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***FIRST TIME MOTHERS' POSTPARTUM EMPLOYMENT
BREAKS: PREDICTORS, AND MARITAL QUALITY AND
MENTAL HEALTH***

A Dissertation in Sociology

by

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Abstract

The primary aims of this research are to explore the factors that determine the amount of time that women in two cohorts spend out of the labor force after their first birth, and to investigate if postpartum time out of work has an influence on two factors of women's wellbeing: marital quality and mental health. In this project, I conduct both descriptive and analytical investigations of the longitudinal data from two cohorts of nationally representative National Longitudinal Survey of Youths (1979 and 1997 cohorts).

In the first empirical chapter, I investigate the personal sociodemographic, family, and employment characteristics that predict the length of time women spend out of work following their first births. I conduct this exploratory analysis with both cohorts of the NLSY, which allows me to draw conclusions about cohort change in the context of the institution of the Family Medical Leave Act. The analyses of these data are comprised of descriptive statistics, and bivariate and multivariate linear regression models estimating break duration by the various predicted independent variables, including cohort. The findings of this chapter indicate that several of the predicted variables, particularly those that measure SES, are predictive of break duration. In particular, I find that women's postpartum employment break duration is stratified by education and income at first birth. Women with the greatest pre-birth SES have the shortest breaks, and women who are most disadvantaged at first birth have both short breaks and very long breaks. Additionally, the results of this analyses show that there are several differences between the two cohorts. I also show that the younger group of women takes, in general, significantly shorter breaks from employment after the birth

of their first child. Additionally, my findings indicate that for women in the older cohort, the penalties, in terms of longer breaks, of not having access to employer-granted job-protected maternity leave at first birth, are greater than for women in the more recent survey.

In the second and third empirical chapters, I examine the relationship between break length and two dimensions of women's wellbeing: marital quality and mental health. In the second chapter, I utilize data from the NLSY79 to investigate how break duration is associated with changes in two dimensions of marital quality: marital happiness and marital conflict. I first examine, using descriptive statistic and linear regression analyses, if marital quality predicts break duration. I find that neither dimension of marital quality is predictive of time out of work. I turn next to analytical regression models in which I estimate both dimensions of marital quality by break length including controls. The results of these analyses indicate that there is no significant association between break duration and either dimension of marital quality once I control for marital duration.

In similar analyses in the third empirical chapter, I explore the relationship between time out of work after first birth and mental health. I do so using data from the recent cohort of women in the NLSY study (the 1997 cohort). In the descriptive analyses that open this chapter, I investigate if mental health predicts continuous and categorical break length using descriptive statistics and linear and logistic regression analyses. The results of this exploration indicate that women with the lowest mental health before birth spend the most time out of work after birth. Next, I focus on linear regression analyses in which I estimate changes in mental health scores using break length and several hypothesized control variables. I find no evidence, using continuous break

length, of an association between time out of work and mental health. Only in analyses in which I use break length categories do I find a significant association, but the effects of that relationship (between breaks lasting between five and twelve weeks and declines in mental health) are mediated by the addition of controls for age at first birth and marital status.

A common thread throughout this project is an investigation of the ways in which women's break duration and the consequences of break duration are stratified by women's socioeconomic status. I include in the analyses that follow several hypothesized measures for SES including age at first birth, personal income, family income and education. Although the results of my studies do not indicated inequalities in mental health and marital quality outcomes, I do find that, overall, women are stratified in terms of the amount of time that they spend out of work after their first birth. In particular, women with the greatest SES are shown to return to work most quickly. Further, this research also indicates that the women with the least income and education both return very quickly and are at risk of very long breaks from employment. Considering these inherent disadvantages based on personal characteristics of low SES women, the financial consequences and labor market challenges of extended time out of work might further disadvantage them on their returns to work.

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Dedication

To my parents, who have always been my biggest supporters, who are my role models for life, and without whom I would have never achieved this incredible goal.

To my soon-to-be husband, Chad. You are my best friend and my hero. Thank you for your support and love when I needed it the most. I am so glad to be able to share this accomplishment with you. I am so excited for our life together.

This is a tribute to you three—my family.

Chapter 1: Introduction

Currently in the United States, only one policy—The Family Medical Leave Act—offers women job-guaranteed maternity leave federally.¹ The act, which covers only about half of employed women, gives only unpaid leave lasting no longer than twelve weeks (DOL). Some women have access to employer-provided leave, and the benefit of paid leave offered by employers is most frequently available to women in high status occupations. Time spent at home with a young baby is shown to improve maternal and child wellbeing (Clark, Hyde, Essex and Klein 1997; Chatterji and Markowitz 2004; Dagher, McGovern and Dowd 2014; Gjerdingen and Chaloner 1994), but when women spend time out of work they risk lost wages or even risk losing their jobs (Aisenbrey, Evertsson and Grunow 2009; Hofferth and Curtin 2006). Although women's employment rates, which had steadily increased since the 1950s, have stabilized at near equal rates with men's and most women work; the structures of work and attitudes about gender have yet to adapt (Cotter, England and Hermsen 2007). The institutions of work and family compete in the lives of women across their life course, and the challenges of combining the two are perhaps no greater than at the transition to parenthood. Given the current state of leave options available to new mothers, it is likely that postpartum employment is a time that stratifies women in terms of access and outcomes.

Few studies have explored the predictors of postpartum employment across cohorts of women. Further, little is known about the benefits and consequences of the amount of time women spend out of work with a child on women's wellbeing. The research in this

¹ Twelve states have Family Leave Policies that expand FMLA and three states—California, New Jersey and Rhode Island—offer paid family and medical leave (NCSL).

study seeks to explore predictors of the duration of postpartum employment and the consequences of break length on two dimensions of women's wellbeing: marital quality and mental health. In this research, I focus on the transition to parenthood, a stage in the life course when women negotiate changes in many arenas of life, especially in work and family arrangements. I seek to explain who has access to what duration break and if break time is stratified by women's personal, social and relational characteristics. Further, I aim to address the question: how, if access to breaks is unequal across women, are women disadvantaged in terms of wellbeing for the amount of time they are out of work?

Rationale for Study

The motivation of this research project is to explore factors related to the duration of women's employment breaks following childbirth, and to investigate the impact of these breaks on two aspects of new mothers' wellbeing: marital quality and mental health. Although several studies have explored determinants of duration of breaks from employment following the birth of a child (Elliot, Dale and Egerton 2001; Han et al. 2008; Hynes and Clarkberg 2005), a complete and contemporary investigation of these factors, especially as they may differ across cohorts before and after FMLA, is absent from the literature. Additionally, there exists extensive research on the consequences of division of household labor and perceptions of fairness on marital quality, and many researchers have noted the link between the effects of new parents' parenting stress on diminished marital satisfaction. Few researchers, however, have linked marital quality to women's employment trajectories following childbirth. Similar gaps exist in the literature for women's mental health. It has generally been shown that, on one hand, the transition to parenthood is a time of psychological distress; but, on the other hand, women who work outside the home largely report better mental health scores than

women not employed in the labor market. There have been few studies that have considered the compounding effects of childbearing and employment changes on women's mental health in the context of becoming a mother. The aim of the proposed research is to investigate factors that predict duration of breaks from employment following childbirth before and after FMLA, and to assess the duration of breaks from employment on women's marital quality and also on their mental health.

Statement of the Problem

With limited options for family leave and no nationally standard maternity leave policies, women's personal, social and employment characteristics are important in determining the circumstances of their employment following childbirth. As such, women differentially experience the costs and benefits of time out of the labor force following a birth. The consequences of this time out from work may impact new mothers' wellbeing, especially their marital quality and mental health. A comprehensive understanding of inequalities among women in their breaks from employment following birth and the subsequent disparities in wellbeing is an important and underexplored topic for research.

Theoretical Perspectives

The first theories of the division of household and market labor offered an economic model of the family (Becker 1985; Mincer and Polachek 1974 and 1978). The family could be thought of as a factory and the division of labor as maximizing inputs and outputs. Mincer and Polachek (1974, 1978) suggest the notion of human capital investment as driving the division of labor market outputs. From their perspective, because men could earn more in the labor force than women, men could maximize their contributions to the family by developing stocks of human capital through education

and work. Women could invest in the home and family, and their primary task would be childcare and home work.

Becker (1985) adds to this model by suggesting that total role specialization is necessary for maximum output. Though his is a cyclical argument, Becker (1985) further suggests that because women are natural caregivers and because they take on a larger share of the work at home, when they do work in the labor force, they are unable to work with the same effort as men. This, he asserts, lowers their earnings power and reinforces couples' decisions to maintain role specialization. With women's education increasing and, in some fields, surpassing men's and women's economic power nearing men's, it is difficult to understand even from an economic perspective why role specialization would persist.

Adding a sociological perspective to the division of market labor, Berk and Berk (1988) and Bielby and Bielby (1983) suggest that socialization and norms influence household and labor market decisions. Berk and Berk (1988) suggest that socialization and the performance of gender norms dictate the roles. They further critique Becker's (1985) model suggesting that it ignores family processes and micro-level interactions between spouses. Underlying this economic perspective and added by Berk and Bierk (1988) and Bielby and Bielby (1983) are notions of the strong gender norms that guide behavior and attitudes.

Current perspectives on the family roles suggest that this phenomenon is driven by the conflict between the structure of labor market and the gendered nature of roles associated with family life. The norms for women are especially strong and women face different expected roles associated with work than family. For men, norms of masculinity do not differ much in these two arenas. Williams (2000) describes

competing spheres of domesticity and work. She suggests that the norm of domesticity assumes that the home is the female sphere. On the other side, ideal worker norms in the labor force enforce a standard of workers that are free from family obligations. Similarly, Blair-Loy (2003) views work and family as competing devotions. Women are expected to dedicate energy to and to make investments in both work and family.

Broad conceptions of gender can be used to frame the problem of postpartum employment. Childbirth persists in altering the trajectories of women's employment differentially than it does men's. Gender constrains or enables behaviors and attitudes, and dictates roles in families and at work. Socialization to norms affects individual behaviors, and, more generally, gender shapes institutions including labor markets and government. Gender norms also serve as the basis by which the economic theories on family employment configurations are built. The gender perspective lays a foundation from which to consider issues of family work configurations following childbirth, and can be used to explain why women's work trajectories change following childbirth. For example, in families in which gender roles are more traditional, women might withdraw from the labor market following a birth.

Life Course Theory

A life course perspective is useful in the analysis of women's postpartum employment (Elder, Johnson and Crosnoe 2003). The gender-associated norms that influence women individually and socially as described above interact with age and age-graded social norms to constrain or enable women's options and decisions differently across the life course (Moen and Han 2001). At various points across the life course, women's gender ideologies emerge differentially depending on expectations of gender appropriate behavior and on expectations and perceptions of social roles (Vespa 2009).

A life course perspective informs an understanding of postpartum employment by revealing that the context of the transition to parenthood and the gender role expectations that influence life at this particular stage are distinct from other life stages (Elder, Johnson and Crosnoe 2003). The decisions made by women and the options available to them regarding work and family are, for many women, different at the transition to parenthood than at other times during their life.

Empirical Background Overview

Predictors of Postpartum Employment Break Duration

There exists in the literature some exploration of individual factors associated with postpartum employment breaks (Gaudet et al. 2011; Han et al. 2008; Hynes and Clarkberg 2005). Most notably, researchers have indicated that women's education is associated with the duration of postpartum leaves. Education operates on break duration in several, sometimes opposing, ways. For instance, although, in general, more educated women are at the least risk of taking a very short break (e.g. shorter than six weeks) (Gaudet et al. 2011; Han et al. 2008; Hynes and Clarkberg 2005); women with the lowest education are most prone to long (more than two year) withdrawals from work (Gaudet et al. 2011). Life course factors such as age at first birth are also associated with other individual characters that might affect break duration such as employment characteristics and social capital. Further, family characteristics, especially the presence of a spouse or romantic partner, impact break duration. When women have a residential partner, his earnings and employment status are positively associated with greater time spent out of the labor force following a birth (Barrow 1999; Wenk and Garrett 1992). A new mother's employment and job characteristics also influence the duration of her break. The availability of paid leave, work-family policies at work, and

full-time employment are all positively associated with the best outcomes in terms of break duration—i.e. breaks that are neither too short nor too long to benefit wellbeing—see below (Baker and Milligan 2005; Barrow 1999; Joesch 1997; Klerman and Leibowitz 1999; Singley and Hynes 2005).

Most studies on the factors that predict postpartum employment breaks explore only one aspect of mothers' lives or circumstances. Absent from the literature is a contemporary, multidimensional study that includes personal, social and structural factors in which the relative influence of each on break duration is explored using nationally representative, longitudinal data. Further, no individual study has considered these influences in the social contexts of before and after the passage of the Family Medical Leave Act.

Postpartum Employment Breaks and Marital Quality after Return to Work

Few studies have investigated the explicit ways that employment breaks after childbirth impact marital quality (for example, see Hyde, Essex, Clark and Klein 2001); however, two related bodies of literature can inform the expectations about employment and marital quality during the transition to motherhood. These areas include studies that focus on: 1) marital quality and employment, and 2) marital quality and the transition to parenthood. Research that examines the links between marital quality and employment yield mixed findings. On one hand, women's employment and subsequent earnings and income offer families financial buffers against economic hardship, which stresses marriages (Greenstein 1990; Rodgers and DeBoer 2004; Conger et al. 1990). In marriages in which spouses' work arrangements are egalitarian, couples' divisions of household labor are often also more equal (Coltrane 2000). Likewise, employment offers women benefits to emotional wellbeing that strengthen

marriage such as self-esteem (Ross, Mirowsky and Goldsteen 1990). On the other hand, women's employment can lead to marital conflict, especially in situations where women's and men's labor market exertions are equal but their division of labor at home is not (Frisco and Williams 2003; Rogers and Amato 2000; Pleck 1999; Robinson and Godbey 1999). Taken together, some scholars suggest that the net effect on marital quality of these opposing influences is null because they negate each other (Schoen, Rogers and Amato 2006).

Another area for which there exists much research is the effect of the transition to parenthood on marital satisfaction. Researchers have found that, generally, the transition to parenthood is marked by a decline in marital satisfaction (Twenge, Campbell and Foster 2003). In a meta-analytic review of marital satisfaction and parenthood, Twenge et al. (2003) concluded that compared with childless women, mothers have lower marital satisfaction, especially while their children are infants. The authors found that parents' perceptions of restricted freedom and role conflict drive marital dissatisfaction. They also concluded that marital dissatisfaction following the transition to parenthood is greater presently than in the past and is more prevalent among parents with greater SES. Conversely, Lavee, Sharlin and Katz (1996) find role strain (via wife's employment and household division of labor) to have little effect. Instead, they conclude, economic distress drives parenting stress, which in turn lowers marital quality. Lawrence et al. (2008) found that marital satisfaction before childbirth is predictive of marital satisfaction later. Although parenthood hastens marital decline for all couples, couples with poorer initial marital quality experience the greatest changes. Researchers have shown that some of the effect of parenthood on marital satisfaction decline can be attributed to an increase in marital conflict and housework among wives (Nomaguchi and Milkie 2003). Helms-Erikson (2001) suggests that the

timing of births is important in predicting marital quality much later (10 years). In her study, 'early' timing for first births, compared with 'on-time' and 'delayed' timing, was associated with more marital dissatisfaction. It is likely that timing of birth is a function of SES, employment and gender norms, factors that also influence marital happiness.

Postpartum Employment Breaks and Mental Health after Return to Work

Research suggests that there may be long-term consequences of women's employment on mental health. Women who are steadily employed across their lives are shown to report greater mental health later in life (Frech and Damaske 2012; Pavalko and Smith 1999; Ross and Mirowsky 1995). Several factors influence the positive association between employment and wellbeing in terms of mental health. For women who are continuously employed, lifelong earnings and wages benefit mental health (Ross and Mirowsky 1995). When compared with full-time employment, part-time work is shown to disadvantage women in terms of health and mental health via its association with limited access to insurance and/or non-standard employment hours, both factors that lower self-rated health (Kim et al. 2008). Further, working offers women boosts to mental health by offering self-control, self-esteem and positive social networks, all of which are shown to increase emotional wellbeing (Ross and Wright 1998; Mirowsky and Ross 2003).

Considering the literature, the short-term consequences to mental health of postpartum employment breaks are less clear. It is possible, however, that at the transition to parenthood, the consequences of new parenting stress compound with the effects of withdrawal from the labor force to negatively influence (Perry-Jenkins et al. 2007). This association is, however, confounded when the boon to new mother's emotional wellbeing of time spent with a newborn is considered. Research on

postpartum depression in which the researchers analyze breaks from employment indicates that although many women experience declines to mental health following a birth (O'Hara and McCabe 2013) that longer maternity leaves may buffer against depressive symptoms (McGovern et a. 1997). Conversely, long breaks from work, temporary withdrawals from the labor force, and changes to employment (such as switching jobs or positions or moving from full- to part-time employment) are associated with costs that influence women's emotional wellbeing such as lower or lost wages, reductions in emotional supports and social networks and some degree of depreciation of skills that might make the return to employment more difficult (Galtry and Callister 2005). Penalties like these imply that women benefit from shorter breaks following the birth of a child. In a recent study, in which they utilize a convenience sample, researchers investigated the consequences to mental health of maternity leave duration up to one year postpartum (Dagher, McGovern and Dowd 2014). They found that association between mental health and break length followed a U-shaped curve, with the peak benefits to mental health occurring for breaks lasting six months.

Women's Postpartum Employment, Wellbeing and SES

Two gaps exist in the literature on women's postpartum employment and emotional wellbeing. First, no researchers have analyzed the benefits or consequences to mental health of postpartum breaks from work using nationally representative data, nor using data to explore breaks longer than one year. Second, although some research suggests that too short and too long breaks worsen the emotional wellbeing of new mothers, no research has considered inequalities in the association between employment breaks and postpartum mental health from mothers of different economic classes.

Research Questions

This research examines the following three questions:

1. What are the personal, social and relationship factors that impact the duration of breaks from employment following first childbirth?
2. How does the length of break from employment following first childbirth affect women's marital quality?
3. How does the length of break from employment following first birth affect women's assessments of their mental health?

Overview of Data

The National Longitudinal Survey of Youth 1979 and 1997 Cohorts

The data for this study comes from the National Longitudinal Survey of Youth 1979 and 1997 cohorts (NLYS79 and NLSY97). The NLSY79 began as a national probability sample of youths aged 14-21 in 1979. The dataset includes measures from women's employment history (week-by-week), occupations, childbirth and fertility, and relationship attitudes and expectations. Data from Round 1 (1979) until Round 25 (2012) are publically available. The sample size is 4283 mothers.

The NLSY97 includes similar measures to the NLSY79 for employment histories as well as measures for mental health (the NLSY79 introduced these measures only when women aged over 40). This survey is a national random sample of young people aged 12-16 in January of 1997. The survey has been repeated every year since. Survey data is available each year beginning in 1997 and ending in 2007 (the last year of data made

available, although the survey is ongoing). In the first year of study, 4385 girls participated. The sample size for this study includes 2492 mothers.

Overview of this Dissertation

In the exploration of my research questions, I conduct both descriptive and analytical investigations of the longitudinal data from two cohorts of nationally representative National Longitudinal Survey of Youths (1979 and 1997 cohorts). I have written this dissertation following the “three paper” model. In each of Chapters 2-4, I address one of the above research questions.

In Chapter 2 (“Predictors of Postpartum Employment Break Duration”), I investigate the personal sociodemographic, family, and employment characteristics that predict the length of time women spend out of work following their first births. I conduct this exploratory analysis with both cohorts of the NLSY, which allows me to draw conclusions about cohort change in the context of the institution of the Family Medical Leave Act. The analyses of these data are comprised of descriptive statistics, and bivariate and multivariate linear regression models estimating break duration by the various predicted independent variables, including cohort. The findings of this chapter indicate that several of the predicted variables, particularly those that measure SES, are predictive of break duration. For instance, I find that women’s postpartum employment break duration is stratified by education and income at first birth. Women with the greatest pre-birth SES have the shortest breaks, and women who are most disadvantaged at first birth have both short breaks and very long breaks. Additionally, the results of this analyses show that there are several differences between the two cohorts. I also show that the younger group of women takes, in general, significantly shorter breaks from employment after the birth of their first child. Additionally, my

findings indicate that for women in the older cohort, the penalties, in terms of longer breaks, of not having access to employer-granted job-protected maternity leave at first birth, are greater than for women in the more recent survey.

In Chapters 3 and 4 (“Postpartum Employment Breaks and Marital Quality after Return to Work” and “Postpartum Employment Breaks and Mental Health after Return to Work,” respectively), I examine the relationship between break length and two dimensions of women’s wellbeing: marital quality and mental health. In Chapter 3, I utilize data from the NLSY79 to investigate how break duration is associated with changes in two dimensions of marital quality: marital happiness and marital conflict. I first examine, using descriptive statistic and linear regression analyses, if marital quality predicts break duration. I find that neither dimension of marital quality is predictive of time out of work. I turn next to analytical regression models in which I estimate both dimensions of marital quality by break length including controls. The results of these analyses indicate that there is no significant association between break duration and either dimension of marital quality once I control for marital duration.

In similar analyses in Chapter 4, I explore the relationship between time out of work after first birth and mental health. I do so using data from the recent cohort of women in the NLSY study (the 1997 cohort). In the descriptive analyses that open this chapter, I investigate if mental health predicts continuous and categorical break length using descriptive statistics and linear and logistic regression analyses. The results of this exploration indicate that women with the lowest mental health before birth spend the most time out of work after birth. Next, I focus on linear regression analyses in which I estimate changes in mental health scores using break length and several hypothesized control variables. I find no evidence, using continuous break length, of an association

between time out of work and mental health. Only in analyses in which I use break length categories do I find a significant association, but the effects of that relationship (between breaks lasting between five and twelve weeks and declines in mental health) are mediated by the addition of controls for age at first birth and marital status.

A common thread throughout this project is an investigation of the ways in which women's break duration and the consequences of break duration are stratified by women's socioeconomic status. I include in the analyses that follow several hypothesized measures for SES including age at first birth, personal income, family income and education. Although the results of my studies do not indicated inequalities in mental health and marital quality outcomes, I do find that, overall, women are stratified in terms of the amount of time that they spend out of work after their first birth. In particular, women with the greatest SES are shown to return to work most quickly. Further, this research also indicates that the women with the least income and education both return very quickly and are at risk of very long breaks from employment. Considering these inherent disadvantages based on personal characteristics of low SES women, the financial consequences and labor market challenges of extended time out of work might further disadvantage them on their returns to work.

In the final concluding chapter (Chapter 5), I review these findings and discuss their implications. Additionally, I address study limitations and propose directions for future research.

Chapter 2: Predictors of Postpartum Employment Break Duration

Although time home with a newborn is shown to benefit both new mothers' and babies' well-being (Clark, Hyde, Essex and Klein 1997; Chatterji and Markowitz 2004; Dagher, McGovern and Dowd 2014; Gjerdingen and Chaloner 1994), penalties to women in terms of wages and health of time out of the labor force persist (Budig and England 2001). In a country with a virtually non-existent standardized family leave policy, women continue to be disadvantaged at work for taking much needed time from their jobs to spend with their infant children (Aisenbrey, Evertsson and Grunow 2009; Hofferth and Curtin 2006). Extant research suggests that the duration of women's breaks from employment following childbirth varies as a function of women's structural, personal and employment characteristics in ways that disadvantage some women (Gaudet, Cooke and Jacob 2011; Han, Ruhm, Waldfogel and Washbrook 2008). Women with the greatest SES may have more resources—both financial resources and access to family leave programs—to spend time away from the labor market (Han et al. 2008). These same women, on the other hand, may be bound to work via career and job attachment to a greater degree than women without such occupational attainment (Hynes and Clarkberg 2005).

Women on the opposite end of the SES spectrum may be equally likely to return to work very quickly, but probably do so out of economic necessity (McGovern et al. 2006; Smeaton 2006). Further, the introduction of federal family leave with the Family Medical Leave Act of 1993, may have altered women's experiences in the labor market following the birth of a child. Although several studies have explored determinants of duration of breaks from employment from work following the birth of a child (Elliot, Dale and Egerton 2001; Han et al. 2008; Hynes and Clarkberg 2005), a complete and contemporary investigation of how these factors, especially as they may differ across cohorts before and after FMLA, is absent

from the literature. The aim of this chapter is to expand on the existing research on the personal, social and structural factors that influence the duration of breaks for the labor market following childbirth with a focus on socio-economic measures in two cohorts of women, those who transitioned to parenthood before FMLA and those who did so after.

Background

The trend in the convergence of women's labor force participation with men's over the past 65 years is well documented (Cotter, England and Hermsen 2007). Following this trend, since the 1950s, more women of childbearing age were in the labor force every decade until women's labor force participation peaked at the turn of the 21st century. For instance, the labor force participation rates of women of aged 25-34 increased from roughly 34% in 1950 to almost 74% in 1990 (Fullerton 1999). Men's labor force participation significantly and steadily declined over this same period. In 1950, more than 95% of American men aged 25 – 54 were employed in the labor force; in 1998, men's labor force participation rates ranged from 89% for men aged 45 – 54 to 93% for men aged 25 – 34. While women's labor force participation in the United States has increased and nears men's rates of participation, the structure of work and occupations and social attitudes and expectations about gender and parenting are slow to adapt. Balancing employment with childbearing remains a challenge for many women, especially in a country with no universal social policies for parental leave.

