Like the aggregate model, the penalties for non-family voluntary interruptions are similar to those associated with family-related interruptions. Non-family voluntary interruptions are associated with 4% penalties among women with less than high school

($p < .05$), while they hover around 10-13% among high school graduates and college-educated women. (Penalties for these interruptions are not significant for post-graduates.)

How does the persistence of wage penalties vary by education? Family-related employment interruptions do not appear to matter in either the short- or the long-term for women with less than high school, as the coefficients for all time periods are not significant. For women in the middle (high school graduates and those with some college) the effects of family-related interruptions are greatest in the short-term and then dissipate over time. For example, while women with some college incur significant wage penalties for family-related employment interruptions occurring within the last 0-3 years, by years 4-5, these penalties are no longer significant. This drop-off is generally true among high school graduates as well, though for some unexplained reason the wage penalty for family-related interruptions occurring 6-10 years ago is significant, even though those occurring 2-5 years ago are not.

The wage consequences of family-related interruptions are most persistent among women who furthered their education post-college. For these women, interruptions taking place even 6-10 years ago are associated with a wage penalty of 11% ($p < .05$), and those taking place 11-20 years ago are associated with a wage penalty of 12% ($p < .01$). For college graduates, family-related employment interruptions occurring 11-20 years ago are associated with a 7% penalty ($p < .01$). Clearly, these employment interruptions have the longest-lasting effects on the wages of the most highly educated women. This means that if a college graduate or a woman with an advanced degree spent a period of at least six months away from the labor market to care for her children during the early years of her career, she likely carried the wage penalties of this decision with her even twenty years later. Whether the persistence of this penalty for highly-educated women is due to lost experience, and lost returns to that experience, or to some other mechanism, such as movement into a less-demanding (and less well-compensated) job upon return to the labor market (which tracked her into such jobs then throughout

her career) cannot be determined from this analysis. Yet is it important to point out that in contrast to previous research that points to the relative short-term effects of child-related employment interruptions, this does not appear to be the case among college graduates and post-graduates. These results provide clear support for hypothesis 4, which expected family-related employment interruptions to have longer-lasting effects on the wages of more highly-educated women compared to women with less education.

Unlike the relatively clear pattern of the persistence of wage penalties associated with family-related interruptions, the pattern for layoffs is much less clear. While high school graduates and women with some college suffer the most in the short-term, over the long-term, different education groups have greater or lesser penalties dependent upon the timing of the layoff. Women with less than a high school diploma see a wage penalty of 10% for layoffs occurring 21-30 years ago ($p < .05$), while women with some college and college graduates see wage penalties of 4% and 8% respectively for layoffs occurring 11-20 years ago ($p < .05$ and $p < .001$); post-graduates incur the largest penalty for layoffs during this time period, at 19% ($p < .001$). While at first, this may seem puzzling, it is important to remember that 21-30 years ago was the time during which many women with less than a high school degree would have been starting their careers. College-educated women would have been entering the labor market a little later, closer to the 11-20 year range. This suggests that for all of these women, regardless of education, layoffs occurring during the early years of their career have significant and lasting effects. In general then, the overall pattern suggests that across education groups, layoffs occurring in the early years of women's labor market experience have persistent negative effects on women's wages.

Much like layoffs, firings also appear to have persistent effects. It is especially striking that among women with less than a high school degree there is an 18% wage penalty ($p < .05$) associated with interruptions following a firing occurring 21-30 years ago and among post-graduates there is a 37%

penalty for firings that occurred during the same time ($p < .01$).⁵⁷ Clearly, firings occurring during the initial years of these women's labor market activity had large and lasting effects on women's wages. Across education groups, non-family voluntary interruptions do not appear to have lasting negative effects on women's careers, with the exception that women with less than a high school degree still see penalties for interruptions that occurred 6-10 years ago. For the most part however, the penalties for these interruptions are clearly largest right away and then disappear over time.

Discussion

This chapter has examined the wage consequences of women's employment interruptions. Previous work that has examined the relationship between women's employment interruptions and wages has tended to focus, at least ostensibly, on women's family-related employment interruptions. Yet women interrupt their employment for a number of different reasons, and we know little about how the wage consequences of family-related interruptions compare to those of interruptions for other reasons. In this analysis, I focus especially on how the wage consequences of interruptions for family-related reasons compare to those that follow layoffs. This provides a nice comparison for a number of reasons: similar proportions of women report leaving employment for either reason at any given time; human capital depreciation should not vary markedly during time away for either of these reasons; and neither of these reasons should signal 'incompetence' to a future employer in the way that being fired might.⁵⁸

⁵⁷ It is important to point out here that only 16 post-graduates report being fired during this time period, thus this estimate may be largely driven by extreme outliers.

⁵⁸ Moreover, while examining the wage consequences of non-family voluntary interruptions is interesting – especially as they are so similar to those of family-related interruptions, the variety of reasons that comprise this 'other' (aka non-family voluntary) category makes it difficult to make any claims about what the nature of such claims might signal to an employer. While non-family voluntary job *changes* are often indicative of new job opportunities emerging that workers' take advantage of, as discussed in previous chapters, exactly what non-family voluntary *interruptions* are indicative of is much less clear.

I find that, at least in the short-term, family-related interruptions are associated with larger penalties compared to layoffs. This gap is especially pronounced among college graduates and women with advanced degrees. This suggests, as I anticipated, that the gendered assumptions so many workplaces and jobs are structured upon which demand workers' complete devotion to work regardless of any other responsibility, and are especially prevalent in the types of jobs that highly-educated workers are often employed in, may shape employers' views of women who "choose" to deviate from this norm of devotion to care for their children and/or other family members, differently compared to women who take time off for other reasons. The increasing prevalence of layoffs in recent decade has made these types of interruptions more common among workers, and the public sentiment surrounding layoffs appears to be that of understanding these occurrences to be driven largely by organizations, rather than individuals. Thus, it may be that employers will be more willing to hire (and perhaps at a higher wage rate) a woman who has lost her job through a layoff, rather than a woman who has left a job to care for her family. The former may be framed by future employers as an unfortunate circumstance that has no bearing on a woman's future work performance, while the latter may be viewed as more indicative of (the perceived shortcomings of) a woman's character (i.e., she is not as devoted to work as she is to her family). While employer perspectives are clearly not the only influence on workers' wages, they likely play an important role.

I examined not only the short-term consequences of employment interruptions, where family-related interruptions are more penalizing than layoffs, but the long-term consequences as well. In so doing, I engage with the literature on the "rebound" effects of non-employment. This literature suggests, and my results largely confirm, that the wage penalties associated with interruptions are sharpest in the short-term and lessen over time, perhaps due to restoration of human capital, more favorable job matches, or some other mechanism(s). I find these rebound effects to be true with regards to family-

related employment interruptions - for most women anyway. For most women, the steep wage penalties associated with family-related interruptions seem to be limited to the first few years following an interruption; interruptions longer ago have little bearing on women's wages. The exception to this is college graduates, for whom the wage consequences of family-related interruptions are larger and persist longer. For college-educated women, family-related interruptions appear to have 'scarring' effects that persist several years beyond the event itself.

By contrast, layoffs appear to be "scarring" events for women *across* education levels, especially when layoffs occur during the initial years in the labor market. Layoffs occurring as far back as 21-30 years ago still carry significant penalties among women with less than high school. For college graduates and those with advanced degrees, layoffs occurring 11-20 years ago (the time many of these women were likely entering the labor market) still impact their wages. The long-term consequences of layoffs experienced early in the career raises concerns about the long-term effects of beginning one's career during a recession (as many in this cohort of women did, entering the labor market during the recessions of 1980 and 1981-1982). Given that some of the NLSY79 cohort entered the labor market during the recession, and others entered afterward, it would be interesting in future work to track the wage trajectories of these two groups.

This analysis set out to answer two research questions, both of which have yielded intriguing answers. The first question asked whether the wage consequences of employment interruptions vary in size dependent on the reason for the interruption. I found that indeed, family-related interruptions are more detrimental to women's wages than layoff-induced interruptions, especially among more highly educated women. The second question I asked is whether the wage consequences of some types of employment interruptions persist longer than others. My findings suggest that for all women, layoffs are

more persistent, but for more highly educated women, it is also difficult to recover from family-related interruptions made years ago.

Throughout my analysis, I draw heavily on signaling theory in suggesting why different types of interruptions might yield different penalties. It is possible, of course, that signaling does not tell the entire story, and that other factors are at play in creating these differences. For example, differences in the short-term wage outcomes of unemployment vs. family-related interruptions among highly-educated women might be explained in part by the fact that highly educated women who are unemployed likely spend more time searching for work and broadening their networks, which may lead to better job opportunities. By contrast, highly educated women who are spending time taking care of their family may find their networks shifted in a way that places greater constraints on their future job prospects. Differences in women's networks may also shape women's future wages. More comprehensive data on what women are actually doing during their time away is needed to more fully sort out these effects. In addition, it might be that the types of jobs college graduates move to following a family-related employment interruption are less time intensive, or otherwise allow women to more easily combine paid work with caring for children. If such jobs provide lower wages (a trade-off referred to as "compensating differentials"), this may account for the persistent effects of these types of interruptions. These types of trade-offs might be made most easily by women married to high-earning men (for whom their own financial contribution is not as necessary to their family's well-being). Future work is needed to examine more specifically the characteristics of the jobs these women are moving to, as well as perhaps who it is among college graduates (i.e., those married to high-earning spouses) who are driving these patterns.

CONCLUSION

The three chapters of this dissertation together have examined how children shape women's labor market behaviors, and the consequences of these behaviors for women's wages. The first two chapters focused on women's job changes and employment exits and how these events contribute to the motherhood wage penalty. The third chapter examined the various reasons women interrupt their employment and the wage penalties that ensue. In this conclusion, I briefly review the key findings from each chapter. I then discuss the implications of my findings for women, employers, and policy makers. Finally, I outline some issues my dissertation raises that I plan to address in future research.

Key Findings

In chapter one I turned the conventional notion that mothers often change jobs in response to family demands, (a process known as compensating differentials, whereby women are willing to accept lower wages for more family responsive policies), on its head. I argue instead that motherhood actually works to *immobilize* women, in so far as pregnancy and schooling children, and (at least among white women), preschoolers *reduce the hazard* that women will change jobs for *non-family voluntary reasons*, reasons often associated with wage gains. By distinguishing among the different reasons women report leaving their employer: non-family voluntary reasons, family-related reasons, and involuntary reasons (including layoffs and firings), I am able to more clearly determine how motherhood influences each of these events. While motherhood, not surprisingly, increases women's hazard of family-related job changes and employment exits, these are only a small fraction of the job changes women are making. The most common type of job change that women engage in is non-family voluntary changes. That motherhood inhibits women's willingness and/or ability to engage in such job changes suggests that this is a key mechanism through which the motherhood wage penalty is created. If childless women are

better situated to be making these types of wage-enhancing job changes relative to mothers, wage disparities likely arise.

