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Mothers’ Job Loss and Their Sensitivity to Young Children’s Development

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Abstract:

As the economy diversifies and stratifies, more mothers of young children experience job instability. To advance understanding of the implications of this trend, this study examines the role of job instability in maternal sensitivity, an important component of child development, during their children’s first three years of life. Structural equation models with longitudinal multi-method data from the NICHD Study of Early Child Care and Youth Development (*n =* 1,211; 1991-1994) revealed that mothers’ involuntary job loss, but not other job transitions, was negatively associated with sensitivity. This association was most pronounced among mothers with less education. Mediation analyses found the association was explained by changes in family income and maternal depression, pointing to policy-relevant mechanisms for reducing inequalities among children.

*Key words:* Job loss, unemployment, work, parenting, child development.

*Running head:* Mothers’ job loss and maternal sensitivity

As women steadily entered the labor force over the past half century, a large literature evolved to understand what mothers’ work meant for how children were reared. Over time, a general consensus has emerged that work per se does not matter so much as the nature of work, leading to more multi-dimensional and nuanced conceptualizations of maternal employment (Crosnoe & Cavanagh, 2010). This focus is in line with larger economic trends that have created more diverse and fluid employment experiences (Kalleberg, 2011; Presser, 2003). The increasing financial necessity of dual-income households, higher rates of single-mother households, and minimal U.S. federal maternal leave policies that necessitate women exit and potentially prematurely re-enter the workforce after the birth of a child make new mothers particularly vulnerable to this job fluidity (Bogenschneider & Corbett, 2010). Moreover, broader structural changes in the U.S. economy, along with short-term fluctuations in the country’s economic health, have increased unexpected and often stressful employment transitions, such as job loss (Farber, 2005). The widespread assumption in the literature that changes in parenting are a channel through which this job instability—and in particular, job loss—affects young children warrants more attention, especially given that it has potential to point to policy-malleable strategies for helping families and children navigate this crucial developmental period.

This study, therefore, examines whether mothers’ work instability generally, and job loss specifically, during their children’s first three years of life disrupts mothers’ abilities to be responsive and sensitive to their children—a dimension of parenting consistently linked to children’s social, emotional, and cognitive development. This period represents a critical early stage of their children’s lives that lays the foundation for their lifelong trajectories of status attainment, social competence, and health (Raby, Roisman, Fraley, & Simpson, 2015). Several questions guide this investigation: (1) do job entries and exits (voluntary and not)—and the timing of those transitions—matter for sensitivity? (2) what are the mechanisms through which job loss is associated with this aspect of parenting? and (3) are women with less education more vulnerable to the potential consequences job loss has for sensitivity? To examine these questions, I applied statistical procedures geared towards increasing causal inference to longitudinal data from the NICHD Study of Early Child Care and Youth Development (SECCYD), which includes external evaluations of sensitivity and detailed work histories from multiple time points. Whereas prior research has examined parents’ reports of parenting stress at only one time point to infer the role job loss has in influencing parenting behaviors, the current study deepens our understanding of these processes by examining an observer-reported measure of parenting and examining job loss exposures over time.

Understanding these work-family processes during children’s early years is particularly important given that this developmental period is when the intergenerational transmission of inequality is set in motion, mothers’ return to paid employment during infancy has become a normative path, and child-focused interventions are increasingly garnering bipartisan support (Cooper & Costa, 2012; Heckman, 2006). Thus, a greater understanding of what types of transitions matter—as well as how and for whom—during this period can allow for more targeted policies, such as work protections, income supports, and mental health services. Finally, tying job instability to family processes that we know matter for children’s development highlights this specific layer of inequality (e.g., more frequent experience of job loss among parents who are low income) that contributes to population-level trends in inequities among U.S. children in high versus low SES families (McLanahan, 2004).

### *Background*

The birth of a child is a vulnerable period that changes the rhythm of daily life. In the U.S., these changes often require negotiations around whether to return to work after a baby is born and, if so, when (Feeney et al., 2001). Compared to other developed nations, no policies exist at the federal level in the U.S. that provide or protect paid maternal leave (Bogenschneider & Corbett, 2010). In addition, paid employment for both parents in two-parent households and the only parent in single-parent families is an economic necessity for remaining part of the ‘middle-class’ or staying out of poverty, respectively (Sawhill & Haskins, 2003). These features of the American labor landscape contribute to a diverse set of decisions among new mothers surrounding the normative path back to work. Not only is there enormous variation in work re-entry after a child is born, the first couple of years of a child’s life complicate parents’ work lives due to decisions around more intensive child care (relative to the care needs of older children) and returning to more unstable or mismatched employment situations (Laughlin, 2011; Reynolds & Johnson, 2012). Moreover, family formation typically happens during early adulthood when career trajectories are being set and employment most precarious (Danziger & Ratner, 2010). Overall, then, these frequent work stops and starts could disrupt the daily routines and formation of mother-child bonds. In this way, they potentially represent an important but understudied aspect of the way mothers’ work might matter for their children, given the substantial evidence of the developmental significance of early mother-child attachment (Raby et al., 2015).