Some effects of breaks from employment after the birth of a child are clear: women with very long breaks and those with interrupted careers lose out on wages and are more likely to experience downward job mobility than those who take shorter breaks and those who have more steady employment trajectories (Felmlee 1995). Further, women who experience more continuous employment across their lives experience benefits to their

health and wellbeing (Frech and Damaske 2012). On the other hand, breaks of moderate duration from employment following childbirth (those around 6 months) are associated with better health and wellbeing for both new mothers and their babies (Dagher et al. 2014; Hyde, Klein, Essex and Clark 2006). In recent research on the duration of maternity leaves, Dagher and colleagues (2014) found that the relationship between duration of postpartum leave and depressive symptoms follows a U-shaped curves such that up to six months, longer duration is associated with less depression, beyond six months the returns to mental health of breaks from employment diminish. But which women have access to these optimal duration breaks?

Research on personal characteristics associated with the duration of postpartum employment breaks indicate strong links between women's education and the length of time they spend out of the labor force (Gaudet et al. 2011; Han et al. 2008; Hynes and Clarkberg 2005). Education operates in several ways to influence length of breaks from work, but, in general, more educated women have lower risk of taking very short breaks, i.e. breaks lasting less than four weeks (Gaudet et al. 2011; Han et al. 2008; Hynes and Clarkberg 2005). Women with the least education are more likely to withdraw from the labor force for breaks longer than 2 years, which may penalize them in terms of both lost wages and in depreciation of skills (Gaudet et al. 2011). Life course characteristics influence length of breaks, and in particular, age at first birth is associated with numerous other factors that might affect postpartum employment. Family characteristics also impact duration of breaks from employment. For instance, the presence of a spouse or romantic partner is linked with more time out of work and when a male spouse is present, his income is also positively associated with greater time spent on maternity leave (Barrow 1999; Wenk and Garrett 1992). Less is known about how other characteristics of spousal relationships, particularly relationship quality and satisfaction, influence duration of labor

force breaks. Job and career characteristics are associated with postpartum work. Paid-leave, full-time employment and supportive work-family policies are all linked with best outcomes in terms of postpartum labor force breaks for new mothers (Baker 2005; Barrow 1999; Joesch 1997; Klerman and Leibowitz 1999; Singley and Hynes 2005).

Most studies on postpartum employment breaks focus on just one aspect of mothers' lives. No recent studies have described the myriad personal, social and structural factors and their associations with duration of breaks from employment following childbirth use longitudinal, nationally representative data. Further, no researchers have explored how the associations between these factors and duration of breaks vary across cohorts of women before and after the implementation of the Family Medical Leave Act. Using quantitative longitudinal data from two cohorts of the National Longitudinal Survey of Youth (NLSY), I will build on prior research on women's employment and childbirth by exploring a breadth of individual characteristics and their associations with duration of breaks, and how these associations operate differently in the context of work before and after the start of the FMLA.

The Family Medical Leave Act (1993)

In the United States, only one federal law—The Family Medical Leave Act (FMLA)—mandates universal family leave for new mothers following birth. Compared with leave policies of other Western nations, the scope and benefit of the FMLA are minimal. The FMLA was signed by President Bill Clinton and implemented in August of 1993 (Cannonier 2014). The legislation guarantees both male and female employees only twelve consecutive, unpaid workweeks of “job-protected” leave following the birth (or adoption) of a child with several caveats (DOL). In order for an employee to be eligible for the job-protected leave—which they must take within 12 months of the birth or adoption of a child—they must have

worked for the company for 12 months or more, must have worked at least 1250 hours in the 12 months preceding leave (roughly 26 hours per week), and must have worked for an employer that employs at least 50 or more employees residing within 75 miles of that worksite (DOL). All told, the FMLA covers roughly half of all employed persons in the United States (DOL).

Before the institution of FLMA, there existed no universal job-protected leave, only 25% of states had any job-protected leave, and maternity leave was offered a benefit by some companies (Berger, Hill and Waldfogel 2005; Cannonier 2014). Several research studies have explored the extent to which family leave policies influence women's labor market activities, decisions and outcomes, and a few researchers have explicitly explored these in the context of the passage of FMLA. In general, the expansion of maternity leave coverage offered by FMLA appears to be associated with a moderate increase in leave-taking and leave time, and with an increased propensity of women to return to their pre-birth job (Hofferth and Curtin 2003; Ross 1998; Han and Waldfogel 2003). In a paper investigating the influence of the institution of the FMLA on fertility decisions using the NLSY79 cohort, Cannonier (2014) finds that women who were eligible for FMLA leave increased the probability of having a first baby by 1.5% and about a year earlier. Although these data offer an interesting insight into the influence of FMLA, they are in some ways limited because at the time of the institution of the policy, the youngest women in the sample were already 28 years old and more than 65% of the women in the sample had given birth already (Cannonier 2014). In the present study the use of both cohorts of the NLSY allows me to consider women's post-partum employment before FMLA, at its initiation and after the policy as been in place for more than a decade.

Maternal Characteristics and Post-Partum Employment Breaks

Sociodemographic Characteristics

Some personal characteristics have been shown to be associated with women's time out of work following birth. Primarily, several researchers indicate that women's education is strongly associated with postpartum break length such that women with the most education have lower risk of very short and very long breaks. In their analyses of more than 10,000 mothers of babies born in 2001, Han et al. (2008) find that by nine months postpartum, 68% of women with a college degree, 60% of women with a high school diploma and 47% of mothers without a high school education have returned to work. At two months, however, college educated mothers are less likely than mothers without a college degree to have returned to work already. In a study of several cohorts of Canadian women, Gaudet et al. (2011) found an association between education and length of break that existed across cohorts that indicated that women without college educations were most likely to withdraw completely from the labor force for more than two years.

Several mechanisms are hypothesized to explain the relationship between education and breaks. First, education is highly associated with employment and job characteristics. Women with the most education also have the greatest salary and income, which potentially influences the return to employment in contradictory ways. The cost of missed wages of extended time out from work might influence some women to return quickly (Desai and Waite 1991). On the other hand, women with higher status employment and those who work more hours also have more savings that may serve as a buffer against the financial strain that accompanies longer breaks. Women with higher pre-birth personal income are shown to return to work more quickly. Next, education is associated with access to employment benefits such as paid or guaranteed maternity leave (Cantor et al. 2001; Boushey, Farrell and Schmitt 2013). For example, Boushey et al (2013) found that between

1994 and 2012, 1% of women with college educations took maternity leave annually and of those women, 55% had paid leave. They found further that only 0.6% of women with high school diplomas and 0.4% without reported maternity leave, and of those women only one third of high school educated women and one quarter of women without a degree reported using paid leave. Finally, for women who leave their jobs and enter the work force after birth in new positions, education might be associated with greater employability that allows them to find new positions more quickly.

Race and age (an important variable in research on the life course) have been shown to be associated with postpartum employment breaks. Few researchers have explored the stratification of breaks from work following birth by race, but some research indicates that differences in postpartum employment reflect those in employment generally. Han et al. (2008) found little variation women's employment rates after two months across ethnic groups, but that between three and nine months postpartum a gap between black and white mothers, and Latina and Asian mothers emerged. At nine months, two thirds of black and white compared with just about half of Latina and Asian women were employed. Age is another likely influence on break duration. Age is associated with both education and employment in such a way that one would anticipate older women have more resources to extend breaks but also more incentive to return to work quickly. Indeed, most researchers find that, expect in the case of very young mothers who returned to work most quickly, age is moderately associated with a slight decrease in duration breaks (Han et al 2008, Hynes and Clarkberg 2008; Houston and Marks 2003).

Family Characteristics

Women's family situations at the time of their births may influence the duration of their breaks from employment. Research on family structure and postpartum employment

indicates that the presence of an employed spouse or partner is an important predictor of duration of break from employment. At the most basic level, the presence of a spouse should offer women an additional income that would allow them an earnings buffer that permits a longer duration break. For single mothers, it is likely that economic necessity quickens their return to work. Research, however, is mixed about the presence of a partner. In their study, Han et al. (2008) find that in general, fewer married than non-married women were working nine months postpartum; further, cohabiting women and single women are equally likely to have returned to work after nine months. This finding suggests that marriage offers advantages in terms of breaks, and that the effects of having a partner alone differs from those of being in a marriage relationship. Using the NLSY79, Leibowitz, Klerman and Waite (1992) found that family income is positively associated with time out of the labor force unless the women's earnings are high; women's high earnings were negatively associated with break duration. Shafer (2011) finds that partners' work hours are also associated with labor force exits, and women's whose partners work more than full-time (45 versus 40 hours) are more likely to exit the labor force. Han, Ruhn and Waldfogel (2009) find that single women are less likely than partnered women to qualify for or take leave (in particular, FMLA).

Employment Characteristics

Research on employment characteristics and their associations with postpartum employment break duration suggests that several employment characteristics are associated with postpartum employment duration. First, high income and earning occupations and jobs are often associated with greater opportunity cost of remaining out of the labor force. For instance, Desai and Waite (1991) find, using the NLSY79 that women whose jobs afford higher wages and require greater training or education return to work more quickly than women who are employed in lower status jobs. Regarding pre-birth

employment, women who are employed during pregnancy go back to work more quickly than women who are not (Berger and Waldfogel 2004; Hofferth 1996). In general, women with leave coverage at work before birth return to work more quickly than women without access to leave (Baker and Milligan 2005; Joesch 1997; Klerman and Leibowitz 1998; Berger and Waldfogel 2004). Additionally, Berger and Waldfogel (2004) find that, assessing interaction between leave coverage and time out of the labor force, women with leave coverage are more likely to be out of work at twelve weeks out of work after a birth compared to women without leave coverage.

SES and Employment during the Transition to Parenthood

Underlying the multiple processes of the transition to parenthood and moves out of and back into the labor force, one factor in particular stratifies the women's experiences and leads to inequalities: socioeconomic status. New mothers at opposite ends of the SES spectrum have drastically different resources and research from many areas suggests that poor women are greatly disadvantaged in terms of wellbeing, their ability to take leave and their employment following childbearing. Among professional women, employment—in terms of rates of full-time employment and work hours—is increasing despite some declines among the youngest cohorts of women in the overall labor force participation rate (Percheski 2008).

Considering race and postpartum employment, researchers have identified a racial gap exists that exists among black and white women; although black and white women enter employment full-time employment at roughly equal rates, black women are less likely to enter into part-time employment (Reid and Padavic 2005). A larger gaper exists between black and white women in exits from employment, and black women are much more likely than white women to exit the labor force (18 percent higher risk and 38 percent higher risk

for part- and full-time employment, respectively) (Reid and Padavic 2005). Reid and Padavic identify two characteristics that drive this difference: first, black women's lower AQFT scores (a proxy measure for job performance and skills) and larger number of children. It can be concluded, therefore, that differences in SES advantages across black and white women contribute to the racial differences in employment. Applied to the context of the transition to parenthood, I would expect to find that black women would withdraw from the labor force for longer periods of time than white women. England, Ross and Garcia-Beaulieu (2004), identify a racial gap in employment between black and white women and Latinas, primarily between Mexican women and all other groups. Compared with white women, in 2001 Mexican women were employed, on average, seven weeks less. This gap, they found, was explained by recent immigration (which account for two weeks difference), higher fertility (which account for two weeks difference) and lower education (which accounted for five weeks difference). Finally, research by Alon and Haberfeld (2007) suggests that the biggest gaps in labor force attachment (in this case, in actual weeks worked) between whites and minority women occur among women with the least employment and job skills. Taken together these findings offer further evidence that women's education strongly influence employment in ways that likely extend to postpartum employment.

The consequences to wellbeing of employment and SES compound during the transition to parenthood. For instance, women with paid leave—a benefit more available to those working higher paying jobs—take longer from work following births; thus, mothers who are most stressed for financial resources are most likely to take short breaks (McGovern et al. 2000). Considering the return to work, mothers who work shift work are likely to experience greater marital conflict and depression during the transition to parenthood than couples with standard work hours (Perry-Jenkins et al. 2007). Women with low education

attainment are much more likely than other mothers to stay out of the workforce for more than two years following birth (Gaudet, Cooke and Jacob 2001).

The Present Study

The present study expounds on research on women's postpartum employment because the NLSY79 and NLSY97 data allow me to not only explore many predictors of break length in the same analyses but also allow me to do so in the context of the institution of the Family Medical Leave Act. The primary aim of this chapter is to identify sociodemographic, familial and employment characteristics that predict postpartum employment break duration and to determine if the associations between these predictors and break length change across two cohorts of women, those whose transition to parenthood occurred before FMLA and those who became mothers after the legislation had been in place.

Considering a review of the literature, several variables should predict break length. Several researchers have focused on education as a predictor of break length. I expect to find that women with the least education will indicate taking both the shortest and longest breaks. For women with the least education the financial cost of remaining out of the labor force likely hasten return to work. On the other hand, these same women face the greatest challenges in maintaining employment and finding reemployment; low status jobs rarely offer maternity benefits and if breaks involve returning to a new position women with low educational attainment offer less to employers. Because age at first birth is associated with educational attainment, I expect to find that age at first birth functions similarly to education. In addition to these sociodemographic variables, I will include race as a predictor of break duration in the analyses that follow. Little research exists that explores maternity leave by racial and ethnic groups, but in generally employment in this context is shown to

mirror employment more generally (Han et al. 2008). If this is the case, I expect to find that compared to black and white women, Hispanic women will have shorter predicted breaks.

Research on family structure characteristics suggest that the presence of a spouse, especially an employed spouse, is associated with longer postpartum labor market breaks (Han et al. 2008). In order to assess the impact of family structure on employment break duration, I include a variable to indicate marital status. I expect to find that married women will have longer breaks than unmarried women. Women's personal income is also hypothetically associated with break duration and for women with the greatest personal income, the opportunity costs of staying out of work longer are greater. On the other hand, these women are also likely employed in high status positions that might offer benefits, and greater earnings and savings offer a buffer to the financial strain of the temporary loss income. Although the influence of personal income on postpartum labor market breaks is unclear, family income is shown to lengthen breaks (Barrow 1999; Leibowitz, Klerman and Waite 1992). In the analyses below, I included measure for both personal and family income. I expect to find the women with the least personal and family incomes to return from breaks most quickly.

My review of the literature also indicates that employment characteristics predict break duration. Several scholars indicate that when maternity leave benefits are offered by employers' women return to work more quickly (Baker and Milligan 2005; Joesch 1997; Klerman and Leibowitz 1998; Berger and Waldfogel 2004). I expect to find that, especially in the 1979 cohort of women for whom there existed no universal leave policy, women with a maternity leave benefit will return to work more quickly. Some researchers have also found that labor force attachment (in particular, employment during pregnancy) and job tenure predict shorter break duration (Berger and Waldfogel 2004; Desai and Waite 1991;

Hofferth 1996). As a proxy for both, I include a measure of the weeks employed in the labor force in the year before birth in the analyses that follow. I expect that women with more weeks of employment—those who likely have greater labor market attachment and employment—will return to work more quickly than women who work fewer weeks.

Finally, the data utilized in this study uniquely offers me the ability to explore predictors of break duration in the context of the transition to motherhood in cohorts of women before and after the institution of the FMLA. Research on leave taking after FMLA indicates that since the policy was instituted women more women have taken longer leaves (Ross 1998). This findings suggests that women whose births occurred after FMLA would have longer duration breaks. On the other hand, other researchers have shown that FMLA increases the likelihood that women return to the same job (Han and Walfogel 2003). If this is the case, the breaks of women before FMLA might be comprised of more permanent withdrawals from the labor force that necessitate new job searches. This would suggest that women whose births occurred before the institution of the FMLA might have longer duration breaks.

Data and Methods

Data and Sample Characteristics

The data for this study are from two cohorts of the National Longitudinal Survey of Youth: the 1979 and 1997 cohorts (NLSY79 and NLSY97, respectively). Both data sets are comprised of nationally representative, ongoing longitudinal samples of young women and men. Individuals in the 1979 cohort (more than 12,000) were aged 14 to 22 when the survey began in 1979 and were interviewed annually until 1994 and biennially thereafter. Participants in the 1997 cohort (more than 9000 total) were aged 12 to 16 in 1997 when the survey began. This survey continues annually. The data from these two surveys include

detailed information about employment and childbearing histories as well as sociodemographic and household characteristics. In order to allow for the examination of employment in the context of the transition to parenthood, analyses are limited to first births. The sample of women from the 1979 cohort includes 4283 mothers. The 1997 sample includes 2492 women who became mothers before the 2013 round of the NLSY survey (this is the most recent year for which the birth and employment history data are publicly available) and who were at least 14 at the time of first birth (employment record data was collected only after participants were aged 14).

The mean age at first birth for the 1979 sample is 23.9 (median=23.0) and the mean age at first birth for the 1997 sample is 22.5 (median=21.8). The average age at first birth in the US has been increasing since the 1970s; in 1980, the mean age at first birth was 22.8 years (Matthews and Hamilton 2009), and in 2014 the mean age had risen to 26.3 (Matthews and Hamilton 2016). As such, one would expect the women in the 1997 data set to be older at first birth than the women in the 1979 cohort; in the study samples, however, the mean age at first birth for the women in the 1979 sample is greater than the mean age at first birth in the 1997 sample. Two factors may contribute to this discrepancy in age at the transition to motherhood. First, weekly employment records are available for women in the 1979 cohort beginning when they are 14 to 22 years old at their first survey in 1979; therefore, women who transitioned to motherhood before the Round 1 survey are excluded from the sample. This constraint inflates the age at first birth for this sample. Second, because the most recent round of the 1997 cohort survey that has been released and that contains birth information is the 2013 round, this sample is censored in such a way that it excludes mothers who were older at first birth. In 2013, NLSY participants were aged 28 to 32; therefore, it is likely because this constraint that the women in the 1997 sample are younger at first birth than women in 1979 sample and than women in population currently.

The samples further differ because whereas the women in the 1979 cohort have mostly completed their childbearing trajectories and have employment records lasting around 35 years, the employment and childbearing trajectories of the 1997 cohort are limited by the constraint of available data. As such the break lengths of the women in the 1979 will be longer and more complete than those for the women in the 1997 cohort. In the analyses that follow, I will control for the differences between these two cohorts in order to allow for a more direct comparison of the two in the context of the passage of FMLA.

Measures

Dependent Variable: Break from Employment

Both the NLSY79 and NLSY97 include weekly employment data in all rounds of survey. The dependent variable is a measure of the number of weeks that each mother was out of the labor force between her first birth and her return to employment. In both studies, employment status variables were created using retrospective work histories, regardless of periods of noninterview (“Work Experience”). Work histories were created using a series of retrospective questions that allow the interviewees and survey administrators to create and maintain longitudinal records between survey dates. Participants identified all employers for whom they worked since last survey, and indicated the dates for which they were employed by each. Interviewees were also asked to indicate the dates for and specifics of any employment gaps, i.e. time between employers. Depending on participants’ descriptions of these gaps in employment, the survey administrators coded the women’s weekly employment records for these gaps using the following designations: “not associated with an employer,” “not working,” “unemployed,” or “out of the labor force.” Further, participants could also indicate breaks from the labor force during periods for which they were associated with an employer (according to the start and stop dates of each period of

employer-associated employment period). Weeks during these breaks are coded as periods of “not working” or “out of the labor force” depending on participants’ descriptions. Taken together, this information was used to construct weekly employment arrays in which each week was coded as linked with a specific employer, “not associated with an employer,” “not working,” “unemployed,” or “out of the labor force.”

In this study, I coded women as out of the labor force if their weekly employment records indicated that they were “not associated with an employer,” “not working,” “unemployed,” or “out of the labor force.” The primary dependent variable in this portion of the study is *postpartum work break*, a count of the number of weeks out of the labor force in the month of a first birth until the weekly employment status indicated employment. It is important to note that if a woman was associated with an employer but did not consider herself to have a gap in employment following birth even if she was not actively working during these weeks, the length of her break according to this operationalization is zero weeks. In total 223 of the 4283 women (5.2%) in the 1979 cohort and 216 of the 2492 women (8.6%) in the 1997 cohort were identified as having breaks lasting zero weeks.

Because of the limitations of these data, it is not possible to determine if the women for whom employment histories indicated no breaks (break length=zero weeks) following birth actually had no breaks from work or if they used some kind of leave benefit or policy, which led them to feel that they did not experience a gap in employment. It is reasonable, however, to speculate that at least some of these women did utilize a job-guaranteed leave of some sort. Although the same measure is not available for the 1979 cohort, the 1997 cohort women were asked in each round of survey if they used any paid leave during the time between survey rounds. Of the women in the 1997 whose breaks were measured as zero weeks in duration, 149 of the 216 (69%) women indicated in the survey after their births

that they had used paid leave. It is probable, therefore, that these 149 women who had both zero length breaks *and* who indicated the use of paid leave in the survey following their birth, used maternity leave through their employer. Unfortunately, it is not possible to explicitly link these paid leaves with the period of time following birth, nor is it possible to determine the length of any maternity leave for women who used a leave but did not perceive themselves as having any gap in employment. Because it is not possible to determine the length of breaks for women who utilized paid maternity leave but did not consider themselves as having a break from employment, I chose to keep these women's breaks coded as lasting zero weeks in duration. In analyses not shown, I estimated several models in which I exclude the women whose breaks were coded zero weeks in duration and compared these with the full models presented in the analyses that follow. Excluding these women had little effect on the statistical results. As such, I chose to retain these women in the study and have included all women with a break duration equal to zero weeks in the sample.

Predictor Variables

Considering the literature, several sociodemographic, family and employment variables are likely predictors of break length. The sociodemographic variables included in the analytical models are measures for education, race, income and age at first birth.

Education at first birth is the highest degree earned as measured in each respondent's round of survey before their births. This variable is coded into four categories (no high school or equivalent degree, high school diploma or GED, Associate's/Bachelor's degree, and graduate degree). *Race* is a categorical variable in three categories: Non-Black/Non-Hispanic (White), Black, Hispanic. The NLSY97 included a fourth category for "mixed-race/other, non-Hispanic" but because the NLSY79 did not, I included these women in the "white" group. *Age* at first birth is measured in years. *Income* at first birth is the total income

received in wages, salary, commissions or tips before tax deductions in the year of survey before birth in 2010 US dollars (adjusted for inflation). In the analytical models, income is presented in thousands of 2010 US Dollars.

I include two variables that measure family characteristics: marital status at first birth and family income at first birth. Although the NLSY97 distinguishes between marrieds, non-marital cohabitators and singletons, the NLSY79 does not, as such in the analyses that follows, *marital status at first birth* is a dummy variable that indicates if the new mother was married at the time of her first birth. *Family income* at first birth is the gross family or household income in the survey before first birth in 2010 US dollars (adjusted for income inflation). In the analytical models, family income is presented in thousands of dollars.

Two variables are used to indicate employment characteristics: access to maternity leave and weeks worked. Access to a *maternity leave* benefit is one of the main hypothesized predictors of break length following a birth. The NLSY79 and 97 both included measures for employer-provided maternity leave benefit—in the NLSY97 a distinction is made between paid and unpaid leave, in the 1979 cohort no such distinction is made. Participants were asked if their employers offer job-guaranteed parental leave for all of their jobs since the last survey. For the 1979 survey, in interview rounds beginning in 1985 until 1994, interviewees were asked only about jobs that they were working at the time of the survey. After 1994, study participants were asked about any jobs that they worked in the two years before the survey. There is significant data missing on this variable because women the interview schedule did not include a measure for maternity leave before 1985. For the 1997 cohort, participants were asked about a job-guaranteed leave benefit for any of the jobs in which they were employed in the year before the survey before birth. Further, a distinction was made for the 1997 cohort about whether the maternity benefit was paid or unpaid.

Because no similar distinction was made in the 1979 cohort, I collapsed paid and unpaid benefits; if the women indicated that they had a paid or unpaid leave, they were coded as having a maternity leave benefit. The variable that is included in the analytical models is a dummy variable that indicates if the new mothers had access to a job-guaranteed maternity leave benefit during current or recent employment. It is important to note that this variable does not indicate if the women in this sample utilized a maternity leave benefit during their breaks from employment following childbirth, but rather if they worked at any job prior to birth that offered as a benefit a maternity leave. This variable serves as a proxy measure of occupational status that indicates if the women worked at the types of jobs that offer maternity benefits, generally. *Weeks worked* is a count of the total weeks worked in any job in the year before the interview before break.

FMLA Context

In order to control for survey cohort, I include a dummy variable indicating which whether the mothers were part of the 1979 or 1997 cohort. This control also serves as a proxy for FMLA context. Almost all of the women in the 1979 cohort had their first births before the passage of the FMLA in 1994. All of the women in the 1997 cohort had their first births after the FMLA was passed.

Analytical Approach

The longitudinal data sets for these two cohorts are based on a complex sampling design including clustering and oversampling (in the NLSY97 for black and Hispanic participants). Separate weights were developed for different uses of the data, with the weights primarily adjusting for oversampling and nonresponse. Indeed, the NLSY97 (but not the NLSY79) oversampled black and Hispanic participants. Although weights exist for both samples, I have made the decision not to use them in the regression analyses in this

study. Use of weights in regression is generally unnecessary when the main variables used to create the weights are included as independent variables in the models (Winship and Radbill 1994); when weights are not included the model coefficients are unbiased and consistent, and have smaller standard errors than do weighted OLS estimates. All the full models estimated here control for basic demographic variables such as race and educational attainment which are the primary variables used in generating the weights. (Bureau of Labor Statistics, "Sampling Weights").

Both NLSY samples were generated using geographic clustering in the baseline sample. I opted not to account for the clustering in the analysis of the data following the recommendations of the NLSY researchers for an analysis that combines special subsamples and responses from different waves of the studies (Bureau of Labor Statistics, "Clustering Adjustments"). My study is restricted to women with a first birth during the time of their participation in the study, this yielded a study sample that is a select and small subsample of the original respondents in the NLSY and is drawn from different waves of the study. As a result, the analyses are less likely to be affected by the clustering effects on the standard errors. Additionally, in longitudinal studies extending over many years, the original geographical clusters are likely to be less relevant because of geographical mobility, also reducing the geographical clustering effect. Instead, I used robust standard errors in all regression models, which reduce some of the problems with the data structure and other model misspecification.

