

Running head: TO WORK OR NOT TO WORK

Manuscript in preparation

To Work or Not to Work:

Predicting Maternal Entry into the Labor Force After Birth

and its Effect on Children

Maria A. Ramos Olazagasti and Patrick Shrout

New York University

Abstract

We used data from a low-income, ethnically diverse sample to examine the timing of mothers' employment the first year postpartum, the influence of individual and contextual variables on the timing of mothers' employment after birth, and the effect of the timing of employment on children's cognitive and socio-emotional outcomes. Survival analysis was used to predict mothers' time to work from predictors. Fifty percent of the mothers started working by the 11th month. Earnings, father's employment status, maternity leave, having plans to work and for childcare, and work orientation were all related to the timing of employment. Early returns to employment were negatively associated with cognitive outcomes and later employment was associated with better children's socio-emotional outcomes. Interactions with ethnicity were also found in some cases.

Introduction

Early maternal employment rates have increased dramatically over the past three decades. In the United States, rates of early maternal employment rose from 34.3% in 1975 to 59% in 2005 (U.S. Department of Labor, Bureau of Labor Statistics, 2006). Examining the factors that influence mothers' decisions around employment after birth is particularly important in light of current welfare policies. After welfare reform, the government established stringent work requirements including mandated employment for people receiving assistance after a period of two years, and time limits on welfare receipt in order to avoid long-term reliance on financial aid (Weil & Finegold, 2002). While current government policies foster early returns to employment, some scholars are concerned about the effects of early maternal employment on children. Maternal employment affects the amount and the quality of the interactions that mothers have with their children (Gottfried & Gottfried, 1988; Pascual, Haynes, Galperin & Bornstein, 1995). Some studies have found that maternal employment during the first year of life is detrimental for children's outcomes (Blau & Grossberg, 1992; Han, Waldfogel, & Brooks-Gunn, 2001; Waldfogel, Han, & Brooks-Gunn, 2002). Furthermore, there is some indication that the timing of employment within the first year of life is also important for children's development (Brooks-Gunn, Han, & Waldfogel, 2002; Han, Waldfogel, & Brooks-Gunn, 2001; Harrison & Ungerer, 2002). Yet, these associations have often been found only among White families (Brooks-Gunn, Han, & Waldfogel, 2002; Waldfogel, Han, & Brooks-Gunn, 2002). More research exploring these associations among Hispanic immigrants and minority groups is needed to test how these children are affected by the timing of maternal employment. Even though associations between timing of employment and children's outcomes have often been found for certain subgroups and they are not always consistent across studies, there is a general agreement that the relationship

between maternal employment and children's outcomes varies depending on the timing of employment. However, much less is known about what factors contribute to the timing of mothers' employment after birth, particularly among low-income, minority, and immigrant mothers. Considering governmental pressures to enter the labor force and recent research findings suggesting that early entry into the workforce might be detrimental for children, it seems important to identify what factors might delay or promote early maternal employment.

There are various limitations of prior work on predictors of maternal employment following birth. Some of these limitations have been noted by Joesch (1994). First, most of this area of work has relied on data that were collected in the 1960's and 1970's. There is very little recent research that has looked at what determines postpartum employment. Second, many studies have restricted their samples to subsets of individuals: first time mothers, married mothers, or women that were working the year prior to birth. Restricting samples to a subset of women yield results that are subject to selection bias (Heckman, 1979; Mrotz, 1987; Joesch, 1994). Third, past work has been vague in defining labor force entry. Entering the labor force has been defined as being unemployed but looking for a job, being employed but working zero hours (i.e. on maternity leave), and being employed and working nonzero hours. When studies consider job search and maternity leave as being in the labor force, employment figures are overestimated and we are limited in the conclusions that we can derive about the timing of paid work after birth. In addition, most studies in this area have not taken advantage of more sophisticated statistical analyses for studying the timing of mothers' work after birth. The statistical methods that have been used in the past do not take into account censored observations; that is, observations for which the event, in this case employment, does not occur during the time of the study. Lastly, previous studies have underexplored which factors influence postpartum

employment decisions among low-income mothers of ethnic minority and immigrant backgrounds.

There are a number of reasons why work and family researchers should pay attention to the factors that influence employment decisions of low-income, minority, and immigrant mothers. First, immigrants are a growing population in the US labor force. In year 2006, 15.3% of the U.S. labor force was composed of foreign born workers and 50% of these workers were of Hispanic origin (U.S. Department of Labor, Bureau of Labor Statistics, 2007). Second, work-related policies do not affect immigrants the way that they affect the rest of the population. For example, illegal immigrants cannot demand federally mandated maternity leave policies. Also, even though welfare reform has a more stringent work mandate than it did before, some states grant mothers a three month work exemption to take care of a child while receiving welfare, but most immigrants are ineligible for this type of benefit. Third, the working experiences of immigrants are different from white, middle class families. Immigrants and minorities in general are overrepresented in low occupational prestige jobs, occupying jobs in the service sector at much higher proportions than whites (U.S. Department of Labor, Bureau of Labor Statistics, 2006). Minorities also tend to be employed in jobs with very poor working conditions. These jobs tend to be repetitive, unchallenging, with unstable hours and pay, little opportunities for advancement, and little flexibility and autonomy (Bean & Bell-Rose, 1999; Enchautegui-de-Jesus, Yoshikawa, McLoyd, 2006; Segura, 1989; Smith & Edmonston, 1997). Furthermore, minority women often struggle with experiences of racial discrimination in the workplace (e.g. Roy, Yoshikawa & Nay, 2006). Hence, the conceptual models that have been tested before in studies on maternal employment following birth might not be as relevant for this population. In other words, we do not know if low-income minority and immigrant women's motivations for

working after birth are the same as the reasons for which white, middle class mothers decide to work after birth.

This study uses a recent data of African American, Mexican, and Dominican mothers living in New York City to study whether and when mothers start working after birth and what factors predict the timing of maternal employment after birth. In order to avoid selection biases associated with past studies, this study includes mothers who did not work during the year prior to birth, as well as mothers who have more than one child and single mothers. In order to better capture the timing of paid employment, employment is defined as working for pay non-zero hours. Finally, we use discrete-time survival analysis to determine when mothers start working after birth and what factors are associated with the timing of employment. This method allows us to model the odds of working at each month in the first year of the baby's life and it takes into consideration observations that are censored because the event, employment, did not occur in the period under study. Modeling the odds of working at each month within the first year (as opposed to testing whether or not a mom is working by the first year) is particularly important given that recent studies suggest that the timing of employment within the first year is related to children's development.

A second goal of this study is to expand the work that has been done on the effects of the timing on employment on children by focusing on a population that has been understudied in the past. The extant research in this area has only found significant associations between timing on employment and children's outcomes among whites, but past research has often excluded mothers who do not speak English and it has mostly focused on contrasts between whites and

African Americans. Also, when Hispanics are considered in the analyses, they are all grouped into a single category, disallowing to explore within group variations.

Determinants of Mothers' Employment Following Birth

Researchers have often drawn from the economic literature to formulate hypotheses regarding what factors might influence mothers' decision to work after birth. Economic theory posits that decisions around employment are based on the costs and rewards offered by employment. As such, mothers weight the opportunities offered by engaging in paid work relative to the opportunities gained by staying home. Underlying this framework is the idea that there are also costs associated with the options that mothers choose from. The "opportunity cost" of time spent working for pay or staying home is defined as the value of the alternative option (Bryant, 1990). For example, while mothers who decide to work for pay can enjoy from the additional income brought to the home, there is also an opportunity cost of working in terms of the reduced time to take care of their children, and vice versa. According to this framework, mothers are expected to work when the opportunity cost of staying home outweighs the opportunity cost of working for pay. The following section discusses specific factors that might affect mothers' decisions regarding postpartum employment.

Human Capital and Labor Supply Factors

One of the most popular approaches researchers have adopted in efforts to theorize what factors might be important in determining the timing of mothers' employment after birth is the household labor supply model (e.g. Greenstein, 1989). This model suggests that there are four

factors that are relevant to mothers' decision making: total resource constraint, market wage, home wage, and taste for market work.

Total resource constraint. One factor that might shape women's decision to work after birth is economic need. Women in greater economic need might be forced to work earlier in order to increase the household's resources. The labor supply model proposes that as income from other family members increase, the likelihood of working for mothers decreases because that additional income "buys" mothers more nonmarket time. This is often referred to as the "total resource constraint." Thus, women living in households with greater resources might afford to delay employment. Research in this area has generated mixed results; some studies have found that mothers with higher family income are more likely to start working early or to work for longer hours (Belsky & Eggerbeen, 1991), and others have found that income that does not reflect mothers' wages has no effect (Desai & Waite, 1991; Even 1987) or a negative effect on timing of employment (Greenstein, 1989; Joesch, 1994; Klerman & Leibowitz, 1990; McLaughlin, 1982; Wenk & Garrett, 1992). While the theoretical claims regarding the effect of household resources on mothers' employment are cohesive, this model might not apply to low-income families due to limitations posed by restriction of range. Among low-income families, economic need might be high even after considering the resources that other household members bring to the house. Research has found that women with lower incomes are more likely to report financial need as a reason for returning to work than those coming from more affluent households (Volling & Belsky, 1993).

Market wage. The human capital model posits that women with higher levels of human capital, such as education and work experience, are expected to have higher earnings potential.

According to the labor supply model, as mothers' earnings potential increases, the opportunity cost of staying at home also increases because they are giving away more income by not working for pay. Using Cain's (1966) terminology, women with higher "market wage" are more likely to work after birth than those with lower levels of market wage because the opportunity cost of not working outweighs the opportunity cost of working. Mothers with higher levels of human capital are more susceptible to significant losses in career advancements and opportunities (Cramer, 1979; Polachek, 1981). More educated women tend to have better jobs that are more attractive, fulfilling, and with higher wages. All of these factors contribute to mothers' decisions around postpartum employment. Research has generally found that women with higher levels of education are more likely to start working earlier and for longer hours (Belsky & Eggerbeen, 1991; Greenstein, 1989; Klerman & Leibowitz, 1990; McLaughlin, 1982). Whether or not education level will have the same influence on low-income, minority, and immigrant mothers' decision to work is debatable. On the one hand, education levels among low-income mothers are pretty low, and the difference between not completing high school and completing high school might not have the same implications for earnings potential as having a graduate education versus not graduating from high school. On the other hand, the positive association between education and employment has also been found among welfare recipients (Kalil, Schweingruber, & Seefeldt, 2001; Kim, 2000) and Mexican wives (Greenlees & Saenz, 1999), although these studies did not focus on postpartum employment.

Experience in the labor market may also influence mothers' decision to work after birth. Mothers that work the year prior to giving birth accumulate work experience and invest resources in a job, therefore having more to lose if they decide not to work. It is also reasonable to believe that mothers who work the year prior to birth will have an easier transition to work

after birth than those who do not work during that period. Furthermore, mothers working the year prior might be more likely to be able to get the same job back after birth whereas mothers who were not working the year before birth need to go through the additional effort of finding a job. Research in this area has found a positive association between labor market experience and post-partum employment. Mothers with more labor market experience stop working later during pregnancy and return to work more quickly than less experienced ones (Greenstein, 1989; McLaughlin, 1982; Soresen, 1983). Similarly, being employed during pregnancy is associated with higher rates of employment following birth (Joesch, 1994; Pascual, Haynes, Galperin, & Bornstein, 1995). Previous work experience has also been found to be an important predictor of employment among welfare recipients, suggesting that low income workers also benefit from experience in the labor market for future employment, although this study did not focus on maternal employment following birth (Kalil, Schweingruber, & Seefeldt, 2001).