In chapter one, I found that it is not simply that mothers as a whole are immobilized, however. While pregnancy and schoolage children decrease the hazard of non-family voluntary job changes among all women, preschoolers have this effect only for white women; preschoolers have no significant effects on such changes among either Black or Hispanic women. That preschoolers have smaller effects on non-family voluntary job changes among Black and Hispanic women speaks to previous literature that finds the motherhood wage penalty is a phenomenon felt largely among white women. In addition, I found that being married to a spouse who works very long hours (more than 50 hours per week) further decreases the hazard of changing jobs for non-family voluntary reasons among mothers of preschoolers. Spouse “overwork” may indicate a prioritizing of the husband’s career within the couple, thus it makes sense that these women would be less likely to change jobs to further their own career.

Chapter two builds upon the findings of chapter one to examine whether, and to what extent, the immobilization of mothers (and the corresponding mobilization of childless women) may matter for the motherhood wage penalty. I ask whether different job mobility patterns among mothers and childless women contribute to the wage gap that exists between these two groups of women. As I pointed out, it is surprising that in spite of the vast literature on the motherhood wage penalty, and the increasing attention being paid to the role of job changes in creating wage inequities among workers, to date, no one has attempted to bridge the two areas of research – examining how job changes might contribute to the motherhood penalty. In chapter two, I moved beyond previous analyses of the motherhood wage penalty that have considered only those changes that occur in the year of birth, or that have controlled for aggregate numbers of job changes with no regard for the reason for these changes. By disaggregating by reason, and considering job changes made at any time, not simply in the

year women give birth, I find that differences in job change patterns between mothers and childless women accounts for approximately one-third of the wage penalty that remains once differences in human capital, family structure, and work effort have all been controlled for. This is a substantial portion of a residual that is often attributed to some combination of employer discrimination against mothers and lower productivity among mothers. My findings point to the need for scholars to look beyond these conventional explanations of this residual and dig more deeply into differences in labor market behavior of mothers and childless women that may be behind this gap.

In chapter two, I also examined how differences in the job change behavior, and wage consequences of this, vary by the age at which women become mothers. I find that women who delay childbearing until at least age 30 enjoy the largest number of non-family voluntary job changes and are rewarded the most when they do. Such job changes made before women become mothers may help explain findings that the motherhood wage penalty is smallest among women who delay childbearing, as these women may have been able to change into a “good job” before becoming a mother.

Chapter two found that family-related exits account for much of the motherhood wage penalty, and such exits are especially penalizing for women who delay childbearing (as well as childless women). In chapter three, I took up this issue in more detail, as I examined the reason women spent time in non-employment (family-related reasons, a layoff, being fired, or another non-family voluntary reason). I found that in the short-term, family-related interruptions carry steeper penalties than layoffs, though the wage effects of layoffs are more persistent. When I looked in more detail at how these effects vary by education however, I found that the effects of family-related interruptions are especially harsh, and persistent, among highly educated women. These findings highlight the need to understand more clearly the mechanisms contributing to the wage penalties behind family-related interruptions for these

women. They also point to the need to look beyond family-related interruptions and to recognize the penalties for all types of employment interruptions women are experiencing.

Implications of My Findings

As I pointed out in the first two chapters of this dissertation, sociological research on job separations among mothers has often framed these as negative events, motivated by the incompatibility of paid work and family life. This can be seen in previous analyses of the motherhood wage penalty, where scholars have focused on job changes occurring during the year of childbirth. Not surprisingly, some of these analyses have found such changes contribute to the wage penalty. As Gangl and Ziefle (2009) note, “job changes may imply loss of firm-, occupation-, or industry-specific human capital and will then similarly result in wage losses,” (p.344). While this may sometimes be the case, another strand of literature (largely undertaken by economists, but increasingly taken up by sociologists as well) has pointed to the wage *benefits* of changing jobs. Job changes made voluntarily by workers (for non-family reasons) are associated with substantial wage gains, suggesting that in many instances, any capital lost by leaving a particular employer is more than compensated for by moving to another employer.

In this dissertation, I work to bridge these two literatures: the largely, (though not entirely), sociological literature on the motherhood wage penalty and the largely, (though not entirely), economic literature on job mobility. I argue that we must stop thinking simply about mothers’ job changes as events potentially harmful to their wages, and instead, reframe job changes among mothers to think about the potential for such changes to provide means to achieving wage growth. Rather than focusing solely on “retaining” women in their current jobs, as much work on both high-and low-earners has emphasized, it is time to start thinking about how we might help women leave their employers – not for

non-employment – but instead for other employers. In an era of increasing job mobility, it is time to start thinking about how to help mothers capitalize on this.

Practically, this means ensuring flexibility in childcare arrangements, as many women may feel locked in to a particular job because they “lucked into” a childcare arrangement that they feel comfortable with and they can afford. Mothers may be loathe to change jobs if it means uncertainty with regards to where they would leave their children during their working hours, or if it means a longer commute if they keep their current arrangement. On-site childcare provided by employers would go a long way in making this a reality. In addition, making “family-friendly” arrangements such as flexible work hours and flexible work locations more universal would also help to promote job mobility among mothers. If mothers did not have to fear losing such “special” arrangements they may have negotiated with their current supervisor when taking a new job, they might be more apt to search for another job. Finally, loosening tenure requirements in legislation such as FMLA, which requires women to have been employed with a firm for at least one year in order to receive any benefits to care for family members, might also make it easier for mothers to change employers. Each of these solutions requires structural changes in the ways in which family life and the labor market are integrated. Until such changes are made, it is likely that mothers will continue to be disadvantaged relative to childless women in an era in which labor market success is often dependent upon workers’ flexibility and ability to be mobile.

In addition to the changes I outlined above that might help (and encourage) mothers to change employers, my dissertation also highlights changes that need to be made in order to minimize employment interruptions that are so detrimental to workers’ wages. With regards to family-related employment interruptions (that are especially harmful to the most highly educated women), this might include increasing maternity (and paternity) leave lengths, and ensuring such benefits are paid, so that women are able to spend time away from a particular employer while their children are young, without

having to leave the labor market entirely and start over with a new employer several months or years later. Paid paternity leave would allow fathers the same abilities to stay home without fear of losing a job (or income), thus allowing mothers more flexibility in their own employment options.

Beyond family-related employment interruptions, which paid parental leave policies would likely go a long way in alleviating, my findings also point to the need to reduce layoffs among women, especially in their early years in the labor market, as these events appear to have wage effects that persist even decades later. The persistence of these effects is especially troubling in light of the recent recession that has made layoffs early in their labor market experience a reality for many young women. Whether these effects persist for young women of the current generation as they did for women in the generation ahead of them will be an interesting study for the future.

Directions for Future Research

This dissertation raises a number of questions that I plan to pursue in future research. I address four of these questions here. First, the question arises of how the wage consequences of job mobility and employment interruptions might vary across occupations and in different fields. It is likely that job mobility may be a more lucrative strategy in some fields compared to others, making it even more important that mothers in these fields are able to engage in these job changes. Related, it may be that employment interruptions are more detrimental in some fields compared to others. For example, Bertrand et al. (2010) find women with MBAs face larger wage penalties for interruptions compared to women with MDs, JDs, or PhDs. More detailed analyses of the particular fields women are employed in, and the ways in which motherhood shapes women's career trajectories and their resultant wages, are necessary to understand more clearly how children impact women's job mobility and their wages.

The second question this dissertation raises is how *within-employer* interruptions might affect women's wages. While I focused here on interruptions occurring *between* employers, it is probable that women who interrupt their tenure with an employer might also face wage penalties. If women miss out on opportunities for additional trainings or challenging projects, or if managers and supervisors view such interruptions negatively, these interruptions (even for paid maternity or paternity leave, as mentioned above) might be harmful to women's wages. Though the NLSY79 does not capture in enough detail information on paid leave to be able to adequately undertake such an analysis, other data sources surely do and should be utilized to explore this further.

The third question my dissertation raises addresses the reasons behind family-related employment interruptions experienced by women who do not have children and why these carry such large wage penalties. It is striking that in chapter two, I found family-related job changes and employment exits carry penalties of approximately 20% for childless women, markedly higher than the penalties for mothers. This raises important questions about why women without children are changing jobs and leaving the labor market in response to family. Are they caring for a sick spouse or elderly parents? Are they providing caregiving for family members that women with children do not have the time or resources provide? Examining the consequences of women's caregiving beyond motherhood is an important area of focus where future research is needed.

Finally, my dissertation begs the question of how children affect the job changes and employment interruptions of a more contemporary cohort of women, as well as these effects of these events on young women's wages. Though the experiences of the women in the NLSY79 are especially relevant to the questions I sought to answer in this dissertation and the longevity of the study allowed me to follow these women from their early through mid-career, my findings are not necessarily generalizable to women who are entering the labor market and becoming mothers today. Research

using more contemporary cohorts of women, such as the NLSY97, a dataset of women aged 12-16 in 1997, will help illuminate what these trends look like for young women today.

Continued research on the intersection of women's caregiving and their labor market experiences is needed, with the ultimate goal of creating workplaces more accommodating to the needs of women, men, and families. Such changes will help to unravel the many inequalities that exist in the labor market due to workers' caregiving responsibilities, and they will allow individuals to engage more fully and fruitfully with the many demands in their lives.

TABLES

Table 1.1 Expectations Regarding Relationship between Motherhood and Marriage, and Women's Job Changes and Employment Exits by Reason

Motherhood	Family		Non-Family Voluntary		Non-Family Involuntary	
	Change	Exit	Change	Exit	Change	Exit
Pregnant	+	+	-	-	-	+
Preschool Children	+	+	-	-	-	+

Table 1.2 Reason for Leaving Job, 1980 Survey

Response Categories Provided in Survey	Coding for Current Analysis
layoff, plant closed, or end of temporary or seasonal job	Layoff
discharged or fired	Fired
program ended	Layoff
quit for pregnancy or family reasons	Family
quit for other reasons	non-family voluntary

Table 1.3 Reason for Leaving Job, 2000 Survey

Response Categories Provided in Survey	Coding for Current Analysis
Layoff	Layoff
plant closed	Layoff
end of temporary or seasonal job	Layoff
discharged or fired	Fired
program ended	Layoff
quit for pregnancy or family reasons	Family
quit to look for another job	non-family voluntary
quit to take another job	non-family voluntary
quit for other reasons	non-family voluntary

Table 1.4 Means and Standard Deviations of Variables Used in Cox Regression Models

Variable	Mean/Proportion	Standard Deviation
Motherhood		
Currently pregnant	0.59	
# of Preschool children	0.32	(0.589)
# of School-age children	0.57	(0.799)
Demographic Characteristics		
Race		
<i>Hispanic</i>	0.17	
<i>Black</i>	0.26	
<i>White (ref)</i>	0.57	
Urban	0.80	
Region		
<i>Northeast</i>	0.17	
<i>Midwest</i>	0.22	
<i>South</i>	0.41	
<i>West</i>	0.20	
Human Capital		
Education		
<i>Less high school</i>	0.14	
<i>High school graduate (ref)</i>	0.44	
<i>Some college</i>	0.26	
<i>College graduate</i>	0.16	
AFQT score (percentile)	39.63	(25.99)
Work experience (years)	8.50	(7.63)
Family Structure & Other Resources		