Missing Data

Although there was little missing data, as with any survey, some responses are missing. The variables with the most missing data were the income variables. The personal income

variable had 14% missing data and the family income variable had 19% missing data. To compensate for missing data in the analyses that follow, I imputed the data using the ICE command in Stata. In total, 15 datasets were imputed.

Results

Descriptive Statistics

Descriptive statistics including means, standard deviations ranges and percent missing for all the analytical model variables for the complete combined sample (that is both NLSY79 and NLSY97) are presented in Table 1 below. The average break for the combined sample was about 97 weeks. The median break length was 26 weeks, which along with the standard deviation of 197 weeks, indicates substantial variation across women in the duration of their time out of work after first birth. Age at first birth for the combined sample was just over 23 years of age. Most of the women in the sample were white (54%), about a quarter were black and another fifth were Hispanic. More than half of the women in the study had a high school diploma at time of their first birth; about a quarter had not completed high school and had no degree, 15% had an Associate's or college degree and only 2% had completed an advanced degree. The average personal income at first birth for women in the combined samples was \$9,640 and the household income was \$28,320 (both in 2010 US Dollars to adjust for inflation).

Over half the women (56%) were married at first birth. In the year before birth, 43% of the women in the study worked at least one job that offered them job-guaranteed paid or unpaid maternity leave², and had worked in any job on average about half the weeks of the

² According to statistics from the Department of Labor, only 12% of Americans employed in the private sector have access to paid maternity leave through their employers in 2014 ("DOL Factsheet"). Especially after the institution of FMLA, statistics about the number of employees covered by unpaid job-guaranteed maternity leave benefits are not readily available. The rates at

year (26 weeks). Finally, 90% of the women across the two samples had given birth before turning 30.

Table 1: Means, Standard Deviations, Ranges and Percent Missing for Analytical Model Variables for Combined Sample (N=6775)

	Mean	Standard Deviation	Range	Percent Missing
Break Length in Weeks	97.16	197.45	0 – 1827	0%
Age at First Birth	23.38	5.08	13 – 44	4.5%
Race				
White	.54	0.49		
Black	.26	0.44	0 – 1	0%
Hispanic	.19	0.39		
Highest Degree at First Birth				
No Degree	0.24	0.4		
High School or GED	0.57	0.49	0 – 1	1.5%
Associate’s or BA/BS	0.15	0.37		
Graduate Degree	0.02	0.16		
Married at First Birth	.59	0.49	0 – 1	20%
Adjusted Personal Income at First Birth (In 1000s of 2010 Dollars)	9.64	14.72	0 – 194.7	35%
Family Income at First Birth (In 1000s of 2010 Dollars)	28.32	53.38	0 – 701.4	20%
Guaranteed Maternity Leave at First Birth	.43	0.49	0 – 1	38%
Weeks Worked before Birth	25.63	21.26	0 – 53	1%
First Birth before Age 30	0.90	0.29	0 – 1	0%

Basic descriptive statistics, including means, standard deviation, ranges and percent missing for all analytical model variables for both the NLSY79 and NLSY97 cohorts separately are presented in Table 2 below. Compared using t-tests to analyze significant differences, the two cohorts are different on every measure. The average length of break for women in the 1979 cohort was 120 weeks and was almost half that (58 weeks) for the 1997

which the mothers in this study indicate access to a maternity leave benefit through their employers appear to be high; however, compared to their female peers without children, the rates at which the women in the study samples indicate access to a maternity leave are no greater. See Table 17 in Appendix for rates of indication of maternity leave benefit by year for all women in the NSLY79 and NSLY97 versus study samples.

cohort (see Table 15 for means, standard deviations, quartiles and range of break length by cohorts). Due to the constraints of available data for the 1997 cohort, the women in the NLSY79 were slightly older at first birth (mean=23.9 years) than the women in the NLSY97 (mean=22.5 years). Almost all of the women included in the sample from the 1997 cohort had had first births before that age of 30 (94%) compared with the 1979 cohort, of whom 84% had transitioned to motherhood by 30.

Table 2: Means, Standard Deviations, Ranges and Percent Missing for NLSY79 and NLSY97 Cohorts

	NLSY79 (N=4283)				NLSY97 (N=2492)			
	Mean	Standard Deviation	Range	Percent Missing	Mean	Standard Deviation	Range	Percent Missing
Break Length in Weeks	120	232.9	0 – 1827	0%	57.96	101.9	0 – 1010	0%
Age at First Birth	23.9	5.4	13 – 44	6.7%	22.5	4.4	14 – 33.8	0%
Race								
White	0.59	0.49		0%	0.46	0.50		
Black	0.23	0.42	0 – 1	0%	0.31	0.46	0 – 1	0%
Hispanic	0.17	0.38		0%	0.23	0.42		
Highest Degree at First Birth								
No Degree	0.23	0.4			0.25	0.43		
High School or GED	0.59	0.49	0 – 1	0.4%	0.54	0.5	0 – 1	3.5%
Associate's or BA/BS	0.15	0.37			0.17	0.37		
Graduate Degree	0.012	0.16			0.039	0.19		
Married at First Birth	0.69	0.46	0 – 1	0.1%	0.38	.46	0 – 1	4.1%
Personal Income at First Birth (In 1000s of 2010 Dollars)	6.98	12.22	0 – 194	28.5%	18.42	18.42	0 – 139.3	41.7%
Family Income at First Birth (In 1000s of 2010 Dollars)	19.45	48.71	0 – 701	25.7%	54.9	57.09	0 – 365	23.7%
Guaranteed Maternity Leave at First Birth	0.53	0.49	0 – 1	53.4%	0.34	0.47	0 – 1	11.9%
Weeks Worked before Birth	24.05	21.4	0 – 53	0.5%	28.4	20.7	0 – 53	2%
First Birth before Age 30	0.84	0.36	0 – 1	6.2%	0.94	0.24	0 – 1	0%

Note: T-Tests are used to evaluate significant differences between the means of the two cohorts. Differences existed between each measure and were significant at the $p < .001$ level.

More of the women in the 1979 cohort were white than in the 1997 study, and fewer were black or Hispanic. A greater percentage of the women in the 1997 cohort had, at first birth, both not completed any degree and had achieved college and graduate degrees. At the

transition to motherhood, the 1997 mothers had both greater household and family incomes (adjusted for inflation to 2010 US dollars). Almost twice as many women in the NLSY79 were married at the first birth than the NLSY97. Of women in the 1979 group, 53% indicated that they were employed before birth in jobs that offered a job-guaranteed maternity benefit compared with 34% of the women in the 1997 group. The women in the 1997 sample had worked, on average, slightly more weeks in any job in the survey year before first birth than those in the 1979 sample, (28.4 weeks and 24.1 weeks, respectively).

Predictors of Break Duration

In order to assess the independent effects of each hypothetical predictor of break length, I estimated bivariate regressions using every hypothetical variable to predict continuous break length for the combined sample and for each of the cohort samples separately. The results of these estimations are presented in

Table 3 (next page). Considering first the combined sample, women in the NLSY97 have breaks that are predicted to be 62 weeks shorter than women in the NLSY79. Age is associated with shorter breaks such that for each year a women delays birth her breaks are predicted to be 1.63 weeks shorter. In the combined sample, black and white women did not have statistically significantly different duration breaks. Hispanic women have predicted breaks that are 20 weeks longer than white women.

Education at first birth significantly predicts break length for women in the combined sample. Compared with women whose highest degree at first birth is their high school diploma, women without any degree have predicted breaks that are 67 weeks longer.

Table 3: Bivariate Regressions for Each Predictor Variable Estimating Break Length for the Combined Sample, and NLSY79 and NLSY97 (B-Coefficients with Standard Errors in Parentheses)

	Combined Sample N=6775	NLSY79 N=4283	NLSY97 N=2492
Cohort (1979=0, 1997=1)	-62.02*** (4.1)		
Age at First Birth	-1.63** (0.5)	-1.78** (0.67)	-3.96*** (0.44)
Race (<i>Ref. Group: White</i>)			
Black	5.85 (5.58)	16.25+ (8.9)	8.88* (4.86)
Hispanic	19.36** (7.12)	38.24*** (11.79)	11.23** (5.08)
Highest Degree at First Birth (<i>Ref. Group: High School</i>)			
No Degree	67.17*** (6.877)	91.75*** (10.36)	35.28*** (5.87)
Associate's or BA/BS	-22.55** (5.65)	-18.79* (8.68)	-22.42*** (4.1)
Graduate Degree	-43.19** (10.81)	-13.13 (25.37)	-42.4*** (3.37)
Married at First Birth	21.6*** (5.18)	2.84 (9.24)	-7.08 (4.41)
Personal Income at First Birth	-2.08*** (0.19)	-2.09*** (0.35)	-1.16*** (0.16)
Family Income at First Birth	-0.27*** (0.05)	-0.119+ (0.07)	-0.148*** (0.05)
Maternity Leave at First Birth	-81.52*** (5.55)	-102.6*** (8.93)	-50.91*** (3.71)
Weeks Worked before First Birth	-2.71*** (0.01)	-3.06*** (0.16)	-1.80*** (0.11)
First Birth before 30	9.07 (7.87)	11.35 (10.26)	39.45*** (3.61)

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

Women with Associate's or college degrees and those with advanced degrees at first birth have breaks that are predicted to be shorter than women with high school diplomas (22.5 weeks and 43 weeks shorter, respectively). Annual income in the year before first birth also significantly predicts break length; a thousand dollar increase in salary (in 2010 US Dollars)

is associated with a more than two week shorter break (b-coefficient=-2.08). Family income is negatively associated with break length and a ten thousand dollar step up in income (in 2010 US Dollars) is associated with predicted breaks that are almost three weeks shorter (b-coefficient=-0.27). Comparing personal and family income, it appears that women's personal income is a stronger predictor of break duration than her household income. The other hypothesized family structure variable, marital status, also significantly predicts break length; married women have predicted breaks that are twenty-one weeks longer than unmarried women. Women who worked jobs in the year before their first births that offered a paid or unpaid maternity benefit have breaks that are significantly shorter than women who did not; women with a maternity benefit return to work a predicted 81 weeks more quickly than women who did not have access to job-guaranteed leave. Finally, each week of work in any job in the year before birth is associated with an almost three week shorter break (b-coefficient=-2.77).

Separating the samples and comparing the bivariate regressions indicates that all variables, except for birth before age 30, operate to predict shorter breaks for the women in the 1997 cohort. Although there is no significant difference between women who give birth before 30 and those who give birth after 30 in the 1979 sample, women in the 1997 who gave birth before age 30 have predicted breaks almost 40 weeks longer than women in that cohort who delay birth until after 30. It is important to note, however, that this result is likely an artifact of the censored nature of the data from the 1997 sample. Though the data in the 1979 study allow for complete analyses of childbearing and work histories, the data for women in the 1997 cohort are limited such that women who gave closer to the 2013 survey (the last year for which the data are available, at which time the women are only aged between 28 and 32) and not returned to work have truncated records. This is especially true for women in the 1997 sample who are older at first birth.

Next, I turn to full multivariate regression models in which I included all predictor and control variables to estimate continuous break length duration in weeks (Table 4).

Table 4: Full Regression Models Estimating Break Length for the Complete Sample, and the NLSY79 and NLSY97 Cohorts Separately (B-Coefficients Presented with Standard Errors Below in Parentheses)

	<u>Model 1</u> Combined Sample N=6775	<u>Model 2</u> NLSY79 N=4283	<u>Model 3</u> NLSY97 N=2492	Significant Differences
<i>Cohort (1979=0, 1997=1)</i>	-47.46*** (5.08)			
<i>Age at First Birth</i>	5.87*** (0.88)	9.35*** (1.22)	1.71* (0.79)	***
<i>Race (Ref. Group: White)</i>				
Black	4.08 (5.36)	10.64 (8.27)	-4.96 (4.87)	
Hispanic	11.89+ (6.71)	24.8* (10.98)	-5.61 (4.92)	*
<i>Highest Degree at Birth (Ref.: HS)</i>				
No Degree	50.47*** (7.57)	68.47*** (11.46)	16.77** (6.45)	***
Associate's or BA/BS	-7.51 (6.39)	-3.25 (9.41)	-10.25* (4.89)	
Graduate Degree	-8.58 (11.64)	1.54 (25.06)	-18.60** (5.71)	
<i>Married at First Birth</i>	15.79** (5.89)	14.65 (9.11)	17.85** (5.14)	
<i>Personal Income at First Birth in 1000s of 2010 US Dollars</i>	-0.63* (0.28)	-0.69 (0.47)	-0.52* (0.21)	
<i>Family Income at First Birth in 1000s of 2010 US Dollars</i>	0.11* (0.05)	0.13 (0.13)	0.07 (0.06)	
<i>Maternity Leave at First Birth</i>	-42.34*** (7.85)	-57.92*** (11.48)	-12.18** (4.22)	***
<i>Weeks Worked before First Birth</i>	-2.33*** (0.14)	-2.81** (0.22)	-1.64*** (0.12)	***
<i>First Birth before 30</i>	22.40* (10.32)	29.61+ (15.45)	14.02** (5.11)	
Intercept	-18.10 (26.99)	-67.06 (39.32)	56.56** (21.58)	

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

In the final column of the table, I present indication level of significance of differences across the two cohorts. To determine these significant differences, in analyses not shown I estimated the full regression model with the inclusion of interaction terms for each predictor variable and cohort (see Table 18 in Appendix for this model).

First, I will review the results estimated in the combined sample, presented in Model 1. Although cohort membership remains an important predictor of break length, the b-coefficient is reduced compared to the b-coefficient in the bivariate regression model in which I used cohort membership to estimate break length. This indicates that some of the differences across cohorts are due to the other predictor variables, but that cohort effects also exist.

Age at first birth is a stronger predictor of break length in the multivariate model than as a bivariate predictor, and relationship between age at first birth and break length is significantly different for the two cohorts. For women in the 1979 cohort, each year older a woman is at first birth is associated with an almost two and a half month longer break. For women in the 1997 cohort, age only moderately predicts break length, and each year older at first birth is associated with only about a two week duration break. Race predicts break length differently in the two cohorts. Although only Hispanic women have statistically significantly different predicted break duration compared to white women in the 1979 cohort, racial differences across cohorts are significant. The sign of the coefficients for women of color in the 1979 cohort are both positive, but are negative in the 1997 cohort. This indicates that women of color in the 1979 cohort were predicted to have longer breaks than white women but minority women in the 1997 cohort had shorter predicted breaks than white women. Education appears to be a primary driver of break length, and in particular the least educated women have the longest breaks. Considering the combined

sample, women who did not complete any degree were predicted to have breaks almost one year longer than women with a high school diploma. Although not statistically significant for women in the 1979 cohort, the signs of the b-coefficients for education indicate that in general women with more education have shorter predicted breaks.

Being married at first birth significantly predicted longer breaks in the combined sample and in the 1997 cohort. Married women in the 1997 cohort had predicted breaks more than four months longer than unmarried women. Regarding personal and family income, personal income only significantly predicted break length for women in the 1997 cohort. Family income was not a significant predictor of break length for either cohort and personal income did not predict break duration for the 1979 women. For the women in the 1997 cohort, a 10,000-dollar increase in personal income was associated with about a five week shorter break (b-coefficient=-0.52).

Both employment variables predicted break length in both cohorts. Access to job-guaranteed maternity leave in any job in the year before birth was associated with shorter break lengths in both groups of women. For women in the 1979 cohort, access to a maternity leave benefit at any job in year prior to birth was associated with more than one year shorter breaks. For women in the 1997 cohort, a maternity leave benefit was associated with shorter breaks of more than twelve weeks. The significance of the interaction term of cohort by maternity leave benefit indicates a significant difference between groups in the way this relationship operates. Women in the 1979 cohort face a greater penalty of not having access to maternity leave through their employer than do women in the 1997 cohort (see Figure 1 in Appendix). Weeks of employment in the year before birth also significantly predicts shorter breaks in both cohorts. Every week worked is

associated with a two and a half week shorter break for women in the 1979 cohort and a one and a half week shorter break for women in the 1997 cohort.

In separate regression analyses, not shown, I limited the samples only to women whose first birth occurred before the age of 30. I did this in order to control for the limitations of the 1997 cohort data. Because of the constraints to the data mentioned above (see “Data and Sample Characteristics”), the 1997 data are censored such that the women in the 1997 cohort are younger at first birth than are the women in the 1979 cohort. Ninety-four percent of the women in the 1997 cohort had their first births before the age of 30; in comparison, 87% of the 1979 cohort gave birth first at 30. In the bivariate regression models, first birth before age 30 was associated with shorter breaks for both cohorts; and in the multivariate models, this variable was associated with shorter breaks for both groups. These results are only minimally different than those in which the sample was not restricted (Table 4) which indicates little bias introduced by the limitations of the 1997 data in terms of the age at which participants gave birth.

Discussion

In a labor market and social system that offers only minimal support to women following a birth of a child, women’s SES, familial and employment characteristics stratify access to and opportunity for optimal time home with a baby. Using two cohorts of the National Longitudinal Survey of Youth—1979 and 1997 Cohorts—I explore predictors of break duration in a descriptive analysis of the factors associated with postpartum employment duration for two cohorts of women. The NLSY79 and NLSY97 offer a unique opportunity for the exploration of predictors of break duration in the context of the institution of the Family Medical Leave Act; while almost all of the women in the 1979

cohort transitioned to motherhood before the FMLA was passed in 1993, the women in the 1997 cohort all gave birth after the policy had been instituted.

Predictors of Break Duration

I found that several of the hypothesized predictor variables were associated with postpartum break duration. Turning first to education, education was negatively associated with break duration. Compared to women with high school diplomas, women without any degree at first birth had predicted break durations that, were in both samples, almost a year longer. Women with college and graduate degrees had shorter predicted break durations than did women with high school diplomas. I found that age at first birth was negatively associated with break duration in the bivariate regression models, but in the full models, age was positively associated with break duration. Few statistically significant differences emerged across women and cohorts concerning race. Regarding family structure, in both cohorts married women's breaks from employment were substantially longer than unmarried women's breaks (about 16 weeks). This difference across women by family structure was statistically significant for the 1997 cohort alone. Considering other SES measures, women's personal income at first birth was moderately associated with shorter breaks and family income was marginally associated with longer breaks. Access to a job-protected maternity leave benefit was predictive of shorter breaks in both cohorts as was the number of weeks worked before birth.

The findings of this study confirm the stratification of women's postpartum employment duration by socioeconomic status. Women with the shortest and longest postpartum employment breaks are most disadvantaged in terms of their wellbeing and health (Dagher, McGovern and Dowd 2014; Ross and Mirowsky 1995). As predicted by other researchers (Han et al 2008, Gaudet et al. 2003), the women with the least education

are most likely to withdraw from work for very long periods. During this extended time out of the labor force these already economically disadvantaged women forgo wages and earnings of employment. Further, they are likely disadvantaged in job searches because of their limited social capital when they attempt to re-enter the labor market in new positions (Hewlett & Luce 2005; Waldfogel 1997). Women on the other end of the SES spectrum return to work very quickly compared with their less educated counterparts. Although a quick return to employment does offer women the advantages of job continuity and earnings, women can be disadvantaged in terms of wellbeing by little time spent at home after a birth (Dagher et al. 2014). My findings on women's income at first birth also indicate that women with the greatest socioeconomic status return to work quickly. Interestingly, contrary to Leibowitz, Klerman and Waite (1992) I did not find that family income was significantly associated with break duration. I can conclude, however, that (for women in the 1997 cohort alone) women's personal income does moderately predict return quicker return to work.

Cohort Differences

Considering disparities across cohorts, two striking differences emerged. First, the predicted break lengths of women in the 1979 cohort were almost double those of women in the 1997 cohort. The average length break of women in the NLSY79 approached two years whereas the NLSY97 women had breaks averaging about a year. My analyses of the bivariate predictors of break duration indicated a cohort effect on predicted break length of -62 weeks (NLSY79=0, NLSY97=1). With the inclusion of all other predictor variables in the regression analyses, a cohort effect of -47 weeks persisted. This indicates that the two cohorts differ substantially in ways unexplained by the other hypothesized predictor variables included in the analyses. Second, the two cohorts differed in access to a job-protected maternity leave benefit offered by employers; 53% of women in the 1979 cohort

compared with 34% of women in the 1997 cohort had an employer offered maternity benefit at any job in the year before birth. Access to this benefit at work is an important predictor of break length. Women in both samples who had a maternity leave benefit were predicted to return to work 40 weeks more quickly (controlling for all other predicted variables). The penalty of time off work is greater for women in the 1979 cohort (58 weeks, controlling for all other predicted variables), but a substantial penalty of 12 weeks exists for 1997 cohort women without a maternity leave benefit (for an illustration of the factors that predict access to maternity leave benefits, see Table 16 in Appendix for logistic regressions). I cannot determine if the women in the 1997 cohort without access to a maternity leave benefit utilized FMLA leave; however, because only 25% of these women returned to employment before 12 weeks time, I speculate that many of the women without job-protected leave did not have access to or utilize FMLA leave.

These data do not allow me to directly assess the impacts on break duration of the FMLA because I cannot identify which women in the 1997 cohort took leave using the benefits provided by the policy. I can, however, definitively conclude that significant cohort differences exist both in terms of postpartum employment duration and in terms of access to employer-offered job-protected maternity leave. Many fewer women in the more recent cohort had access to maternity leave through employers. Although some of these women might have had access to FMLA guaranteed leave, because more than 75% of the women without a leave benefit returned to work after 12 weeks, I am lead to believe that most women who are not offered leave at work do not use FMLA leave. For women in the NLSY97 cohort, the average time out of work for women with access to a maternity benefit was 27 weeks, for women without any maternity benefit, average time out of work was 76 weeks. Inequalities seem to persist across women both cohorts in terms of break duration based on employer offered maternity leave since the institution of FMLA despite any benefit it offers.

Limitations

Three limitations of this study are important for consideration. First, the NLSY97 does not allow me to determine if women's postpartum employment breaks are the purview of any maternity leave benefit or the FMLA. Knowing if women used a family leave benefit or utilized FMLA following their births, and the specifics of those leaves (i.e. paid or unpaid benefits) would allow me to make more confident assertions about the direct impacts maternity leave benefits and of the Family Medical Leave Act on women's postpartum employment. Second, although the data for women in the 1979 cohort include women's complete childbearing histories and employment histories through mid-life, because public use data is only available through the 2012 round of survey, complete childbearing and employment histories do not exist for the younger cohort of women. The women in the 1997 are younger at first birth than are the women in the 1979 cohort. Considering the trend in delayed birth among more recent cohorts of women, one would expect that the 1997 women to be older at first birth. In an effort to reduce this bias across cohorts, in some analyses I restricted the samples to women for whom births occurred before that are of 29. This yielded few significant differences across from the analyses with the complete available sample. Third, the variables and measures that I use in this study do not allow me to fully explain the cohort effect of nearly a year that exists in duration of breaks between these two cohorts of women. Several social, political and ideological differences likely exist between these women that I am not able to measure with these data. Variables that assess women's individual gender ideologies would allow for an exploration of some of these differences, but unfortunately do not exist for these samples.³

³ The NLSY97 has one measure that could be used as a proxy for gender ideology: percent chance that the participant thinks she will be working more than 20 hours a week at age 30. This variable is measured on in the 1997 round of survey and is not available for the NLSY79 cohort. Most

Directions for Future Research

Future research could use these findings of cohort differences in break duration and access to maternity leave as a jumping off point. An exploration of other sociopolitical factors, and ideological and attitudinal changes that drive the cohort effects could explain why the women in the NLSY97 take breaks that are of much shorter duration than those of women in the NLSY79. Such research would require information about women's gender ideologies in both cohorts that would allow for comparisons between the two groups. Without such attitudinal measures, it is not possible to fully explain the striking cohort differences. In a 2008 review, Percheski suggests several possible mechanisms for cohort changes in employment among women, including increased gender-equal employment opportunities and legal protections against gender discrimination, increased control of fertility and fertility timing, changing workplace norms and policies, changing gender norms, increased marriage opportunities among professional women, changes in the gender structure of occupations, and changes in family life and marital roles. Future research could investigate the influence of these factors on postpartum employment with the inclusion of measures for each and cohort changes in break duration over time. Further, an interesting avenue of research would be to assess the long-term effects of postpartum employment break duration in these two cohorts in terms of earnings or other measures of wellbeing. Lastly, although it is possible using NLSY to investigate changes in employment upon reemployment, such as employment in new positions or changes in occupational status, such analyses were beyond the scope of this study. An interesting extension of this research would be an inclusion of an analyses of these types of transitions.

of the women in the sample indicated in the first round of survey that they expected to be working more than part-time at 30.

Conclusion

In summary, using two cohorts of a nationally represent, longitudinal survey, I found that the length of women's postpartum employment breaks is stratified by SES. Following a first birth, women with the least socioeconomic status in terms of education experienced long breaks, and, it follows, re-entries to the labor market marked by job searches and with depreciation of skills. Women with the greatest SES in terms of education had substantially shorter breaks from employment and were most likely to return to work very quickly. Comparing the two cohorts, women transitioning parenthood after FMLA experienced much shorter breaks than did their mothers' generation. A smaller proportion of these women also had access to maternity leave as a benefit of their employment. This study uniquely contributes to our understanding of postpartum employment by offering insight into a variety of predictors of break length and by exploring changes in breaks and their predictors over time.