The opportunity cost framework suggests that mothers' wages will exert an important influence on work decisions following birth. As mothers' wages increases, the opportunity cost of working decreases since higher wages allow mothers to afford high quality child care and to purchase other services that reduce the amount of housework needed. Studies have found that as mothers' wages increases, the probability of working after birth increases as well (Desai & Waite, 1991; Glass & Riely, 1998). Because minority and immigrant women tend to have lower wages than white women, it is possible that mothers' wages might not be a determining factor of postpartum employment in this population. Wages of low-income women are usually not high enough that they could cover the range of services that need to be attended to in the household, particularly the high cost of child care services.

Home wage. Entering the labor force is associated with opportunity costs, particularly for mothers with very young children. Cain (1966) developed the concept of “home wage,” also referred to as “reservation wage,” which refers to the value of the time a woman spends at home. The home wage is determined by the woman’s supply of home skills and the demand for those skills in the household. The presence of young children in the household increases the demand of mothers’ home skills; therefore, the number of children in the household that require investments in child care is expected to reduce the probability that moms work after birth. While not focusing on postpartum employment, there are some studies that have looked at the relationship between the number of young children in the household and maternal employment. These studies have found a negative association between number of young children in the household and employment, both in nationally representative samples (Tienda & Glass, 1985), and in low-income and minority samples (Greenlees & Saenz, 1999; Kim, 2000). Moreover, the number of young children in the household had the largest effect in reducing likelihood of working among a large set of variables in a study with a Mexican sample (Greenlees & Saenz, 1999). Hence, the number of young children in the household is expected to be an important predictor of low-income, minority, and immigrant mothers’ employment after birth because the kinds of jobs that low-income mothers tend to have do not pay enough to pay for child care expenses of many children.

Marital status is another factor that might contribute to mothers’ decisions around employment. The demand for mothers’ home skills is expected to be lower for mothers who are married. When a spouse is present, household tasks might be divided between the two parents and mothers might be more willing to engage in employment. Similarly, women that have the presence of the baby’s father may have more economic resources than women who do not have

this link to another person and therefore there may be less economic pressure for her to go to work. There is some evidence supporting that the presence of a spouse increases likelihood of employment (Desai & Waite, 1991; Wenk & Garrett, 1992). While the association between marital status and maternal employment following birth has been found in nationally representative samples, it is possible that this effect is not as strong for some ethnic groups as it is for others. For example, African American women have a longer history of labor force participation and lower levels of economic dependence on men than Hispanics and whites (Farley & Allen, 1987; O'Hare, Pollard, Mann, & Kent, 1991; Soreson & McLanahan, 1987). Marriage rates among African Americans are also lower than Hispanics and whites (Kreider, 2006). Hence, marital status might not be a determining factor of postpartum employment for African American mothers, but it might be for other groups.

Another factor that determines how much demand there is for mothers' home skills is the employment status of the baby's father. The demand for mothers' home skills is reduced when fathers are not working outside the home. Unemployed fathers can assume some of the responsibilities of the household, giving the mother more freedom to engage in paid work. Likewise, to the extent that a father is contributing to the household's resources, the father's unemployment may represent a financial need for the family, putting pressure on the mother to engage in employment and bring an income to the household. Very little research has explored the relationship between fathers' employment status and mothers' employment decisions after birth. In one study on the determinants of employment among recently arrived Mexican immigrant wives, the authors found that, contrary to their hypothesis, the likelihood of working was higher if husband worked (Greenlees & Saenz, 1999). As previously mentioned, studies have shown that economic dependence on men varies by race. As such, fathers' employment

status might be more influential in some mothers' decisions around employment after birth than others.

Taste for market work. The labor supply model recognizes that women's preferences and attitudes toward employment also influence their decision to work or not to work after birth. In general, employed mothers tend to endorse non-traditional gender roles, are more work oriented than stay-home mothers, and are less likely to believe that mothers should be the sole caretaker (Hoffman, 1977; Stuckey, McGhee, & Bell, 1982; Hock, Morgan, & Hock, 1985). Studies have found that rates of maternal employment following birth are higher for women with higher levels of work commitment and for women holding less traditional family ideology (Morgan & Hock, 1984; Volling & Belsky, 1993; Wenk & Garrett, 1992). Additionally, mothers' work intent at the time of birth might also reflect a preference for employment. Some consider intentions to be the single best predictor of individual behavior (Fishbein & Ajzen, 1975). Mothers' intent to work is hypothesized to be a strong predictor of the timing of her employment. Research has generally found that maternal employment intent is positively related to employment after birth (Desai & Waite, 1991; Harrison & Ungerer, 2002; Werbel, 1998).

While research has generally suggested that preferences, attitudes, and values guide employment decisions, it is important to recognize that there are ethnic variations in the level of endorsement of work and family values. After reviewing the literature on ethnic and racial differences in gender role attitudes, Kane (2000) found that there are ethnic variations in women's gender-role values. Studies using probability samples have found that Hispanics' value orientation supports traditional gender roles, where the woman is the homemaker and the man is the provider, significantly more than whites and African Americans (Harris & Firestone, 1998;

Wilkie, 1993). Other studies also using probability samples have found that African Americans tend to be more egalitarian in indexes of gender-role attitudes related to maternal employment than whites (Fulenwider, 1980; Harris & Firestone, 1998; Mason & Bumpass, 1975). Yet, there is considerable within group variation in these attitudes, and some argue that it is not reasonable to group all Hispanics in a single category (Kane, 2000).

Planning to work and having a strong work orientation is coupled with a necessity to find child care arrangements. Availability of child care is another important variable that is expected to shape mothers' decisions around employment. Finding a child care arrangement that is affordable and trustworthy can be a burdensome task that may inhibit moms from going to work, even if they have intentions to work. Research has consistently found that employment choices are influenced by availability of child care. In a study conducted by Siegel and Loman (1991) with welfare recipients they found that 42% of single parents reported not working full time due to problems regarding child care arrangements. Likewise, Berryman and Windridge (1997) found that in a sample of women in the United Kingdom, one of the top reasons moms reported for not working was having problems finding child care. Barriers to work imposed by inaccessibility of child care are more pronounced among low income mothers (Baum, 2002). Hence, we expect that having child care plans at the time of birth will have a strong influence in the timing of low-income, minority mothers' entry into the labor force. However, past work on child care orientations has shown that there are racial differences in preferred types of arrangements, which suggests that the relationship between plans for child care and timing of employment may vary by ethnic group (Fuller, Holloway, & Liang, 1996; Uttal, 1999).

Maternity Leave

In addition to the factors that the human capital and labor supply models suggest should affect mothers' decisions around employment, work policies may also influence the timing of mothers' employment after birth. More specifically, work policies that support women's mutual roles as worker and caretakers, such as maternity leave, are expected to influence the timing of women's employment. In 1993, the US government passed the Family and Medical Leave Act, which was the first federal law requiring employers to provide unpaid medical leaves for reasons such as birth or taking care of newborn child for up to 12 weeks. Research has consistently found that job benefits are related to mothers' employment decisions. O'Connell (1990) found that maternity benefit receipt was the most significant factor that increased the likelihood of working 6 months post-partum. Joesch (1997) found that women with paid maternity leave were less likely to work the first month after birth but more likely to work in the second and the following months than those with no access to maternity leave. Moreover, in another study, researchers found that mothers in jobs with longer maternity leaves were less likely to exit the work force by 6 months than those with shorter leaves (Wenk & Garrett, 1992).

Access to maternity leave might be more important in predicting the timing of employment for some groups than others. Even though research has generally found that maternity leave is an important predictor of employment following birth and there is a federal law that supports maternity leave granting, this law only applies to large organizations. Hence, mothers working in small organizations such as hair salons and restaurants are not protected by this law. Similarly, illegal immigrants are unlikely to be covered by this law and they are powerless to demand the benefits that this law offers to mothers. Ethnic groups with different immigration histories are likely to differ in their access to this policy; that is, groups that have

been in the United States for a long time might be more likely to be entitled to this benefit than groups that recently arrived to the U.S.

Social Capital

Social capital has been an important concept informing research on families, immigrants, minorities, and employment. It can be defined as “the ability of actors to secure benefits by virtue of membership in social networks or other social structures” (Portes, 1998, p. 6). Social capital then can be seen as a source of family support and a source of benefits through social networks (Portes, 1998). Social networks are central to immigrants and African Americans as these social networks are forms of social capital that facilitate improvements to their social and economic conditions (Portes, 1995; Sanders & Nee, 1996). Because ethnic minorities tend to be geographically and occupationally concentrated, social networks among minorities are typically based on their kin and ethnic ties.

Working mothers need to manage multiple roles that might be in conflict, often leading to work overload. Availability of social networks can help buffer the negative effects of role overload as they can provide substantial help in meeting family needs and reducing role strain. There are two ways in which access to social support networks might influence the timing of maternal employment. First, social networks may facilitate maternal employment by helping mothers with child care, transportation to and from a child care center, or helping with other household activities that provide mothers the opportunity to work. African American and Hispanic mothers in particular might benefit from social networks as a form of assistance with child care given that research has shown that these groups use relative care at much higher proportions than whites (Benin & Keith, 1995; Folk, 1994). A second way in which social

networks might influence the timing of employment is through opportunities for employment. Social networks are known to be a major source of employment, particularly among low-income and immigrant families (Sanders, Nee, Sernau, 2002; Waters, 1999; Wilson, 1999). Thus, mothers who were not working prior to birth or who could not retain the jobs that they had prior to birth might be able to find a job sooner if their social networks can refer them to a job.

Few researchers have examined the relationship between social networks and the timing of employment following birth, but the limited evidence available tends to support the hypothesis that social networks facilitate employment after birth. Harrison & Ungerer (2002) found that mothers who started working within the first year reported having higher levels of social support. More specifically, higher availability of friendships, better adequacy of friendships, and greater availability and quality of intimate relationships increased the likelihood of working after birth.

The association between social networks and the timing of employment after birth might vary by ethnic group. Groups that have been in the U.S. for longer periods of time might have more extended networks and networks that are more connected to the community than those that recently arrived to the U.S. Ethnic groups that have been in the U.S. for shorter periods of time have had less time to build social capital than those that have been in the U.S. for longer.

Effect of timing of employment on children's outcomes

Examining the effects of the timing of employment on children from low-income, minority, and immigrant backgrounds is our next step in addressing existing gaps in the literature on timing of maternal employment. There is some evidence showing that, among white, middle class families, the timing of maternal employment matters for children's outcomes. However,

more research exploring these associations among Hispanic immigrants and minority groups is needed.

Studies have shown that maternal employment in the first year of life has been related to lower cognitive scores and increased behavioral problems at later time points (Blau & Grossberg, 1992; Han, Waldfogel, & Brooks-Gun, 2001; Waldfogel, Han, & Brooks-Gun, 2002). Similarly, research has shown that shorter length of maternity leave is associated with negative affect and behavior in maternal interactions with children (Clark, Hyde, Essex, & Klein, 1997). In contrast, employment during the second and third years of the child's life is related to positive cognitive outcomes (Blau & Grossberg, 1992; Desai, Chase-Lansdale, & Michael, 1989; Han, Waldfogel, & Brooks-Gun, 2001; Waldfogel, Han, & Brooks-Gun, 2002). Some studies have also shown that timing within the first year is important for children's development. Han, Waldfogel, and Brooks-Gunn (2001) found that employment before the fourth quarter of the first year was negatively associated to children's behavior at 7 and 8 years of age. In another study, they found that employment around the baby's 9th month was related to poorer cognitive outcomes at three years of age (Brooks-Gunn, Han, & Waldfogel, 2002). Moreover, research on attachment has found that employment after the child's 5th month is associated to insecure attachment (Harrison & Ungerer, 2002). While past studies indicate that the effect of maternal employment on children depend on the timing of employment, past research has had a limited focus on children coming from low-income, minority, and immigrant families.