Different types of work transitions have the potential to disrupt family life in disparate ways. In particular, the agency mothers have over these transitions likely matters. A breadth of research has examined the physical and psychological toll that involuntary job loss, in particular, has on workers (see Brand, 2015, for a review). It is likely, then, that some transitions may have outsized effects on parents’ wellbeing that spillover into the way they parent. Indeed, unemployment has been linked with feelings of parenting stress (Nomaguchi & Johnson, 2014) and harsher parenting styles (McLoyd, Jayaratne, Ceballo, & Borquez, 1994). Moreover, job loss is linked with economic hardship that causes stress and depression associated with harsher and less responsive parenting (Mistry, Vandewater, Huston, & McLoyd, 2002; Parke et al., 2004).

#### *Maternal Work Transitions and Maternal Sensitivity*

Indeed, this scenario that work instability influences how mothers’ parent is supported by theory. The guiding conceptual model of the current study is depicted in Figure 1. Its core feature is the link between mothers’ job instability and their sensitivity to their young children’s development. This feature is well aligned with psychological and sociological models of parenting. Life course approaches to child development highlight the linked lives of parents and children, how the social and institutional pathways of parents filter down into the developmental trajectories of their children through parenting. In the current study, employment is a major parental pathway that is structured by concrete transitions between jobs and related experiences that impacts both parents’ and children through their linked lives (Elder, 1998; Elder, Nguyen, & Caspi, 1985). Similarly, the parenting process model highlights how multiple aspects of mothers’ lives converge to shape their general orientation to parenting and their abilities to consistently translate their parenting values into behavior (Belsky, 1984). For example, in the current study, mothers’ educational attainment not only shapes their employment stability, but the way they respond to job loss that, in turn, has implications for the way they parent. Both models emphasize the need to view parents’ life pathways as dynamic, with changes in statuses—not just the statuses themselves—salient to how they rear their children. Just as attention to parents’ marital transitions and marital instability, not just whether or not they are married, has significantly advanced understanding of both parenting and the child outcomes it influences (see Cavanagh & Huston, 2006; Cavanagh & Fomby, 2019; Fomby & Cherlin, 2007), considering employment instability can elucidate why parents parent the way they do. Adding another layer of complexity to work transitions is the fact that entries and exits can be voluntarily initiated by workers (such as those seeking better opportunities) or involuntarily by employers (i.e., being fired or laid off). Clearly, a worker might feel differently about one transition versus another. Mothers’ agency in initiating job transitions, then, is important for disentangling how job instability affects their sensitivity.

[Insert Figure 1 about here]

For the most part, however, the link between work instability and parenting is underdeveloped in empirical studies. The suggestion that work transitions could affect parenting comes from the more recent literature revealing negative associations between parental job loss and children’s academic and behavioral outcomes (Ananat et al., 2013; Coelli, 2011; Kalil, 2009; Oreopolous, Page, & Stevens, 2005; Rege, Telle, & Votruba, 2011; Stevens & Schaller, 2011). Generally, discussions of mechanisms highlight changes in parenting, although this is rarely tested directly (Beyer, 1995; Duncan & Brooks-Gunn, 1997; Kalil & Ziol-Guest, 2008). This study, therefore, directly examines how fluctuations in work status—and job loss, specifically—are followed by changes in a developmentally salient aspect of parenting—maternal sensitivity.

In line with the extant literature linking parental job loss to children’s cognitive and academic outcomes (e.g., Ananat et al. 2013; Beyer, 1995; Kalil& Ziol-Guest, 2008; Rege et al., 2011; Stevens & Schaller, 2011), the current study focuses on maternal sensitivity in non-distress situations. Sensitive and responsive parenting during these types of interactions in early childhood are thought to generally promote cognitive resources (e.g., attention span, interactive play) that support children’s cognitive development and their learning in institutionalized settings (Bornstein & Tamis-Lemonda, 1997).

Importantly, factors that are known to assist parents in following through on more sensitive and responsive parenting during playful and non-distressed settings have also been highlighted as potential mechanisms for why job transitions, generally, and job loss, specifically, matters for children’s cognitive development. For example, a job exit can prompt a drop in income that means less money to purchase books or toys—resources that have been shown to assist parents in responsive parenting during playful interactions (Yeung, Linver, & Brooks-Gunn, 2008). The current study will examine these potential mediators.