Chapter 3: Postpartum Employment Breaks and Marital Quality after Return to Work

The transition to parenthood is a unique life stage. Following childbirth, formerly equitable housework arrangements among couples often become stratified and the burden of family work, which increases several times over with a new baby, falls, on average, more heavily on women (Stone 2007). For women in dual-earner families, this means that work and home compete in ways that they have never before especially upon the return to work. Although several aspects of the transition to parenthood are well documented, little research exists that explores women's employment in the context of becoming a new mother. The body of literature investigating the effect of becoming parents on marital quality is vast. In general, this research indicates a negative association between parenthood and marital relationships, especially in the few years following a birth (Cowan and Cowan 1995; Glenn 1990). A similarly extensive body of literature exploring the relationship between women's employment and marital quality yields mixed evidence on association between women's employment and marital satisfaction. Women's employment is shown to improve marital relationships; for instance, by reducing economic hardships (Amato, Booth, Johnson and Rogers 2007) and by offering women opportunities for wellbeing including increases in social networks and self-esteem that might buffer against stress (Ross, Mirowsky, & Goldsteen 1990). On the other hand, when women work longer hours both partners indicate greater marital conflict (Amato et al. 2007), and when wives perceive the division of labor as inequitable, as might be the case upon return to work after a break for a baby, marital relationships decline (Pina and Bengtson 1993).

A gap exists, however, in the research on women's postpartum employment and the effects of break duration on marital quality. No research has explored the consequences to

couples' relationships of the amount of time women spend out of the labor force after a first birth. Using quantitative, longitudinal data from the National Longitudinal Survey of Youth-1979 Cohort (NLSY79), I expand on prior research on women's employment and childbirth by exploring marital relationships in the context of the transition to parenthood. Specifically, I examine the consequences to marital quality of the duration of breaks from market labor following first birth. My principle goal is to determine if a relationship between postpartum break duration and marital quality exists; and if so, which work break length yields optimal returns to the marital relationships.

Background

A Life Course Perspective

The life course perspective offers a useful lens through which to examine postpartum employment and marital quality following the transition to parenthood (Elder, Johnson, and Crosnoe 2003). From this perspective, the experiences of women are guided by interpersonal and social gender across the life course, and at each life stage, the norms that guide options available in the spheres of work and home vary (Moen and Han 2001). Individual's gender ideologies reflect their social location and the circumstances of their lives (Vespa 2009). At the transition to parenthood, for employed, married women, the expectations of motherhood combine and interact with their positions as wives and workers. The stressors and challenges faced by women when they move back into employment after a break for a birth are unique to this point in their lives. Researchers of the life course further posit that the experiences in one life stage influence later stages (Elder, Johnson and Crosnoe 2003).

Marital Quality, Employment and the Transition to Parenthood

Three areas of research offer insight into the association between marital quality and postpartum employment in the context of becoming a mother: 1) research on marital quality and employment, 2) studies of marital quality and the transition to parenthood, and 3) research on maternity leave and marital quality. A common theme across these literatures, and essential to sociological research more broadly, is the understanding that individual characteristics and circumstances—especially socioeconomic status—might influence the processes by which the compounding influences of the transition to parenthood and postpartum employment affect women’s relationships with their spouses.

Marital Quality and Employment

Research on the effects of women’s employment on their marital quality is expansive, but the findings of this research are generally mixed. Although some factors regarding women’s employment theoretically and empirically benefit marriage, others are shown to be associated with marital conflict and dissolution. Some researchers indicate that the net effect of these contradictory influences on marital quality (though not necessarily marital stability) is naught as they balance each other out (Schoen, Rogers and Amato 2006).

Turning first to the benefits of wives’ employment on marital quality, the research on the positive links between women’s employment and their marital satisfaction primarily identifies two mechanisms: 1) the positive influence of women’s financial contributions via income and earnings, and 2) the boon to marital quality of greater equity between spouses. Women’s income and earnings have been shown to increase marital quality by providing families with a buffer against financial strain (Greenstein 1990; Rogers and DeBoer 2004). Conger et al. (1990) found that economic hardship was linked in married couples with lower relationship quality. Gender equity is another benefit of women’s employment.

Women with greater earnings report more equal relationships with their partners on many dimensions including a sharing more of the household labor such as childcare, and more shared interests including interest in each other's lives (Coltrane 2000). Women's employment may positively influence marital quality in other, indirect ways; the psychological benefits of employment are well established (Ross, Mirowsky, and Goldsteen 1990 offers a review). Employed women indicate greater wellbeing in terms of less anxiety, distress and depression than unemployed women (Ross, Mirowsky and Goldsteen 1990). Work itself may offer benefits to women that indirectly affect their relationships at home. Colleagues may be an important source of social networks, friendships and social and emotional support that increase wellbeing.

Conversely, some of the research on marital quality and employment links women's market work with marital conflict and, in particular, marital instability. This research indicates that role strain and inequitable division of labor arrangements exacerbated by the difficulties of combining work with family that falls disproportionately to women drive this negative association. Although employment converges among spouses, equity in housework persists. These unequal arrangements may lead to marital conflict. In research on two cohorts of women, Rogers and Amato (2000) found that women in the younger cohort (those whose employment arrangements were more egalitarian), exhibited conflict in combining the demands of work with family resulting in marital conflict. When housework and market work shares are more equitable, couples indicate lower marital stress (Pleck 1997; Robinson and Godbey 1999), but when women perceive the division of labor as imbalanced, marital dissatisfaction increases (Frisco & Williams 2003). These findings may be particularly applicable to women's marital happiness in the context of the transition to motherhood, as during this time, they face challenges of combining new work and family roles that, for the most part, their partners do not.

Interestingly, the causal order by which the marital quality and employment relationship operates is not necessarily clear. Rogers (1999) found that when women experienced increased marital conflict, they increased their market labor exertions to increase their income, likely to build a financial buffer in case of divorce or separation. Rogers suggests that women's employment was sensitive to their perceptions of marital quality; that is, marital conflict and happiness influence employment decisions.

Marital Quality and the Transition to Parenthood

Much previous research has explored the effects of the transition to parenthood on marital quality. Although the findings in this area of research are also mixed, most indicate that, at least in the short term, marital relationships decline following a first birth. Two divergent perspectives on the subject have emerged (Lawrence, Cobb, Rothman, Rothman and Bradbury 2008). From the first perspective, the transition to parenthood alters marriages in an irreversible, negative way (Cowan and Cowan 1995; Moss, Bolland, Foxman and Owen 1986). From the second, more contemporary perspective, the effects of on marital relationships during the transition to parenthood is seen as a temporary upset in marital satisfaction from which most couples adapt and recover (Cowan and Cowan 2003). Recent research in sociology generally supports this second perspective and additionally examines the importance of couple characteristics, individual orientations and divisions of labor as important mediators of stress.

In a meta-analytic review of marital satisfaction and parenthood, Twenge et al. (2003) concluded that compared with childless women, mothers have lower marital satisfaction, especially while their children are infants. The authors found that restrictions to freedom and role conflict drive marital dissatisfaction. They also find that marital dissatisfaction following the transition to parenthood is greater now than in the past and is more prevalent

among parents with greater SES. Conversely, Lavee, Sharlin and Katz (1996) find role strain (via wife's employment and household division of labor) to have little effect. Instead, they conclude, economic distress drives parenting stress, which in turn lowers marital quality. Lawrence et al. (2008) found that marital satisfaction prior to childbirth is predictive of marital satisfaction later. Although parenthood hastens marital decline for all couples, couples with poorer marital quality experienced the greatest changes.

Researchers have shown that some of the effect of parenthood on marital satisfaction decline can be attributed to an increase in marital conflict and housework among wives (Nomaguchi and Milkie 2003). In a recent study, Chong and Mickelson (2016) find that perceptions of fairness in the division of labor are more influential than actual arrangements; therefore, it follows, women who are most dissatisfied with postpartum work and family divisions of labor, likely exhibit the most declines to marital quality. Helms-Erikson (2001) suggests that timing of births is important in predicting marital quality much later (10 years). In her study, 'early' timing for first births, compared with 'on-time' and 'delayed' timing, was associated with more marital dissatisfaction. It is likely that timing of birth is a function of SES, employment and gender norms, factors that also influence marital happiness.

Postpartum Employment and Marital Quality

Following an exhaustive research of the literature, I found only one study in which researchers explicitly explored the compounding effect on marital quality of both employment arrangements and the birth of a child (Hyde, Essex, Clark and Klein 2001). This study utilized the Wisconsin Maternity Leave and Health (WMLH) Project, a survey that followed more than 550 women from their third trimester until one year after birth. In total 124 of these women were becoming new mothers; the rest previously had children. Hyde,

Essex, Clark and Klein (2001) analyzing only women who had returned to work by four months postpartum, found leave length to be positively associated with dissatisfaction with the division of household labor but not with marital quality; that is women who took longer breaks were more unhappy with their household division of labor arrangements. These findings are, however, limited because the researchers assessed marital quality only at four months postpartum.

The Present Study

The primary research question of the present study is: How does the length of break from employment following the transition to parenthood affect women's marital quality? To address this research question, I use nationally representative, longitudinal data to explore the associations between duration of postpartum breaks from employment and marital quality in the context of the transition to parenthood. With the data from the NLSY79, I assess the effects on marital quality of break duration for temporary breaks from the labor force lasting from a few weeks to several years in duration. Further, by restricting the analyses to breaks following first births, I am able to explore these associations in the context of the transition to parenthood.

Because this question has never been explored, hypothesizing about the results of the following study is challenging. It is possible, however, to make some speculations based on the extant literature. First, the literature regarding employment and marital quality would suggest that break is associated with marital quality. This body of research indicates that the financial benefit of women's employment to families would buffer against the financial stress of a new baby. Additionally, more egalitarian market labor arrangements are associated with greater marital happiness; therefore, returning to work earlier should be associated with greater marital quality. Employment is also associated with non-financial

benefits including social networks and self-esteem. I might expect, therefore, that shorter breaks should be positively associated with marital quality. On the other hand, role strain and perceptions of unfairness, both of which are negatively associated with marital quality, might be reduced for women with longer breaks (Twenge et al. 2003). Taken together, I anticipate that I will find that women with the shortest and longest breaks experience the greatest declines to marital quality.

Data and Methods

Data and Sample Characteristics

The data for this study are from the National Longitudinal Survey of Youth, 1979 Cohort (NLSY97). This data set is comprised of nationally representative, ongoing longitudinal samples of young women and men. More than 12,000 individuals participate in this study. The participants were aged 14 to 22 when the study began in 1979. They were interviewed annually until 1994, after which their interviews continued biannually. The data from this survey include detailed information about employment and childbearing histories as well as sociodemographic and household characteristics. Also included in the survey beginning in the 1992 round of interview and continuing until the 2012 survey are questions about marital happiness and strain.

Several limitations of the available data exist that constrain the sample for the current study to 419 women. First, in order to investigate postpartum employment in the context of the transition to parenthood, the sample is first restricted to first births. In total the NLSY97 cohort includes 6283 women. Of these women, approximately 4200 became mothers. Second, the NLSY79 includes marital quality measure only beginning in 1992. Although a similar battery of questions was administered in 1988, it was administered only to women who were already mothers. The sample, therefore, is next limited to women who were

married at the time of the 1992 survey. The third qualification is that, in order allow for assessment of the effect of the postpartum break on marital quality, the break needed to occur after the 1992 survey. By 1992, more than 88% (3770) of the women had given birth. In total, 513 women gave birth after their 1992 survey, and at that time of their survey, 359 were married. The final constraint on the sample is the requirement that the women answered the questions about marital satisfaction in their 1992 survey; this constraint again reduces the overall sample size, and to the final N=419.

To allow for comparison between the all the women with first birth in the NLSY79 and the sample of women in this study, means, standard deviations and ranges for the analytical model variables for both groups are presented below in Table 5. Although break duration is similar for both the study sample and the larger NSLY79 group, the groups differ in notable ways. First, the study sample is much older at first birth than the NLSY79 new mothers. More of the women in the study sample are white and fewer are black than in the NLSY79. The women in the study sample have greater education. Whereas all the women in the study sample were married at first birth (one of the qualification for inclusion in the study sample), 60% of the larger group was. The pre-birth personal and family incomes were greater for the women in the sample study. It is worth remembering that the NLSY79 includes single women; by definition, the women in the study sample had partners who likely contributed to their family income.

Table 5: Means, Standard Deviations and Ranges for All Analytical Model Variables for Study Sample and NLSY79 New Mothers

	Study Sample N=419			All Mothers, NLSY79 N=6283			Sig.
Break Length in Years	2.27	4.25	0 – 21	2.3	4.47	0 – 35	*
Age at First Birth	32.42	3.92	18 – 44	23.93	5.39	13 – 44	**
Race							
<i>White</i>	0.7	0.45	0 – 1	0.59	0.49	0 – 1	***
<i>Black</i>	0.12	0.33	0 – 1	0.29	0.42	0 – 1	***
<i>Hispanic</i>	0.16	0.37	0 – 1	0.17	0.38	0 – 1	
Married at First Birth	1.0	0.0	0 – 1	0.69	0.46	0 – 1	***
Pre-Birth Personal Income	29.9	28.17	0 – 236	11.22	16.07	0 – 236	***
Pre-Birth Family Income	102.26	158.7	0 – 974	32.76	70.78	0 – 1057	***
Highest Degree at First Birth							
<i>No Degree</i>	0.03	0.16	0 – 1	0.19	0.39	0 – 1	***
<i>High School or GED</i>	0.34	0.47	0 – 1	0.58	0.49	0 – 1	**
<i>Associate's or BA/BS</i>	0.39	0.48	0 – 1	0.17	0.37	0 – 1	***
<i>Graduate Degree</i>	0.12	0.37	0 – 1	0.16	0.16	0 – 1	**

T-Tests are used to evaluate significant differences.

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

Measures

Dependent Variable: Change in Marital Quality

Change in marital quality is operationalized by two variables: change in marital happiness and change in marital conflict. The decision to include multiple dimensions of marital quality was based on research that indicates that although global marital happiness and marital conflict are both predict success of marriages, that what each of these dimensions actually indicates about marriage is distinct (James and Beattie 2012; Johnson, White, Edwards and Booth 1986). In a factor analysis of five distinct concepts used to evaluate marriages—marital happiness, marital interaction, marital disagreements and marital instability—Johnson et al. (1986) find that there are two distinct and separate dimensions of marital quality: one based on happiness and interaction, and another that indicates conflict. As such, in the analyses that follow, two measures, one for happiness and the other for conflict, are evaluated.

Marital Happiness

Regarding marital happiness, respondents were asked biannually in surveys beginning in 1992 and continuing until 2012, "Would you say that your marriage is very happy, fairly happy or not too happy?" Responses are coded in this study such that greatest marital satisfaction ("very happy") is coded 3, "fairly happy" is coded 2 and the least satisfaction "not too happy" is coded 1. Although the NLSY79 also includes measure for marital interaction (laughing together and calm discussion), these questions are only administered until 1998, after which fully 30% of the sample had not returned to work. As such, global happiness will serve a proxy measure for the marital happiness and interaction dimension offered by Johnson et al. (1986). I identified the marital happiness scores for each respondent in the closest survey before birth and in the closest survey following her return to work. The change in marital happiness score is simply the difference between the on-return score (measured in the survey following the end of breaks and, thus after women's return to employments) and the pre-birth measure (measured in the survey before break). The mean score for pre-birth marital happiness was 2.79 (standard deviation=0.43) and was 2.75 for the return to work measure (standard deviation=0.46). The average marital happiness change score was -0.03 (standard deviation=0.29), which indicates a slight average decline.

Marital Conflict

Change in marital conflict was constructed in a similar fashion. A ten-item scale measures marital conflict. Respondents were asked how often they argued with their spouse over each of the following: chores and responsibilities, children, money, showing affection, religion, leisure time, drinking, other women, spouses' relatives and respondents' relatives. Scores on this scale ranged from "never" (1) to "often" (4). The scores were averaged to create both pre-birth and return-to-work scores. The Cronbach's alpha

reliability score for the pre-birth scaled items was 0.78, and inter-item correlations ranged from 0.33 for the religion item to .52 to the money item. Similarly, the Cronbach's alpha reliability score for the return-to-work scale was 0.76, with inter-item total correlations ranging from 0.27 to 0.51 for the religion and affection items, respectively. I created the change score by subtracting the pre-birth scale score from the return-to-work scale. The mean score on the pre-birth scale was 1.78 (standard deviation=0.47) and was 1.82 for the return-to-work score (standard deviation=0.45). In the analyses that follow, the change score is standardized. The average pre-birth conflict score was 0.03 (standard deviation=0.26), which indicates a slight increase in overall marital conflict.

Independent Variable: Break Length

The NLSY79 includes weekly employment data in all rounds of survey. The primary independent variable is a measure of the number of weeks that each mother was out of the labor force between her first birth and her return to employment. In this study, employment status variables were created using retrospective work histories, regardless of periods of noninterview ("Work Experience"). Work histories were created using a series of retrospective questions that allow the interviewees and survey administrators to create and maintain longitudinal records between survey dates. Participants identified all employers for whom they worked since last survey, and indicated the dates for which they were employed by each. Interviewees were also asked to indicate the dates for and specifics of any employment gaps, i.e. time between employers. Depending on participants' descriptions of these gaps in employment, the survey administrators coded the women's weekly employment records for these gaps using the following designations: "not associated with an employer," "not working," "unemployed," or "out of the labor force." Further, participants could also indicate breaks from the labor force during periods for which they were associated with an employer (according to the start and stop dates of each period of

employer-associated employment period). Weeks during these breaks are coded as periods of “not working” or “out of the labor force” depending on participants’ descriptions. Taken together, this information was used to construct weekly employment arrays in which each week was coded as linked with a specific employer, “not associated with an employer,” “not working,” “unemployed,” or “out of the labor force.”

In this study, I coded women as out of the labor force if their weekly employment records indicated that they were “not associated with an employer,” “not working,” “unemployed,” or “out of the labor force.” The primary dependent variable in this portion of the study is *postpartum work break*, a count of the number of weeks out of the labor force in the month of a first birth until the weekly employment status indicated employment. It is important to note that if a woman was associated with an employer but did not consider herself to have a gap in employment following birth even if she was not actively working during these weeks, the length of her break according to this operationalization is zero weeks. In total 223 of the 4283 women (5.2%) in the 1979 were identified as having breaks lasting zero weeks.

Because of the limitations of these data, it is not possible to determine if the women for whom employment histories indicated no breaks (break length=zero weeks) following birth actually had no breaks from work or if they used some kind of leave benefit or policy, which led them to feel that they did not experience a gap in employment. It is reasonable, however, to speculate that at least some of these women did utilize a job-guaranteed leave of some sort. Although the same measure is not available for the 1979 cohort, the 1997 cohort women were asked in each round of survey if they used any paid leave during the time between survey rounds. It is not possible to determine the length of breaks for women who utilized paid maternity leave but did not consider themselves as having a break from

employment. As such, I chose to keep these women's breaks coded as lasting zero weeks in duration. In analyses not shown, I estimated several models in which I exclude the women whose breaks were coded zero weeks in duration and compared these with the full models presented in the analyses that follow. Excluding these women had little effect on the statistical results. As such, I chose to retain these women in the study and have included all women with a break duration equal to zero weeks in the sample.

Control Variables

Important to this study are SES variables, and in this study, I use three measures of SES including educational attainment at first birth, family income and household income.

Education at first birth is the highest degree earned as measure in each respondent's round of survey before their births. This variable is coded into four categories (no high school or equivalent degree, high school diploma or GED, Associate's/Bachelor's degree, and graduate degree). *Personal* and *household income* at first birth are all wages, earnings and income in the year before pre-birth survey. In the analyses below, income is presented in thousands of US dollars. Other control variables include *race* (in three categories: Non-Black/Non-Hispanic, Black, Hispanic), and *age at first birth in years*, and *marital status*.

One variable is included to assess work characteristics: access to a *maternity leave benefit* by any employer in the year prior to pre-birth survey. Participants are asked if their employers offer job-guaranteed parental leave for all of their jobs since the last survey. The variable that is included in the analytical models is a dummy variable that indicates if the new mothers had access to a job-guaranteed maternity leave benefit.

In the longitudinal regression analyses that make up the analyses in this chapter, I include two timing variables. The first of these timing variables is a measure to assess the *lag between time at survey and birth and return to work*. This added control will be

especially important for the dependent variable (mental health), which is only measured every second year. A second measure for timing is also included in these analyses. Some research on marital quality indicates that marital quality follows a U-shaped curve such that marital quality declines in most couples until later life (Umberson, Willaims, Powers, Chen and Campbell 2005; VanLaningham, Johnson and Amato 2001). For the women in this study as break duration increase, so too does marital duration. To control for *marital duration*, I include in the models that follow, a measure for the timing between marital quality interview dates that serves as a proxy for marital duration.

Missing Data

Although there was little missing data, as with any survey, some responses are missing. The variables with the most missing data were the income variables. The personal income variable had 14% missing data and the family income variable had 19% missing data. To compensate for missing data in the analyses that follow, I imputed the data using the ICE command in Stata. In total, 15 datasets were imputed.

Methodological Considerations

The longitudinal data sets for the study sample is based on a complex sampling design including clustering and oversampling. Separate weights were developed for different uses of the data, with the weights primarily adjusting for oversampling and nonresponse. Although weights exist for this samples, I have made the decision not to use them in the regression analyses in this study. Use of weights in regression is generally unnecessary when the main variables used to create the weights are included as independent variables in the models (Winship and Radbill 1994); when weights are not included the model coefficients are unbiased and consistent, and have smaller standard errors than do weighted OLS estimates. All the full models estimated here control for basic demographic

variables such as race and educational attainment which are the primary variables used in generating the weights. (“Sample Weights”).

This sample was generated using geographic clustering in the baseline sample. I opted not to account for the clustering in the analysis of the data following the recommendations of the NLSY researchers for an analysis that combines special subsamples and responses from different waves of the studies (“Clustering Adjustments”). My study is restricted to women with a first birth during the time of their participation in the study, this yielded a study sample that is a select and small subsample of the original respondents in the NLSY and is drawn from different waves of the study. As a result, the analyses are less likely to be affected by the clustering effects on the standard errors. Additionally, in longitudinal studies extending over many years, the original geographical clusters are likely to be less relevant because of geographical mobility, also reducing the geographical clustering effect. Instead, I used robust standard errors in all regression models, which reduce some of the problems with the data structure and other model misspecification.

Results

Descriptive Results

Below in Table 6 are the basic descriptive statistics, including means, standard deviations, range and percent missing for all analytical model variables. The average pre-birth marital happiness and marital conflict scores were 2.82 and 1.76 (respectively). Marital happiness and marital conflict are each significantly correlated with the amount of time between measures (the proxy for marital duration). The Pearson’s R correlation between marital happiness and time between marital quality measures is -0.32. The Correlation between marital conflict and time between survey is 0.17; these correlations indicate that the general decline in happiness and increase in conflict indicates by the

means are statically significant. The mean marital happiness change was a slight decline of 0.04 points (scale=1 – 3), and the mean marital conflict change score was 0.04, which indicates a slight increase in marital conflict across all women.

The average break was 2.29 years in duration. These women were on average aged 32.85 years old at first birth. The majority of the sample was white (nearly 70%). Most women had either a high school diploma/GED or had an Associate's or college degree (45% and 42%, respectively). Only 5% of women had no degree, and 8% had a graduate degree. Not shown, seven women divorced or separate from their spouses between their pre-birth survey and the return to work interview. Average personal income was \$31,690 and the mean family income was \$110,000. In total 75% of these women indicated employment in any job in the year before birth that offered job-guaranteed maternity leave.

The average time between the end of break and the second marital quality survey was 68 weeks. Also worth considering is the correlation between break length and the control for the time between the pre-birth marital quality measures and the return-to-work marital quality measures. The correlation between these two variables is 0.91, which indicates that they are very highly correlated, although they are not completely collinear. Finally, seven women (2%) separated or divorced between the survey before their first birth and the survey after their return to work. Compared with all the first time mothers in the NLSY79 sample, the women in the study sample are older, better educated and more financially well off, with greater access to maternity leave.

Table 6: Analytical Model Variable Descriptive Statistics (N=419)

	Mean	Standard Deviation	Range	Percent Missing
Marital Happiness before First Birth (<i>Very Happy</i> =3)	2.82	0.41	1 – 3	0.4%
Marital Conflict before First Birth (<i>Never</i> =1, <i>Often</i> =4)	1.76	0.45	1 – 4	0.7%
Marital Happiness Change	-0.04	0.28	-2 – 1	10.9%
Marital Conflict Change	0.04	0.27	-1.0 – 1.4	11.2%
Break Length (<i>in Years</i>)	2.29	4.23	0 – 21.3	0%
Age at First Birth	32.85	4.05	21 – 44	0%
Race				
<i>White</i>	0.69	0.46		
<i>Black</i>	0.12	0.33	0 – 1	0%
<i>Hispanic</i>	0.17	0.38		
Highest Degree at First Birth				
<i>No Degree</i>	0.05	0.28		
<i>High School or GED</i>	0.45	0.49	0 – 1	0%
<i>Associate's or BA/BS</i>	0.42	0.49		
<i>Graduate or Professional Degree</i>	0.08	0.28		
At Birth Personal Income (<i>in 1000s of Dollars</i>)	31.69	30.65	0 - 236	14%
At Birth Family Income (<i>in 1000s of Dollars</i>)	110.93	173.73	0 – 947.1	19%
Maternity Leave Benefit before First Birth	0.75	0.43	0 – 1	20%
Time from Return to Work until Interview	68.62	80.86	0 - 544	6.6%
Dissolution (<i>Separated/Div.</i> =1, <i>Married</i> =0)	0.02	0.12	0 – 1	7.8%

Predictors of Break Length

To further explore break length descriptively, I estimated a regression model using the pre-birth control variables to predict break length in years. Pre-birth marital happiness and conflict did not significantly predict break length. Only three of the analytical model variables, race, personal income and maternity leave benefit, significantly predicted break length. Regarding race, black women are predicted to have breaks that are almost two years shorter than white women. Personal, but not family income, also significantly predicted break length; and every thousand dollars of personal income was associated with a 0.03-year (or about a week and a half) shorter break. That is to say, higher income women are predicted to return to work after break from employment more quickly than women with less personal income. Lastly, women with job-protected leave are predicted to return to

work almost a year more quickly than women who do not have access to job-guaranteed maternity leave.