The purpose of the current study is to expand this area of work by exploring what factors predict the timing of low-income, minority, and immigrant mothers' employment the first year

after birth and what are the effects of timing of employment on children's outcomes. More specifically, this study aims to answer the following research questions:

- (1) When do low-income immigrant and minority mothers start working after giving birth?
- (2) What is the relative influence of socio-demographic characteristics, work and family values and plans, maternity leave benefit, and social support on the timing of mothers' work following birth?
- (3) What is the effect of timing of maternal employment within the first year on children's socio-emotional and cognitive development at two years of age?
- (4) Are these relationships moderated by ethnicity?

Methods

Data source and sample characteristics

The data for this study come from the Early Childhood Cohort of the Center for Research on Culture, Development, and Education, an ongoing longitudinal study that looks at the experiences of immigrant and minority mothers and their newborn children living in New York City. Mothers were recruited at maternity wards within two days after giving birth from three New York City hospitals that serve high concentrations of low-income minorities and immigrants. Recruitment took place between 2004 and 2005. In order to be eligible to participate in the study, mothers had to be Mexican, Dominican, African American, or Chinese, 18 years or older, they had to live in any of the five boroughs in New York City and outside of the shelter system, and the babies had to be full term and healthy at the time of birth. A total of 380 mothers agreed to participate in the study. Chinese mothers were dropped from the study after the 6 month follow-up because the majority of Chinese families in this study sent their babies back to China to be raised by other family members while the parents worked in the United States. The

resulting sample at baseline after excluding the Chinese mothers was 324. Thirty five percent of the mothers were Dominican, 35% were African American, and 30% were Mexican. The majority of the mothers (47%) were between 18 and 24 years old, 45% were 25-34 years old, and 8% were 35 years or older. The majority of the Mexican and Dominican mothers were first generation immigrants (97% and 79%, respectively) and all African American mothers were born in the United States.

This study uses data collected at baseline, 1, 6, 14 and 24 months. Mothers were interviewed in their preferred language (English or Spanish) by trained, bilingual researchers. The baseline interview was conducted at the hospital following recruitment and consent. One month and 6 months interviews were conducted over the phone, and 14 and 24 months interviews were conducted at the participants' homes by two trained researchers. Participants received a \$25 compensation for the baseline interview, \$50 for the 6 and 14 months interviews, and \$75 for the 24 months interview/home visit.

We conducted a series of attrition analyses to test whether missing data on timing of employment within the first year varied by a series of baseline covariates. The baseline covariates considered in these analyses were: ethnicity, mother's age, teen motherhood, maternal and paternal immigrant status, marital status, maternal cohabiting status, maternal education, maternal employment in the year prior to birth, household earnings in the prior year and child gender. Missing data on the timing of work did not vary by any of these baseline characteristics. We also tested whether these baseline covariates predicted non-participation at 24 months. Mother's education was the only significant predictor of attrition at 24 months, where attrition

was less likely to occur among mothers that had a high school degree than those that did not have a high school degree ($b = -1.00 (.35)$, $p < .01$, $OR = .37$).

Measures

Time. Time is the fundamental predictor in a discrete time survival analysis. In this study, time is defined in months. Because we are testing time to work in the first year of the baby's life, there are 12 time points in this analysis. Examination of a number of models with different time specifications revealed that a cubic specification of time was most appropriate for this data. Thus, each model includes a linear term, a quadratic term, and a cubic term. Time was centered around the first month to ease the interpretation of findings (see Analytic Plan section for more details).

Covariates. We included a series of baseline covariates in our analyses on the effect of timing of employment on children's outcomes. These covariates include ethnicity, teen motherhood, child's gender, mothers' age, mother is foreign born, mother's education, mother worked the year prior to birth, cohabitation, marital status, birth order of focal child, total number of children in the household, household earnings, father's employment, and an item on mother's emotional wellbeing collected at the 1 month follow-up.

Socio-demographic characteristics. Socio-demographic characteristics collected at baseline include ethnicity, household earnings, level of education, date of the last time they worked, household roster, marital status, and employment status of the baby's father. Dummy codes were created for all dichotomous and categorical variables. For ethnicity, African American was used as the reference group. Education level was divided into three categories: education beyond high school, high school education/GED, and less than a high school

education, and education less than high school was used as the reference group. The education level of this sample was considerably low: 41% of the mothers had less than a high school degree, 31% had a high school degree or a GED, and 28% had some education beyond high school. Information on mothers' last day of work was used to create a variable that indicated whether or not the mother had worked the year prior to giving birth. Sixty four percent of the mothers had worked the year prior to giving birth. Mothers also reported on their marital status and the employment status of the father of the focal child. Twenty five percent of the mothers were married with the father of the focal child and 78% of the fathers were working at a job where they were paid regularly.

The household roster was used to create a count of the number of other biological, adopted, or stepchildren under the age of 6 that lived in the household ($M = 0.50$, $SD = 0.71$). Household earnings included earnings from all members of the family and adults that live in the household. The average household earnings in this sample was \$21,175.22 ($SD = 17,708.73$). We took the log of household earnings and use this variable for the analyses. At the 1 month follow-up, mothers were asked about the wages they received from their last job. We created two wage variables: hourly wages and yearly wages ($M = \$8.14$, $SD = \$6.61$ and $M = \$13,711.83$, $SD = \$8,598.70$, respectively). All continuous variables were centered around the mean.

Work and family values and plans. Work and family values were assessed through 4 items that tapped into work and family orientations, such as "I would like to be working during the next few months" and "Right now I'd prefer not working so I can take care of my family (reverse coded)." Mothers responded in a 1 to 4 scale ranging from "disagree a lot" to "agree a lot" ($\alpha = .63$). The four items were coded so that higher numbers indicate a stronger work orientation.

We averaged the items and centered them around the mean ($M = 2.60$, $SD = 0.54$). While this information was collected at the 1 month follow up, we are treating these values as a trait-like characteristic given that personal values tend to be relatively stable (Brown, 1996). Future work and family plans were assessed at baseline, where mothers were asked “Are you planning to go back to work?” and “Do you have any plans for help with childcare?”

Maternity leave. At baseline mothers were asked whether or not they were on maternity leave. This question was not applicable for mothers who had never worked or who did not work during the 3 months prior to birth. Two dummy codes were included in all the models tested in this study: one indicating that the mom was on maternity leave and one indicating that this question was not applicable; the reference group is mothers that were not on maternity leave. Only 18% of the mothers in this sample had maternity leave benefit, but this question was not applicable to 66% of the mothers.

Social support. Our measure of social support consists of a count of people that mothers reported they could count on if they needed help raising their child. At baseline, mothers were asked, “During the next year, if you needed help with raising your child, who are the people you think you could count on?” Because we are interested in people who could provide instrumental support (e.g. taking care of child, lending money, providing transportation) that could potentially enable mothers to work, we only counted people that lived in NYC. This variable was centered around the mean ($M = 2.78$, $SD = 2.01$).

Employment status. In this study, we define being employed as doing any work for pay for nonzero hours. When we asked mothers about their employment status, we instructed moms to include anything that they had done for pay, including work done outside the home, but also

working at home on something that they were paid for (e.g. babysitting, sewing). A number of variables collected at 6 months and 14 months were used to determine the month in which mothers started working after birth. Binary variables indicating whether or not the mom started working at each month were created for the survival analyses, for a total of 12 dichotomous variables. A total of 143 mothers started to work at some point during the first year of their baby's life.

To answer the question, does the timing of maternal employment affect children's outcomes?, we created five dummy codes indicating whether or not the mother had worked any hours by the 1st, 3rd, 6th, 9th, and 12th month after giving birth.

Children's outcomes. Children's cognitive outcomes were measured at 14 and 24 months using the Mullen Scales of Early Learning (Mullen, 1995), a standardized assessment consisting of four subscales: fine motor skills, visual reception, receptive language and expressive language. We created a difference score between 24 month cognitive outcomes and 14 cognitive outcomes that will be used as the dependent variable in our analyses. The means for expressive language and fine motor skills were higher at 14 months ($M= 42.47$, $SD=8.48$ and $M=46.30$, $SD=9.75$, respectively) than the means at 24 months ($M= 39.64$, $SD=8.28$ and $M=44.62$, $SD=11.26$, respectively). The means for receptive language and visual reception were 40.08 ($SD=8.26$) and 42.16 ($SD=8.51$) at 14 months, respectively, and 44.96 ($SD=10.01$) and 47.05 ($SD=9.49$) at 24 months.

We used a measure of the child's emotionality that was collected at 24 months to test children's socio-emotional development. Mothers responded using a 4-point scale ranging from "not typical" to "very typical." We developed a child sociability subscale which included items

such as “Child is friendly with strangers” (4 items, $\alpha = .68$) and an upset subscale that has two items: “Child gets upset easily” and “Child reacts intensively when upset” (correlation between the items = .47).

Data Analytic Plan

We used discrete time survival analysis (Singer & Willet, 2003) to determine when mothers start working after birth and whether the timing of employment varies by a set of socio-demographic variables, work and family values and plans, maternity leave benefit, and social support. This analysis was selected because it the most powerful method in addressing issues raised by censoring. Some of the mothers in our sample did not start working during the period studied here, the first year of life. These mothers might never work or they might work soon after their babies turn one. In any case, this information is unknown to us and it is the piece of information of most interest in our analysis; that is, whether and when mothers start working after birth. In survival analysis this event is called censoring. Censoring is informative as it tells us something about event nonoccurrence. Including censored observations in the analyses is therefore crucial and survival analysis handles these observations in a satisfactory way as they are kept in the analyses. In this study, 131 observations were censored.

Singer & Willett (1993) have shown how one can fit a discrete time hazards model using logistic regression in common statistical packages. The data, however, needs to be rearranged in a “person-period” format, where each person has as many entries (or lines) as data collection periods. Each entry has information on three types of variables: (1) the time indicators, (2) the predictors, and (3) the event indicator. In this study, there are 12 time indicators (D1-D12), one for each month in the first year after birth. These time indicators represent the time point that

they stand for. For example, $D1 = 1$ in the entry for the first time period and all other values are equal to 0, $D5 = 1$ in the entry for the fifth time period and zero in all other entries. Because all the predictors used in these analyses are time-invariant, the values of the predictors are the same across entries within the same person. The event indicator (variable *STARTWORK*) is a variable that has a value of one if the participant started working at that particular time point. For example, if a mother started working in the third month after birth, *STARTWORK* = 1 in the third entry for that mother, when $D3 = 1$. If a mother did not start working during the period under study, *STARTWORK* = 0 for all 12 entries. A participant contributes to the hazard function only until the event occurs; for example, a mother who started working on the third month only has three lines of data, whereas one that started working on the 12th month has 12 lines of data. Once the data has been restructured as described above, one can fit the discrete-time hazard models to the data using logistic regressions. In such model, one regresses the binary event variable *SARTWORK* on all the time indicators and all other substantive predictors. This model provides us a hazard rate, which is a meaningful transformation of month in which mothers start to work, given the presence of censoring. In this study the hazard rate is the conditional probability that a mother will start working at a particular month, given that she had not started working at a previous time point.