Table 1.4 Continued

Marital Status		
<i>Married</i>	0.43	
<i>Cohabiting</i>	0.07	
<i>Never married</i>	0.33	
<i>Divorced</i>	0.17	
Spouse income (10,000s) among married	40.18	(41.52)
Spouse employed excessively long hours	0.10	
Coresiding with kin	0.26	
Welfare receipt	0.06	
Work Behaviors		
Part-time	0.30	
Hourly wages	12.03	(8.13)
Total number of previous jobs	3.60	(3.38)
Job Characteristics		
Percent female in occupation	61.25	(28.49)
Public sector	0.12	
Union	0.12	
Percent employees with health insurance in occupation	53.08	(23.94)
Socio-Economic Background		
Parents' education	10.90	(3.09)
Dad's occupational prestige score	28.08	(24.93)
Two parent household (when 14 years old)	0.66	
Attitudes and Aspirations		
Gender egalitarianism	3.08	(0.43)
Want to care for family?	0.09	

Table 1.5 Results from Cox Regression Models Predicting Job Changes and Employment Exits by Reason, (Hazard Ratios and Coefficients), National Longitudinal Survey of Youth 1979: 1979-2010

	Family-Related				Non-Family Voluntary				Non-Family Involuntary			
Variable	Change		Exit		Change		Exit		Change		Exit	
	HR	Coef	HR	Coef	HR	Coef	HR	Coef	HR	Coef	HR	Coef
Motherhood												
Currently pregnant	3.41***	1.23	7.37***	2.00	0.34***	-1.08	0.64***	-0.44	0.39***	-0.94	1.13+	0.12
# of Preschool children	1.79***	0.58	1.81***	0.59	0.91***	-0.09	0.99	-0.10	1.02	0.02	1.16***	0.15
# of School-age children	0.88	-0.12	0.75***	-0.29	0.86***	-0.15	0.82***	-0.20	0.94	-0.07	0.86***	-0.15
Demographic Characteristics												
Race												
<i>Hispanic</i>	0.74	-0.30	1.07	0.07	1.01	0.01	0.97	-0.32	0.89	-0.12	0.96	-0.04
<i>Black</i>	0.66*	-0.42	1.01	0.01	0.89**	-0.12	0.97	-0.03	1.00	0.00	1.16**	0.15
<i>White (ref)</i>	---	---	---	---	---	---	---	---	---	---	---	---
Urban	1.14	0.13	1.18**	0.17	1.05*	0.05	1.11**	0.10	0.90	-0.10	0.89*	-0.11
Region												
<i>Northeast</i>	0.72+	-0.33	1.06	0.06	0.91**	-0.10	0.90**	-0.10	0.97	-0.03	0.99	-0.01
<i>Midwest</i>	0.77	-0.26	1.03	0.03	0.93*	-0.08	1.04***	-0.11	0.96	-0.05	1.02	0.02
<i>South</i>	---	---	---	---	---	---	---	---	---	---	---	---
<i>West</i>	0.81	-0.21	0.89+	-0.12	0.82***	-0.19	0.97	-0.05	1.14	0.13	1.14*	0.13
Human Capital												
Education												
<i>Less high school</i>	1.23	0.21	1.16*	0.15	0.83***	-0.18	1.20***	0.19	0.97	-0.03	1.20***	0.18

Table 1.5 Continued

<i>High school graduate (ref)</i>	---	---	---	---	---	---	---	---	---	---	---	---
<i>Some college</i>	1.34+	0.29	0.78***	-0.25	1.10**	0.10	1.04	0.04	0.84*	-0.17	0.79***	-0.24
<i>College graduate</i>	0.97	-0.03	0.71***	-0.34	1.00	0.00	0.96	-0.04	0.59***	-0.52	0.50***	-0.68
AFQT score (percentile)	1.01+	0.01	1.00	0.00	1.01***	0.01	1.00	0.00	1.00	0.00	0.99*	-0.00
Work experience (years)	0.77***	-0.26	0.62***	-0.49	0.71***	-0.34	0.61***	-0.49	0.72***	-0.33	0.68***	-0.38
Work experience squared	1.00*	0.00	1.01***	0.01	1.01***	0.01	1.01***	0.01	1.01***	0.01	1.01***	0.01
Family Structure & Other Resources												
Marital Status												
<i>Married (ref)</i>	---	---	---	---	---	---	---	---	---	---	---	---
<i>Cohabiting</i>	0.54*	-0.62	0.64***	-0.44	0.94	-0.06	1.06	0.06	1.03	0.03	1.12	0.12
<i>Never married</i>	0.52**	-0.66	0.63***	-0.47	1.07	0.06	1.05	0.05	1.24+	0.22	1.15*	0.14
<i>Divorced</i>	0.67*	-0.40	0.62***	-0.48	0.91*	-0.19	0.97	-0.03	0.91	-0.09	0.90+	-0.11
Spouse income (10,000s)	0.99	-0.00	1.00**	0.00	0.99***	-0.00	0.99	-0.00	0.99**	-0.01	0.99***	-0.00
Spouse employed excessively long hours	0.69+	-0.36	1.11	0.10	0.84***	-0.18	1.12*	0.11	1.08	0.08	1.03	0.03
Coresiding with kin	1.09	0.09	1.19**	0.17	1.27***	0.24	1.12***	0.11	1.18*	0.16	1.29***	0.25
Welfare receipt	0.62	-0.48	1.00	-0.01	0.74***	-0.30	0.99	-0.00	0.84	-0.17	1.04	0.04
Work Behaviors												
Part-time	1.25+	0.23	0.97	-0.03	1.04	0.04	1.06*	0.06	0.92	-0.09	0.72***	-0.33
Hourly wages	1.01	0.01	1.00	0.00	1.01***	0.01	0.99*	-0.00	1.01**	0.01	1.01***	0.01
Total number of previous jobs	1.05	0.04	1.02	0.02	1.10***	0.00	1.13***	0.12	1.10***	-0.00	1.09***	0.08
Job Characteristics												
Percent female in occupation	1.00	0.00	1.00***	0.00	1.00***	0.00	1.00**	0.00	0.99	-0.00	0.99***	-0.00

Table 1.5 Continued

Public sector	1.10	0.10	0.75***	-0.29	0.65***	-0.43	0.79***	-0.24	0.45***	-0.79	0.52***	-0.66
Union	1.18	0.17	0.93	-0.07	0.81***	-0.21	0.90***	-0.11	0.83+	-0.18	0.93	-0.07
Percent employees with health insurance in occupation	0.99	-0.00	1.00	0.00	1.00*	0.00	0.99*	-0.00	1.00*	0.00	1.01***	0.01
Socio-Economic Background												
Parents' education	1.00	0.00	1.02*	0.02	1.01*	0.01	1.01**	0.01	1.01	0.01	0.98*	
Dad's occupational prestige score	0.99	-0.01	1.00	0.00	0.99	-0.00	0.99	-0.00	1.00	0.00	0.99	
Two parent household	1.16	0.15	0.94	-0.06	1.07*	0.06	0.99	-0.00	1.08	0.08	1.01	
Attitudes and Aspirations												
Gender egalitarianism	1.14	0.13	0.96	-0.04	1.24***	0.21	1.07*	0.07	1.19**	0.17	1.05	
Want to care for family?	1.06	0.06	1.04	0.04	0.98	-0.02	0.95	-0.05	0.86	-0.15	0.92	
n of events	300		1984		8083		8188		1144		3448	
n of persons	275		1574		3531		3723		937		2237	

***p<.001; **p<.01; * p<.05; + p<.1

Table 1.6 Results from Cox Regression Models Predicting Job Changes and Employment Exits by Reason with Interactions between Motherhood and Spouse Employment Hours, (Hazard Ratios and Coefficients), National Longitudinal Survey of Youth 1979: 1979-2010

Variable	<u>Family-Related</u>				<u>Non-Family Voluntary</u>				<u>Non-Family Involuntary</u>			
	Change		Exit		Change		Exit		Change		Exit	
	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>
Motherhood												
Currently pregnant	3.77***	1.33	8.05***	2.09	0.33***	-1.11	0.65***	-0.43	0.32***	-1.13	1.12	0.11
# of preschool children	1.84***	0.61	1.81***	0.59	0.93**	-0.07	0.99	-0.01	1.05	0.05	1.18***	0.17
Spouse Overwork	0.94	-0.06	1.40**	0.33	0.89*	-0.12	1.14*	0.13	1.16	0.15	1.11	0.10
Interactions												
Currently pregnant x spouse overwork	0.35+	-1.05	0.58***	-0.55	1.30	0.27	0.93	-0.07	3.00*	1.10	1.05	0.05
# of preschool children x spouse overwork	0.82	-0.19	0.99	-0.01	0.85*	-0.16	0.97	-0.03	0.76+	-0.27	0.86	-0.15

Table 1.7 Results from Cox Regression Models Predicting Job Changes and Employment Exits by Reason with Interactions between Motherhood and Race/Ethnicity, (Hazard Ratios and Coefficients), National Longitudinal Survey of Youth 1979: 1979-2010

Variable	<u>Family-Related</u>				<u>Non-Family Voluntary</u>				<u>Non-Family Involuntary</u>			
	Change		Exit		Change		Exit		Change		Exit	
	HR	Coef	HR	Coef	HR	Coef	HR	Coef	HR	Coef	HR	Coef
Motherhood												
Currently pregnant	4.22***	1.44	7.00***	1.95	0.35***	-1.05	0.65**	-0.44	0.36***	-1.03	1.14	0.13
# of Preschool children	1.77***	0.57	1.89***	0.64	0.84***	-0.18	0.94*	-0.06	0.97	-0.03	1.12**	0.11
Race/Ethnicity												
Hispanic	0.81	-0.21	1.17	0.16	0.96	-0.04	0.98	-0.02	0.84	-0.18	0.93	-0.07
Black	0.69+	-0.36	1.02	0.02	0.84***	-0.18	0.92*	-0.09	0.99	-0.01	1.13*	0.13
White	---	---	---	---	---	---	---	---	---	---	---	---
Interactions												
Currently pregnant x Hispanic	0.54	-0.62	1.04	0.04	0.98	-0.02	0.94	-0.06	1.70	0.53	1.17	0.16
# of Preschool children x Hispanic	1.02	0.02	0.88	-0.12	1.17**	0.16	0.99	-0.01	1.16	0.14	1.04	0.03
Currently pregnant x Black	0.47	-0.75	1.22+	0.20	0.90	-0.11	1.00	0.00	0.91	-0.10	0.86	-0.15
# of Preschool children x Black	1.09	0.09	0.89	-0.11	1.24***	0.21	1.18***	0.16	1.08	0.07	1.09	0.09