Table 7: Linear Regression Model Estimating Break Length in Years by Pre-Birth Variables including Marital Happiness and Marital Conflict

	B-Coefficient	Standard Error
Marital Happiness before First Birth (<i>Very Happy=3</i>)	0.26	0.51
Marital Conflict before First Birth (<i>Never=1, Often=4</i>)	-0.57	0.52
Age at First Birth	-0.007	0.48
Race (<i>Ref. Group: White</i>)		
<i>Black</i>	-1.75***	0.35
<i>Hispanic</i>	-0.71	0.53
Highest Degree at First Birth (<i>Ref. Group: College</i>)		
<i>No Degree</i>	0.67	1.16
<i>High School</i>	0.61	0.43
<i>Graduate or Professional Degree</i>	0.14	0.77
At Birth Personal Income (<i>in 1000s of Dollars</i>)	-0.03**	0.01
At Birth Family Income (<i>in 1000s of Dollars</i>)	0.002	0.001
Maternity Leave Benefit before First Birth	-0.99+	0.56
Intercept	5.77*	2.77

+p<0.1, *p<0.05, **p<0.01, ***p<0.001
N=419

Break Duration and Marital Quality

Marital Happiness

The first measure of marital quality I investigate is marital happiness. The results of these regression analyses in which I estimate change in marital happiness by break length and the other control variables are presented in Table 8. Break length is the only significant predictor of change in marital happiness in each of these models before the inclusion of the proxy for marital duration. In Models 1-3, each year of break duration is associated with a decline in marital quality of 0.02 points; more time out of work is associated with negative changes in marital quality. Once marital duration is included, the association between break length and marital quality becomes no longer significant, and although it is non-significant, the sign for the coefficient reverses indicating a positive association between break length and marital happiness. The previously observed negative association between break length

and marital happiness is mediated by and explained by the negative association between marital duration and marital happiness.

Table 8: Linear Regression Models Estimating Change in Marital Happiness by Break Length in Years and Control Variables (Standard Error in Parentheses)

	Model 1	Model 2	Model 3	Model 4
Break Length in Years	-0.023*** (0.005)	-0.023*** (0.005)	-0.021*** (0.005)	0.005 (0.013)
Age at First Birth		-0.004 (0.004)	-0.004 (0.004)	-0.004 (0.004)
Race (<i>Ref. Group: White</i>)				
Black		0.03 (0.04)	0.02 (0.04)	0.02 (0.04)
Hispanic		0.02 (0.03)	0.03 (0.03)	0.03 (0.03)
Highest Degree at First Birth (<i>Ref. Group: College</i>)				
No Degree		0.05 (0.11)	0.05 (0.1)	0.03 (0.1)
High School or GED		-0.02 (0.03)	-0.03 (0.03)	-0.03 (0.03)
Graduate Degree		0.02 (0.05)	0.02 (0.05)	0.01 (0.05)
Personal Income at First Birth (<i>in 1000s of Dollars</i>)		0.0 (0.001)	0.0 (0.0007)	0.0 (0.0007)
Family Income at First Birth (<i>in 1000s of Dollars</i>)		0.0 (0.001)	0.0 (0.001)	0.0 (0.001)
Job-guaranteed Maternity Leave Benefit before First Birth			0.08 (0.06)	0.08 (0.06)
Time from Return to Interview (Weeks)	-0.0002 (0.0001)	-0.0001 (0.0002)	-0.0001 (0.0002)	-0.0001 (0.0002)
Time from Pre-Birth to Return-to-Work Survey (Years)				-0.03* (0.013)
Intercept	0.01 (0.02)	0.17 (0.14)	0.12 (0.14)	0.12 (0.14)

*p<0.1, *p<0.05, **p<0.01, ***p<0.001
N=419

Marital Conflict

Turning now to marital conflict, the second dimension of marital quality. Presented below in Table 9 are the results of linear regression analyses in which I predict changes in marital conflict by break length. With the addition of control variables in Models 2 and 3, break length significantly, positively predicts changes in marital quality. Longer breaks are associated with slight increases in marital conflict. Because the coefficient for and

significance of break length drop slightly with the addition of age at first birth, it can be said that some of the effect of break length on marital conflict can be explained by these variables.

Table 9: Linear Regression Model Estimating Change in Marital Conflict by Break Length in Years and Control Variables (Standard Error in Parentheses)

	Model 1	Model 2	Model 3	Model 4
Break Length in Years	0.01* (0.005)	0.009+ (0.005)	0.009+ (0.005)	-0.008 (0.014)
Age at First Birth		0.008* (0.004)	0.008* (0.004)	0.008* (0.004)
Race (<i>Ref. Group: White</i>)				
Black		-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)
Hispanic		-0.03 (0.04)	-0.03 (0.04)	-0.03 (0.04)
Highest Degree at First Birth (<i>Ref. Group: College</i>)				
No Degree		0.03 (0.08)	0.03 (0.08)	0.03 (0.08)
High School or GED		0.06+ (0.03)	0.05+ (0.03)	0.06+ (0.03)
Graduate Degree		-0.008 (0.04)	-0.01 (0.04)	0.05 (0.04)
Personal Income at First Birth (<i>in 1000s of Dollars</i>)		-0.0002 (0.0005)	-0.0004 (0.0006)	-0.0004 (0.0006)
Family Income at First Birth (<i>in 1000s of Dollars</i>)		0.0 (0.0001)	0.0 (0.0012)	0.0 (0.0012)
Job-guaranteed Maternity Leave Benefit before First Birth			0.04 (0.04)	0.03 (0.04)
Time from Return to Interview (Weeks)	0.0002 (0.0002)	0.0002 (0.0002)	0.0002 (0.0002)	0.0002 (0.0002)
Time from Pre-Birth to Return-to-Work Survey (Years)				0.015 (0.013)
Intercept	0.008 (0.01)	-0.28 (0.13)	-0.3 (0.13)	-0.31 (0.13)

+p<0.1, *p<0.05, **p<0.01, ***p<0.001
N=419

Age at first birth is positively associated with marital conflict. Older women experience predicted increase in marital conflict compared with younger women. Also compared with women with college degrees, women with high school diplomas indicate greater marital conflict. Although it does not significantly predicted marital conflict, the addition of the marital duration proxy variable (Model 4) mediates the effect on marital conflict of break

length. In fact with the addition of this variable, the association between break duration and marital quality (though non-significant) reverses direction. This indicates that controlling for marital duration (which is positively, though non-significantly, associated with marital conflict), break duration has a negative relationship with marital conflict, showing that longer breaks reduce conflict.

Discussion

The transition to the parenthood is a time marked by many changes across all parts of new parents' lives. Women who become mothers for the first time add to their roles as wives and workers the responsibilities of motherhood. As they adapt to parenthood and renegotiate their home and work lives, it is likely that their relationships with their spouses also change. Using nationally representative, longitudinal data from a sample of new mothers from the NLSY79, I investigated the relationship between the length postpartum labor market breaks and two dimensions of marital quality: marital happiness and marital conflict.

I found, firstly, that neither dimension of marital quality significantly predicted break length. This finding indicates that women do not alter their time out of work after a birth to reflect their relationships with their spouses. Secondly, regarding the primary aim of this research—the effect on marital quality of break duration—I find no evidence that break duration has a significant association with either dimension of marital quality. Rather these findings confirm research that indicates a decline in marital quality both early in relationships (Umberson et al. 2005; VanLaningham, Johnson and Amato 2001) and in following the transition to parenthood (Twenge et al. 2003).

Two important limitations exist of this study. First, the requirements for inclusion in the study sample restrict these data to a relatively small group of women who differ from the

larger NSLY79 sample in some significant ways. The women in this study are older at first birth, better educated and more financially well-off than the larger sample and then the population of new mothers generally. It is important to recognize then that the results of this research are generalizable to women who delay first birth. It is possible the relationship between marital quality and break duration functions differently for women with lower SES and those who transition to motherhood earlier. Second, the data utilized in this study are limited by the infrequency with which marital quality is measured. Although the biennial assessment marital quality does allow for measurement of marital quality before and after both the transition to motherhood and before and after transitions out of and back into the labor force, it does not permit an investigation of changes in marital quality over these transitions. It is possible that, if measured with greater frequency, assessments of marital quality over these transitions would yield indications of marital change.

This consideration of this limitation of the data suggests a research question for future study: how do women's assessments of marital quality vary across transitions out of and back into the labor force after maternity leave, and is length of time out of work associated with these more precise changes in marital quality? A study in which marital quality is assessed and repeated across the transition to parenthood and after the return to work for breaks of any duration would allow for an investigation of this research question. Another important future direction for this line of research is to examine the mechanisms by which the association between break duration and marital quality operate. Although the results were not statistically significant, the findings of this study indicate that perhaps break length is positively associated with marital quality but that because break duration is confounded with marital duration the positive effects of time out of work are negated by length of marriage. Such a study would extend the research of the current study and could

draw on the study design utilized by Hyde et al. (1995). This research would add to the longitudinal exploration of postpartum break length and marital quality measures for perceptions of fairness of labor market and employment relationships.

Overall, this study provides no evidence of an association between postpartum employment duration and marital quality; it confirms, instead, findings of other researchers that the marital duration is associated with declines in marital quality both following a birth and early in marriage.

Chapter 4: Postpartum Employment Breaks and Mental Health after Return to Work

Women's share of the labor market is approaching convergence with men's, but the bulk of family work, such as childcare and daily housework tasks, remains primarily the responsibility of women (Cotter, England and Hermsen 2007). One prime example of the inequitable strain on women is in the divergence women's roles following childbirth. When children are born, couples often transition away from dual-earner roles to more clearly defined earner/caregiver roles and some women curtail employment (Stone 2007). These breaks may last months or may involve complete withdrawal from the labor market for extended lengths of time (for instance, until children are school aged or even out of the home entirely) (Hynes and Clarkberg 2005). When they return to work, many women return to different employment arrangements than they had before breaks (Lovejoy and Stone 2012). They may choose more flexible positions, part-time rather than full-time employment or may move to different careers. The aim of this study is to explore the compounding effects of childbearing and employment changes on women's mental health. Employment and the supports that it provides are generally shown to benefit mental health (Ross and Mirowsky 1995); however, the transition to parenthood and the stresses of combining work with new motherhood can be detrimental to emotional wellbeing (Nomaguchi and Milkie 2003). Women who return to work quickly and those who remain unemployed for longer periods of time may be most at risk of declines in mental health following childbirth (Dagher, McGovern and Dowd 2014).

There may be consequences of withdrawal from work to women's health, especially their mental health. Research clearly demonstrates that in the aggregate and across the life course, women's labor force participation is positively associated with health. Women who

experience more continuous employment across their lives report better self-reported health (Frech and Damaske 2012; Pavalko and Smith 1999; Ross and Mirowsky 1995). There are several mechanisms by which women's health varies by employment. Wages and lifetime earnings contribute to women's health and women with both greater employment and fewer interruptions should benefit from cumulative lifelong earnings (Ross and Mirowsky 1995). Also, part-time workers experience disadvantages to their health compared with their full-time working counterparts. For instance, women who work part-time have less access to insurance or may work non-standard work hours, both of which are associated with poorer self-rated health (Kim et al. 2008). Employment and health are also both associated with mental health. Working offers women self-esteem, self-control and social networks all of which are positively associated with emotional wellbeing (Ross and Wright 1998; Mirowsky and Ross 2003).

Although the links between consistent employment and health are well-documented, it is less clear how short-term breaks from the labor force or transitions into and out of work, like those associated with the transition to motherhood, impact wellbeing. Becoming a parent is an emotionally taxing and stressful time, and women may experience deteriorations to their mental wellbeing, especially when the challenges associated with motherhood are combined with work stress (Perry-Jenkins et al. 2007). Extensive research on postpartum depression suggests that many women experience declines in mental health following births (O'Hara and McCabe 2013) and some research suggests that longer maternity leaves reduce postpartum depressive symptoms (McGovern et al. 1997). On the other hand, longer breaks from employment are associated with many costs for new mothers including lost wages, depreciation of skills, and reductions in supportive social networks (Galtry and Callister 2005). Costs like these suggest that shorter duration breaks from employment following childbirths should be beneficial to women.

Two gaps exist in research on women's postpartum employment. First, no recent studies have analyzed the returns to mental health of labor market breaks using nationally representative data, nor has any current research evaluated withdrawal from work longer than a year. Second, some research indicates that there is an optimum time out of work for new mothers, but no researchers have explored how the benefit of time off work might be different for women of different economic classes. Using quantitative longitudinal data from the National Longitudinal Survey of Youth-1997 Cohort (NLSY97), I build on prior research on women's employment and childbirth by focusing on women's mental health in the context of the transition to motherhood and postpartum returns to employment. Specifically, I examine the consequences to women's emotional wellbeing of the duration of the breaks from market labor following their births. My primary goals are to determine if there exists, in terms of mental health, an optimal duration of break; and to assess how the length of breaks and the returns to mental health of employment breaks are stratified by women's socioeconomic status.

Background

A Life Course Perspective

A life course perspective can be used to analyze women's employment following childbirth (Elder, Johnson and Crosnoe 2003). Gender norms, which influence micro- and macro-level constraints and opportunities, interact with age and age-graded social norms to guide interpersonal behavior and to enable or limit institutional access differentially across the life course (Moen and Han 2001). Women's gender ideologies are dynamic and shift across the life course depending on social location and perceived gender expectations (Vespa 2009). The life course perspective adds to the understanding of women's employment following childbirth by suggesting that expectations of women during this time

are unique and vary from those during other life stages (Elder, Johnson and Crosnoe 2003). Women's employment during early parenthood and the decisions they make regarding work might look much different from their employment at other times during their lives. For new mothers, the stresses associated with this life stage may arise from combining the sudden increase in care work with labor market stresses (Perry-Jenkins et al. 2007). Further, although no research investigates this notion explicitly, considering life course theory it is possible that decisions surrounding employment arrangements following childbirth may initiate couple-level trajectories such that future divisions of household and market labor reflect employment decisions at first birth.

Mental Health, Employment and the Transition to Parenthood

Three areas of research offer insight into the relationship between employment breaks following childbirth and women's mental health: 1) research on the transition to parenthood, 2) studies of employment and maternal wellbeing; and 3) research on maternity leave and the return to employment following births. Several factors, especially socioeconomic status, might influence how the effects on mental health of breaks from employment during the transition to parenthood are stratified.

The Transition to Parenthood

Important to the research question guiding this study is the context in which women's mental health is evaluated. The transition to parenthood is a unique life stage in which many women find themselves negotiating work and parenthood simultaneously and for the first time. A large body of research documents changes in women's mental health associated with the transition to parenthood and studies in this area generally find that new parents have lower psychological wellbeing than do non-parents and those with older children (Nomaguchi and Milkie 2003). Two main mechanisms lead to this decline: 1) a substantial

number of women experience depression associated with physiological changes, and 2) altered relationships, social supports and resources may have consequences for wellbeing. Compared with postpartum blues—mild, short-term decline in mood experienced by 40-80% of women (Buttner et al. 2012)—postpartum depression is classified as a major disorder qualified by episodic but long-term minor to debilitating depression which begins within one to six months after a birth (American Psychiatric Association 2013; Munk-Olsen et al. 2006; O’Hara and McCabe 2013). Because of study characteristics and ambiguity of definition, estimates of the prevalence of postpartum depression range across studies from 6% to as much as 20% (O’Hara and McCabe 2013). Hormonal changes associated with childbirth are thought to be the physiological cause of postpartum depression, and depressive episodes are found to be associated with temporary and long-term issues for both mothers and children (Bloch et al. 2000; O’Hara and McCabe 2013).

Employment and Wellbeing

At the same time as they are experiencing physiological and interpersonal changes, many new mothers undergo temporary or, in some cases, lasting changes in their work lives. While they withdraw from the labor force, women may be forgoing the benefits to emotional wellbeing of employment. Work colleagues may be an important source of social networks, friendships and social and emotional support that support emotional health. Working also offers some women benefits to mental health and self-esteem via personal control (Lennon 1994). Financial resources and security, as well as financial independence, all of which are obvious products of working for pay, are also associated with better health and reduced stress and, thus, better mental health (Ross and Mirowsky 1995). And considering women with children in particular, mothers have been shown to experience a wage penalty when compared to other working women (Budig and England 2001). Working

mothers' breaks in employment for children contribute to factors that diminish wages, including reduced work experience and less seniority (Budig and England 2001).

When employment preferences and work status are misaligned, however, this misalignment can lead to stress and declines in mental health (Spitze 1988). The benefit, then, to mental health of work is based in part on individual preference and the benefit of work varies across women. Further, not all work benefits women, and some types of work arrangements are associated with diminished mental health. Overwork, underwork and shift work, which interestingly affect women at both ends of the socioeconomic spectrum, are all negatively associated with mental health (Perry-Jenkins et al. 2007; Pavalko and Woodbury 2000; Kleiner and Pavalko 2010).

Although on balance employment fosters mental health, transitions into and out of the labor force are shown to have both long-term and temporary effects on health and emotional wellbeing. Variations in employment trajectories over the life course stratify women with regards to their wellbeing such that women who work continuously following their first birth have better physical and mental health later in life compared with women who experience frequent breaks from full-time work due to unemployment, those who work part-time and those who stay home (Frech and Damaske 2012). Transitions out of the labor force into unemployment have been found to lead to periods of increased psychological stress and reduced mental health (Thomas, Benzeval and Stansfeld 2005, Murphy and Athanasou 1999). Further, women experience stress when out of the labor force not only when unemployed, but also when on maternity leave and on leave for family care (Thomas, Benzeval and Stansfeld 2005). The negative effects of these transitions have been shown to be most strong in the first six months out of the labor force, and,

unsurprisingly, the direction of the association between transitions and mental health is reversed for moves back into the labor force (Thomas, Benezeval and Stransfeld 2005).

Maternity Leave

Several scholars have examined the confluence of employment transitions and mental health changes in the context of childbirth with studies on maternity leave. Women's employment configurations in the months following births are associated with a variety of factors that predict psychological wellbeing. Women who have longer maternity leaves are, in general, less likely to exhibit depressive symptoms (Clark et al. 1997, Chatterji and Markowitz 2004; Gjerdingen and Chaloner 1994). However, women with long leaves are prone to depression if their work salience—the importance they put on their work—was high (Klein et al. 1998). Mothers who have shorter maternity leaves have been shown to have lower quality child interactions, and mothers' stress interacts with length of leave such that the return from longer leaves is diminished if mothers are stressed (Clark et al. 1997). In recent research on the duration of maternity leaves, Dagher, McGovern and Dowd (2014) found that the relationship between duration of postpartum leave and depressive symptoms follows a U-shaped curves such that up to six months, longer duration is associated with less depression, beyond six months the returns to mental health of breaks from employment diminish.

Mental health following breaks from employment for childbearing is not only sensitive to duration of break, but also to the employment situations to which mothers return. Women's employment preferences are associated with their mental health (Spitze 1988) and women with the youngest children have the greatest gaps in their preferences and actual labor market arrangements (Holmes, Erickson and Hill 2012). Social support, including spousal support, is an important buffer against the effects of work stress; and

wives with more support and less marital conflict are less prone to depression associated with long work hours following births (Hyde et al. 2001, Seiger and Wiese 2011). Support at work is shown to mediate the detrimental effects to mental health of family demands (Lennon and Rosenfield 1992; Holmes, Erickson and Hill 2012).

Socioeconomic Status

Underlying the multiple processes of the transition to parenthood and moves out of and back into the labor force, one factor in particular stratifies the women's experiences and leads to inequalities: socioeconomic status. New mothers at opposite ends of the SES spectrum have drastically different resources and research from many areas suggests that poor women are greatly disadvantaged in terms of their mental health, their ability to take leave and their employment following childbearing. Poverty is a predictor of mental disorders and poor psychological wellbeing (Belle 1990). Further, women with paid leave—a benefit more available to those working higher paying jobs—take longer from work following births; thus, mothers who are most stressed for financial resources are most likely to take short breaks (McGovern et al. 2000). Considering the return to work, mothers who work shift work are likely to experience greater marital conflict and depression during the transition to parenthood than couples with standard work hours (Perry-Jenkins et al. 2007). Women with low education attainment are much more likely than other mothers to stay out of the workforce for more than two years following birth (Gaudet, Cooke and Jacob 2001). To my knowledge, no studies have explicitly investigated the ways that the association between maternity leave and mental health vary by women's SES.

The Present Study

Contributions to the Field

This study offers two unique contributions to the field. First, in this study, I use nationally representative, longitudinal data to explore the associations between the duration of breaks from employment and mother's mental health. In their paper on postpartum labor market breaks, Dagher, McGovern and Dowd (2014) found in the year following birth the association between depressive symptoms and breaks from employment follow a U-shaped curve; such that the association between duration of break and emotional wellbeing is positive until 6 months, when mental health begins to decline as women remain away from work. The current study will extend this research in two ways: I use a nationally-representative dataset, and the NLSY data allow me to assess breaks or temporary withdrawals ranging from a few weeks to years in duration. Second, no research has explicitly explored the stratification of mental health following return to employment for women as a function of the length of breaks from employment in the context of the transition to motherhood. In this study, I will include socioeconomic measures as interaction variables allowing me to predict the ways in which the associations between breaks and mental health vary across women.

Expected Findings

Reviewing the literature on women's postpartum employment and mental health, I expect to find that women with the shortest and longest breaks will experience the greatest declines to mental health. The findings of the research from Dagher, McGovern and Dowd (2014) indicate that breaks between three and six months yield the optimal return to mental health. Their research does not allow for the assessment of very long breaks, but the literature on women's employment and mental health suggests that extend time out of work

should yield even further declines to mental health. I further expect to find that for women with the least SES resources, the penalties due to very short and very long breaks are even more pronounced. Regarding very short breaks for these women, they lack financial resources to remain out of work for optimal breaks and are often employed in low status jobs that do not offer leave benefits that would allow them options in how long they stay home. On the other hand, low SES women who withdraw from the labor market for long periods of time, lack the buffer of financial resources that protect against stress during time out of work and are disadvantaged in terms of labor market capital when they return to work, especially if their return to work includes a search for new employment.

Data and Methods

Data and Sample Characteristics

The NLSY97 is an ongoing nationally representative annual survey consisting of a sample of 9000 men and women who were between the ages of 12 and 16 in 1997. Data from this survey include extensive information about employment and childbearing histories in each round of survey, as well as mental health data along with a large variety of demographic information. In order to allow for the assessment of employment arrangements and mental health in the context of the transition to motherhood, the analyses are limited to only first births. The sample used in this study is limited to 1663 women who became mothers after the 2000 round of survey (the first year they were asked about mental health) and before 2010 (the last year for which mental health data are currently available). This constraint omits 26% of all first births by excluding 598 mothers for whom there are not both pre- and postpartum mental health measures. Most of the excluded women (86% of those excluded) gave birth before the 2000 round of survey. Compared with the study sample median age at first birth, which was 21, the median age at

first birth for the young mothers excluded from the sample was 14. This suggests that the excluded women differ greatly from the general population of first time mothers for whom the median age at first birth was 25 in 2012 (Mathews and Hamilton 2014). Research suggests that adolescent first time mothers may differ in important ways from older mothers; and in particular, very young mothers experience greater depression following births than do adult mothers (Lanzi et al. 2009). Another 24% of the excluded mothers had their first birth after the 2010 round of survey. These women were on average age 27 when they became mothers. Although these women's attitudes and behaviors likely reflect those of many first time mothers in the general population, because a second measure of mental health was unavailable for them, they could not be included in the analyses.

Missing Data

Some key control variables had substantial missing data (see Table 1). To account for the missing data I imputed 15 data sets using the ICE command in Stata.

Methodological Considerations

The longitudinal data set for this study sample is based on a complex sampling design including clustering and oversampling (for black and Hispanic participants). Separate weights were developed for different uses of the data, with the weights primarily adjusting for oversampling and nonresponse. Although weights exist for both samples, I have made the decision not to use them in the regression analyses in this study. Use of weights in regression is generally unnecessary when the main variables used to create the weights are included as independent variables in the models (Winship and Radbill 1994); when weights are not included the model coefficients are unbiased and consistent, and have smaller standard errors than do weighted OLS estimates. All the full models estimated here control

for basic demographic variables such as race and educational attainment which are the primary variables used in generating the weights. (“Sample Weights”).

This sample was generated using geographic clustering in the baseline sample. I opted not to account for the clustering in the analysis of the data following the recommendations of the NLSY researchers for an analysis that combines special subsamples and responses from different waves of the studies (“Clustering Adjustments”). My study is restricted to women with a first birth during the time of their participation in the study, this yielded a study sample that is a select and small subsample of the original respondents in the NLSY and is drawn from different waves of the study. As a result, the analyses are less likely to be affected by the clustering effects on the standard errors. Additionally, in longitudinal studies extending over many years, the original geographical clusters are likely to be less relevant because of geographical mobility, also reducing the geographical clustering effect. Instead, I used robust standard errors in all regression models, which reduce some of the problems with the data structure and other model misspecification.