Our original approach in representing the main effect of time in the discrete time hazard model was to use the completely general specification of time, where we included 12 dummy variables ($D1$ - $D12$) to categorize the discrete-time periods as predictors in the hazard model. However, this specification of time is not very parsimonious and it generates fitted hazard functions that can vary inconsistently across successive time periods due to sampling fluctuations (Efron, 1988; Singer & Willett, 2003). Therefore, we tested alternative specifications for the

main effect of time; namely, linear, quadratic, and cubic time. To do this, we created a continuous time variable that we centered around the first month (*MONTH-1*) to ease the interpretation of findings. As such, the intercept refers to the value of the logit hazard in the first month. This continuous time variable (*MONTH*) goes from 1 to 12 and it was generated when we restructured the data to a person-period dataset. The centered time variable (*MONTH-1*) was used to build the three alternative models by creating quadratic and cubic terms. In analyses not presented here but available upon request, we found that the model that represented time with a cubic term was the most appropriate for this data. Therefore, we used this smoothed specification of time in all analyses as it yielded a more parsimonious model.

One of the assumptions underlying survival analysis is that the effect of each predictor on the hazard function is the same in every time period under study. To test whether or not the effect of each of the predictors examined in this study was proportional across time points, we created cross-products between the three time variables and the substantive predictors in the person-period dataset. The model containing the interactions with time was compared to the model with the main effects only by subtracting the deviance statistics. Because the model with the interactions is nested within the model with the main effects only, the difference in deviance and in degrees of freedom was used to test the significance in improvement of fit and comparing it against a chi-square distribution on d degrees of freedom. If the improvement in fit was significant, then the proportionality assumption was violated and the interactions with time were kept in the models. In this study, household earnings and father's employment were the only variables that did not meet the proportionality assumption and therefore the interactions between these variables and time were kept in the models.

To test the first question, when do mothers from a low-income and ethnically diverse sample start working after giving birth?, we fit a model that only included the three time indicators as predictors. We summarize information regarding event occurrence in three ways: the hazard function, the survivor function, and the median lifetime. The hazard function answers the question of whether and when an event occurs. It is the conditional probability that the event will occur at a particular time, given that it has not occurred yet. In this study, hazard is the probability that a mother will start working at a particular month, given that she has not already started working at a previous point in time. The survivor function, in contrast, represents the cumulative probability that a randomly selected person will “survive,” in this context, the probability that a mother will not start working. Finally, we use the median lifetime to describe the center of the distribution in our sample. The median lifetime indicates the point in time where 50% of the mothers had started working and 50% had not.

To answer the second question, what is the relative influence of socio-demographic characteristics, work and family values and plans, work policies, and social support on mothers’ time to work after giving birth?, we built a series of models, each nested within the previous one, to test the contribution of each block above and beyond the previous block. Because all models are nested within the last one, improvements in fit were tested by comparing the model that includes the predictors that we wanted to evaluate with the one model that does not include these predictors (see Table 1). We compared the difference in deviance against a chi-square distribution table to test the significance of the model fit improvement.

To answer the question about whether the effect of our predictors on mother’s time to employment was equivalent across ethnic groups, we tested a series of models in which we

included interactions between the substantive predictors and ethnicity. We tested each substantive predictor at a time. To test whether the interaction with ethnicity was significant, we used the difference in deviance of the model that included the interactions to the one that did not include the interactions.

Because there was a considerable amount of missing data on household earnings, mothers' hourly and yearly wages, and work and family orientation, we used mean imputation for these variables and we added a dummy code for each imputed variable indicating whether or not there was missing data on that variable (Cohen, Cohen, West, & Aiken, 2003).

We used ordinary least squares multiple regression to test the effect of timing of employment on children's socio-emotional and cognitive outcomes, adjusting for covariates. The change in children's cognitive outcomes between 14 and 24 months as well as socio-emotional outcomes at 24 months were regressed on a set of baseline covariates together with different sets of variables that described whether mothers were employed by the 1st, 3rd, 6th, 9th, or 12th month after giving birth. We also tested whether these effects varied by ethnicity by including cross-products between timing of employment and ethnicity.

Results

When do low-income immigrant and minority mothers start working after giving birth?

Table 1 presents the estimates and the standard errors for each of the models tested using survival analysis. The baseline model only includes the time indicators and it answers the question of when mothers start working after birth. Because the variable TIME was centered around the first month, the intercept represents the value of the logit hazard in the first month

after birth. The positive sign of the estimate corresponding to the linear representation of time indicates that the logit hazard is increasing over time. All cubic curves have a peak and a trough. The positive sign of the estimate for the cubic representation of time indicates that the curve first hits a peak and then hits a trough. Figure 1 shows the overall hazard and the survival probabilities for this sample. In the left panel we see that the estimated probability of working the first month after birth is 7% and it peaks in the third month after birth, when the probability of working rises to 10%. The probability of working troughs in the 10th month, when the likelihood of working is only 2.5%, but after that, the probability of working starts to increase again by the time babies are turning 1.

The right panel of figure 1 shows the survival probability, which is the cumulative probability that a mother will *not* start working after birth. The dotted line indicates the median lifetime, or the time when 50% of the mothers have started working and 50% have not. The survival probability has a steep decrease over the first 6 months after birth but it appears to level off after the 7th month. In this sample, half of the moms were working at around the 11th month after birth.

What is the relative influence of socio-demographic characteristics, work and family values and plans, work policies, and social support on mothers' time to work after giving birth?

Table 1 shows the results from fitting a series of survival analyses that tested the relative influence of socio-demographic characteristics, work and family values and plans, maternity leave, and social support on the timing of mothers' employment following birth. We first tested whether adding these sets of predictors to the model improved the model's fit significantly. The last two lines in Table 1 show the deviance statistic, the change in deviance as compared to the

previous model, and the significance of that change. In model A, we included all the socio-demographic characteristics, in addition to the time indicators. Adding the socio-demographic characteristics to the model significantly improved the fit of the overall model. In model B we added the work and family values and plans variables; these variables also improved the fit of the model significantly. Model C added the maternity leave variable, which also made a significant contribution to the model fit. Finally, we added social support in the last step (model D) and this variable did not improve the fit significantly.

We also present the estimates and the standard errors for all our predictors in Table 1. We used these estimates to calculate the fitted odds and fitted hazard of event occurrence to ease the description of our findings. The results from Model D show that after including all the variables in the model, household earnings predict mothers' time to work, but the effect of earnings on the timing of employment varied across time points. Figure 2 shows the fitted hazard and survival probability of working at each month by earnings. We chose the mean, and the values for 1 standard deviation above and below the mean as prototypical values for household earnings. Mothers living in households where they are better off financially have the lowest probability of working the first month after birth, but the likelihood of working increases quickly, reaching 18% by the 5th month following birth. The shape of the curve for mothers coming from households with average earnings is similar to the curve we saw for mothers coming from wealthier households. Yet, their probability of working is lower at all time points except for the first month, and they reach their peak later in the first year. The employment pattern for mothers coming from the most disadvantaged households is the opposite to the pattern of mothers coming from households with average or higher earnings. For this group, the probability of working is highest the first month following birth, when the probability of working

is 7.5%. The likelihood of working decreases after the first month and it starts to increase again around the 6th month, followed by another decrease. It can be seen that the largest differences in hazard probabilities between groups occur between the 3rd and the 7th month. The right panel in figure 2 shows the fitted survival probability for different levels of household earnings. The grey line marks the median lifetime and it can be seen that only mothers coming from higher resourced homes reached that point during the period of this study.

Father's employment status also predicted the timing of mothers' entry into the labor force and its effect also varied across time points. Figure 3 shows the fitted hazard and survival probabilities of working the first year after birth by father's employment status. The shape of the curve describing the probability that a mom will start working when the baby's father works is very similar to the shape of the overall, baseline hazard function. However, the hazard function for mothers whose baby's father were not working at the time of birth is not proportional to those whose baby's father were employed. When the father of the baby works, the initial probability of working for mothers is lower than the probability of working when the father does not work. When the father works, the probability of working increases quickly after the first month reaching its peak in the 4th month, but then decreasing and reaching its trough in the 10th month. The probability of working for this group increases again nearing the child's first birth. When fathers do not work, the initial probability of mothers' entry into the labor force is higher than when the father does work. Contrary to the trajectory that moms whose baby's father works follow, the probability of working for mothers whose baby's father does not work decreases after the first month, but it peaks at the 7th month after birth, followed by a marked decrease in the likelihood of working thereafter. The survival function is displayed in the right panel of Figure 3

and it shows that even though the shape of the curves for these two groups differ, by the end of the first year, in both groups half of the mothers had started working and half had not.

After including all the variables in the model, ethnicity, maternal education, working the year prior to birth, moms' wages, number of young children in the household, and marital status were not significantly associated with the timing of mothers' employment after birth. While Mexican moms had a lower likelihood of working than African American mothers in model A (their odds of working were 70% lower than African American mothers), this effect disappeared when we added the work and family values and plans variables. Working the year prior to birth was also significantly related to the timing of employment in the first model, and it remained to be a significant predictor after entering the work and family values and plans variables, but this effect was no longer significant after including maternity leave policy.

All the work and family values and plans variables were significantly associated with the timing of mothers' entry into the labor force after birth, even after entering all other variables in the model. The estimated odds of working after birth are 2.2 times higher for mothers who were planning to go back to work than those who did not. Similarly, the estimated odds of working are 1.8 higher for mothers who had made plans for child care by the time of birth than those who had not made such arrangements yet. In terms of work and family orientations, having a stronger work orientation was positively associated with the likelihood of employment after birth; in each month, the estimated odds of entry into the labor force are 87.3% higher for mothers who score one unit higher on the work orientation measure.

Maternity leave benefit was the most important predictor of timing of employment after birth. Overall, mothers who were on maternity leave were 2.9 times more likely to start working

at any time point than those who were not on maternity leave. In other words, the estimated odds of entry into employment for mothers who did not have maternity leave benefit are approximately 34% of the odds for mothers who did have maternity leave benefit.

Social support had no significant effect on the timing of employment after birth.

Are these relationships moderated by ethnicity?

The next question that we tested was whether the relationship between socio-demographic characteristics, work and family values and plan, maternity leave policy, social support, and the timing of mothers' employment following birth was moderated by ethnicity. There was only one marginally significant interaction with ethnicity; the relationship between social support and the timing of mothers' employment after birth was moderated by ethnicity (for Mexicans, $B = -.30(.15)$, $p = .05$, and for Dominicans, $B = -.27(.14)$, $p < .10$). Figure 4 shows the shape of this interaction. It can be seen that for Mexicans and Dominicans, higher levels of social support were associated with slower returns to employment, while for African Americans, higher levels of social support predicted earlier returns to employment.

What is the effect of the timing of maternal entry into the labor force on low-income, minority children's cognitive and socio-emotional outcomes?

Table 2 presents the regression coefficients and the standard errors for the association between the timing of maternal employment in the first year and children's socio-emotional outcomes at 24 months and the change in cognitive outcomes from 14 to 24 months, adjusting for a series of mother, child, and family characteristics. This table compares outcomes of

children whose mothers had started working by the 1st, 3rd, 6th, 9th, and 12th month to children whose mothers who had not started working by those time points.