Table 2.1 Reason for Leaving Job, 1980 NLSY79 Survey

Response Categories Provided in Survey	Coding for Current Analysis
layoff, plant closed, or end of temporary or seasonal job	layoff
discharged or fired	fired
program ended	layoff
quit for pregnancy or family reasons	family
quit for other reasons	non-family voluntary

Table 2.2 Reason for Leaving Job, 2000 NSLY79 Survey

Response Categories Provided in Survey	Coding for Current Analysis
Layoff	layoff
plant closed	layoff
end of temporary or seasonal job	layoff
discharged or fired	fired
program ended	layoff
quit for pregnancy or family reasons	family
quit to look for another job	non-family voluntary
quit to take another job	non-family voluntary
quit for other reasons	non-family voluntary

Table 2.3 Means and Standard Deviations of Variables Used in Fixed Effects Regression Models; NLSY79 1979-2010

	Mothers		Childless Women		Sign. Diff.
Variable	Mean	SD	Mean	SD	
Hourly Wages	10.64	(11.30)	8.99	(10.64)	***
Number of Children					
0	---		---		
1	0.33		---		
2	0.40		---		
3+	0.27		---		
Birth Timing					
15-19	0.38				
20-24	0.35				
25-29	0.18				
30+	0.09				
Cumulative Job Separations					
Family-related changes	0.05	(0.24)	0.01	(0.10)	***
Family-related exits	0.39	(0.64)	0.04	(0.20)	***
Non-family voluntary changes	1.06	(1.38)	0.89	(1.26)	***
Non-family voluntary exits	1.14	(1.33)	0.82	(1.14)	***
Layoffs	1.50	(1.80)	1.06	(1.54)	***
Firings	0.31	(0.70)	0.20	(0.57)	***
Demographic Characteristics					
Race ⁵⁹					
<i>Hispanic</i>	0.19		0.14		***
<i>Black</i>	0.30		0.20		***
<i>White (ref)</i>	0.51		0.66		***
Urban	0.77		0.83		***
Region					
<i>Northeast</i>	0.14		0.21		***
<i>Midwest</i>	0.24		0.23		**
<i>South</i>	0.43		0.37		***

⁵⁹ Race is not included in the fixed effects models, as it is a “fixed effect” that is netted out of the models. It is listed here only as a descriptive statistic to provide a sense of the proportion of women in each racial/ethnic category in the sample.

Table 2.3 Continued

<i>West</i>	0.19		0.19		
Human Capital					
Work experience (years)	9.80	(7.19)	5.80	(6.10)	***
Job Tenure (years)	4.36	(5.13)	3.13	(3.97)	***
Highest Grade Completed	12.79	(2.24)	13.55	(2.27)	***
Family Structure & Other Resources					
Marital Status					
<i>Married</i>	0.62		0.31		***
<i>Cohabiting</i>	0.06		0.08		***
<i>Never married</i>	0.12		0.53		***
<i>Divorced</i>	0.20		0.08		***
Spouse income (10,000s) among married	3.25	(3.44)	2.59	(3.18)	***
Welfare receipt	0.07		0.00		***
Work Behaviors					
Part-time	0.27		0.18		***
Annual Weeks Employed	41.41	(16.46)	44.92	(13.05)	***
Enrolled in School	0.05		0.09		***
Job Characteristics					
Self-Employed	0.06		0.03		***
Public sector	0.17		0.15		***
Private sector	0.77		0.82		***
Union	0.17		0.16		***
Percent female in occupation	58.70	(29.59)	59.46	(29.16)	***
Irregular shift	0.14		0.15		***
Health care	0.71		0.77		***
Industry					
Agriculture, Forestry, Fishing, Hunting & Mining	0.01		0.01		***
Construction	0.01		0.01		
Manufacturing	0.14		0.13		*
Wholesale & Retail Trade	0.13		0.13		
Transportation, Warehousing & Utilities	0.04		0.03		**
Information	0.03		0.05		***
Finance, Insurance, Real Estate, Rental & Leasing	0.07		0.10		***
Professional, Scientific, & Technical Services	0.04		0.05		***
Management, Administration, & Waste Management Services	0.03		0.02		***
Educational Services	0.10		0.09		*
Health Care and Social Assistance	0.16		0.15		***

Table 2.3 Continued

Arts, Entertainment, and Recreation	0.02		0.02		***
Accommodations and Food Services	0.10		0.09		***
Public Administration	0.06		0.06		
Other Services (Except Public Administration)	0.05		0.05		
N of person-years	48,642		28,061		

*** p<.001; ** p<.01; p<.05; p-values based on results from two-group tests for means and proportions.

Table 2.4 Mean Number of Job Changes and Employment Exits by Timing of First Birth and Motherhood Status; NLSY79 1979-2010

	Family-Related		Non-Family Voluntary		Layoffs	Firings
	Changes	Exits	Changes	Exits		
Mothers, by age at first birth						
15-19	0.041 ^{bcde}	0.359 ^{bcde}	0.852 ^{acde}	1.086 ^{bcde}	1.453 ^{bcde}	0.377 ^{bcde}
20-24	0.058 ^{acde}	0.422 ^{acde}	0.902 ^{acde}	1.025 ^{acde}	1.332 ^{acd}	0.275 ^{acde}
25-29	0.033 ^{abde}	0.221 ^{abde}	1.016 ^{abde}	0.966 ^{abde}	1.220 ^{abe}	0.200 ^{abde}
30+	0.025 ^{abce}	0.104 ^{abce}	1.235 ^{abce}	0.961 ^{abce}	1.260 ^{abe}	0.174 ^{abce}
Childless Women	0.012 ^{abcd}	0.038 ^{abcd}	1.139 ^{abcd}	1.003 ^{abcd}	1.383 ^{acd}	0.244 ^{abcd}

^a significantly different from under 15-19, (p<.05); ^b significantly different from 20-24, (p<.05); ^c significantly different from 25-29, (p<.05); ^d significantly different from 30+, (p<.05); ^e significantly different from childless women, (p<.05)

Table 2.5 Mean Number of Job Changes and Employment Exits Made During First Five Years in the Labor Market by Timing of First Birth and Motherhood Status; NLSY79 1979-2010

	Family-Related		Non-Family Voluntary		Layoffs	Firings
	Changes	Exits	Changes	Exits		
Mothers, by age at first birth						
15-19	0.012 ^{cde}	0.151 ^{bcde}	0.218 ^{acde}	0.346 ^{bcde}	0.515 ^{ce}	0.121 ^{cd}
20-24	0.018 ^{cde}	0.132 ^{acde}	0.324 ^{acde}	0.392 ^{ad}	0.539 ^e	0.127 ^{cde}
25-29	0.005 ^{ab}	0.034 ^{abde}	0.417 ^{abd}	0.424 ^a	0.574 ^{ce}	0.096 ^{abd}
30+	0.004 ^{ab}	0.010 ^{abc}	0.475 ^{abc}	0.429 ^{ab}	0.558 ^e	0.070 ^{abce}
Childless Women	0.005 ^{ab}	0.016 ^{abc}	0.441 ^{ab}	0.427 ^a	0.647 ^{abcd}	0.100 ^{bd}

^a significantly different from under 15-19, (p<.05); ^b significantly different from 20-24, (p<.05); ^c significantly different from 25-29, (p<.05); ^d significantly different from 30+, (p<.05); ^e significantly different from childless women, (p<.05)

Table 2.6 Effect of Number of Children on Women's Log Hourly Wages from Fixed Effects Models: NLSY79 1979-2010

Model	Excluding Job Characteristics ^a						Including Job Characteristics ^b					
	Number of Children						Number of Children					
	1	% of penalty	2	% of penalty	3+	% of penalty	1	% of penalty	2	% of penalty	3+	% of penalty
1: Base Model ³	-1.5*		-5.7***		-8.0***		-1.0		-4.7***		-6.5***	
2: Base Model + Any Job Changes and Exits	-1.5*	0%	-5.3***	7%	-7.8***	3%	-0.9	10%	-4.4***	6%	-6.4***	2%
3: Base Model + Family-Related Job Changes	-1.4*	7%	-5.4***	5%	-7.6***	5%	-0.9	10%	-4.5***	4%	-6.2***	5%
4: Base Model + Family-Related Employment Exits	-1.2	20%	-5.0***	12%	-7.0***	13%	-0.6	40%	-4.0***	15%	-5.6***	14%
5: Base Model + Family-Related Job Changes and Exits	-1.1	27%	-4.8***	16%	-6.7***	16%	-0.5	50%	-3.9***	17%	-5.4***	17%
6: Base Model + Non-family Voluntary Job Changes	-1.4*	7%	-5.0***	12%	-7.1***	11%	-0.8	20%	-4.1***	13%	-5.8***	11%
7: Base Model + Family and non-Family Voluntary Changes and Exits	-1.0	33%	-4.1***	28%	-5.7***	29%	-0.4	60%	-3.3***	30%	-4.5***	31%
8: Base Model + Non-Family Voluntary Exits	-1.6*	-7%	-5.8***	-2%	-8.3***	-4%	-1.0	0%	-4.9***	-4%	-6.9***	-6%
9: Base Model + Layoffs	-1.5*	0%	-5.8***	-2%	-8.2***	-3%	-0.9	10%	-4.8***	-2%	-6.8***	-5%
10: Base Model + Firings	-1.6*	-7%	-5.9***	-4%	-8.3***	-4%	-0.9	10%	-4.8***	-2%	-6.8***	-5%
11: Base Model + All Job Changes (Disaggregated By Type)	-1.2	20%	-4.6***	19%	-6.5***	19%	-0.6	40%	-3.8***	19%	-5.3***	18%

*** p<.001; ** p<.01; p<.05

^a all models control for family structure and other resources, human capital, work effort, region and urban vs. rural residence and include N-1 year dummies^b all models control for family structure and other resources, human capital, work effort, job characteristics, region and urban vs. rural residence and include N-1 year dummies

Table 2.7 Returns to Job Changes and Employment Exits by Timing of First Birth and Motherhood Status; NLSY79 1979-2010

	Family-Related				Non-Family Voluntary				Layoffs		Firings	
	Changes		Exits		Changes		Exits					
All Women	-7.4***		-3.2***		5.1***		-1.1***		-0.01**		-2.4***	
Mothers, by age at first birth												
15-19	-2.5	ce	-3.2**	bcde	3.7***	bcd	-1.4**	ae	-0.5	bce	-3.7***	bc
20-24	-6.7**	e	2.0*	acde	6.1***	ae	1.2**	acde	1.3***	acde	0.2	ade
25-29	-10.4***	ae	-6.1***	abde	5.5***	a	-2.0***	b	-1.9***	ab	1.0	ade
30+	-5.7	e	-12.0***	abc	6.4***	ae	-1.4*	bd	-1.4**	b	-4.7**	bc
Childless Women	-23.0***	abd	-19.4***	abc	4.3***	bd	-3.1***	abd	-1.5***	ab	-4.2**	bc