Measures

Dependent Variable: Change in Mental Health

Participants in the NLSY97 were asked a short form of The Center for Epidemiological Studies Depression Scale (CES-D) in 2000, 2002, 2004, 2006, 2008 and 2010. The original scale consists of 20 items asking about respondent’s depressive symptoms during the past week on a four point scale (see Radloff 1977); however, the scale on the NLSY97 includes five items: three negative items (i.e. feeling nervous, feeling down/blue, feeling depressed) and two positive items (i.e. feeling happy, feeling calm). Respondents are asked how often they experienced these symptoms over the last month on a 1 to 4 scale where 1 corresponded to ‘None of the time,’ 2 with ‘Some of the time,’ 3 to ‘Most of the time,’ and 4

'All of the time.' Several studies confirm the reliability of short-form versions of the CES-D (Cheung et al. 2007; Dooley, Prause and Ham-Rowbottom 2000); and Shrout and Yager (1989) found that a five-item version retained the precision and reliability of the 20-item scale. In order to assess the validity and reliability of the CES-D scale in a similar sample, I conducted a factor analyses on a standard 20-item version of the CES-D scale that was assessed in the NLSY 1979 Cohort. This scale was included in later rounds of the survey, and has three of the five items issued in surveys administered to the 1997 cohort: feelings of depression and sadness, and the reverse coded item for feelings of happiness. The factor analysis yielded a two-factor solution, and most of the variance was due to the first factor. The measures that were also included in the 1997 cohort survey had high item total score correlations with the 20 item scale and high loadings on the initial dimension factor (total correlation with the scale for depression, sadness and happiness items were 0.73, 0.7 and 0.58, respectively).

In the current study, the positive items were reversed, and then the five items were summed and averaged to generate a depression score for each of the 6 rounds of survey. Scores range from 1 to 4, with higher scores indicating greater depression. I conducted reliability analyses on the scales for each year that they are measured: 2000, 2002, 2004, 2006, 2008 and 2010. The Chronbach's alpha reliability statistics for the five items ranged from 0.768 (measured in 2002) to 0.792 (measured in 2010), which indicate adequate reliability of all six scales. The dependent variable in this study is the change in depression score, which is the CES-D score measure before birth subtracted from the CES-D score measured upon return to work after the break. The end of break CES-D score is determined using duration of break from employment (described below) to identify the survey round after which the mothers returned to work. Positive change scores indicate worsening mental health (the respondent indicated more depressive symptoms in the return from

break CES-D measure than in the survey before the birth); negative scores, on the other hand, indicate an improvement in mental health.

Independent Variables

Break from Employment

The NLSY97 includes weekly employment data in all rounds of survey. The primary independent variable in this study is a measure of the number of weeks that each mother was out of the labor force between her first birth and her return to employment. In the NLSY survey, employment status variables were created using retrospective work histories, regardless of periods of noninterview (“Work Experience”). Work histories were created using a series of retrospective questions that allow the interviewees and survey administrators to create and maintain longitudinal records between survey dates. Participants identified all employers for whom they worked since last survey, and indicated the dates for which they were employed by each. Interviewees were also asked to indicate the dates for and specifics of any employment gaps, i.e. time between employers. Depending on participants’ descriptions of these gaps in employment, the survey administrators coded the women’s weekly employment records for these gaps using the following designations: “not associated with an employer,” “not working,” “unemployed,” or “out of the labor force.” Further, participants could also indicate breaks from the labor force during periods for which they were associated with an employer (according to the start and stop dates of each period of employer-associated employment period). Weeks during these breaks are coded as periods of “not working” or “out of the labor force” depending on participants’ descriptions. Taken together, this information was used to construct weekly employment arrays in which each week was coded as linked with a specific employer, “not associated with an employer,” “not working,” “unemployed,” or “out of the labor force.”

In this study, I coded women as out of the labor force if their weekly employment records indicated that they were “not associated with an employer,” “not working,” “unemployed,” or “out of the labor force.” The primary dependent variable in this portion of the study is *postpartum work break*, a count of the number of weeks out of the labor force in the month of a first birth until the weekly employment status indicated employment. It is important to note that if a woman was associated with an employer but did not consider herself to have a gap in employment following birth even if she was not actively working during these weeks, the length of her break according to this operationalization is zero weeks. In total 216 of the 1663 women (13%) in this sample were identified as having breaks lasting zero weeks.

Because of the limitations of these data, it is not possible to determine if the women for whom employment histories indicated no breaks (break length=zero weeks) following birth actually had no breaks from work or if they used some kind of leave benefit or policy, which led them to feel that they did not experience a gap in employment. It is reasonable, however, to speculate that at least some of these women did utilize a job-guaranteed leave of some sort. The survey participants were asked in each round of survey if they used any paid leave during the time between survey rounds. Of the women whose breaks were measured as zero weeks in duration, 149 of the 216 (69%) women indicated in the survey after their births that they had used paid leave. It is probable, therefore, that these 149 women who had both zero length breaks and who indicated the use of paid leave in the survey following their birth, used maternity leave through their employer. Unfortunately, it is not possible to explicitly link these paid leaves with the period of time following birth, nor is it possible to determine the length of any maternity leave for women who used a leave but did not perceive themselves as having any gap in employment. Because I am not able to determine the length of breaks for women who utilized paid maternity leave but did not consider

themselves as having a break from employment, I chose to keep these women's breaks coded as lasting zero weeks in duration. To evaluate the possible bias introduced by retaining the women for whom break length was zero who indicated using a paid leave ever in the year before the return-to-work survey, the primary analytical regression models for this chapter (see Table 13) excluding these 149 women (results presented in Table 20 in the Appendix). The exclusion of these women, who likely used maternity leave, had little effect on the statistical results of the regression models. As such, I chose to retain these women in the study and have included all women with a break duration equal to zero weeks in the sample.

Break Categories

Based on duration of breaks, I divided the women into six categories for ease of comparison and exploration of the data. These categories are called: "Short" (breaks less than or equal to 4 weeks), "FMLA" (less or equal to the maximum allowable Family Medical Leave Act time for birth, between 5 and 12 weeks "Optimal" (between 13 and 24 weeks), "Diminished Returns" (between 25 and 52 weeks), "Long" (more than a year) and "No Return to Work" (women in this group had not returned at the time of their interview for the 2010 round of survey). I named the categories "Optimal" and "Diminished Returns" following Dagher, McGovern and Dowd's (2014) U-shaped model of the returns to mental health. The "No Return to Work" category includes 215 women who had not re-entered the labor force since their first birth. It is important to note that the women in this group actually represent two categories of women: new mothers whose birthdate was close to the date of survey in 2010 and mothers who withdrew from the labor force for long duration.

Control Variables

Maternal Sociodemographic Characteristics

Important to this study are SES variables, and in this study, I use two measures of SES including educational attainment at first birth and a measure of household income.

Education at first birth is the highest degree earned as measure in each respondent's round of survey before their births. This variable is coded into four categories (no high school or equivalent degree, high school diploma or GED, Associate's/Bachelor's degree, and graduate degree). The *household income measure* is the ratio of the household income to the poverty level at first birth. For this measure, a score of 100 indicates that the respondent's household income was equal to that of the poverty line for their household size; if respondents had scores less than 100, they lived below poverty; and, the reverse, if their score was more than 100 their household income was above the poverty line. Other control variables include *race* (in three categories: Non-Black/Non-Hispanic, Black, Hispanic), *age at first birth in years*, and *marital status* (three categories: non-cohabiting and non-married—called "single", cohabiting, and married).

Timing Variable

In the longitudinal regression analyses that form the analyses in this chapter, I include a timing variable to assess the lag between time at survey and birth and return to work. This added control will be especially important for the dependent variable (mental health), which is only measured every second year.

Second Birth Variables

Included in the descriptive statistics below, are two variables for second births. In total, 56% of the mothers in the sample had a second birth during the analyses period. It will be important that I include controls for the timing of these second births because births

influence mental health. Because the CES-D variables were measured every other year, there may be some women who returned to work and had a second birth (and began a subsequent break) before their survey. Other cases, women may have a second before returning to work, thus, extending the length of their breaks; therefore a second control variable assessing if a second birth occurred before the break ends is also included.

Analytic Strategy

First, I conduct descriptive analyses of the of the pre-birth sociodemographic characteristics of the mothers in the sample to explore how women in the study differ in terms of the length of breaks they accessed based on their demographic characteristics. In these analyses, I divide the women into six break categories as described above: “Short” (breaks less than or equal to 4 weeks, N=359, 26.6%), “FMLA” (less or equal to the maximum allowable Family Medial Leave Act time for birth, between 5 and 12 weeks, N=332, 20%), “Optimal” (between 13 and 24 weeks, N=235, 14.1%), “Diminished Returns” (between 25 and 52 weeks, N=223, 13.4%), “Long” (more than a year, N=299, 18%) and “No Return to Work” (women in this group had not returned at the time of their interview for the 2010 round of survey, N=215, 12.9%). The analyses include break group comparisons by maternal sociodemographic characteristics including education, income, race, age and first birth, maternal status, CESD measures and second birth variables. To further explore how pre-birth variables influence break length, I use logistic regression to estimate the odds of belonging to each break category.

Then, using linear regression analyses, I estimate the change in CESD for women by length of break. I do so including control variables for sociodemographic and SES characteristics, and timing variables.

Results

Descriptive Results

Basic descriptive statistics, including means, standard deviations, ranges and percent missing, for all analytical model variables are listed below in Table 10. The average length of break from work following birth in weeks for the women in this sample was 45.31. The mean age at first birth was 21. Women in this sample were much younger at the time of their first birth than women in the population generally; in 2010, the median age at first birth was 25.4 (Arroyo, Payne, Brown and Manning 2013). This bias of the sample toward young mothers is due to the restriction of the data that requires births to occur before the 2010 round of survey (the most recent year for which CES-D data are available). In 2010, the women in the NLSY 1997 sample were aged between 25 and 30 years old. Considering the national median age at first birth at this time, it is likely that many of the women in the sample had yet to become mothers at the time of the 2010 survey. Most women (48%) in this sample were non-Hispanic, non-black (I will refer to these women through the remainder of the study as “white”); roughly 30% of the sample was black and almost one quarter (23%) was Hispanic. At the time of their first birth, most women had high school diplomas or their GEDs (58%). The average household income at first birth for women in the sample was 3.8 times greater than the poverty line. Roughly the same number of women were single (not married and not cohabiting) at first birth as were married (39% and 37% respectively), and approximately one quarter (23%) of women in the sample was in non-marital cohabitations at first birth.

Table 10: Means, Standard Deviations, Range and Percent Missing for All Analytic Model Variables

	Mean	Standard Deviation	Range	Percent Missing
Length of Break in Weeks At or Before First Birth	45.31	71.19	0 – 554	0%
Age at First Birth	21.0	3.5	14 – 30	0%
Race				
Non-Hispanic, Non-Black	0.48	0.49	0 – 1	
Black	0.29	0.45	0 – 1	0%
Hispanic	0.23	0.42	0 – 1	
Highest Degree				
No Degree	0.14	0.35	0 – 1	
High School Diploma or GED	0.58	0.49	0 – 1	
Associate’s Degree or BA/BS	0.12	0.33	0 – 1	6.5%
Graduate Degree	0.01	0.09	0 – 1	
Household Poverty Ratio	3.83	3.73	0 – 26.72	28.7%
Marital Status				
Single	0.39	0.49	0 – 1	
Married	0.37	0.48	0 – 1	7.0%
Non-Marital Cohabitation	0.23	0.42	0 – 1	
CES-D Measures				
First Birth CES-D	1.98	0.52	1 – 4	5.3%
CES-D score on Return to Work	1.93	0.47	1 – 4	
CES-D Change Score	-0.06	0.52	-2 – 2	
Mental Health Scores Decline after Break	0.25	0.43	0 – 1	2.3%
Mental Health Scores Improve after Break	0.33	0.47	0 – 1	
Second Birth				
Second Birth During Break	0.09	0.37	0 – 1	
Second Birth Before 2010 Survey	0.56	0.49	0 – 1	0%
Years between Births	3.01	1.74	0.7 – 10.75	
Months Between Return to Work and Second CES-D Survey	12.1	7.55	1 – 72	0%

Turning to the dependent variable, the average pre-birth CES-D score was 1.98 (on a scale from 1 to 4 where 4 is most depressive symptoms indicated) and the average post-birth CES-D was 1.93. The average change in CES-D for women in the sample was small and negative (-0.06 point) which indicates a slight average improvement in mental health overall. In total, 25% of the sample indicated declines in mental health of more than 0.1 CES-D points; another 33% indicated improvements of mental health greater than -0.1 CES-D points. The remaining 42% of the sample indicated zero change between pre- and post-birth CES-D or changes between -0.1 and 0.1 (that is, one point on one CES-D scale item).

The average time between the women's returns to work and the measurement of their post-birth CES-D was about 1 year (the time between CES-D measures, which are measured every other round of survey, is at a minimum about 2 years).

In Table 11, I present the descriptive statistics for the key analytical variables by break duration group. These statistics indicate that, in terms of pre-birth characteristics, few differences exist between the women with breaks lasting between thirteen weeks and one year. These women were similar in terms of race, education and household income. Women who took the shortest breaks were different from those with breaks longer than three months in a several ways. More of these women were white, they generally had more education at the time of their first birth and had slightly higher household incomes, were older at the time of their first birth and more of them were married.

The group of women who had not returned to work by the time of their 2010 survey (the last year for which the CES-D measures are available) were significantly different than those who had gone back to employment; however, analyzing the results for these women as one group would be misleading because there is great variability across them in terms of many characteristics. These women are especially different amongst each other in terms of the time that they have been out of work—that is, the time between their birth and their survey in 2010. This variability is evidenced by the standard deviation of the time since birth variable, which is 138.7 (average time since birth=116.3 weeks). This group of women includes both women who have been out of work the longest and recent mothers whose births occurred just before the 2010 survey. Again, the later age at which women in the population have their first birth suggests that many women in the sample fall into the latter group whose births occur near the 2010 survey (see Figure 2 in Appendix for histogram of “No Return” group time between birth and 2010 survey).

Table 11: Means and Standard Deviations (in Parentheses below Means) or Within Group Percentages by Break Duration Group (N=1663)

	<i>Ref. Group</i>					
	Short 1 – 4 Weeks N=359	FMLA 5 – 12 Weeks N=332	Optimal 13 – 26 Weeks N=235	Diminishing 72 – 52 Weeks N=223	Long 52+ Weeks N=299	No Return N=215
Length of Break in Weeks#	1.15*** (1.36)	8.25+ (2.2)	17.5 (3.48)	36.85*** (7.8)	108.53*** (56.12)	116.38*** (138.7)
At or Before First Birth						
Age at First Birth	22.63*** (3.35)	21.56*** (3.33)	20.36 (3.24)	19.55* (2.62)	19.77** (2.64)	24.52*** (3.11)
Race						
Non-Hispanic, Non-Black	53.1%***	49.6%***	37.7%	37.7%	43.0%	56.3%***
Black	23.1%**	30.1%	34.0%	35.0%	32.8%	19.5%***
Hispanic	20.9%	18.7%+	25.1%	29.6%	24.4%	21.4%
Highest Degree Earned						
No Degree	6.4%***	8.1%***	20.0%	20.2%	22.7%	10.2%**
High School Diploma or GED	49.4%***	59.3%+	66.4%	73.5%	68.9%	29.3%***
Associate's Degree or BA/BS	20.3%***	20.2%***	8.9%	4.9%	6.7%	6.5%
Graduate Degree	2.5%*	1.2%	0.9%	0.0%	0.3%	0.0%
Household Poverty Ratio	3.59** (3.09)	3.4+ (3.29)	2.82 (3.49)	2.14+ (2.62)	2.12 (2.47)	4.07** (2.86)
Marital Status						
Single	34.8%*	33.7%*	43.4%	42.4%	36.8%+	53.5%*
Married	43.5%***	43.7%***	28.1%	31.4%	35.5%+	37.0%
Non-Marital Cohabitation	21.7%+	22.6%	28.5%	26.5%	27.8%	23.5%
CES-D Measures						
Pre-First Birth CES-D Score	1.9** (0.45)	1.94+ (0.46)	2.03 (0.52)	2.06 (0.53)	2.11+ (0.54)	1.98 (0.50)
CES-D Score on Return to Work	1.86+ (0.45)	1.91 (0.44)	1.98 (0.5)	1.97 (0.5)	1.99 (0.49)	-
CES-D Change Score	-0.04 (0.44)	-0.02 (0.52)	-0.05 (0.57)	-0.08 (0.54)	-0.12 (0.52)	-
Mental Health Scores Decline after Break	22.8%	29.2%	29.0%	22.3%	22.0%*	-
Mental Health Scores Improve after Break	29.0%	32.2%	33.3%	35.6%	37.1%	-
Second Birth						
Second Birth During Break	-	-	1.9%	3.8%***	53.8%***	-
Second Birth Before 2010 Survey	41.8%***	60.2%	62.6%	71.7%*	72.9%*	-
Years between Births	3.08	2.8**	3.31	3.24	3.06	2.05***
Months Between Return to Work and Second CES-D Survey	12.01	11.89*	12.4	12.13	12.16	-

Note: T-Tests are used to evaluate significant differences between break duration groups. T-Tests denote differences between women with "Optimal" breaks and each other group.

+p<0.1, *p<0.05, **p<0.01, ***p<0.001, two-tailed hypothesis tests.

#For "No Return" group, this is the time between the birth and the 2010 survey.

The data presented in Table 11 also provide some indication of a relationship between break length and mental health. In general, women with the breaks between zero and twelve weeks and those who did not return to work had slightly lower pre-birth CES-D scores—indicating slightly better initial mental health scores—than did women who returned after breaks that were longer than three months (see Table 19 for a crosstab of break length by paid leave during break). Further, the women with the shortest breaks, those between zero and twelve weeks indicated significantly better mental health upon their return to work than did women with breaks lasting longer than three months. Included in Table 11 are two variables that denote whether mental health improved or declined after the break. I divided the women into roughly equal groups, where the middle group—those whose CES-D scores did not change, or changed very little—had aggregate, absolute changes of less than 0.2 points on the CES-D scale (which ranged from one to four points total). Although it appears that fewer women with longer breaks experienced declines to mental health, these differences are not statistically significant. Additionally, considering improvements to mental health, only the break group with the longest breaks (those of more than one year) had a significant larger proportion of women who indicated that their mental health improved.

Finally, notable differences exist across break duration groups in the timing of second births. First, more than half of the women who took breaks longer than one year (53.8%) had a second child before returning to work. Second, substantially fewer women who took the shortest breaks (no break at all or breaks less than a month) with their first child had a second birth during the analysis period, that is to say before the 2010 round of survey.

Predictors of Break Length

In the logistic regression analyses presented in Table 12, I estimate the odd ratios of belonging to each break category using the pre-birth control measures. These models indicate that some pre-birth characteristics are associated with length of break. Notably, pre-birth CES-D is only significantly associated with the odds of having the longest breaks (Odds Ratio=1.54). That is women with greater CES-D scores (women who indicate more depressive symptoms) have increased odds of being in the Long break group compared with all other groups. Age at first birth is a significant predictor of each break group. Older women had significantly higher odds of being in the shortest and longest group. Being older lowered the odds of being in all other groups. Education also predicted break group membership. Women without degrees had significantly lower odds of being in the Short and FMLA groups, but significantly higher odds of being in the No Return group. Having a college degree increased the odds for being in the Short and FMLA group and significantly lowered the odds of not returning to work before the 2010 round of survey. Finally, women who were single at first birth had significantly higher odds of being in the No Return group.

Table 12: Logistic Regression Models Estimating Odds Ratios for Each Break Category by Pre-Birth Characteristics

	Short (0 – 4 weeks)	FMLA (1 – 3 months)	Optimal (3 – 6 months)	Diminishing (6 months – 1 year)	Long (Longer than 1 year)	No Return
<i>Before Birth CES-D</i>	0.81	0.85	1.07	1.13	1.54***	0.78
<i>Age at First Birth</i>	1.08***	0.94**	0.92***	0.87***	0.88***	1.39***
<i>Race/Ethnicity (ref: White)</i>						
Black	0.77	1.06	1.29	1.36	1.24	0.63*
Hispanic	0.77	0.77	1.33	1.57*	1.08	0.96
<i>Education (ref: High School)</i>						
No Degree	0.62+	0.51**	1.26	0.85	1.28	1.93*
College Degree	1.90***	1.79**	0.92	0.56+	0.56*	0.38***
Graduate Degree	3.19*	1.36	1.3	–	0.53	–
<i>HH Poverty Ratio</i>	1.02+	1.02	1.02	0.93*	0.96	1.00
<i>Marital Status (ref: Married)</i>						
Cohabiting	1.09	0.89	1.43+	0.99	0.92	0.72
Single	0.93	0.79	1.2	0.85	0.65*	2.03***
<i>Intercept</i>	0.076***	1.43	0.51	2.39	1.44	0

+p<0.1, *p<0.05, **p<0.01, ***p<0.001, N=1663

Postpartum Employment Breaks and Mental Health on Return to Work

Now, I turn to regression analyses in which I examine mental health and duration of postpartum employment breaks. In Table 13, I present multivariate linear regression analyses in which I estimate the CES-D change scores by break length controlling for pre-birth maternal characteristics and with controls for the occurrence of a second birth during the break and timing from the return to work and the survey time of the post-break CES-D measure. I included the control variable for the timing between the return to work and the closest survey after the return to work in each model. In all models this control moderately predicts a positive change in CES-D, which indicates that greater time between the end of break and follow up interview is associated with increased depressive symptoms. In the first model, I estimate the change in CES-D scores as a function of only the length of break from employment following birth. In model two, I add the pre-birth sociodemographic variables. In the third model, I add the control for second birth.

Table 13: Regression Models Estimating CES-D Change Scores including Break Length, Pre-Birth Variables, and Controls for Second Birth and Survey Timing

	Model 1 b-coefficients	Model 2 b-coefficients	Model 3 b-coefficients
Intercept	-0.14***	0.18	0.18*
<i>Break Length in Weeks</i>	-0.0001	-0.0003	-0.0004
<i>Age at First Birth</i>		-0.01 ⁺	-0.01 ⁺
<i>Race/Ethnicity (ref: White)</i>			
Black		0.04	0.04
Hispanic		-0.04	-0.03
<i>Education (ref: High School)</i>			
No Degree		0.06	0.009
College Degree		0.009	0.01
Graduate Degree		0.13	0.13
<i>HH Poverty Ratio</i>		-0.002	-0.002
<i>Marital Status (ref: Married)</i>			
Cohabiting		-0.08*	-0.08 ⁺
Single		-0.18***	-0.18***
<i>Birth Two Before Break Ends</i>			0.03
<i>Time from Return to 2nd CES-D</i>	0.005*	0.003 ⁺	0.004 ⁺

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

N=1663

In all models, length of break is not significantly associated with a change in CES-D, indicating that there is no evidence that break length predicts a change in mental health after return to break. In Model 2, two pre-birth characteristics—age at first birth and marital status—are associated with CES-D change scores. Age at first birth is positively associated with CES-D change scores (b-coefficient=0.005), such that older women have a slight increase in CES-D scores; that is, older women indicate greater depressive symptoms in their post-birth CES-D measure. Women who are cohabiting at first birth and those who are single at first birth are predicted to have a decrease in their CES-D change scores (b-coefficients=-0.074 and -0.176, respectively), thus they exhibit lower scores and fewer depressive symptoms after their return to work than before birth. In the analyses in Model 3, I include a measure that indicates if a woman had a second birth during her break from work. This variable does not significantly predict CES-D change scores and the relationships between age at first birth and marital status, and CES-D change remain. The coefficient (b-coefficient=0.0037) for the variable for the time from the return to work and the survey in which second CES-D was measured (“Time from Return to 2nd CES-D”) indicates that longer the time between the end of breaks and the second CES-D measure, the more depressive symptoms indicated by respondents.

In order to investigate if any effects on mental health of break length differed for women with different SES, in analyses not shown I included interaction effects for interactions between break length and two measures of SES: education and pre-birth poverty ratio. Neither interaction term significantly predicted break length. This suggests, counter my expectations, that the relationship between break length and CES-D change does not operate in a significantly different way for women depending on the SES.

In the analyses presented in Table 14, I repeat the estimations of CES-D change score using break category, rather than continuous break length, as the primary independent variable. In all models, I included the control for the timing between the return to break and the second measure of CES-D. This control variable had a moderately significant, positive association with CES-D change, such that the greater the time after the return to work that CES-D was measured, the greater indication of depressive symptoms.

Table 14: Regression Models Estimating CES-D Change Scores including Break Length Categories, Pre-Birth Variables and Controls for Second Birth and Survey Timing

	Model 1 Estimate	Model 2 Estimate	Model 3 Estimate
Intercept	-0.18***	0.15	0.145
<i>Break Length Categories (ref: Optimal, 3 – 6 months)</i>			
Short (0 – 4 weeks)	0.07	0.05	0.06
FMLA (1 – 3 months)	0.1*	0.07	0.08
Diminishing (6 m. – 1 year)	0.04	-0.004	0.003
Long (Longer than 1 year)	0.003		-0.05
<i>Age at First Birth</i>		-0.01+	-0.01+
<i>Race/Ethnicity (ref: White)</i>			
Black		0.04	0.04
Hispanic		-0.03	-0.03
<i>Education (ref: High School)</i>			
No Degree		0.06	0.06
College Degree		-0.002	-0.002
Graduate Degree		0.12	0.12
<i>HH Poverty Ratio</i>		-0.002	-0.002
<i>Marital Status (ref: Married)</i>			
Cohabiting		-0.07*	-0.07+
Single		-0.17***	-0.17***
<i>Birth Two Before Break Ends</i>			
<i>Time from Return to 2nd CES-D</i>	0.004*	0.003+	0.004+

+p<0.1, *p<0.05, **p<0.01, ***p<0.001
N=1663

In Model 1, in which I estimate CES-D change score using only break length categories, women who take breaks between one and three months in duration are estimated to have moderately significant, positive changes to their CES-D when compared to with women who take breaks that last between three and six months (in Table 21 in the Appendix, I present these logistic regression analyses alternating omitted groups). In other words, women

whose breaks last between one and three months are predicted to experience greater declines to their mental health when compared with those whose breaks last longer than three months. With the addition of controls for pre-birth characteristics, of which marital status and age at first birth are significant predictors of CES-D change, the significant association between the breaks lasting one to three months and change in mental health disappears.