The results indicate that maternal employment that occurred later in the first year after birth was negatively associated to how upset children got. More specifically, mothers that were working by the 6th, 9th, and 12th month after birth had children that got upset less easily than mothers who did not work at those time points. The timing of maternal employment in the first year of life was not related to children's sociability at 24 months; the coefficients are going in different directions but none of these associations was significant.

Table 2 also shows the results of a series of models testing the relationship between the timing of maternal employment and children's cognitive outcomes. The timing of maternal employment was only related to two aspects of children's cognitive development: fine motor skills and receptive language. The results indicate that being employed by the first month was negatively associated with change in fine motor skills between 14 and 24 months, but this association was significant at the trend level. Working by the first month after birth was also negatively associated to change in receptive language. Similarly, working by the third month was marginally related to change in receptive language, where children whose mothers had worked by that time period were worse off than those whose mothers had not worked by that time period. The timing of maternal employment did not have a significant influence on children's visual reception or expressive language.

Is the effect of the timing of maternal entry into the labor force on children's cognitive and socio-emotional outcomes moderated by ethnicity?

We tested a series of models where we added interaction terms between employment status by 1, 3, 6, 9, and 12 months and ethnicity to test whether the effect of the timing of maternal employment in the first year was moderated by ethnicity. Table 3 shows the regression coefficients and the standard errors for the interaction between timing of employment variables and ethnicity. In terms of children's socio-emotional development at 24 months, there was only one significant interaction with ethnicity. The effect of working by the 12th month on children's sociability was moderated by ethnicity. Figure 5 shows that while working by the 12th month was associated with increases in child sociability for Mexican and African American children, working by the 12th month was associated with decreases in sociability for Dominican children.

There were also some significant interactions between timing of employment and ethnicity when looking at children's cognitive outcomes. The effect of being employed by the 3rd month on children's fine motor skills varied by ethnicity, where for Mexicans, being employed by the 3rd month produced a negative change in fine motor skills and not being employed was associated with a positive change in fine motor skills. In contrast, for African Americans, not being employed by this time period was particularly detrimental for children and being employed reduced this negative change in scores (see Figure 6). The effect of being employed by the first month on change in visual reception was also moderated by ethnicity. Figure 7 shows the shape of this interaction. For Dominicans, being employed by the 1st month after birth was associated with a notably negative change in visual reception skills, whereas for African American mothers, this negative effect was reduced when mothers had started working by the first month. The effect of being employed by the 3rd month on children's receptive language also varied by ethnicity, where for Mexicans, being employed by the third month had a negative effect on the change in children's receptive language, while not being employed was associated with more positive

outcomes (see Figure 8). In contrast, for African American children, the change score in receptive language from 14 to 24 months was almost the same for both groups.

Discussion

The purpose of this study was to determine whether and when low-income mothers from ethnic minority and immigrant backgrounds start working the first year following birth. Also, to identify what factors are important in determining the timing of mothers' employment in this sample. We assessed this by testing the relationship between a series of socio-demographic characteristics, work and family values and plans, maternity leave benefit, social support and the timing of postpartum employment. We also aimed to test the association between timing of maternal employment and low-income and minority children's socio-emotional and cognitive outcomes. Lastly, we tested whether these associations varied by ethnic group.

In our sample of low-income, minority and immigrant mothers, we found that half of our mothers started working by the 11th month after birth and half had not started working by that time point. Overall, the probability of working was highest in the 3rd month following birth. This finding is consistent with what one would expect, given that most maternity leave policies grant up to three months of job protection. Our results also show that in this sample, having maternity leave, having child care arrangements by the time of birth, having plans to work, and having a stronger work orientation were all related to the timing of employment the first year following birth. Maternity leave was a strong predictor of postpartum employment across all ethnic groups. In fact, maternity leave was overall, the most important predictor of post-partum employment, where having access to this benefit predicted higher probabilities of employment at each time point within the first year. This finding is consistent with past research examining the effect of

access to maternity leave on postpartum employment, yet these studies had not focused on minority and immigrant samples (Joesch, 1997; O'Connell, 1990; Wenk & Garrett, 1992). Interestingly, when we added maternity leave into the model, the positive effect of working the year prior to birth on the timing of employment reduced in size and it was no longer significant. This suggests that having access to this type of job protection benefit could help explain the positive association between work experience and timing of employment.

Consistent with our expectations, having plans for child care at the time of birth was positively related to the timing of mother's employment in this sample. Women who manage to find child care arrangements early on are able to work earlier than those that do not have such arrangements ready by the time of birth. This finding is also consistent with previous research. Studies have shown that difficulty finding affordable and good quality child care is a major barrier to maternal employment, especially among low-income families (Baum, 2002; Berryman and Windridge, 1997; Siegel and Loman, 1991). Not surprisingly, maternal work intent and having a strong work orientation also predicted faster returns to employment, which had also been found in prior work on postpartum employment (Desai & Waite, 1991; Harrison & Ungerer, 2002; Morgan & Hock, 1984; Volling & Belsky, 1993; Wenk & Garrett, 1992; Werbel, 1998). While we expected that some of these variables would be more important predictors of employment for some ethnic groups than others, there were no significant interactions with ethnicity on these variables.

Household earnings were also associated with the timing of maternal employment after birth, but its effect varied over time. This finding might help explain the mixed results found in the literature so far, where some had found a positive effect of household resources on

employment (e.g. Belsky & Eggerbeen, 1991) and some had found a negative effect or no effect (e.g. Desai & Waite, 1991; Even 1987; Greenstein, 1989; Klerman & Leibowitz, 1990). In this study, mothers coming from households that were better off financially were the least likely to start working immediately after birth, suggesting that higher resources allow mothers to stay at home right after birth, but after the first month, higher household earnings was consistently associated with higher probability of starting to work. On the other hand, mothers coming from the most disadvantaged households were the most likely to start working the first month after birth, but after that initial month, they were consistently less likely to work than those coming from higher resourced families. Father's employment status was also related to the timing of employment, but its effect also varied over time. It appears that when the baby's father works, mothers can afford to stay home the first month after birth more so than mothers whose baby's father does not work. Yet, their probability of working increases quickly after birth, while it decreases for those whose baby's father does not work. The probability of working for mothers whose baby's father does not work reaches its peak 7 months after birth, while the probability of working for the other group is decreasing at that time.

Even though nationally, Black women with young children are more likely to work than their Hispanic counterparts, and foreign born women are less likely to be in the labor force than native born women (U.S. Bureau of Labor Statistics, 2005), we found no main effect of ethnicity on the timing of employment the first year following birth. While Mexicans were less likely to work than African Americans in the first model, where we only included socio-demographic characteristics, this effect disappeared after we entered a set of work and family values and plans variables. This suggests that ethnic and racial differences in employment rates are attributable to factors other than ethnic or racial group membership. Past research has had only a limited focus

on racial differences, usually limiting comparisons to contrasts between whites and blacks. While some have found racial differences in postpartum employment rates (Bumpass & Sweet, 1980; Greenstein, 1989; Joesch, 1997; O'Connell, 1990; Wenk & Gerrett, 1992), others have found no effect after adjusting for socio-economic variables (Joesch, 1994; Desai & Waite, 1991). In our study, differences continued to exist after including a series of socio-demographic variables, but they vanished after including work and family values and plans. These findings suggest that ethnic differences in work and family values and plans might explain differential employment rates among groups.

Contrary to what had been found in the literature, in this sample, maternal education and wages were not associated to the timing of employment following birth. It is likely that we did not find this association due to restrictions in range. Our sample had fairly low levels of education and the returns for work might not be that different for mothers who have a high school degree versus those who do not. Similarly, while there was some variability in moms' wages, overall, moms' wages were considerably low. Hence, the potential rewards of going to work are not as high as they would be for professional mothers who earn more from their jobs. Also, considering the high cost of child care, the financial reward of employment might not offset the costs of paying for child care and other household needs. Contrary to what economic theory poses, marital status and number of young children in the household also did not prove to be important predictors of employment in this sample. These findings show that the factors that shape mothers' decisions around employment following birth vary depending on the circumstances where mothers are coming from. What drives middle class mothers' decisions to work is not necessarily what motivates low-income, minority and immigrant mothers to engage in employment after birth.

Contrary to our expectations, there was no main effect of social support on the timing of maternal employment after birth. However, we found ethnic differences in the effect of having access to social networks on employment. For Mexicans and Dominicans, having higher levels of social support was associated with lower probabilities of working, while for African Americans, higher levels of social support was associated with higher likelihood of working. One possible way of explaining this finding is that in our sample, African Americans have been in the United States for much longer than Mexicans and Dominicans. Hence, they have had more time to build a broader and stronger network system and their social networks might have stronger ties to the community. Another possibility is that the type of support that these social networks provide varies by ethnic group, such that some types of support facilitate employment and others allow mothers to stay home for a longer time. It is possible that the social networks of African Americans help by taking on tasks that makes it possible for mothers to work, such as babysitting or taking the baby to daycare, while Mexicans and Dominicans might be receiving financial support that allows these mothers to stay home longer, or emotional support (e.g. giving advice on how to raise child), which would not necessarily have any effect on employment.

A second goal of this study was to test whether the timing of mother's employment was related to children's socio-emotional and cognitive outcomes, among low-income Mexican, Dominican, and African American children. In general, we found that working at later time points was positively associated with children's socio-emotional development and that working soon after birth was negatively associated with children's cognitive outcomes. More specifically, we found that children whose mothers had started working by the 6th, 9th, and 12th month after birth got upset less easily than those whose mothers had not worked by those time points. Working by the first month after birth was negatively associated with children's fine motor skills

and receptive language. Working by the third month was also associated with poorer receptive language outcomes.

We also tested whether the effect of timing of employment on children varied by ethnic group. We found that for Dominicans, being employed by the 12th month was associated with reductions in child sociability, whereas for Mexicans and African Americans, being employed by that time point was positively associated with children's sociability. In terms of children's cognitive development, working by the first month after birth was particularly detrimental for Dominican children, whereas African American children were better off if their mothers worked by that time point. Working by the third month differentially affected children's motor skills and receptive language. Not being employed by the third month was beneficial for Mexican children, but not for African American children. In sum, the results seem to suggest that when there are ethnic differences in the effect that the timing of maternal employment has on children's outcomes, African American children tend to benefit from employment and Dominican and Mexican children are negatively affected by it. A possible reason for this is that African American women have a longer history of employment and a stronger work attachment than Hispanic women. Therefore, African American mothers might have learned how to manage the mutual roles of worker and homemaker better than other groups. Also, African American families tend to use center based care at higher proportions than Hispanics (Fuller, Holloway, & Liang, 1996). It is possible that differences in the type and quality of child care used might explain these differential effects. Future work should consider the type and quality of child care in examining the relationship between timing of maternal employment and children's outcomes among low-income, minority and immigrant families. It should be noted that some of the associations that we found between timing of employment and children's cognitive outcomes

were marginally significant. Past research had found very little evidence supporting that the timing of employment was associated with children's cognitive outcomes prior to 36 months; however, most studies in the past limited their samples to English speaking mothers or white mothers only. Hence, our findings provide some initial evidence that the timing of employment within the first year matters for low-income, ethnic minority children, but these findings need to be interpreted with caution.

While our findings on the effects of timing of employment on children make important contributions to the literature, there are some limitations that are worth noting. Our study is based on a relatively small sample; with a larger sample we might have been able to detect effects on children's outcomes at the conventional .05 significance level. Also, our measures of socio-emotional development are based mother's report and only on a few items. Future work should use more elaborate measures such as videotaped mother-child interactions and direct child assessment to better capture children's socio-emotional development. Furthermore, this study is correlational and because mothers were not randomly assigned to employment conditions at different time points, we cannot claim that entering the labor force by a certain point causes children to do better or worse. There could be some selection factors that may account for the associations found. We tried to adjust for selection bias by controlling for a number of covariates, but it is possible that there are some unobserved variables that may account for this relationship.