^a significantly different from under 15-19, (p<.05); ^b significantly different from 20-24, (p<.05); ^c significantly different from 25-29, (p<.05); ^d significantly different from 30+, (p<.05); ^e significantly different from childless women, (p<.05)

Table 3.1 Descriptive Statistics of the Sample, NLSY79 1979-2010

Variable	Mean/Proportion	Standard Deviation
Hourly Wages	10.02	(10.90)
Employment Interruptions		
<i>Family-related interruptions</i>		
0-1 year ago	0.05	
2-3 years ago	0.05	
4-5 years ago	0.05	
6-10 years ago	0.06	
11-20 years ago	0.06	
21-30 years ago	0.02	
<i>Layoff-induced interruptions</i>		
0-1 year ago	0.05	
2-3 years ago	0.05	
4-5 years ago	0.05	
6-10 years ago	0.07	
11-20 years ago	0.06	
21-30 years ago	0.02	
<i>Firing-induced interruptions</i>		
0-1 year ago	0.02	
2-3 years ago	0.01	
4-5 years ago	0.01	
6-10 years ago	0.02	
11-20 years ago	0.02	
21-30 years ago	0.01	
<i>Interruptions for other reasons</i>		
0-1 year ago	0.10	

Table 3.1 Continued

<i>2-3 years ago</i>	0.10	
<i>4-5 years ago</i>	0.09	
<i>6-10 years ago</i>	0.12	
<i>11-20 years ago</i>	0.10	
<i>21-30 years ago</i>	0.04	
Education		
Less than high school	0.11	
High school graduates	0.45	
Some college	0.26	
College graduates	0.13	
Post-Graduates	0.07	
Demographic Characteristics		
Race ⁶⁰		
<i>Hispanic</i>	0.17	
<i>Black</i>	0.26	
<i>White (ref)</i>	0.57	
Urban	0.79	
Region		
<i>Northeast</i>	0.17	
<i>Midwest</i>	0.23	
<i>South</i>	0.41	
<i>West</i>	0.19	

⁶⁰ Race is not included in the fixed effects models, as it is a “fixed effect” that is netted out of the models. It is listed here only as a descriptive statistic to provide a sense of the proportion of women in each racial/ethnic category in the sample.

Table 3.1 Continued

Human Capital		
Work experience (years)	8.16	(6.91)
Job Tenure (years)	3.90	(4.77)
Family Structure & Other Resources		
Number of Children		
0	0.38	
1	0.21	
2	0.25	
3+	0.17	
Marital Status		
<i>Married</i>	0.50	
<i>Cohabiting</i>	0.07	
<i>Never married</i>	0.27	
<i>Divorced</i>	0.16	
Spouse income (10,000s) among married	3.09	(3.39)
Coresiding with kin	0.21	
Work Behaviors		
Part-time	0.24	
Annual Weeks Employed	42.73	(15.37)
Enrolled in School	0.07	
N of persons	5,545	
N of person-years	77,703	

Table 3.2 Proportion of Women Experiencing Employment Interruption in Given Time Period, By Education, NLSY79 1979-2010

Employment Interruptions	Less High School	High School Graduate	Some College	College Graduate	Post Graduate
<i>Family-related interruptions</i>					
0-1 year ago	0.07	0.06	0.04	0.02	0.02
2-3 years ago	0.07	0.06	0.04	0.02	0.02
4-5 years ago	0.06	0.06	0.04	0.02	0.02
6-10 years ago	0.08	0.08	0.06	0.03	0.04
11-20 years ago	0.06	0.07	0.07	0.03	0.04
21-30 years ago	0.01	0.02	0.02	0.01	0.01
<i>Layoff-induced interruptions</i>					
0-1 year ago	0.09	0.06	0.04	0.03	0.03
2-3 years ago	0.09	0.06	0.04	0.02	0.03
4-5 years ago	0.08	0.05	0.04	0.02	0.03
6-10 years ago	0.10	0.08	0.07	0.03	0.05
11-20 years ago	0.07	0.07	0.06	0.03	0.05
21-30 years ago	0.02	0.02	0.02	0.01	0.02
<i>Firing-induced interruptions</i>					
0-1 year ago	0.03	0.02	0.01	0.00	0.00
2-3 years ago	0.02	0.02	0.01	0.00	0.00
4-5 years ago	0.02	0.02	0.01	0.00	0.00
6-10 years ago	0.03	0.03	0.02	0.00	0.00
11-20 years ago	0.02	0.02	0.02	0.00	0.01
21-30 years ago	0.00	0.01	0.01	0.00	0.00
<i>Non-family voluntary interruptions</i>					
0-1 year ago	0.16	0.11	0.09	0.06	0.05
2-3 years ago	0.15	0.11	0.09	0.06	0.06
4-5 years ago	0.13	0.10	0.08	0.06	0.07
6-10 years ago	0.14	0.13	0.12	0.08	0.10
11-20 years ago	0.09	0.11	0.11	0.07	0.11
21-30 years ago	0.03	0.04	0.04	0.03	0.04

Table 3.3 Fixed Effects Regression Results, Effects of Employment Interruptions on Women's Log Hourly Wages: NLSY79 1979-2010

Variable	Coef	SE
Employment Interruptions		
<i>Family-related interruptions</i>		
0-1 year ago	-0.10***	0.010
2-3 years ago	-0.04***	0.011
4-5 years ago	-0.01	0.011
6-10 years ago	-0.04***	0.009
11-20 years ago	0.01	0.009
21-30 years ago	-0.01	0.014
<i>Layoff-induced interruptions</i>		
0-1 year ago	-0.07***	0.009
2-3 years ago	-0.02**	0.009
4-5 years ago	-0.03**	0.009
6-10 years ago	-0.02+	0.008
11-20 years ago	-0.04***	0.009
21-30 years ago	-0.03+	0.014
<i>Firing-induced interruptions</i>		
0-1 year ago	-0.012***	0.016
2-3 years ago	-0.06***	0.017
4-5 years ago	-0.03	0.017
6-10 years ago	-0.06***	0.014
11-20 years ago	-0.03*	0.015
21-30 years ago	-0.04+	0.024
<i>Non-family voluntary interruptions</i>		
0-1 year ago	-0.09***	0.007
2-3 years ago	-0.02*	0.007

Table 3.3 Continued

<i>4-5 years ago</i>	-0.01	0.007
<i>6-10 years ago</i>	-0.01	0.007
<i>11-20 years ago</i>	0.01	0.007
<i>21-30 years ago</i>	0.01	0.011
Education		
Less than high school	-0.06***	0.013
High school graduates (ref)	---	---
Some college	0.10***	0.010
College graduates	0.25***	0.015
Post-college graduates	0.21***	0.018
Demographic Characteristics		
Urban	0.01*	0.006
Region		
<i>Northeast</i>	0.07***	0.015
<i>Midwest</i>	-0.01	0.014
<i>South (ref)</i>	---	---
<i>West</i>	0.10***	0.015
Human Capital		
Work experience (years)	0.03***	0.002
Work experience squared (years)	-0.00***	0.000
Job Tenure (years)	0.01***	0.001
Family Structure & Other Resources		
Number of Children		
0 (ref)	---	---
1	-0.02***	0.007
2	-0.07***	0.008

Table 3.3 Continued

3+	-0.10***	0.011
Marital Status		
<i>Married</i>	0.00	.007
<i>Cohabiting</i>	0.02*	.009
<i>Never married (ref)</i>	---	---
<i>Divorced</i>	0.05***	.008
Spouse income (10,000s) among married	0.01***	0.001
Coresiding with kin	-0.04***	0.006
Work Behaviors		
Part-time	-0.02**	0.004
Enrolled in School	-0.05***	0.007
N of persons	5,545	
N of person-years	77,703	

Table 3.4 Fixed Effects Regression Results, Effects of Employment Interruptions on Women's Log Hourly Wages, Interactions for Education

Employment Interruptions	Less High School	High School Graduate	Some College	College Graduate	Post-Graduate
<i>Family-related interruptions</i>					
0-1 year ago	-0.03	-0.11***	-0.10***	-0.13*	-0.10+
2-3 years ago	-0.04	-0.02	-0.08***	-0.02	-0.14*
4-5 years ago	0.06	-0.01	-0.03	-0.08+	-0.14*
6-10 years ago	-0.01	-0.05***	-0.01	-0.04	-0.11*
11-20 years ago	-0.00	0.02	0.04**	-0.07*	-0.12**
21-30 years ago	-0.00	0.01	-0.04	0.06	-0.05
<i>Layoff-induced interruptions</i>					
0-1 year ago	-0.03	-0.07*	-0.12***	-0.10	-0.05
2-3 years ago	-0.02	-0.01	-0.02	-0.03	-0.04
4-5 years ago	0.01	-0.02	-0.08***	-0.02	0.02
6-10 years ago	-0.03	-0.01	-0.00	-0.08**	0.05
11-20 years ago	-0.00	-0.02	-0.04*	-0.08***	-0.19***
21-30 years ago	-0.10*	-0.01	-0.03	-0.14**	0.10
<i>Firing-induced interruptions</i>					
0-1 year ago	-0.10**	-0.13***	-0.09*	-0.14+	-0.17
2-3 years ago	-0.02	-0.08***	-0.08*	0.02	-0.16
4-5 years ago	-0.07	-0.02	-0.00	-0.01	-0.19
6-10 years ago	-0.10**	-0.02	-0.11***	-0.14+	-0.12
11-20 years ago	-0.09+	-0.04*	-0.01	0.04	-0.14
21-30 years ago	-0.18*	-0.01	-0.03	-0.04	-0.37**
<i>Other interruptions</i>					
0-1 year ago	-0.04*	-0.10***	-0.11***	-0.13***	-0.05
2-3 years ago	-0.00	-0.02**	-0.02*	-0.00	-0.02
4-5 years ago	0.02	-0.00	-0.02	-0.03	-0.02
6-10 years ago	-0.04*	-0.02*	0.01	0.01	0.04
11-20 years ago	0.00	0.02	0.01	0.04*	-0.05+
21-30 years ago	-0.05	0.02	0.02	-0.02	0.01

FIGURES

Figure 1a. Survival Estimates for Family-Related Changes by Motherhood Status (n=300 events)

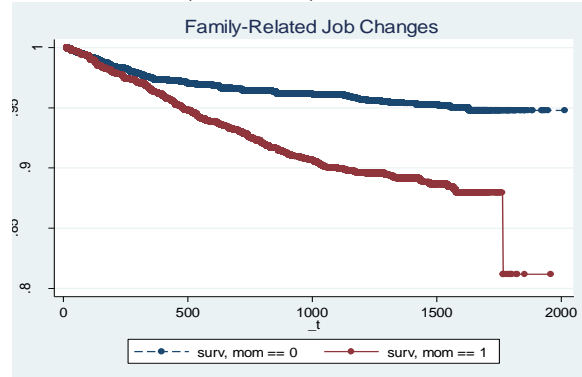


Figure 1c. Survival Estimates for Non-Family Voluntary Changes by Motherhood Status (n=8083 events)