In an effort to disentangle the effects of age at first birth and marital status on CES-D, in analyses not shown, I estimated two separate models in which I added those control variables independently. In one model estimating CES-D change by break category, I first added age at first birth and the controls without marital status. In a separate model, I estimated CES-D change using break categories and added marital status and the other controls without age at first birth. In both models, belonging to the FMLA group was a significant predictor of CES-D change; it was not until they are added to the model together (as in Model 2 of Table 14) that their combined effect reduced the significance of FMLA as a predictor of CES-D. The occurrence of a second birth before the break ends (Model 3) was not a significant predictor of CES-D change. Again to examine if these processes operated differently for women with different social and economic capital, I included interaction terms for interactions between the poverty indicator and highest degree and break length category (in analyses not shown). Neither interaction was significant, which indicates that the processes by which break length and SES measures operate do not differ for women with different SES.

Discussion

Research on becoming a mother indicates that in the time following a birth women's mental health suffers, at least in the short term. Employment offers new mothers several

buffers to declining mental health including financial stability, psychological benefits and social supports. The effects on wellbeing of breaks from employment and becoming a new mother are less clear. Using nationally representative, longitudinal data from a recent sample of new mothers from the NLSY97, I investigate the compounding effects of the transition to motherhood and postpartum employment breaks on women's mental health.

The descriptive results of this study indicate that several differences exist across women in terms of the length of time they spend out of the labor force after a birth, especially in terms of SES. In particular, women who are older at first birth take both the shortest and longest breaks. Education also predicts break duration, and women with a college education at first birth take the shortest breaks. Women with the least education are also likely to have short breaks and have greater odds than women with at least a college education of not having returned to work by the final round of survey. Turning to mental health, women with breaks between zero and twelve weeks and those who did not return to work before the final round of the survey indicated greater initial mental health than did women who returned to work after three months. These same women also indicated the greatest mental health after the return to work. Considering changes to mental health, however, only women who returned to work after breaks longer than one year indicated a negative change in CES-D scores. In support of these findings, women who indicated the lowest initial mental health were mostly likely to take breaks that lasted longer than one year.

Regarding the relationship between mental health and postpartum breaks, I found that, in general, postpartum employment duration has no direct effect mental health after women return to employment. Continuous break length did not significantly predict changes in mental health scores in any of the analyses. Of the analytical model variables,

only marital status at first birth and age at first birth predicted break duration. Women who were older at first birth and those who were not married at first birth indicated improvements to mental health upon their return to work. In the analyses of break duration groups, the group with breaks lasting between five and twelve weeks did indicate significant declines in mental health, but controls for age at first birth and marital status were shown to mediate this association. Lastly, I found, with the inclusion of interaction terms for break duration and SES measures, no evidence that postpartum break length operates on mental health differently for women with across social classes.

The results of this study do not confirm my anticipated findings. I expected to find an association between break length and mental health that would result in women with the shortest and longest breaks indicating the greatest declines to mental health. In similar research on mental health and postpartum employment, Dagher, McGovern and Dowd (2014) found a U-shaped relationship between break length and mental health with increasing mental health until six months with declines thereafter. My research indicated no such relationship. Whereas they interviewed women at six, twelve, 26 and 52 weeks postpartum, the women in the NLSY97 sample were interviewed about mental health only every two years. The average time between the NLSY97 women's return from break to post-break CES-D survey was 12 months (standard deviation=7.55). Indeed, in all the regression analyses in this study, the control variable for time after return to survey was minimally, but positively and significantly associated with CES-D change; the longer that a mother has been back in the labor force, the greater her predicted CES-D change score. I do not believe that the findings of this study contradict those of Dagher, McGovern and Dowd, but rather that they indicate that if there exist consequences to mental health of break duration, that those effects can only be observed in the short term. Further, I expand on the work by

Dagher and colleagues by utilizing a nationally representative sample, and by assessing break lengths longer than a year.

The constraint of these data imposed by biennial measures of mental health is not the only limitation. Another limitation exists because the sample is restricted to women who have transitioned to motherhood before the 2010 round of survey, at which time 26% of the sample of women who eventually become mothers had already had their first birth. The average age at first birth for women in the study sample was 21 and for women who were omitted was 27. The women who were omitted from this study more closely resemble women in the population (for whom age at first birth is nearer the mid-twenties) than does the study sample. It is important to remember that this study's findings are generalizable not to the larger population of new mothers in the US, but to young new mothers.

The findings of this study suggest avenues for future research. A testable explanation for my finding of no relationship between mental health and break duration is that the effects of break duration are short-lived, and that with time women recover from any decline in mental health from too short or too long breaks. Although my study suggests that this is true, these data do not allow me to explore variations in mental health over women's transitions out of and back into work that surround births. Optimal data for these analyses would include surveys of women's mental health before, during and after employment breaks at regular intervals until well after the return to work and beyond the reach of postpartum depression (Munk-Olsen et al. 2006; O'Hara and McCabe 2013).

The results of this study indicate that postpartum employment break length after the transition to motherhood is not associated with significant changes in mental health after the return to work. I found that women are stratified in terms of predictors of break duration. Women with the most SES and education are at risk of the shortest duration

breaks. Women with the least education are also likely to have very short breaks but are likewise predicted to withdraw from the labor force for long periods of time. Especially in a society and time in which women have only limited access to minimal universal family leave and employer-provided maternity leave is a benefit available to women with high status jobs; it is encouraging that, in terms of mental health, women without choice in the length of their maternity leaves are not disadvantaged when they re-enter the labor market.

Chapter 5: Conclusion

Today, only one nationally standardized option is available to women in the United States for job-guaranteed maternity leave—the Family Medical Leave Act. This legislation, enacted in 1993, offers some women whose employers meet specific criteria up to twelve weeks of unpaid, job-protected leave after the birth of a child. The FMLA covers only about half of women in the US (DOL). The remaining half of women are either not covered any policy or have access to a maternity leave benefit through their employers. Especially because employer-granted maternity leave benefits are mostly available to women employed in high status jobs, access to employment breaks after births is stratified by women’s socioeconomic status.

Research indicates that time out of work following a birth benefits women and babies in terms of wellbeing (Clark, Hyde, Essex and Klein 1997; Chatterji and Markowitz 2004; Dagher, McGovern and Dowd 2014; Gjerdingen and Chaloner 1994). For women who return to work quickly—because economic motivations drive them, maternity benefits are insufficient or the requirements of their jobs prohibit breaks of adequate time off work—the penalties of early return may impede wellbeing. On the other hand, when women remain out of work for long periods of time, they risk forgone wages and potentially enter the labor market again through searches for new positions. For women who are already economically and socially disadvantaged—in particular those whose employers do not offer maternity leave—withdrawals from the labor force widen economic gaps.

The life course perspective suggests that at the transition to parenthood, age-graded social norms and gender expectations interact and women face challenges of combining

work and family in new ways that are unique to this life stage (Elder, Johnson and Crosnoe 2003). Further, an important principle of the life course approach proposes that the consequences of actions and decisions during the transition to parenthood (or any life stage) extend beyond that life stage. Taken together, because women's postpartum employment is stratified by economic advantage, employment arrangements during the transition to parenthood warrant a closer look. The primary goal of this project was to assess predictors of postpartum break duration in the context of the transition to parenthood, and to investigate the effects of the length of time out of work on two dimensions of wellbeing: marital quality and mental health.

I will highlight several of the key findings of these studies here. In Chapter 2, using nationally representative, longitudinal data from the National Longitudinal Survey of Youth (NLSY), I explored predictors of postpartum break length in two cohorts of women—the women in one of these two groups (NLSY79) became mothers before the Family Medical Leave Act (FMLA) was enacted in 1993, and women in the other who transitioned to motherhood after the legislation was in place (NLSY97). The pre-birth characteristic that was most associated with break duration was education. Education is an important predictor of break length in both cohorts. Compared to women with high school diplomas, women without any degree at first birth have predicted break lengths almost twice as long. Women with college and graduate degrees are predicted to return to work more quickly than those with high school diplomas. Several other predictors were also associated with break length, but their associations were much smaller—weeks instead of years. Family structure predicted break length in both cohorts; married women have slightly longer predicted breaks than unmarried women have. Regarding other measures of SES, women's personal income predicted shorter breaks and family income predicted longer breaks. Access to employer-granted, job-protected maternity

and the number of weeks worked in the year before birth both positively predicted quicker returns to work.

The analyses in Chapter 2 indicated substantial differences across cohorts in break duration. The mean break for women in the 1979 sample was 120 weeks, and for women in the 1997 sample, the average break was 58 weeks. In the full regression models in which I controlled for all hypothesized predictors, a cohort effect of 47 weeks across cohorts remained unexplained. The cohorts also differed on three important predictors: education, marital status and maternity leave. Regarding education, the association between having no degree at first birth and very long breaks was significant for the women in the 1979 cohort, but not the 1997 cohort. Women in the 1979 cohort without a high school diploma at first birth had breaks that were predicted to be almost 70 weeks longer than women who had a diploma. Women in the 1997 cohort without a diploma were also predicted to have longer breaks, but the association is not significantly significant. On the other hand, women in the 1997 cohort with college and graduate education at first birth were predicted to have significantly short breaks than women with only high school diploma (10 weeks and 18 weeks shorter, respectively). This association between greater education and quicker breaks was not statistically significant for women in the 1979 cohort. These findings together indicate that the consequences of education differ across cohorts and likely reflect social changes in the amount of education that women pursue in each era and in the timing of childbirth.

The cohorts also differed significantly in the association between marital status and break duration. Being married at first birth did not significantly predict break duration for the women in the 1979 cohort, but predicted significantly longer breaks for women in the 1997 cohort (17.5 weeks). It is worth noting that while it was normative to be

married at the time of first birth for women in the 1979 cohort (70% were married), less than 40% of the women in the 1997 cohort were married at first birth. Lastly, access to employer-granted, job-protected maternity leave differed substantially across break groups. Many more women in the 1979 cohort had access to employer-offered benefits at any job prior to first-birth survey than did women in the 1997 cohort (53% versus 34%). A significant interaction exists between access to maternity leave and cohort, and women in the 1979 cohort experienced greater penalties (in terms of very long breaks) than did women in the 1997 cohort of not having access to maternity leave offered by employers. Of the two thirds of women in the 1997 cohort without access to maternity leave through their employer, only 25% returned to work before three months. Although the data do not allow me to directly assess if these women without access to a maternity benefit at work, utilized the leave offered by FMLA, this finding suggests that few of these did (the maximum leave granted by FMLA is 12 weeks).

In Chapters 3 and 4, I also explored predictors of break length. In Chapter 3, using the NLSY79, I estimated models predicting break length by two dimensions of pre-birth marital quality: marital happiness and marital conflict. I found that neither marital happiness nor marital conflict significantly predicted break duration. In Chapter 4, using the NLSY97, I predicted break length using the control variables along with a measure of pre-birth mental health, the CES-D scale for depressive symptoms. I found that pre-birth CES-D only predicted greater odds of having a break lasting longer than one year; that is to say that I found that women who indicated more depressive symptoms before birth were more likely to remain out of the labor force longer than twelve months.

Although some of the analyses in Chapter 3 and 4 were focused on predictors of breaks, the primary aim of these studies was to explore how break duration affected

changes in two measures of wellbeing: marital quality and mental health. In Chapter 3, using the NSLY79, I estimated changes in marital happiness and marital conflict by break duration. I found that although marital happiness declined over the course of breaks and marital conflict increased that it was marital duration rather than break duration that explained these effects. These findings confirm the body of research that indicates that marital quality declines over time early in marriages (Umberson et al. 2005; VanLaningham, Johnson and Amato 2001) and research that indicates that the transition to parenthood is a time marked by at least temporary marital distress (Twenge et al. 2003).

In Chapter 4, I used break length to predicted changes in women's mental health upon the return to employment using the 1997 cohort of the NLSY. I found no evidence in these analyses that break duration was significantly associated with changes in mental health (measured using the CES-D scale for depressive symptoms). I did find, however, that two pre-birth maternal characteristics—age at first birth and marital status—were associated with CES-D change. Women who were older at first birth indicate slight increases in depressive symptoms upon their return to work. Further, women who were single at first birth and those who were cohabiting indicated improvements to mental health on their returns to the labor force. I included in these models a control variable that measured the amount of time between the return to work and the second measure of CES-D. This variable significantly predicted slight declines in mental health over time after the return to work.

The analyses in Chapter 2 indicated differences across women in terms of SES in the length of break that they took after their first births. One of my aims of these studies was to assess how the consequences of breaks were stratified by women as well. With

the addition of interaction terms for SES measures including personal and family income and education, and break duration; I was able to explore possible variations across women. I did not find, however, any evidence of significant interaction by SES, which indicates that the processes by which break duration and wellbeing are associated do not appear to operate differently for women with more or fewer advantages.

The primary limitations of these studies involve the available data. Although I found no indications influence of break duration on marital duration on changes in marital quality or mental health after the return to work, it is possible that over the course of transitions out of and back into work women's assessments of both measures of wellbeing change. Because mental health and marital quality are both measured only biennially, the data are not sensitive enough to indicate these temporary, minute changes in wellbeing. Especially in the relationship between marital quality and break duration where break duration and marital duration are confounded, more frequent measures of marital quality would allow for more precise exploration of these effects. Another limitation of these data is the lack of measures about social change and gender ideology. It is not possible, using the NLSY data to fully explain the substantial cohort difference that remains unexplained after controlling for all study variables. Finally, these data are limited in the operationalization of employment breaks; in particular, it is not possible to explicitly determine if women utilized an employer-granted leave following childbirth. These limitations, taken together with the findings of this study suggest promising directions for future research. In-depth exploration of measures of wellbeing across the transition to parenthood and after returns to work might indicate inequalities between women in terms of marital quality and mental health that warrant further study. Additionally, future research might explore the societal and attitudinal

changes that could explain some of the persistent cohort differences in break duration between the contemporary and older cohorts of mothers.

The results of this research suggest that, especially since the institution of the Family Medical Leave Act, women with the greatest SES are at the most risk of short duration breaks. On the other hand, women with the least economic and educational resources are at risk of both very short and very long breaks. Because employer-guaranteed maternity leave is a benefit available to few women, especially those whose transitions to motherhood occur after FMLA, access to optimal duration breaks is stratified and unequal. The findings of this research that indicate no substantial penalty based on leave length to women in terms of marital quality and mental health are encouraging because they show that women's outcomes are not stratified, at least in the long term, on return to work.

References

- Aisenbrey, Silke, Marie Evertsson, and Daniela Grunow. 2009. "Is There a Career Penalty for Mothers' Time Out? A Comparison of Germany, Sweden and the United States." *Social Forces* 88(2):573-605.
- Alon, Sigal and Yitchak Haberfeld. 2007. "Labor Force Attachment and the Evolving Wage Gap Between White, Black, and Hispanic Young Women." *Work and Occupations* 34(4):369-398.
- Amato Paul R., Booth Alan, Johnson David R., Rogers Stacy J. 2007. *Alone Together*. Cambridge, MA: Harvard University Press.
- American Psychiatric Association. 2013. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Washington DC: Author.
- Antecol, Heather. 2011. "The Opt-Out Revolution: Recent Trends in Female Labor Supply." Pp. 45-83 in *Research in Labor Economics*, edited by Solomon W. Polachek and Konstantinos Tatsiramos. Bingley, UK: Emerald Group Publishing Limited.
- Baker, Michael, and Kevin Milligan. 2005. "How Does Job-Protected Maternity Leave Affect Mothers' Employment and Infant Health?." Working paper No. W11135. National Bureau of Economic Research, Cambridge, MA.
- Barrow, Lisa. 1999. "An Analysis of Women's Return-to-Work Decisions Following First Birth." *Economic Inquiry* 37(3):432-51.
- Becker, Gary S. 1985. "Human Capital, Effort, and the Sexual Division Of Labor." *Journal Of Labor Economics* 3(1.2):S33-S58.
- Becker, Penny Edgell and Phyllis Moen. 1999. "Scaling Back: Dual-Earner Couples' Work-Family Strategies." *Journal of Marriage and Family* 61:995-1007.
- Belkin, Lisa. 2003. "The Opt-Out Revolution." *The New York Times*. Retrieved January 6, 2014 (<http://www.nytimes.com/2003/10/26/magazine/26WOMEN.html>).

- Belle, Deborah. 1990. "Poverty and Women's Mental Health." *American psychologist* 45(3):385.
- Berger, Lawrence M., Jennifer Hill and Jane Waldfogel. 2005. "Maternity Leave, Early Maternal Employment And Child Health And Development In The US." *The Economic Journal* 115(501): F29–F47.
- Berk, Richard A., and Sarah Fenstermaker Berk. 1983. "Supply-Side Sociology Of The Family: The Challenge Of The New Home Economics." *Annual Review of Sociology* 9: 375-395.
- Bloch, Miki et al. 2000. "Effects of Gonadal Steroids in Women with a History of Postpartum Depression." *American Journal of Psychiatry* 157(6):924–30.
- Bost, Kelly K., Martha J. Cox, Margaret R. Burchinal, and Chris Payne. 2002. "Structural and Supportive Changes in Couples' Family and Friendship Networks across the Transition to Parenthood." *Journal of Marriage and Family* 64(2):517–31.
- Boushey, Heather. 2005. "Are Women Opting Out? Debunking the Myth." *The Center for Economic and Policy Research*. Retrieved January 6, 2014 (http://www.cepr.net/documents/publications/opt_out_2005_11_2.pdf).
- Boushey, Heather. 2008. "'Opting Out?' The Effect of Children on Women's Employment in the United States." *Feminist Economics* 14(1):1-36.
- Boushey, Heather, Jane Farrell, and John Schmitt. 2013. "Job Protection Isn't Enough." *Center for American Progress and the Center for Economic and Policy Research*.
- Budig, Michelle J. and Paula England. 2001. "The Wage Penalty for Motherhood." *American Sociological Review* 66:204-225.
- Bureau of Labor Statistics. "Clustering Adjustments." *The National Longitudinal Survey of Youth 1979*. Retrieved February 12, 2015 (<https://www.nlsinfo.org/content/cohorts/nlsy79/using-and-understanding-the-data/sample-weights-clustering-adjustments/page/0/1>).

- Bureau of Labor Statistics. "Design Effects." The National Longitudinal Survey of Youth 1997. Retrieved February 12, 2015
(<https://www.nlsinfo.org/content/cohorts/nlsy97/using-and-understanding-the-data/sample-weights-design-effects>).
- Bureau of Labor Statistics. "Work Experience." The National Longitudinal Survey of Youth 1979. Retrieved March 2016
(<https://www.nlsinfo.org/content/cohorts/nlsy79/topical-guide/employment/work-experience>)
- Buttner, Melissa M., Michael W. O'Hara, and David Watson. 2012. "The Structure of Women's Mood in the Early Postpartum." *Assessment* 19(2):247-56.
- Cannonier, Colin. 2014. "Does the Family and Medical Leave Act (FMLA) Increase Fertility Behavior?." *Journal of Labor Research* 35(2):105-132.
- Cantor, David, Waldfogel, Jane, Kerwin, Jeff, McKinley Wright, Mareena, Levin, Kerry, Rauch, John, Hagerty, Tracey and Stapleton Kudela, Martha. 2001. "Balancing the Needs of Families and Employers: Family and Medical Leave Surveys, 2000 Update." Rockville, MD: Westat.
- Chatterji, Pinka and Sara Markowitz. 2004. "Does the Length of Maternity Leave Affect Maternal Health?" National Bureau of Economic Research.
- Chatterji, Pinka and Sara Markowitz. 2004. Does the Length of Maternity Leave Affect Maternal Health?. National Bureau of Economic Research.
- Cheung, Yin Bun, Ka Yuet Liu, and Paul SF Yip. 2007. "Performance of the CES-D and Its Short Forms in Screening Suicidality and Hopelessness in the Community." *Suicide and Life-Threatening Behavior* 37(1):79-88.
- Chong, Alexandra, and Kristin D. Mickelson. 2016. "Perceived Fairness and Relationship Satisfaction During the Transition to Parenthood The Mediating Role of Spousal Support." *Journal of Family Issues* 37(1):3-28.

- Clark, Roseanne, Janet Shibley Hyde, Marilyn J. Essex, and Marjorie H. Klein. 1997. "Length of Maternity Leave and Quality of Mother-Infant Interactions." *Child Development* 364-83.
- Coltrane, Scott. 2000. "Research On Household Labor: Modeling And Measuring The Social Embeddedness Of Routine Family Work." *Journal Of Marriage And Family* 62(4): 1208-1233.
- Conger, Rand D. Glen H. Elder, Frederick O. Lorenz, Katherine J. Conger, Ronald L. Simons, Les B. Whitbeck, Shirley Huck, and Janet N. Melby. 1990. "Linking Economic Hardship to Marital Quality and Instability". *Journal of Marriage and Family* 52(3): 643-656. Web...
- Coontz, Stephanie. 2013. "Why Gender Equality Stalled." *The New York Times*. Retrieved January 6, 2014 (<http://www.nytimes.com/2013/02/17/opinion/sunday/why-gender-equality-stalled.html?pagewanted=all&r=0>).
- Correll, Shelley J. 2007. "Getting a Job: Is There a Motherhood Penalty?" *American Journal of Sociology* 112(5): 1297-1338.
- Cotter, David, Paula England, and Joan Hermsen. 2008. "Moms and Jobs: Trends in Mothers' Employment and Which Mothers Stay Home." *American families: A Multicultural Reader* 2:379-86.
- Cowan, Carolyn Pape, and Philip A. Cowan. 1995. "Interventions to ease the transition to parenthood: Why they are needed and what they can do." *Family Relations* 44(4):412-423.
- Dagher, Rada K., Patricia M. McGovern, and Bryan E. Dowd. 2014. "Maternity Leave Duration and Postpartum Mental and Physical Health: Implications for Leave Policies." *Journal of Health Politics, Policy and Law* 39(2):369-416.
- Damaske, Sarah. 2011. *For the Family?: How Class and Gender Shape Women's Work*. Oxford University Press.

- Department of Labor (DOL). 2012. "Fact Sheet #28: The Family Medical Leave Act."
Department of Labor. Retrieved February 10, 2016
(<http://www.dol.gov/w/regs/compliance/whdfs28.pdf>).
- Desai, Sonalde and Linda Waite. 1991. "Women's Employment During Pregnancy and After the First Birth: Occupational Characteristics and Work Commitment."
American Sociological Review 56:551-566.
- Dooley, David, Joann Prause, and Kathleen A. Ham-Rowbottom. 2000.
"Underemployment and Depression: Longitudinal Relationships." *Journal of Health and Social Behavior* 421-36.
- Drobnic, Sonja, Hans-Peter Blossfeld, and Gotz Rohwer. 1999. "Dynamics of Women's Employment Patterns of the Family Life Course: A Comparison of the United States and Germany." *Journal of Marriage and Family* 61:133-146.
- Elder Jr, Glen H., Monica Kirkpatrick Johnson, and Robert Crosnoe. 2003. *The Emergence and Development of Life Course Theory*. Springer.
- Elliott, Jane, Angela Dale, and Muriel Egerton. 2001. "The Influence of Qualifications on Women's Work Histories, Employment Status and Earnings at Age 33." *European Sociological Review* 17(2):145-168
- England, Paula, Carmen Garcia-Beaulieu and Mary Ross. 2004. "Women's Employment Among Blacks, Whites and Three Groups of Latinas: Do More Privileged Women Have Higher Employment?" *Gender & Society* 18:404-509.
- Felmlee, Diane H. 1995. "Causes and Consequences of Women's Employment Discontinuity, 1967-1973." *Work and Occupations* 22(2):167-87.
- Frech, Adrienne and Sarah Damaske. 2012. "The Relationships between Mothers' Work Pathways and Physical and Mental Health." *Journal of Health and Social Behavior* 53(4):396-412.
- Frisco, Michelle L., and Kristi Williams. 2003. "Perceived Housework Equity, Marital Happiness, And Divorce In Dual-Earner Households." *Journal of Family Issues* 24(1): 51-73.

- Fullerton Jr, Howard N. 1999. "Labor Force Participation: 75 Years of Change, 1950-98 and 1998-2025." *Monthly Labor Review* 122:3.
- Galtry, Judith and Paul Callister. 2005. "Assessing the Optimal Length of Parental Leave for Child and Parental Well-Being How Can Research Inform Policy?" *Journal of Family Issues* 26(2):219-46.
- Gaudet, Stephanie, Martin Cooke, and Joanna Jacob. 2011. "Working after Childbirth: A Lifecourse Transition Analysis of Canadian Women from the 1970s to the 2000s." *Canadian Review of Sociology* 48(2):153-80.
- Gjerdingen, Dwenda K. and Kathryn M. Chaloner. 1994. "The Relationship of Women's Postpartum Mental Health to Employment, Childbirth, and Social Support." *The Journal of Family Practice*.
- Glenn, Norval D. 1990. "Quantitative Research On Marital Quality In The 1980s: A Critical Review." *Journal Of Marriage And The Family* 52(4): 818-831.
- Greenstein, Theodore N. 1990. "Marital Disruption and the Employment of Married Women". *Journal of Marriage and Family* 52(3): 657-676.
- Han, Wen-Jui, Christopher J. Ruhm, Jane Waldfogel, and Elizabeth Washbrook. 2008. "The Timing of Mothers' Employment after Childbirth." *Monthly Labor Review/US Department of Labor, Bureau of Labor Statistics* 131(6):15.
- Han, Wen-Jui, and Jane Waldfogel. 2003. "Parental Leave: The Impact Of Recent Legislation On Parents' Leave Taking." *Demography* 40.(1):191-200.
- Helms-Erikson, Heather. 2001. "Marital quality ten years after the transition to parenthood: Implications of the timing of parenthood and the division of housework." *Journal of Marriage and Family* 63(4):1099-1110.
- Hofferth, Sandra L., and Sally C. Curtin. 2006. "Parental Leave Statutes and Maternal Return to Work after Childbirth in the United States." *Work and Occupations* 33(1):73-105.