In spite of these limitations, the findings of this study have important implications for policy. In regards to what factors predict mothers' employment after birth, the fact that maternity leave was so strongly associated with the timing of employment suggests that efforts to promote

employment need to consider job protection policies like maternity leave as important incentives to work after natural work interruptions such as birth. Even though the 1993 Family and Medical Leave Act was an important step in securing unpaid maternity leave for women, this policy does not affect those who might be in most need of job protection. Small businesses (i.e. businesses that employ less than 50 employees in a given day) are not required to grant maternity leave under this law. Many minority and immigrant women work in small organizations and therefore are not entitled to this benefit. While some scholars are concerned about the effects of early returns to employment after birth, once research derives more definitive conclusions about the effects of early maternal employment on children, maternity leave policies should consider the appropriate length of this leave so that it promotes employment while safeguarding the wellbeing of children. A second implication for policy regards availability of child care. Considering that having child care arrangements at the time of birth also predicted faster returns to employment, policies that promote employment should be coupled with policies that foster making affordable and high quality child care available to mothers, particularly low-income, minority and immigrant mothers. A third implication for policy stems from our initial findings that early employment is negatively associated to children's cognitive development. Efforts should be made to implement policies that support mothers' dual roles as parents and workers such as part-time arrangements and flexible work hours. These policies might help reduce the role overload that many mothers experience from fulfilling multiple responsibilities and that in turn affects the quality of the home life.

Our findings also have important implications for future research. First, the fact that the effect of both household earnings and fathers' employment on the timing of employment varies over time suggests that when addressing the question of how predictors affect the timing of an

event, researchers should adopt elaborate statistical methods, such as discrete time survival analysis, that can capture this relationship more precisely. Second, the fact that we found that the effect of timing of employment on children's outcomes varied by ethnicity suggests that it is undesirable to use broad descriptors such as non-white or Hispanic to group individuals. There is a considerable amount of information that is missed when we group individuals into broad categories. Our findings show that different ethnic groups are not equally affected by environmental influences, such as maternal employment.

References

- Baum, C. L. (2002). A dynamic analysis of the effects of child care costs on the work decisions of low-income mothers with infants. *Demography*, 39(1), 139-164.
- Bean, F. D., & Bell-Rose, S. (1999). *Immigration and opportunity: Race, ethnicity, and employment in the United States*. New York: Russell Sage Foundation.
- Belsky, J., & Eggerbeen, D. (1991). Early and extensive maternal employment and young children's socioemotional development: Children of the National Longitudinal Survey of Youth. *Journal of Marriage and the Family*, 53, 1083-1097.
- Benin, M. & Keith, V. M. (1995). The social support of employed African American and Anglo mothers. *Journal of Family Issues*, 16, 275-297.
- Berryman, J. C., & Windridge, K. C. (1997). Maternal age and employment in pregnancy and after childbirth. *Journal of Reproductive and Infant Psychology*, 15(3/4), 287-302.
- Blau, F. D., & Grossberg, A. J. (1992). Maternal labor supply and children's cognitive development. *Review of Economics & Statistics*, 74, 474.
- Brooks-Gunn, J., Han, W., & Waldfogel, J. (2002). Maternal employment and child cognitive outcomes in the first three years of life: The NICHD study of early child care. *Child Development*, 73(4), 1052-1072.
- Brown, D. (1996). Brown's value based holistic model of career and life-role choices and satisfaction. In D. Brown & L. Brooks (Eds.), *Career choice and development* (3rd ed.). San Francisco: Josey-Bass.

- Bryant, W. K. (1990). *The economic organization of the household*. Cambridge, MA: Cambridge University Press.
- Cain, G. G. (1966). *Married women in the labor force*. Chicago: University of Chicago Press.
- Clark, R., Hyde, J. S., Essex, M. J., & Klein, M. H. (1997). Length of maternity leave and quality of mother-infant interactions. *Child Development, 68*(2), 364-383.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). New Jersey: Lawrence Erlbaum Associates.
- Cramer, J. C. (1979). Employment trends of young mothers and the opportunity costs of babies in the United States. *Demography, 16*, 177-197.
- Desai, S., Chase-Lansdale, P. L., & Michael, R. T. (1989). Mother or market? Effects of maternal employment on the intellectual ability of 4-year-old children. *Demography, 26*(4), 545-561.
- Desai, S., & Waite, L. J. (1991). Women's employment during pregnancy and after the first birth: Occupational characteristics and work commitment. *American Sociological Review, 56*, 551-566.
- Efron, B. (1988). Logistic regression, survival analysis, and the Kaplan-Meier curve. *Journal of the American Statistical Association, 83*, 414-423.
- Enchautegui-de-Jesús, N., Yoshikawa, H., & McLoyd, V. C. (2006). Job quality among low-income mothers: Experiences and associations with children's development. In H.

- Yoshikawa, T. S. Weisner & E. Lowe (Eds.), *Making it work: Low-wage employment, family life, and child development* (pp. 75-96). New York: Russell Sage.
- Even, W. E. (1987). Career interruptions following childbirth. *Journal of Labor Economics*, 5(2), 255-277.
- Farley, R. & Allen, A. (1987). *The color line and the quality of American life*. New York: Russell Sage.
- Fishbein, M. & Ajzen, I. (1975). *Belief, attitude, intention, and behavior*. Reading, MA: Addison Wesley.
- Folk, K. (1994). For love of money: Costs of child care by relatives. *Journal of Family and Economic Issues*, 15, 243-260.
- Fulenwider, C. K. (1980). *Feminism in American Politics: A study of ideological influence*. New York: Praeger.
- Fuller, B., Holloway, S. D., & Liang, X. (1996). Family selection of child-care centers: The influence of household support, ethnicity, and parental practices. *Child Development*, 67(6), 3320-3337.
- Glass, J. L., & Riley, L. (1998). Family responsive policies and employee retention following childbirth. *Social Forces*, 76(4), 1401-35.
- Gottfried, A. E. & Gottfried, A. W. (Eds.). (1988). *Maternal employment and children's development*. New York: Plenum.

- Greenlees, C. S., & Saenz, R. (1999). Determinants of employment among recently arrived immigrant wives. *International Migration Review*, 33(2), 0353-0377.
- Greenstein, T. (1989). Human capital, marital and birth timing, and the postnatal labor force participation of married women. *Journal of Family Issues*, 10(3), 359-382.
- Han, W., Waldfogel, J., & Brooks-Gunn, J. (2001). The effects of early maternal employment on later cognitive and behavioral outcomes. *Journal of Marriage and the Family*, 63(2), 336-354.
- Harris, R. J., & Firestone, J. M. (1998). Changes in predictors of gender ideologies among women: A multivariate analysis. *Sex Roles*, 38(3-4), 239-52.
- Harrison, L. J., & Ungerer, J. A. (2002). Maternal employment and infant-mother attachment security at 12 months postpartum. *Developmental Psychology*, 38(5), 758-773.
- Heckman, J. (1979). Sample selection bias as a specification error. *Econometrica*, 47, 153-162.
- Hock, E., Morgan, K., & Hock, M. (1985). Employment decisions made by mothers of infants. *Psychology of Women Quarterly*, 9, 559-571.
- Hoffman, L. W. (1977). Changes in family roles, socialization, and sex differences. *American Psychologist*, 32, 644-658.
- Joesch, J. M. (1994). Children and the timing of women's paid work after childbirth: A further specification of a relationship. *Journal of Marriage & the Family*, 56(2), 429-440.

- Joesch, J. M. (1997). Paid leave and the timing of women's employment before and after birth. *Journal of Marriage and the Family*, 59(4), 1008-1021.
- Kalil, A., Schweingruber, H. A., & Seefeldt, K. S. (2001). Correlates of employment among welfare recipients: Do psychological characteristics and attitudes matter? *American Journal of Community Psychology*, 29(5), 701-723.
- Kane, E. W. (2000). Racial and ethnic variations in gender-related attitudes. *Annual Review of Sociology*, 26, 419-439.
- Kreider, R. M. (2006, December). *Marital status in the 2004 American Community Survey*. (CPS Working Paper No. 83). Retrieved November 20, 2007, from <http://www.census.gov/population/www/documentation/twps0483/twps0483.pdf>
- Kim, R. Y. (2000). Factors associated with employment status of parents receiving temporary assistance for needy families. *Social Work Research*, 24(4), 211-222.
- Klerman, J. A., & Leibowitz, A. (1990). Child care and women's return to work after childbirth. *The American Economic Review*, 80(2), 284-288.
- Mason, K. O., & Bumpass, L. L. (1975). U.S. women's sex-role ideology, 1970. *American Journal of Sociology*, 80(5), 1212-19.
- McLaughlin, S. D. (1982). Differential patterns of female labor-force participation surrounding the first birth. *Journal of Marriage and the Family*, 2, 407-419.

- Morgan, K. C. & Hock, E. (1984). A longitudinal study of the psychosocial variables affecting the career patterns of women with young children. *Journal of Marriage and the Family*, 46, 383-390.
- Mrotz, T. A. (1987). The sensitivity of an empirical model of married women's hours of work to economic and statistical assumptions. *Econometrica*, 55, 765-799.
- Mullen, E. (1995). *Mullen Scales of Early Learning*. Circle Pines, MN: AGS.
- O'Connell, M. (1990). Maternity leave arrangements: 1961-85. In *Work and family patterns of American women* (Current Population Reports, Special Studies Series P-23, No. 165, 11-46). Washington, D.C.: U.S. Government Printing Office.
- O'Hare, W. P., Pollard, K. M., Mann, T. L., Kent, M.M. (1991). African-Americans in the 1990s. *Population Bulletin*, 46(1), 1-40.
- Pascual, L., Haynes, O. M., Galperin, C. Z., & Bornstein, M. H. (1995). Psychosocial determinants of whether and how much new mothers work: A study in the United States and Argentina. *Journal of Cross-Cultural Psychology*, 26(3), 314-330.
- Polachek, S. (1981). Occupational self-selection: A human capital approach to sex differences in occupational structure. *American Sociological Review*, 58, 60-69.
- Portes, A. (1995). Economic sociology and the sociology of immigration: A conceptual overview. In A. Portes (Ed.), *The Economic Sociology of Immigration: Essays on Networks, Ethnicity, and Entrepreneurship* (1-41). New York: Russell Sage.

- Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, 24(1), 1-24.
- Roy, A. L., Yoshikawa, H., & Nay, S. (2006). Discrimination in the low-wage workplace: The unspoken barrier to employment. In H. Yoshikawa, T. S. Weisner & E. Lowe (Eds.), *Making it work: Low-wage employment, family life, and child development* (pp. 124-144). New York: Russell Sage.
- Sanders, J. & Nee, V. (1996). Immigrant self-employment: The family as social capital and the value of human capital. *American Sociological Review*, 61, 231-249.
- Sanders, J., Nee, V., & Sernau, S. (2002). Asian immigrants' reliance on social ties in a multiethnic labor market. *Social Forces*, 81(1), 281-314.
- Segura, D. A. (1989). Chicana and Mexican immigrant women at work: The impact of class, race, and gender on occupational mobility. *Gender and Society*, 3(1), 37-52.
- Siegel, G. & Loman, A. (1991). *Child care and AFDC recipients in Illinois*. Chicago: Illinois Department of Public Aid.
- Singer, J. D., & Willett, J. B. (1993). It's about time: Using discrete-time survival analysis to study duration and the timing of events. *Journal of Educational Statistics*, 18(2), 155-195.
- Singer, J. D. & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. Oxford: University Press.