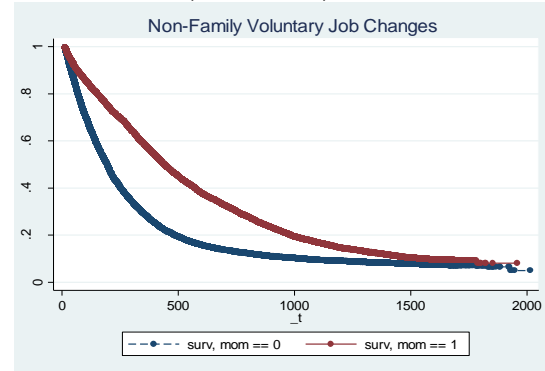


Figure 1b. Survival Estimates for Family-Related Exits by Motherhood Status (n=1984 events)

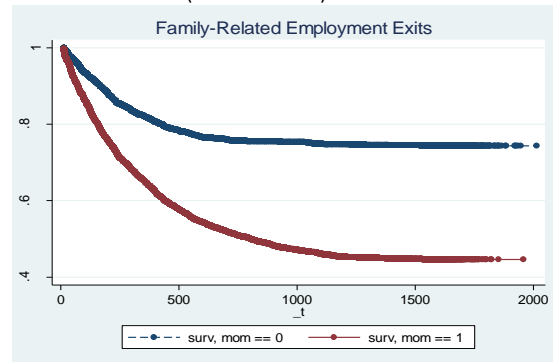


Figure 1d. Survival Estimates for Non-Family Voluntary Exits by Motherhood Status (n=8188 events)

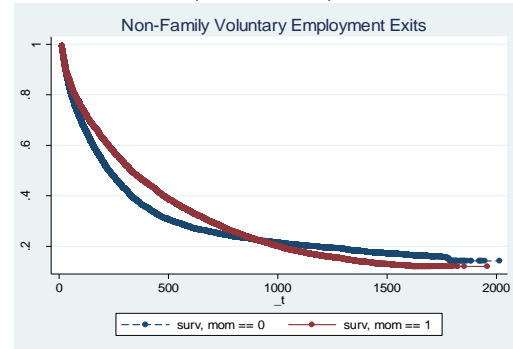


Figure 1e. Survival Estimates for Involuntary Changes by Motherhood Status (n=1144 events)

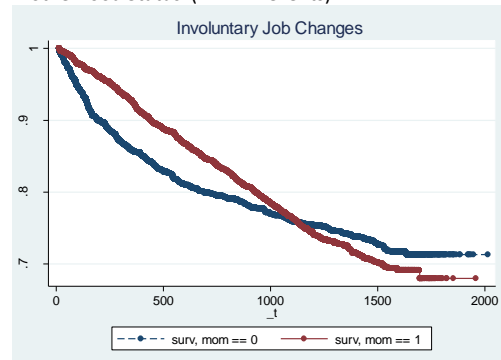


Figure 1f. Survival Estimates for Involuntary Exits by Motherhood Status (n=3448 events)

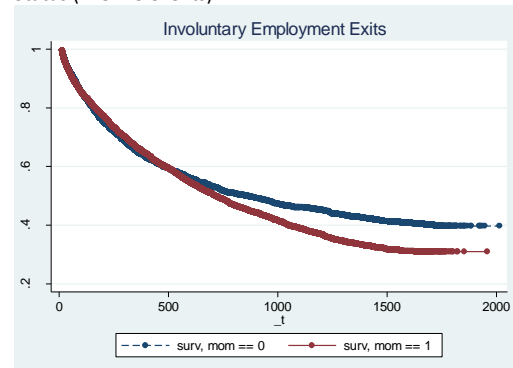


Figure 2a. Survival Estimates for Family-Related Changes by Motherhood Status, White Women

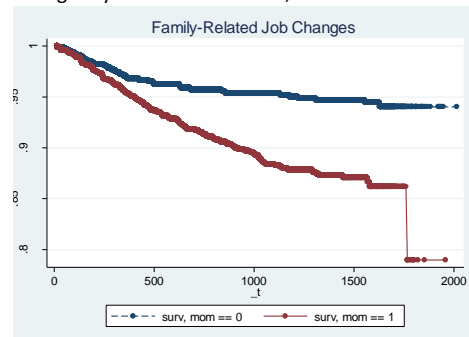


Figure 2b. Survival Estimates for Family-Related Changes by Motherhood Status, Black Women

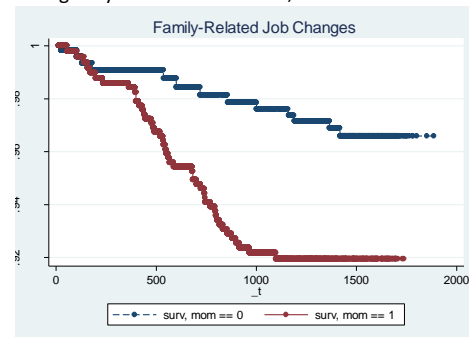


Figure 2c. Survival Estimates for Family-Related Changes by Motherhood Status, Hispanic Women

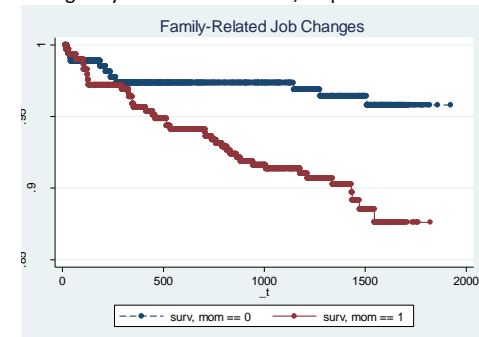


Figure 3a. Survival Estimates for Family-Related Exits by Motherhood Status, White Women

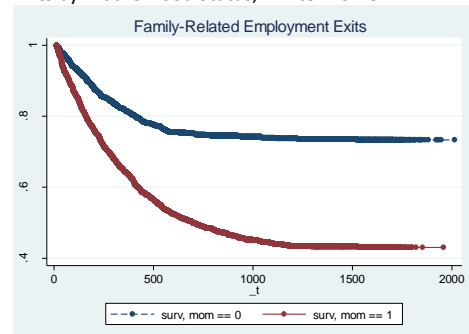


Figure 3b. Survival Estimates for Family-Related Exits by Motherhood Status, Black Women

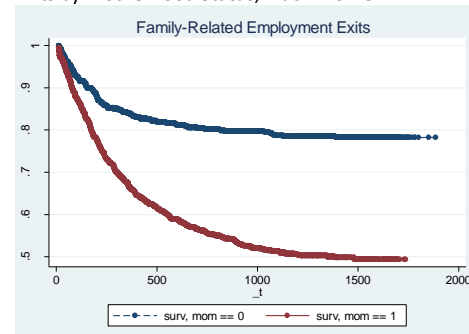


Figure 3b. Survival Estimates for Family-Related Exits by Motherhood Status, Hispanic Women

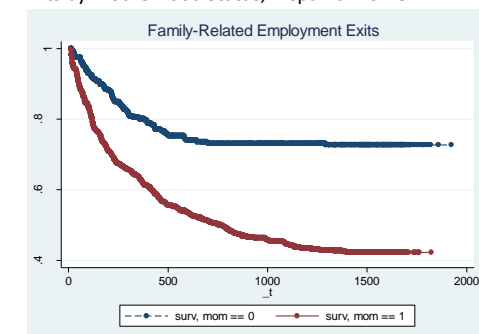


Figure 4a. Survival Estimates for Non-Family Voluntary Changes by Motherhood Status, White Women

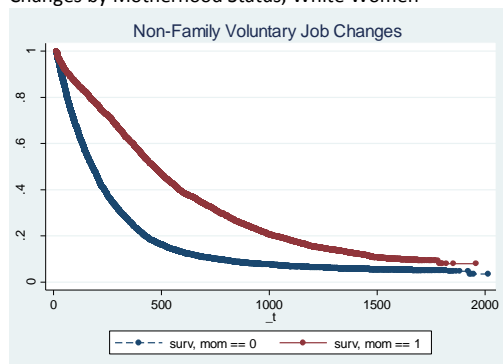


Figure 4b. Survival Estimates for Non-Family Voluntary Changes by Motherhood Status, Black Women

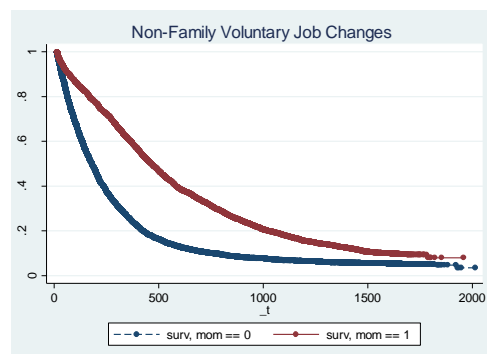


Figure 4c. Survival Estimates for Non-Family Voluntary Changes by Motherhood Status, Hispanic Women

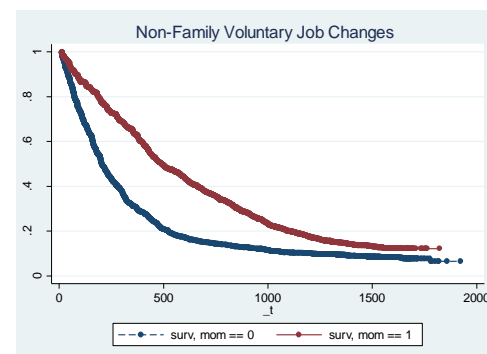


Figure 5a. Survival Estimates for Non-Family Voluntary Exits by Motherhood Status, White Women

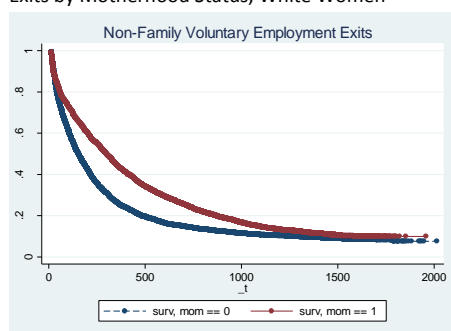


Figure 5b. Survival Estimates for Non-Family Voluntary Exits by Motherhood Status, Black Women

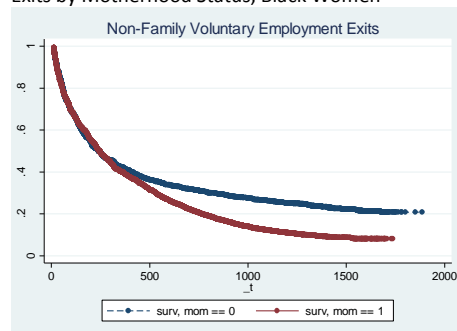


Figure 5c. Survival Estimates for Non-Family Voluntary Exits by Motherhood Status, Hispanic Women