- Holmes, Erin Kramer, Jenet Jacob Erickson, and E. Jeffrey Hill. 2012. "Doing What She Thinks Is Best: Maternal Psychological Wellbeing and Attaining Desired Work Situations." *Human Relations* 65(4):501-22.
- Houston, Diane M. and Gillian Marks. 2003. "The Role of Planning and Workplace Support in Returning to Work after Maternity Leave." *British Journal of Industrial Relations* 41(2):197-214.
- Hyde, Janet Shibley, Marilyn J. Essex, Roseanne Clark, and Marjorie H. Klein. 2001. "Maternity Leave, Women's Employment, And Marital Incompatibility." *Journal Of Family Psychology* 15(3): 476-491.
- Hyde, Janet Shibley, Marjorie H. Klein, Marilyn J. Essex, and Roseanne Clark. 1995. "Maternity Leave and Women's Mental Health." *Psychology of Women Quarterly* 19(2):257-285.
- Hynes, Kathryn and Marin Clarkberg. 2005. "Women's Employment Patterns during Early Parenthood: A Group-Based Trajectory Analysis." *Journal of Marriage and Family* 67(1):222-39.
- James, Spencer L., and Brett A. Beattie. 2012. "Reassessing the link between women's premarital cohabitation and marital quality." *Social Forces* 91(2):635-662.
- Joesch, Jutta M. 1997. "Paid leave and the timing of women's employment before and after birth." *Journal of Marriage and the Family* 1997:1008-1021.
- Johnson, David R., Lynn K. White, John N. Edwards, and Alan Booth. 1986. "Dimensions Of Marital Quality Toward Methodological And Conceptual Refinement." *Journal of Family Issues* 7(1): 31-49.
- Kim, Myoung-Hee, Chang-yup Kim, Jin-Kyung Park, and Ichiro Kawachi. 2008. "Is Precarious Employment Damaging to Self-Rated Health? Results of Propensity Score Matching Methods, Using Longitudinal Data in South Korea." *Social Science & Medicine* 67(12):1982-94.

- Klein, Marjorie H., Janet Shibley Hyde, Marilyn J. Essex, and Roseanne Clark. 1998. "Maternity Leave, Role Quality, Work Involvement, and Mental Health One Year after Delivery." *Psychology of Women Quarterly* 22(2):239-66.
- Kleiner, Sibyl and Eliza K. Pavalko. 2010. "Clocking in: The Organization of Work Time and Health in the United States." *Social Forces* 88(3):1463-86.
- Klerman, J. A. and A. Leibowitz. 1999. "Job Continuity among New Mothers." *Demography* 36(2):145-55.
- Kuperberg, Arielle and Pamela Stone. 2008. "The Media Depiction of Women Who Opt Out." *Gender & Society* 22: 497-517.
- Lanzi, Robin Gaines, Shannon Carothers Bert, and Bette Keltner Jacobs. 2009. "Depression Among a Sample of First-Time Adolescent and Adult Mothers." *Journal of Child and Adolescent Psychiatric Nursing* 22(4):194-202.
- Lavee, Yoav, Shlomo Sharlin, and Ruth Katz. 1996. "The Effect Of Parenting Stress On Marital Quality An Integrated Mother-Father Model." *Journal Of Family Issues* 17(1): 114-135.
- Lawrence, Erika, Alexia D. Rothman, Rebecca J. Cobb, Michael T. Rothman, and Thomas N. Bradbury. 2008. "Marital Satisfaction Across The Transition To Parenthood." *Journal Of Family Psychology* 22(1):41-50.
- Leibowitz, Arleen, Jacob Alex Klerman, and Linda J. Waite. 1992. "Employment Of New Mothers And Child Care Choice: Differences By Children's Age." *Journal Of Human Resources*:112-133.
- Lennon, Mary Clare and Sarah Rosenfield. 1992. "Women and Mental Health: The Interaction of Job and Family Conditions." *Journal of Health and Social Behavior* 316-27.
- Lennon, Mary Clare. 1994. "Women, Work, and Well-Being: The Importance of Work Conditions." *Journal of Health and Social Behavior* 235-47.

- Lovejoy, Meg and Pamela Stone. 2012. "Opting Back in: The Influence of Time at Home on Professional Women's Career Redirection after Opting out." *Gender, Work & Organization* 19(6):631-53.
- Marshall, Katherine. 1999. "Employment after Childbirth." *Perspectives on Labour and Income* 11(3):18-25.
- Matthews, T.J. and Brady E. Hamilton. 2014. "First Births to Older Women Continue to Rise." NCHS data brief, No 152. Hyattsville, MD: National Center for Health Statistics.
- McGovern, Pat et al. 2006. "Postpartum Health of Employed Mothers 5 Weeks after Childbirth." *The Annals of Family Medicine* 4(2):159-67.
- McGovern, Pat, Bryan Dowd, Dwenda Gjerdingen, Cynthia R. Gross, Sally Kenney, Laurie Ukestad, David McCaffrey, and Ulf Lundberg. 2006. "Postpartum Health of Employed Mothers 5 Weeks after Childbirth." *The Annals of Family Medicine* 4(2):159-67.
- McGovern, Patricia et al. 1997. "Time off Work and the Postpartum Health of Employed Women." *Medical Care* 35(5):507-21.
- Mincer, Jacob, and Solomon Polacheck. 1974. "Family Investments In Human Capital: Earnings Of Women." Pp. 397-431 In *Economics Of The Family: Marriage, Children, And Human Capital*, edited by Theodore W. Schultz. Chicago, IL: University of Chicago Press.
- Mincer, Jacob, and Solomon Polachek. 1978. "An Exchange: The Theory of Human Capital and The Earnings of Women: Women's Earnings Reexamined." *The Journal Of Human Resources* 13(1):118-134.
- Mirowsky, John and Catherine E. Ross. 1995. "Sex Differences in Distress: Real or Artifact?" *American Sociological Review* 449-68.
- Mirowsky, John and Catherine E. Ross. 2003. *Social Causes of Psychological Distress*. Transaction Publishers.
- Moen, Phyllis and Shin-Kap Han. 2001. "Gendered Careers: A Life Course Perspective." *Working Families: The Transformation Of The American Home* 42-57.

- Moen, Phyllis. 2005. "Beyond the Career Mystique: 'Time In,' 'Time Out,' and 'Second Acts'." *Sociological Forum* 20(2):189-208.
- Moss, Peter, Gill Bolland, Ruth Foxman, and Charlie Owen. 1986. "Marital Relations during the Transition to Parenthood." *Journal of Reproductive and Infant Psychology* 4(1-2): 57-67.
- Munk-Olsen, Trine, Thomas Munk Laursen, Carsten Bøcker Pedersen, Ole Mors, and Preben Bo Mortensen. 2006. "New Parents and Mental Disorders: A Population-Based Register Study." *Jama* 296(21):2582-89.
- Murphy, Gregory C. and James A. Athanasou. 1999. "The Effect of Unemployment on Mental Health." *Journal of Occupational and Organizational Psychology* 72(1):83-99.
- National Conference of State Legislatures (NCSL). "State Family and Medical Leave Laws." National Conference of State Legislatures. Retrieved March 30, 2016 (<http://www.ncsl.org/research/labor-and-employment/state-family-and-medical-leave-laws.aspx>).
- Nomaguchi, Kei M. and Melissa A. Milkie. 2003. "Costs and Rewards of Children: The Effects of Becoming a Parent on Adults' Lives." *Journal of Marriage and Family* 65(2):356-74.
- O'Hara, Michael W. and Jennifer E. McCabe. 2013. "Postpartum Depression: Current Status and Future Directions." *Annual review of clinical psychology* 9:379-407.
- Pavalko, Eliza K. and Brad Smith. 1999. "The Rhythm of Work: Health Effects of Women's Work Dynamics." *Social Forces* 77(3):1141-62.
- Pavalko, Eliza K. and Shari Woodbury. 2000. "Social Roles as Process: Caregiving Careers and Women's Health." *Journal of Health and Social Behavior* 91-105.
- Percheski, Christine. 2008. "Opting Out? Cohort Differences in Professional Women's Employment Rates from 1960 to 2005." *American Sociological Review* 73(3): 497-517.

- Perry-Jenkins, Maureen, Abbie E. Goldberg, Courtney P. Pierce, and Aline G. Sayer. 2007. "Shift Work, Role Overload, and the Transition to Parenthood." *Journal of Marriage and Family* 69(1):123-38.
- Pleck, Joseph H. 1997. "Paternal Involvement: Levels, Sources, And Consequences." Pp. 66-103 In *The Role Of The Father In Child Development, Third Edition*, edited by Michael E. Lamb. John Hoboken, NJ: John Wiley & Sons, Inc.
- Pina, Darlene L., and Vern L. Bengtson. 1993. "The Division Of Household Labor And Wives' Happiness: Ideology, Employment, And Perceptions Of Support." *Journal Of Marriage And The Family* 55(4):901-912.
- Radloff, Lenore Sawyer. 1977. "The CES-D Scale a Self-Report Depression Scale for Research in the General Population." *Applied Psychological Measurement* 1(3):385-401.
- Reid, Lori L. and Irene Padavic. 2005. "Employment Exits and the Race Gap in Young Women's Employment." *Social Science Quarterly*, 86(s1):1242-1260.
- Robinson, John and Geoffrey Godbey. 1999. *Time for Life*. University Park, PA: Penn State University Press.
- Rogers, Stacy J. "Wives' Income and Marital Quality: Are There Reciprocal Effects?" *Journal of Marriage and Family* 61(1):123-132.
- Rogers, Stacy J., and Paul R. Amato. 2000 "Have Changes In Gender Relations Affected Marital Quality?." *Social Forces* 79(2):731-753.
- Rogers, Stacy J., and Danelle D. DeBoer. 2001. "Changes in Wives' Income: Effects on Marital Happiness, Psychological Well-Being, and the Risk of Divorce." *Journal of Marriage and Family* 63(2): 458-472.
- Ross, Catherine E. and John Mirowsky. 1995. "Does Employment Affect Health?" *Journal of Health and Social Behavior* 230-43.

- Ross, Katherine. 1998. "Labor Pains: The Effects Of The Family And Medical Leave Act On Recent Mothers' Returns To Work After Childbirth." Population Association Of America Annual Meeting.
- Ross, Catherine E. and Marylyn P. Wright. 1998. "Women's Work, Men's Work, and the Sense of Control." *Work and Occupations* 25(3):333-55.
- Sassler, Sharon and Amanda J. Miller. 2010. "Class Differences in Women's Family and Work Behaviors." *Washington and Lee Journal of Civil Rights and Social Justice* 16(2):349-367.
- Schoen, Robert, Stacy J. Rogers, and Paul R. Amato. 2006. "Wives' Employment and Spouses' Marital Happiness Assessing the Direction of Influence Using Longitudinal Couple Data." *Journal of Family Issues* 27(4): 506-528.
- Seiger, Christine P. and Bettina S. Wiese. 2011. "Social Support, Unfulfilled Expectations, and Affective Well-Being on Return to Employment." *Journal of Marriage and Family* 73(2):446-58.
- Shang, Qingyan and Bruce A. Weinberg. 2009. "Opting for Families: Recent Trends in the Fertility of Highly Educated Women." National Bureau of Economic Research. Retrieved January 6, 2014 (<http://www.nber.org/papers/w15074>).
- Shrout, Patrick E. and Thomas J. Yager. 1989. "Reliability and Validity of Screening Scales: Effect of Reducing Scale Length." *Journal of Clinical Epidemiology* 42(1):69-78.
- Singley, Susan G., and Kathryn Hynes. 2005. "Transitions to Parenthood Work-Family Policies, Gender, and The Couple Context." *Gender & Society* 19.(3):376-397.
- Smeaton, Deborah. 2006. "Work Return Rates after Childbirth in the UK-Trends, Determinants and Implications: A Comparison of Cohorts Born in 1958 and 1970." *Work, Employment & Society* 20(1):5-25.
- Smith Kristin E., Barbara Downs, and Martin O'Connell. 2001. *Maternity Leave and Employment Patterns: 1961-1995*. Current Population Reports, P70-79. U.S. Census Bureau, Washington, DC

- Spitze, Glenna. 1988. "Women's Employment and Family Relations: A Review." *Journal of Marriage and the Family* 595-618.
- Stone and Lovejoy. 2004. "Fast-Track Women and the 'Choice' to Stay Home." *The ANNALS of the American Academy of Political and Social Science* 596:62-83.
- Stone, Pamela. 2007. *Opting Out? Why women Really Quit Careers and Head Home*. CA: University of California Press.
- Stone, Pamela. 2007. *Opting Out?: Why Women Really Quit Careers and Head Home*. University of California Press.
- Thomas, Claudia, Michaela Benzeval, and Stephen A. Stansfeld. 2005. "Employment Transitions and Mental Health: An Analysis from the British Household Panel Survey." *Journal Of Epidemiology And Community Health* 59(3):243-49.
- Thompson, Linda and Alexis J. Walker. 1989. "Gender in Families: Women and Men in Marriage, Work and Parenthood." *Journal of Marriage and Family* 51(4):845-871.
- Twenge, Jean M., W. Keith Campbell, and Craig A. Foster. 2003. "Parenthood and Marital Satisfaction: A Meta-Analytic Review." *Journal Of Marriage And Family* 65(3):574-83.
- United States Department of Labor (DOL). 2015. "DOL Factsheet: Paid Family and Medical Leave." United States Department of Labor. Retrieved March 30, 2016 (<http://www.dol.gov/wb/PaidLeave/pdf/PaidLeave.pdf>)
- Vespa, Jonathan. 2009. "Gender Ideology Construction a Life Course and Intersectional Approach." *Gender & Society* 23(3):363-87.
- Wenk, Deeann, and Patricia Garrett. 1992. "Having a Baby: Some Predictions of Maternal Employment around Childbirth." *Gender & Society* 6(1):49-65.
- Winship, Christopher and Larry Radbill. 1994. "Sampling Weights and Regression Analysis." *Sociological Methods and Research* 23(2):230-257.

Appendix

Table 15: Break Length in Weeks by Cohorts, Means, Standard Deviations, Quartiles and Range

	Mean	Standard Deviation	First Quartile	Median	Third Quartile	Range
1979 Cohort	119.96	232.82	9	32	115	0 – 1872
1997 Cohort	57.9	101.97	7	19	64	0 – 1010

Table 16: Logistic Regression Predicting Access to Employer-Granted, Job-Protected Maternity Leave, Odds Ratios Presented

	Odds Ratios	Standard Error	Significance
Cohort (1979=0, 1997=1)	0.13	0.01	***
Age at First Birth	0.89	0.01	***
Race (<i>Ref. Group=White</i>)			
<i>Black</i>	1.23	0.09	**
<i>Hispanic</i>	0.92	0.07	
Highest Degree at First Birth (<i>Ref. Group=HS</i>)			
<i>No Degree</i>	0.84	0.07	*
<i>College Degree</i>	1.21	0.12	*
<i>Graduate Degree</i>	2.94	0.82	***
Personal Income at First Birth (in \$1000s)	1.04	0.004	***
Family Income at First Birth (in \$1000s)	0.99	0.001	
Married at First Birth	1.46	0.11	***
Weeks Worked before First Birth	1.01	0.001	***
Constant	18.33	3.83	***

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

Table 17: Indications of Employer-Provided, Job-guaranteed Maternity Leave Benefit in Any Job Prior to Survey by Year for All Women in the 1979 and 1997 Cohorts versus Women in the Study Sample

Year	<u>1979 Cohort</u>		<u>1997 Cohort</u>	
	All Women	Study Sample	All Women	Study Sample
1985	39.4%	35.9%		
1986	42.2%	38.9%		
1987	46.6%	43.2%		
1988	52.4%	46.7%		
1989	52.3%	48.3%		
1990	52.4%	47.5%		
1991	50.9%	46.7%		
1992	50.6%	45.8%		
1993	51.6%	48.4%		
1994	55.2%	51.2%		
1996	49.7%	55.1%		
1997			0.6%	0.5%
1998	61.1%	55.1%	2%	2.6%
1999			4.6%	5.6%
2000	61.9%	54.7%	8.3%	10.2%
2001			9.6%	12.2%
2002	59.2%	58.3%	14%	18.1%
2003			17.2%	20.6%
2004	57.6%	56.4%	21.9%	26.0%
2005			27.2%	31.6%
2006	57.3%	56.4%	32.7%	36.4%
2007			34.4%	37.8%
2008	58.4%	52.7%	35.7%	38.0%
2009			35.6%	35.4%
2010	58.3%	54.7%	35.1%	35.5%
2011			34.2%	34.5%

Table 18: Full Regression Model Predicting Break Length by Cohort including Interactions for Cohort*Predictors

	<u>B-Coefficient</u>	<u>Standard Deviation</u>	<u>Significance</u>
<i>Cohort (1979=0, 1997=1)</i>	123.62	44.54	**
<i>Age at First Birth</i>	9.35	1.22	***
<i>Race (Ref. Group: White)</i>			
Black	10.64	8.27	
Hispanic	24.79	10.98	*
<i>Highest Degree at Birth (Ref.: HS)</i>			
No Degree	68.47	11.47	***
Associate's or BA/BS	-3.25	9.42	
Graduate Degree	1.54	25.07	
<i>Married at First Birth</i>	14.65	9.12	
<i>Personal Income at First Birth</i>	-0.69	0.47	*
<i>Family Income at First Birth</i>	0.13	0.08	
<i>Maternity Leave at First Birth</i>	-57.92	11.49	***
<i>Weeks Worked before First Birth</i>	-2.81	0.25	***
<i>First Birth Before Age 30</i>	29.61	15.6	+
<i>Age*Cohort</i>	-7.64	1.45	***
<i>Race (Ref. Group: White)</i>			
Black*Cohort	-15.61	9.62	
Hispanic *Cohort	-30.4	12.03	*
<i>Highest Degree at Birth (Ref.: HS)</i>			
No Degree*Cohort	-51.69	13.11	***
Associate's or BA/BS*Cohort	-6.99	10.6	
Graduate Degree*Cohort	-20.15	25.69	
<i>Married*Cohort</i>	7.06	10.47	
<i>Personal Income*Cohort</i>	0.17	0.47	
<i>Family Income*Cohort</i>	-0.06	0.1	
<i>Maternity Leave*Cohort</i>	-57.92	12.01	***
<i>Weeks Worked*Cohort</i>	1.16	0.25	***
<i>Birth Before 30*Cohort</i>	-15.58	16.46	
<i>Constant</i>	-67.06	39.34	+

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

Table 19: Crosstab of Break Length by Paid Leave during Break

	Break Length Greater than Zero Weeks	Break Length Greater equals Zero Weeks	Total
No Paid Leave	1007 69.6%	67 31%	1074 64.6%
Used Paid Leave	440 20.4%	149 69%	589 35.4%
Total	1447 100%	216 100%	1663 100%

Table 20: Regression Models Estimating CES-D Change Scores including Break Length, Pre-Birth Variables, and Controls for Second Birth and Survey Timing with Zero Break + Paid Leave Ever Women Omitted

	Model 1 b-coefficients	Model 2 b-coefficients	Model 3 b-coefficients
Intercept	-0.12*	0.25	0.25
<i>Break Length in Weeks</i>	-0.0001	-0.0004	-0.0005
<i>Age at First Birth</i>		-0.01 ⁺	-0.01 ⁺
<i>Race/Ethnicity (ref: White)</i>			
Black		0.003	0.04
Hispanic		-0.07	-0.06
<i>Education (ref: High School)</i>			
No Degree		0.04	0.04
College Degree		0.01	0.01
Graduate Degree		-0.24	-0.23
<i>HH Poverty Ratio</i>		-0.005	-0.005
<i>Marital Status (ref: Married)</i>			
Cohabiting		-0.08*	-0.08 ⁺
Single		-0.16**	-0.16**
<i>Birth Two Before Break Ends</i>			0.03
<i>Time from Return to 2nd CES-D</i>	0.005*	0.003 ⁺	0.004 ⁺

+p<0.1, *p<0.05, **p<0.01, ***p<0.001
N=1514

Table 21: Regression Models Estimating CES-D Change by Break Category, Alternating Omitted Group

	Model 1 <i>Ref Group=</i> <i>Short</i>	Model 2 <i>Ref Group=</i> <i>FMLA</i>	Model 3 <i>Ref Group=</i> <i>Optimal</i>	Model 4 <i>Ref Group=</i> <i>Diminishing</i>	Model 5 <i>Ref Group=</i> <i>Long</i>
Short (0 - 4 weeks)	-	0.037	0.069	0.089	0.101*
FMLA (5 - 12 weeks)	0.101*	-	0.11*	0.13*	0.142**
Optimal (13 - 26 weeks)	0.072	0.05	-	0.102 ⁺	0.114*
Diminishing (6 months - 1 year)	0.038	0.016	0.048	-	0.079
Long (1+ year)	0.001	-0.214	0.01	0.03	-
Constant	-0.126**	-0.103**	-0.135**	-0.155***	-0.167

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

Figure 1: Interaction between Cohort and Maternity Leave Benefit in Break Length

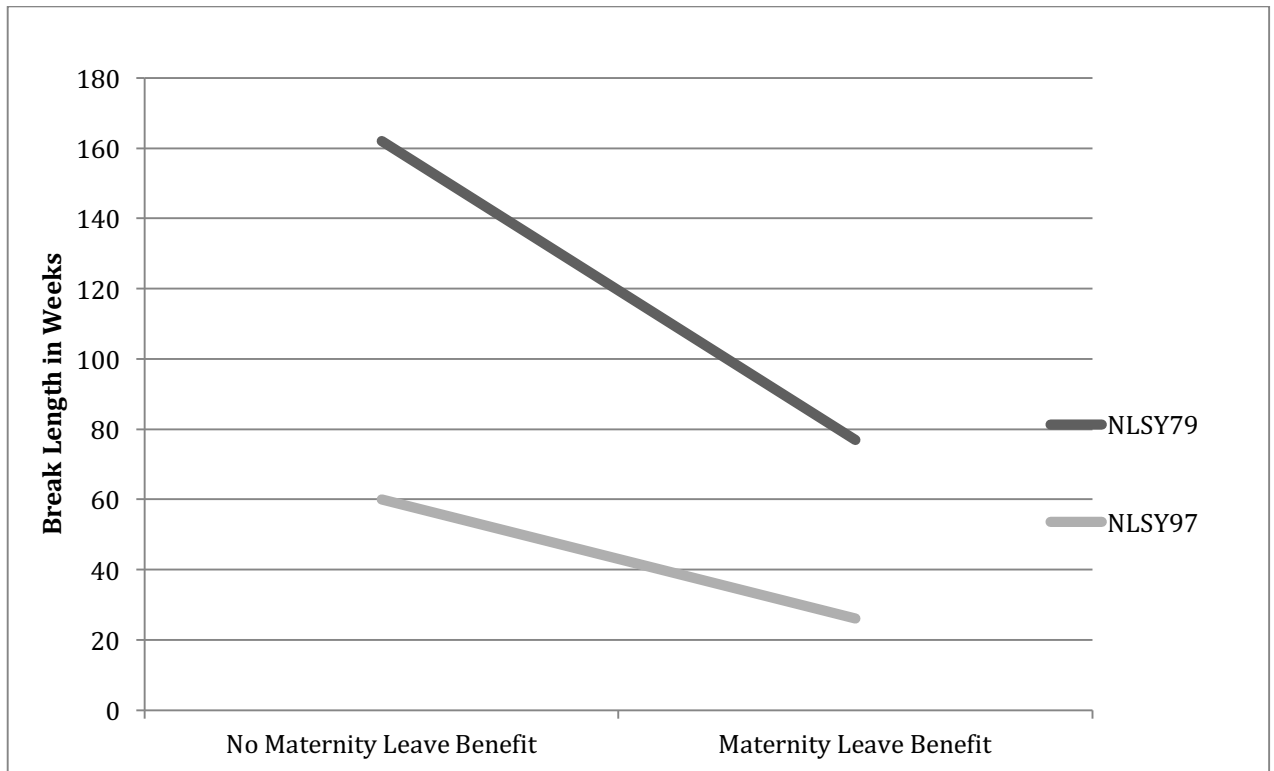
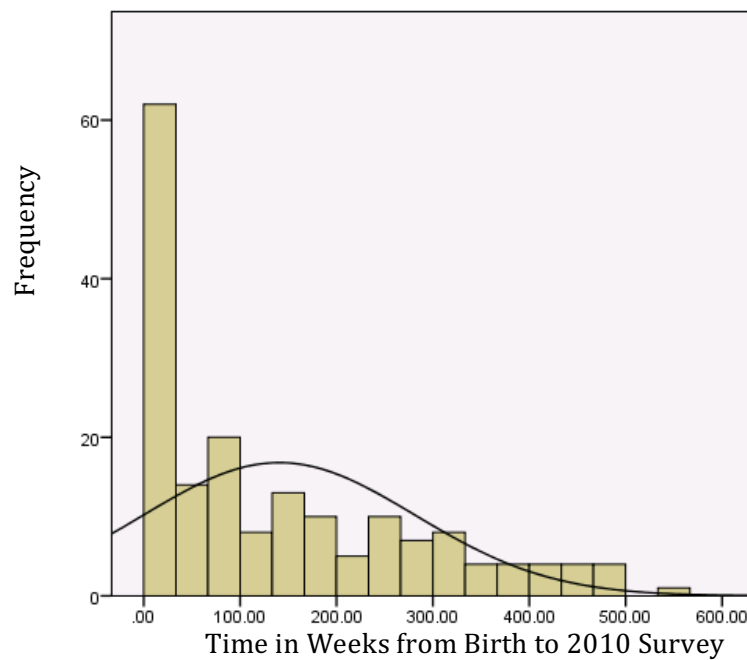


Figure 2: Histogram of Time in Weeks from Birth to 2010 Survey for “No Return” NLSY 1997 New Mothers (with Normal Curve Superimposed)



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