- Smith, J. P., & Edmonston, B. (Eds.). (1997). *The new Americans: Economic, demographic, and fiscal effects of immigration*. Washington, D.C.: National Academy Press.
- Sorensen, A. (1983). Women's employment patterns after marriage. *Journal of Marriage and the Family*, 45(2), 311-321.
- Sorensen, A., McLanahan, S. (1987). Married women's economic dependency, 1940-1980. *American Journal of Sociology*, 93(3), 659-687.
- Stuckey, M. F., McGhee, P. E., & Bell, N. J. (1982). Parent-child interaction: The influence of maternal employment. *Developmental Psychology*, 18, 635-644.
- Tienda, M., & Glass, J. (1985). Household structure and labor force participation of black, Hispanic, and white mothers. *Demography*, 22(3), 381-394.
- U.S. Department of Labor, Bureau of Labor Statistics. (2006). Women in the labor force: A databook. Retrieved November 13, 2007 from <http://www.bls.gov/cps/wlf-databook-2006.pdf>
- U.S. Department of Labor, Bureau of Labor Statistics. (2007). Foreign-born workers: Labor force characteristics in 2006. Retrieved October 15, 2007 from <http://www.bls.gov/news.release/pdf/forbrn.pdf>
- Uttal, L. (1999). Using kin for child care: Embedment in the socioeconomic networks of extended families. *Journal of Marriage and the Family*, 61(4), 845-857.

- Volling, B., & Belsky, J. (1993). Maternal employment, parent, infant, and constitutional characteristics related to maternal employment decision in the first year of infancy. *Family Relations, 42*(1), 4-12.
- Waldfogel, J., Han, W., & Brooks-Gunn, J. (2002). The effects of early maternal employment on child cognitive development. *Demography, 39*(2), 369-392.
- Waters, M. (1999). West Indians and African Americans at work. In F. D. Bean & S. Bell-Rose (Eds.), *Immigration and Opportunity* (pp. 64-140). New York: Russell Sage.
- Weil, A. & Finegold, K. (2002). Introduction. In Weil, A. & K. Finegold (Eds.), *Welfare reform: The next act* (pp. xi-xxx). Washington, D.C.: The Urban Institute Press.
- Wenk, D., & Garrett, P. (1992). Having a baby: Some predictions of maternal employment around childbirth. *Gender and Society, 6*(1), 49-65.
- Werbel, J. (1998). Intent and choice regarding maternal employment following childbirth. *Journal of Vocational Behavior, 53*, 372-385.
- Wilkie, J. R. (1993). Changes in U.S. men's attitudes toward the family provider role, 1972-1989. *Gender and Society, 7*(2), 261-279.
- Wilson, F. D. (1999). Ethnic concentrations and labor-market opportunities. In F. D. Bean & S. Bell-Rose (Eds.), *Immigration and Opportunity* (pp. 64-140). New York: Russell Sage.

Table 1. Results of Fitting a Series of Discrete Time Hazard Models Predicting the Timing of Mothers' Employment Following Birth

Predictors	Baseline		Model A		Model B		Model C		Model D	
	Estimate	SE (est)								
Constant	-2.56 ***	0.22	-2.61 ***	0.49	-4.03 ***	0.60	-3.36 ***	0.69	-3.34 ***	0.69
Linear TIME	0.43 *	0.21	-0.65	0.56	-0.61	0.57	-0.62	0.59	-0.62	0.59
Quadratic TIME	-0.13 **	0.05	0.23	0.17	0.23	0.17	0.25	0.18	0.25	0.18
Cubic TIME	0.01 *	0.00	-0.02	0.01	-0.02	0.01	-0.02	0.01	-0.02	0.01
Mexican			-1.21 ***	0.32	-0.55	0.35	-0.56	0.36	-0.58	0.36
Dominican			-0.07	0.25	0.20	0.26	0.13	0.27	0.10	0.27
Household earnings			-0.39	0.27	-0.34	0.27	-0.49 t	0.27	-0.48 t	0.27
Household earnings X TIME			1.30 **	0.43	1.33 **	0.44	1.25 **	0.46	1.25 **	0.46
Household earnings X TIME ²			-0.30 **	0.12	-0.30 *	0.12	-0.27 *	0.13	-0.27 *	0.13
Household earnings X TIME ³			0.02 *	0.01	0.02 *	0.01	0.02 t	0.01	0.02 t	0.01
Household earnings missing			0.85 *	0.40	0.96 *	0.44	1.02 *	0.45	1.04 *	0.45
Education beyond HS			0.05	0.25	0.09	0.25	0.03	0.26	0.01	0.26
HS education or GED			-0.11	0.25	-0.01	0.25	-0.05	0.26	-0.07	0.26
Worked year prior to birth			0.94 ***	0.26	0.77 **	0.26	0.15	0.31	0.16	0.31
Hourly wages of last job			0.02	0.02	0.03	0.02	0.01	0.02	0.01	0.02
Hourly wages missing			-0.10	0.64	0.31	0.62	-0.03	0.64	-0.02	0.63
Yearly wages of last job			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Yearly wages missing			-0.66	0.66	-0.72	0.64	-0.76	0.69	-0.80	0.69
Number of children < 6 in household			0.06	0.13	0.06	0.13	0.02	0.13	0.03	0.13
Legally married			-0.08	0.24	0.03	0.24	0.23	0.25	0.23	0.25
Father works			-0.47	0.54	-0.61	0.55	-0.70	0.57	-0.77	0.58
Father works X Time			1.15 t	0.61	1.12 t	0.62	1.32 *	0.65	1.33 *	0.65
Father works X Time ²			-0.37 *	0.18	-0.37 *	0.18	-0.42 *	0.19	-0.42 *	0.19
Father works X Time ³			0.03 *	0.01	0.03 *	0.01	0.03 *	0.02	0.03 *	0.02
Plans to work			0.94 **	0.30	0.94 **	0.30	0.76 *	0.30	0.79 *	0.31
Has plans for child care			0.64 **	0.24	0.64 **	0.24	0.55 *	0.25	0.59 *	0.25
Work orientation			0.39	0.24	0.39	0.24	0.64 *	0.26	0.63 *	0.26
Work orientation missing			-0.46	0.54	-0.46	0.54	-0.18	0.55	-0.18	0.55
On maternity leave							1.04 ***	0.31	1.07 ***	0.31
Maternity leave n/a							-0.69 *	0.32	-0.68 *	0.32
Social support in NYC									-0.04	0.06
Deviance	909.967		825.173		793.265		757.279		756.814	
Change in Deviance			84.79 ***		31.91 ***		35.99 ***		0.47	

Note. t p < .10* p < .05, **p < .01, ***p < .001

Figure 1. Overall fitted hazard functions (left panel) and survivor functions (right panel)

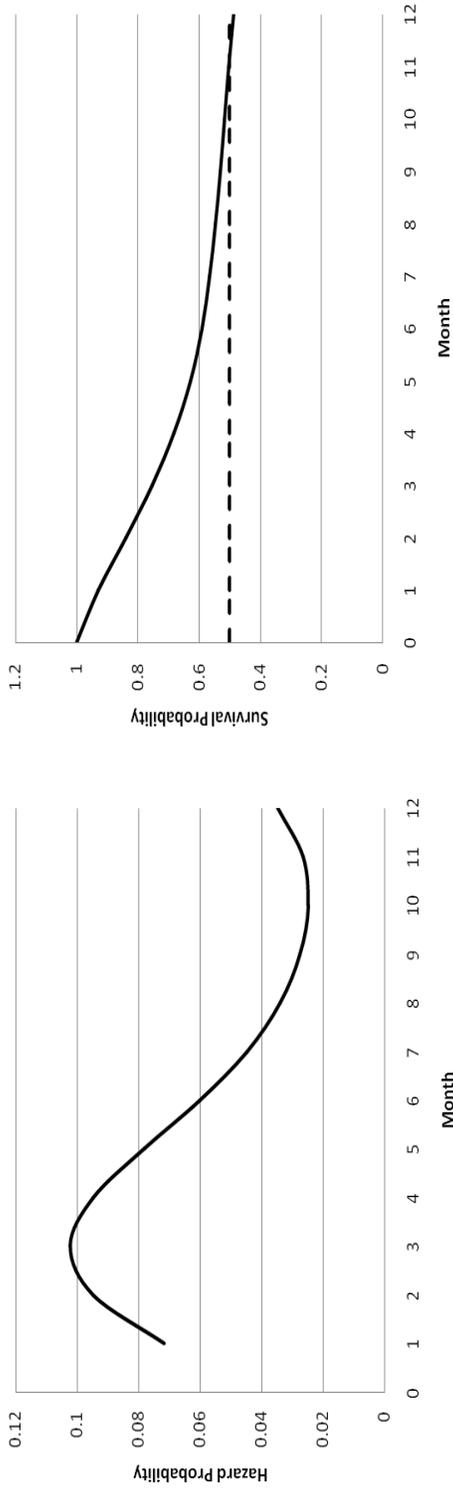


Figure 2. Fitted hazard (left panel) and survival (right panel) functions for different levels of household earnings

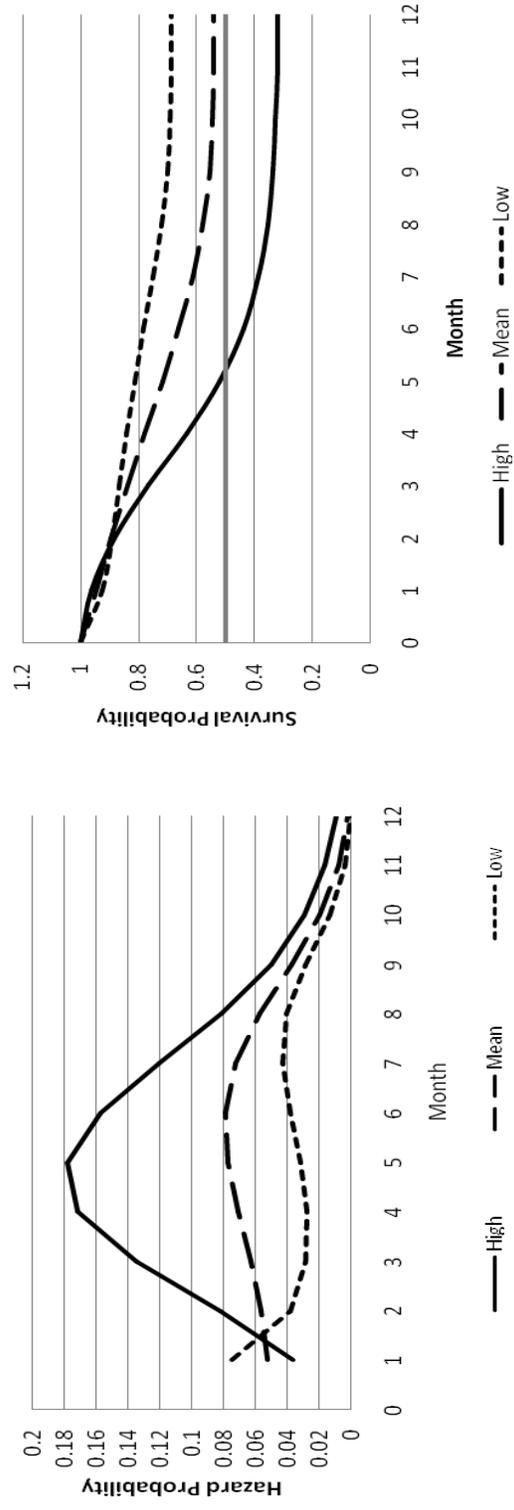


Figure 3. Fitted hazard (left panel) and survival (right panel) functions by father's employment status