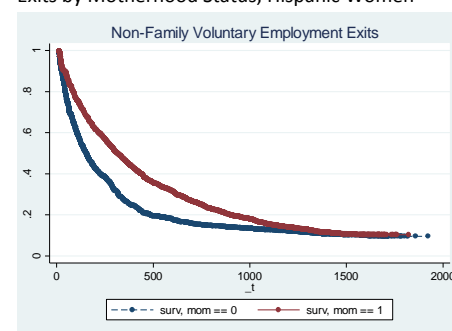


Figure 6a. Survival Estimates for Involuntary Changes by Motherhood Status, White Women

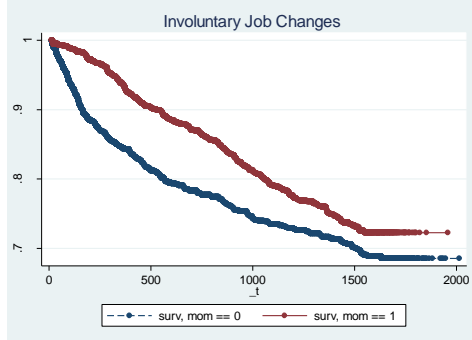


Figure 6b. Survival Estimates for Involuntary Changes by Motherhood Status, Black Women

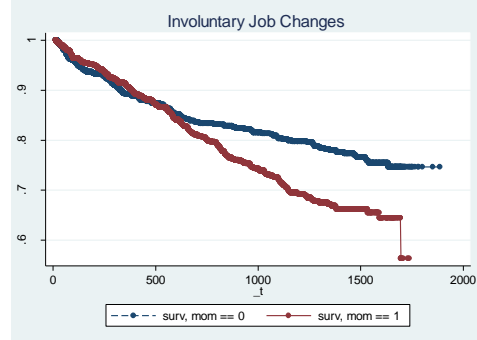


Figure 6c. Survival Estimates for Involuntary Changes by Motherhood Status, Hispanic Women

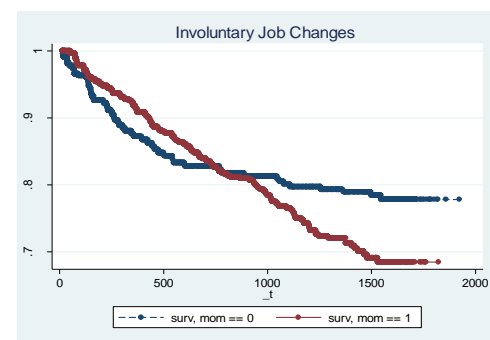


Figure 7a. Survival Estimates for Involuntary Exits by Motherhood Status, White Women

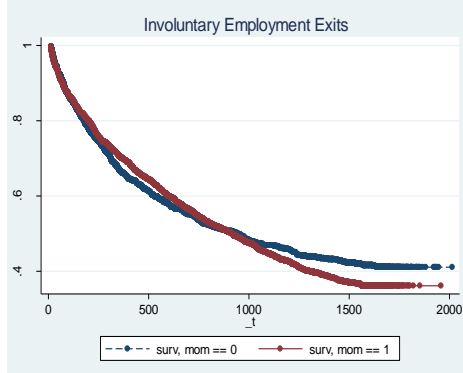


Figure 7b. Survival Estimates for Involuntary Exits by Motherhood Status, Black Women

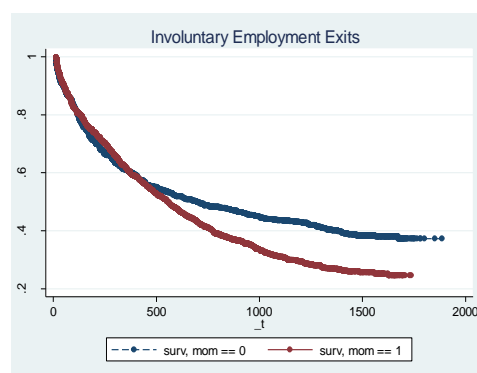
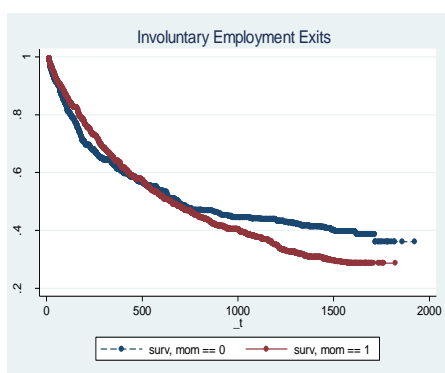


Figure 7c. Survival Estimates for Involuntary Exits by Motherhood Status, Hispanic Women



APPENDIX

ADDITIONAL TABLES

Table A.1.1 Results from Cox Regression Models Predicting Job Changes and Employment Exits by Reason, (Hazard Ratios and Coefficients), National Longitudinal Survey of Youth 1979: 1979-2010 (Sensitivity Analysis using 3-Month Cutoff Denoting a Job Change vs. Exit)

	Family-Related				Non-Family Voluntary				Non-Family Involuntary			
Variable	Change		Exit		Change		Exit		Change		Exit	
	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>
Motherhood												
Currently pregnant	2.69***	0.99	8.18***	2.10	0.32***	-1.15	0.79***	-0.23	0.93***	-0.94	1.32**	0.28
# of Preschool children	1.68***	0.52	1.84***	0.61	0.90***	-0.11	1.05+	0.05	1.01	0.01	1.17***	0.16
# of School-age children	0.91*	-0.10	0.72***	-0.32	0.85***	-0.16	0.81***	-0.21	0.94	-0.06	0.85***	-0.16
Demographic Characteristics												
Race												
<i>Hispanic</i>	0.74+	-0.30	1.11	0.10	0.97	-0.02	1.00	0.00	0.85	-0.16	0.97	-0.03
<i>Black</i>	0.70*	-0.35	1.04	0.04	0.88**	-0.13	1.02	0.02	0.97	-0.03	1.25***	0.23
<i>White (ref)</i>	---	---	---	---	---	---	---	---	---	---	---	---
Urban	1.15	0.14	1.18*	0.17	1.07*	0.07	1.09*	0.09	0.97	-0.02	0.82***	-0.20
Region												
<i>Northeast</i>	0.72*	-0.33	1.11+	0.10	0.91**	-0.09	0.90**	-0.11	0.95	-0.05	1.00	0.00
<i>Midwest</i>	0.79+	-0.24	1.05	0.05	0.91**	-0.09	0.92*	-0.09	0.95	-0.05	1.04	0.04

Table A.1.1 Continued

<i>South</i>	---	---	---	---	---	---	---	---	---	---	---	---
<i>West</i>	0.74*	-0.31	0.92	-0.08	0.84***	-0.17	0.97	-0.03	1.12	0.11	1.15*	0.14
Human Capital												
Education												
<i>Less high school</i>	0.99	-0.00	1.21*	0.19	0.86***	-0.15	1.27***	0.24	0.99	-0.01	1.21***	0.19
<i>High school graduate (ref)</i>	---	---	---	---	---	---	---	---	---	---	---	---
<i>Some college</i>	1.09	0.09	0.78***	-0.25	1.12***	0.11	0.98	-0.02	0.86+	-0.15	0.77***	-0.26
<i>College graduate</i>	0.97	-0.03	0.68***	-0.39	1.04	0.04	0.96	-0.16	0.59***	-0.52	0.47***	-0.75
AFQT score (percentile)	1.00	0.00	1.00	0.00	1.00***	0.00	0.99	-0.00	0.99	-0.00	0.99*	-0.00
Work experience (years)	0.72***	-0.33	0.61***	-0.49	0.69***	-0.37	0.61***	-0.49	0.71***	-0.35	0.68***	-0.38
Work experience squared	1.00***	0.00	1.01***	0.01	1.01***	0.01	1.01***	0.01	1.01***	0.01	1.01***	0.01
Family Structure & Other Resources												
Marital Status												
<i>Married (ref)</i>	---	---	---	---	---	---	---	---	---	---	---	---
<i>Cohabiting</i>	0.57*	-0.57	0.64***	-0.44	0.96	-0.04	1.08	0.07	1.06	0.06	1.11	0.11
<i>Never married</i>	0.55***	-0.60	0.63***	-0.46	1.06	0.05	1.05	0.05	1.27*	0.24	1.14*	0.13
<i>Divorced</i>	0.66**	-0.41	0.61***	-0.49	0.90**	-0.10	1.00	0.01	0.94	-0.06	0.88+	-0.13
Spouse income (10,000s)	0.99	-0.00	1.00**	0.00	0.99***	-0.00	0.99	-0.00	0.99**	-0.01	0.99**	-0.00
Spouse employed excessively long hours	0.78	-0.24	1.12	0.11	0.87**	-0.14	1.17**	0.16	1.08	0.08	1.01	0.01
Coresiding with kin	1.12	0.20	1.16*	0.15	1.22***	0.20	1.14***	0.13	1.18*	0.17	1.28***	0.25

Table A.1.1 Continued

Welfare receipt	0.60*	-0.51	1.03	0.03	0.77***	-0.27	1.03	0.03	0.85	-0.16	1.12	0.11
Work Behaviors												
Part-time	1.08	0.07	0.99	-0.01	0.99	-0.00	1.14***	0.13	0.83*	-0.19	0.70***	-0.35
Hourly wages	1.00	0.00	1.00	0.00	1.01*	0.01	0.99*	-0.01	1.01**	-0.00	1.01***	0.01
Total number of previous jobs	1.05	0.05	1.02	0.02	1.11***	0.10	1.12***	0.12	1.12***	0.11	1.07***	0.06
Job Characteristics												
Percent female in occupation	1.00*	0.00	1.00***	0.00	1.00***	0.00	1.00	0.00	0.99	-0.00	0.99***	-0.00
Public sector	0.90	-0.11	0.78**	-0.25	0.69***	-0.37	0.76***	-0.27	0.48***	-0.74	0.52***	-0.65
Union	1.04	0.04	0.95	-0.05	0.82***	-0.20	0.91*	-0.09	0.80*	-0.22	0.95	-0.05
Percent employees with health insurance in occupation	0.99	-0.00	1.00	0.00	1.00*	0.00	0.99**	-0.00	1.00*	0.00	1.01***	0.01
Socio-Economic Background												
Parents' education	1.01	0.01	1.02*	0.02	1.01**	0.01	1.01*	0.01	1.02+	0.02	0.98**	-0.02
Dad's occupational prestige score	0.99*	-0.01	1.00	0.00	0.99+	-0.00	1.00	0.00	1.00	0.00	0.99	-0.00
Two parent household	1.12	0.11	0.93	-0.07	1.06+	0.05	0.98	-0.02	1.06	0.06	1.04	0.04
Attitudes and Aspirations												
Gender egalitarianism	1.09	0.08	0.95	-0.05	1.21***	0.19	1.05	0.05	1.13+	0.12	1.05	0.04
Want to care for family?	1.08	0.08	1.03	0.03	0.98	-0.18	0.93	-0.07	0.81+	-0.21	0.96	-0.04
n of events	485		1799		10437		5834		1360		2743	
n of persons	430		1463		3926		3161		1078		1909	