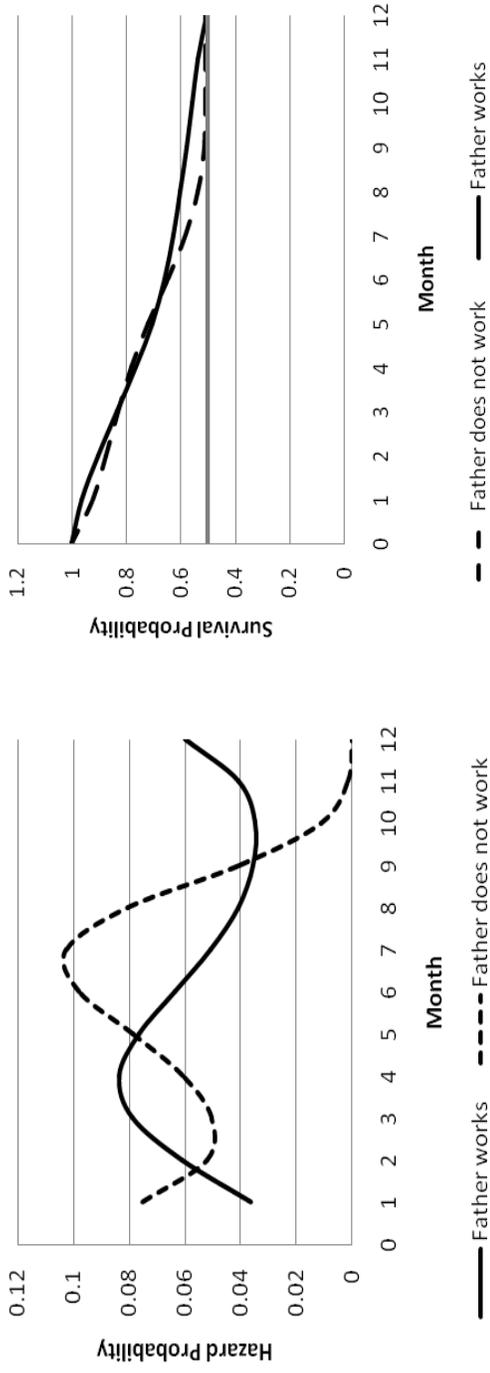


Figure 4. Fitted hazard by differing levels of social support and ethnicity

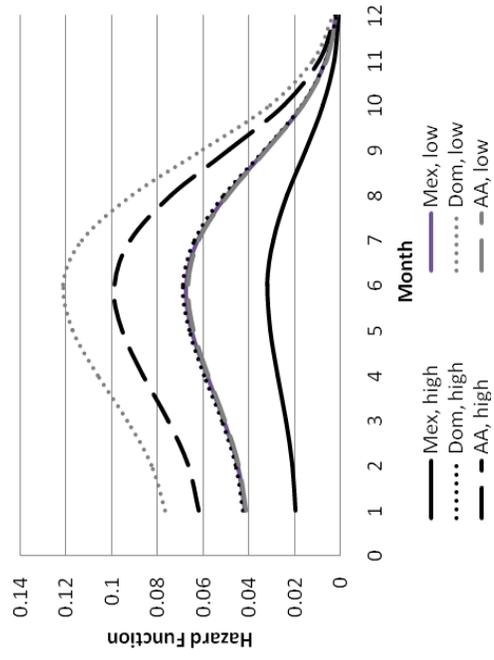


Table 2. Effects of Maternal Employment by Month in the First Year on Socio-emotional Development at 24 Months and Change in Cognitive Outcomes from 14 to 24 Months

	Upset, 24 months	Sociability, 24 months	Change in fine motor skills	Change in visual reception	Change in receptive language	Change in expressive language
Model 1						
Employed by 1st month	.25(.55)	.00(.23)	-7.52(4.01) ^t	-4.20(3.88)	-7.94(3.71)*	-1.35(2.90)
R ²	.126	.130	.186	.122	.175	.253
Model 2						
Employed by 3rd month	-.20(.22)	-.02(.17)	-.93(3.25)	-2.03(3.10)	-5.43(2.95) ^t	-2.52(2.34)
R ²	.127	.130	.160	.116	.166	.260
Model 3						
Employed by 6th month	-.52(.20)**	-.02(.16)	1.96(2.91)	.10(2.79)	-.66(2.70)	-1.83(2.11)
R ²	.168	.130	.163	.113	.140	.257
Model 4						
Employed by 9th month	-.49(.20)*	.03(.16)	-.19(2.81)	-.90(2.68)	-.17(2.59)	-1.65(2.02)
R ²	.162	.130	.159	.114	.140	.256
Model 5						
Employed by 12th month	-.51(.20)*	.13(.16)	.99(2.91)	.60(2.78)	-.21(2.66)	-.82(2.05)
R ²	.165	.134	.160	.113	.140	.252

Note. These models adjusted for ethnicity, teen mom, child's gender, mothers' age, mother is foreign born, mother's education, mother worked the year prior to birth, cohabitation, marital status, birth order of focal child, total number of children in the household, household earnings, father's employment, and an item on mother's emotional wellbeing collected at the 1 month follow-up
^t $p < .10$, * $p < .05$, ** $p < .01$

Table 3. Moderated Effect of Maternal Employment in the First Year on Socio-emotional Development at 24 Months and Change in Cognitive Outcomes from 14 to 24 Months by Ethnicity

	Upset, 24 months	Sociability, 24 months	Change in fine motor skills	Change in visual reception	Change in receptive language	Change in expressive language
Model 1						
Employed by 1st month * Mexican	-.09(.89)	-.00(.70)	-12.82(11.85)	-7.45(11.29)	-13.16(10.74)	-10.57(8.30)
Employed by 1st month * Dominican	0.08(.64)	-.19(.51)	-11.48(8.72)	-18.28(8.33)*	-3.78(8.17)	-5.40(6.34)
R ²	.126	.131	.201	.161	.186	.266
Model 2						
Employed by 3rd month * Mexican	.09(.71)	.68(.55)	-22.75(9.32)*	-7.36(9.08)	-15.39(8.45)t	-5.05(6.52)
Employed by 3rd month * Dominican	-.19(.44)	-.40(.34)	-10.49(6.38)	-9.28(6.23)	-4.22(5.81)	-5.79(4.60)
R ²	.129	.159	.209	.135	.192	.273
Model 3						
Employed by 6th month * Mexican	.05(.45)	-.02(.36)	-9.07(6.41)	-2.55(6.16)	-8.76(5.95)	-4.93(4.60)
Employed by 6th month * Dominican	.10(.42)	-.40(.34)	-3.53(6.27)	-7.29(6.05)	-6.85(5.69)	-3.72(4.51)
R ²	.168	.142	.179	.125	.160	.266
Model 4						
Employed by 9th month * Mexican	.24(.45)	-.17(.36)	-4.03(6.40)	-2.31(5.99)	-6.80(5.93)	-5.34(4.59)
Employed by 9th month * Dominican	.21(.43)	-.43(.34)	1.82(6.30)	-6.11(6.06)	-2.40(5.71)	-4.39(4.52)
R ²	.164	.141	.166	.122	.150	.268
Model 5						
Employed by 12th month * Mexican	.38(.44)	.01(.34)	-1.09(6.21)	-1.37(5.87)	-3.89(5.74)	-3.56(4.50)
Employed by 12th month * Dominican	.09(.44)	-.76(.35)*	3.58(6.42)	-3.56(6.22)	-5.02(5.83)	-3.48(4.64)
R ²	.170	.178	.165	.116	.146	.258

Note. These models adjusted for teen mom, child's gender, mothers' age, mother is foreign born, mother's education, mother worked the year prior to birth, cohabitation, marital status, birth order of focal child, total number of children in the household, household earnings, father's employment, and an item on mother's emotional wellbeing collected at the 1 month follow-up
t p < .10, * p < .05

Figure 5. Effect of being employed by the 12th month on sociability, moderated by ethnicity

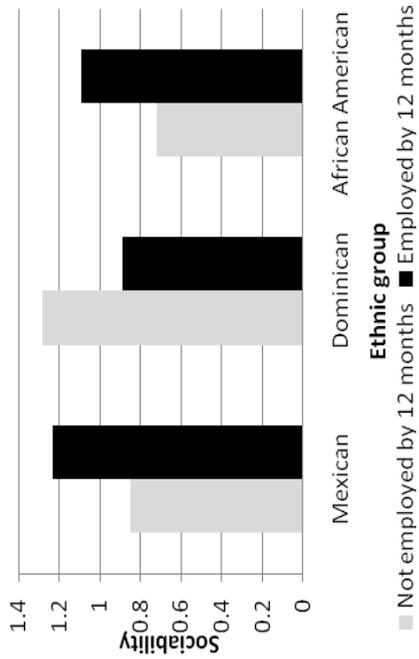


Figure 7. Effect of being employed by the 1st month on change in visual reception, moderated by ethnicity

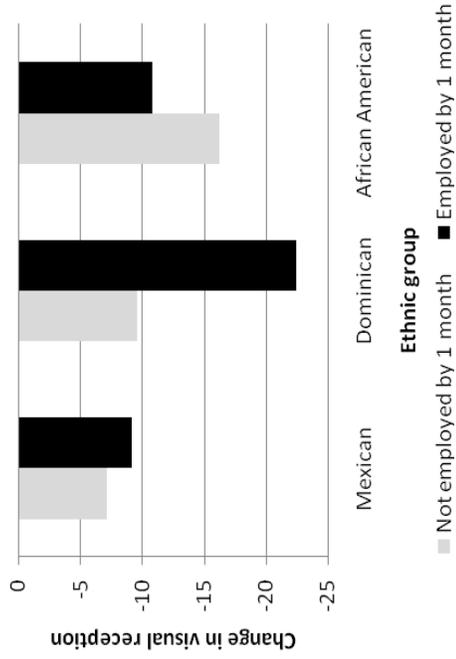


Figure 6. Effect of being employed by the 3rd month on change in fine motor skills, moderated by ethnicity

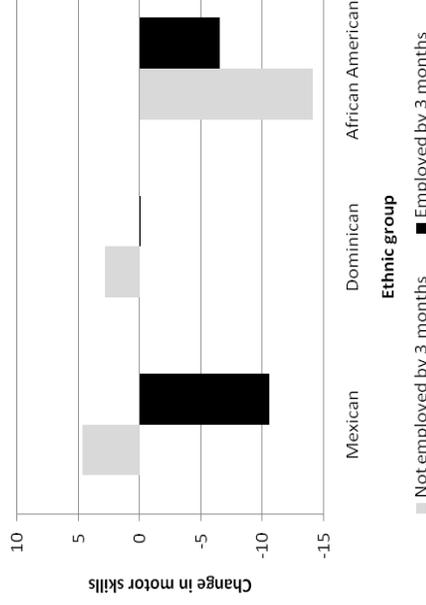


Figure 8. Effect of being employed by the 3rd month on change in receptive language, moderated by ethnicity