***p<.001; **p<.01; * p<.05; + p<.1

Table A.1.2 Results from Cox Regression Models Predicting Job Changes and Employment Exits by Reason with Interactions between Motherhood and Spouse Employment Hours, (Hazard Ratios and Coefficients), National Longitudinal Survey of Youth 1979: 1979-2010 (Sensitivity Analysis using 3-Month Cutoff Denoting a Job Change vs. Exit)

Variable	<u>Family-Related</u>				<u>Non-Family Voluntary</u>				<u>Non-Family Involuntary</u>			
	Change		Exit		Change		Exit		Change		Exit	
	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>	<i>HR</i>	<i>Coef</i>
Motherhood												
Currently pregnant	2.83***	1.04	9.05***	2.20	0.31***	-1.17	0.80***	-0.22	0.34***	-1.07	1.30***	0.26
# of Preschool children	1.68***	0.52	1.85***	0.61	0.91***	-0.09	1.06*	0.05	1.05	0.05	1.19***	0.14
Spouse Overwork	0.85	-0.16	1.51***	0.41	0.91+	-0.10	1.21	0.19	1.20	0.18	1.08	0.08
Interactions												
Currently pregnant x Spouse overwork	0.66	-0.41	0.53***	-0.63	1.15	0.14	0.96	-0.04	2.36+	0.86	1.15	0.14
# of Preschool children x Spouse overwork	0.98	-0.02	0.97	-0.03	0.89+	-0.11	0.94	-0.06	0.71*	-0.34	0.86	-0.15

Table A.1.3 Results from Cox Regression Models Predicting Job Changes and Employment Exits by Reason with Interactions between Motherhood and Race/Ethnicity, (Hazard Ratios and Coefficients), National Longitudinal Survey of Youth 1979: 1979-2010 (Sensitivity Analysis using 3-Month Cutoff Denoting a Job Change vs. Exit)

Variable	<u>Family-Related</u>				<u>Non-Family Voluntary</u>				<u>Non-Family Involuntary</u>			
	Change		Exit		Change		Exit		Change		Exit	
	HR	Coef	HR	Coef	HR	Coef	HR	Coef	HR	Coef	HR	Coef
Motherhood												
Currently pregnant	3.14***	1.14	7.82***	2.06	0.33***	-1.12	0.81**	-0.21	0.34***	-1.07	1.39**	0.33
# of Preschool children	1.63***	0.49	1.95***	0.67	0.81***	-0.21	1.03	0.03	0.97	-0.04	1.14**	0.13
Race/Ethnicity												
Hispanic	0.71+	-0.35	1.29*	0.26	0.94	-0.06	1.03	0.03	0.81*	-0.21	0.94	-0.06
Black	0.73+	-0.31	1.05	0.05	0.82***	-0.20	0.99	-0.01	0.96	-0.05	1.25**	0.22
White	---	---	---	---	---	---	---	---	---	---	---	---
Interactions												
Currently pregnant x Hispanic	0.87	-0.13	0.97	-0.03	0.89	-0.12	0.95	-0.05	1.99	0.69	1.07	0.07
# of Preschool children x Hispanic	1.12	0.11	0.84*	-0.17	1.17**	0.16	0.93	-0.07	1.11	0.11	1.05	0.05
Currently pregnant x Black	0.42*	-0.86	1.26*	0.23	0.93	-0.08	0.96	-0.04	0.91	-0.09	0.79	-0.23
# of Preschool children x Black	1.11	0.11	0.87+	-0.14	1.29***	0.25	1.08	0.08	1.08	0.07	1.05	0.05

Table A.2.1 Full Results from Fixed Effects Regression of Women's Wage (Ln), National Longitudinal Survey of Youth 1979: 1979-2010

Variable	Coef	SE
Number of Children		
0 (ref)	---	
1	-0.01	0.007
2	-0.05***	0.008
3+	-0.07***	0.011
Cumulative Job Separations		
Family-Related Changes	-0.07***	0.014
Family-Related Exits	-0.03***	0.006
Non-Family Voluntary Changes	0.05***	0.003
Non-Family Voluntary Exits	-0.01***	0.003
Layoff	-0.06**	0.002
Firings	-0.02***	0.005
Demographic Characteristics		
Urban	0.01	0.006
Region		
<i>Northeast</i>	0.08***	0.015
<i>Midwest</i>	-0.01	0.014
<i>South (ref)</i>		
<i>West</i>	0.10***	0.014
Family Structure & Other Resources		
Marital Status		
<i>Married</i>	-0.01	0.007
<i>Cohabiting</i>	0.01	0.009
<i>Never married</i>		
<i>Divorced</i>	0.04***	0.008
Spouse income (10,000s) among married	0.01***	0.001
Coresiding with kin	-0.03***	0.006
Welfare receipt	-0.07***	0.010
Human Capital		
Work experience (years)	0.03***	0.002
Work experience squared	-0.00***	0.000

Table A.2.1 Continued

Job Tenure (years)	0.01***	0.001
Highest Grade Completed	0.03***	0.003
Work Effort		
Part-time	-0.01**	0.004
Annual Weeks Employed	0.00***	0.000
Enrolled in School	-0.04***	0.007
Constant	0.71***	0.039

Table A.2.2 Effect of Number of Children on Women's Log Hourly Wages from Fixed Effects Models: NLSY79 1979-2010 – Sensitivity Analysis Using 3 months as Cutoff for Distinguishing Between Changes and Exits

Model	Excluding Job Characteristics ^a		
	Number of Children		
	1	2	3+
1: Base Model ^a	-1.5*	-5.7***	-8.0***
2: Base Model + Any Job Changes and Exits	-1.4*	-5.2***	-7.5***
3: Base Model + Family-Related Job Changes	-1.4*	-5.4***	-7.6***
4: Base Model + Family-Related Employment Exits	-1.2	-5.0***	-7.0***
5: Base Model + Family-Related Job Changes and Exits	-1.1	-4.8***	-6.7***
6: Base Model + Non-family Voluntary Job Changes	-1.4*	-4.9***	-7.0***
7: Base Model + Family and non-Family Voluntary Changes and Exits	-1.0	-4.0***	-5.6***
8: Base Model + Non-Family Voluntary Exits	-1.6*	-5.9***	-8.4***
9: Base Model + Layoffs	-1.5*	-5.8***	-8.2***
10: Base Model + Firings	-1.6*	-5.9***	-8.3***
11: Base Model + All Job Changes (Disaggregated By Type)	-1.2	-4.5***	-6.5***

*** p<.001; ** p<.01; p<.05

^a all models control for family structure and other resources, human capital, work effort, region and urban vs. rural residence and include N-1 year dummies^b all models control for family structure and other resources, human capital, work effort, job characteristics, region and urban vs. rural residence and include N-1 year dummies

Table A.2.3 Effect of Number of Children on Women's Log Hourly Wages from Fixed Effects Models: NLSY79 1979-2010^a Excluding Self-Employed Person Years (n = 73,860)

Model	Excluding Job Characteristics ^a			Including Job Characteristics ^b		
	Number of Children			Number of Children		
	1	2	3+	1	2	3+
1: Base Model ^a	-0.1	-3.7***	-3.8**	-0.1	-3.9***	-4.0***
2: Base Model + Any Job Changes and Exits	-0.5	-3.4***	-3.7***	-0.0	-3.7***	-3.9***
3a: Base Model + Family-Related Job Changes	-0.0	-3.6***	-3.5**	-0.5	-3.8***	-3.8***
3b: Base Model + Family-Related Employment Exits	-0.0	-3.1***	-2.9**	0.0	-3.3***	-3.1**
3c: Base Model + Family-Related Job Changes and Exits	-0.0	-2.9***	-2.7*	-0.2	-3.1***	-2.9**
4: Base Model + Non-family Voluntary Job Changes	-0.0	-3.1***	-3.0**	-0.2	-3.4***	-3.3**
5: Base Model + Family and non-Family Voluntary Changes and Exits	0.0	-2.2**	-1.7	-0.0	-2.5**	-2.0*
6: Base Model + Non-Family Voluntary Exits	-0.0	-3.9***	-4.2***	-0.6	-4.1***	-4.4***
7: Base Model + Layoffs	-0.6	-3.9***	-4.1***	-0.6	-4.0***	-4.2***
8: Base Model + Firings	-0.6	-3.9***	-4.1***	-0.6	-4.1***	-4.2***
9: Base Model + All Job Changes (Disaggregated By Type)	-0.0	-2.8**	-2.7*	-0.3	-3.1***	-3.0**

*** p<.001; ** p<.01; * p<.05

^a all models control for family structure and other resources, human capital, work effort, region and urban vs. rural residence and include N-1 year dummies

^b all models control for family structure and other resources, human capital, work effort, job characteristics, region and urban vs. rural residence and include N-1 year dummies

Table A.3.1 Employment Interruption Response Categories, 1979 Survey, and Reclassification Scheme for Current Analysis

SURVEY PROVIDED CATEGORY	RECLASSIFICATION
DIDN'T WANT TO	OTHER
ILL, UNABLE TO	HEALTH PROBLEMS
SCHOOL WAS OUT	OTHER
PREGNANCY	FAMILY-RELATED
CHILDCARE	FAMILY-RELATED
PERSONAL REASON	OTHER
VACATION	OTHER
LABOR DISPUTE	OTHER
NO WORK AVAILABLE	OTHER
COULDN'T FIND WORK	OTHER
IN SCHOOL	RETURN TO SCHOOL/TRAINING
OTHER	OTHER

Table A.3.2 Employment Interruption Response Categories, 2010 Survey, and Reclassification Scheme for Current Analysis

SURVEY PROVIDED CATEGORY	RECLASSIFICATION
BELIEVED NO WORK AVAILABLE IN LINE OF WORK OR AREA	OTHER
LACKS NECESSARY SCHOOLING, TRAINING, SKILLS OR EXPERIENCE	OTHER
COULDN'T FIND ANY WORK	OTHER
EMPLOYERS THINK TOO YOUNG OR TOO OLD	OTHER
OTHER TYPES OF DISCRIMINATION	OTHER
CHILD CARE PROBLEMS	FAMILY-RELATED
FAMILY RESPONSIBILITIES	FAMILY-RELATED
IN SCHOOL OR OTHER TRAINING	RETURN TO SCHOOL/ TRAINING
ILL-HEALTH, PHYSICAL DISABILITY	HEALTH PROBLEMS
TRANSPORTATION PROBLEMS	OTHER
OTHER	OTHER

Table A.3.3 Proportion of Women Who Report Engaging in What Activity in First Week Following a Job Separation, NLSY79 1979-2010

Activity During 1st Week of Employment Interruption	Family-related interruptions	Layoff-induced interruptions	Firing-induced interruptions	Other interruptions
Family	0.51	0.14	0.15	0.14
Unemployment	0.06	0.43	0.39	0.21
Health	0.02	0.03	0.06	0.09
School	0.02	0.05	0.03	0.10
New job	0.00	0.00	0.00	0.00
Incarceration	0.00	0.00	0.00	0.00
Other	0.39	0.34	0.30	0.46

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