Of course, this is not to say that job transitions do not matter for sensitivity in different contexts, such as mothers’ response to children in distress or in stressful circumstances. Indeed, literature has highlighted the importance of a more nuanced understanding of elements of sensitivity in particular contexts, and how they might matter differently for varied domains of child wellbeing (Leerkes, Blankson, & O’Brien, 2009; Leerkes, Weaver, & O’Brien, 2012). To summarize, however, the current study focuses on a more global measurement of sensitivity in non-distress situations for two primary reasons: 1) to inform the larger body of research tying job loss to children’s cognitive development; and 2) due to the ways in which job transitions are hypothesized to disrupt factors, such as income and child care arrangements, that facilitate responsive parenting in non-distress interactions.

By examining maternal sensitivity, the current study can shed light on research that has found links between job loss and child outcomes. Moreover, examining these patterns during early childhood is motivated by the evidence that parents’ extrafamilial experiences (including work) and parenting have outsized effects during this period (Raby et al., 2015) and that policies targeting this age bring greater returns to investment (Heckman, 2006). Indeed, an extant literature highlights early childhood as a critical period for development with a long reach into adulthood (Shonkoff & Phillips, 2000). Experiences of poverty—which job loss and transition are part of the equation—are particularly influential (Duncan & Brooks, 1997). Importantly, examining mothers’ work experiences when they have young children may be a particularly salient period in regards to their work lives, and therefore, how that affects processes in the home (such as parenting). Having young children often coincides with formative career stages, where work trajectories are being set and employment prospects uncertain (Danziger & Ratner, 2010; Laughlin, 2011; Reynolds & Johnson, 2012), and where child care needs are most intense (Reynolds & Johnson, 2012).

Testing this link between the dynamic nature of parental work and parenting is the first aim of this study. To that end, I conceptualize mothers’ job changes as major life events that have the potential to alter parenting behaviors, differentiating among types of transitions rather than measuring simple exposure to instability. For example, prior research has more consistently linked involuntary job loss with poorer child wellbeing than ‘voluntary’ job entries and exits, suggesting job loss may be more strongly associated with parenting changes (Kalil, 2009). The general hypothesis is that there will be an inverse association between maternal work transitions and sensitivity, with that association strongest for involuntary job loss.

Accounting for transition type goes beyond past research in this tradition, which typically focuses on basic job characteristics and statuses or tracks changes over short windows of time (Gassman-Pines, 2011; Han & Fox, 2011; Prickett, 2018; Roeters, van der Lippe, & Kluwer, 2010). For the parenting component of this aim, I focus on maternal sensitivity, defined as the way that mothers respond and adapt to the needs of their young children, a salient predictor of child outcomes in the parenting literature (De Wolff & van Ijzendoorn, 1997; Raby et al., 2015). Moreover, maternal sensitivity is a style of parenting responsiveness that is likely to be more reactive to external shocks than parenting styles, such as ‘concerted cultivation’ (Lareau, 2003), which are strongly shaped by SES. In this way, the current study goes beyond most research in this tradition by highlighting an important parenting predictor of child development, and draws on observational assessments of parenting that are more reliable and valid than survey reports that dominate the literature.

*Mediators and Moderators of Job Instability on Parenting*

Following both life course and parenting process models, there are two important ways to elucidate the foundational process that links job instability to maternal sensitivity and, in turn, the consequences for children’s development. One is to examine why this process unfolds in the way that it does (i.e., what mediates the link between job instability and parenting?). Another is to understand how it might unfold differently across different groups (e.g., what moderates this link?). The remaining parts of the conceptual model (Figure 1) delve into these important issues.

Beginning with mediation (the study’s second aim), the life course perspective and the parenting process model both highlight the potential role of structural, institutional, interpersonal, and personal experiences in employment circumstances in relation to parenting. This study poses four potential mediators that cut across these experiences. First, job changes typically come with fluctuations in income, which can be sources of stress or relief that affect the way mothers interact with their young children or change access to physical resources (such as story books and extracurricular activities) that facilitate interactive parenting (Yeung, Linver, & Brooks-Gunn, 2008). Second, changing jobs results in changing the context of work. If change is involuntary, such as job loss, this could have repercussions for how mothers’ feel about their work situation, which could disrupt parenting behaviors through role strain or work-family conflict (Sverke, Hellgren, & Näswall, 2002).

Third, job transitions can alter the institutional settings of children and the interpersonal dynamics among parents, caregivers, and children. For example, having children in stable and high quality child care is linked to mothers’ greater self-efficacy and sensitivity (Crockenberg & Litman, 1991; NICHD ECCRN, 1999). Moreover, children’s positive engagement with peers and caregivers in care settings can lead to more prosocial behavior (such as stronger language skills and social engagement) that is associated with stronger mother-child attachment (Burchinal et al., 1997). In this way, changes in care settings can affect maternal sensitivity by disrupting the partnerships for both mothers and children that support more positive interactions.

Fourth, a job change can be an emotional experience, with people reacting in ways that are reflected in aspects of mental health that shape parenting, such as distress and depression (Lovejoy et al., 2000). The second aim of this study, then, is to test the hypothesis that negative associations between mothers’ job changes and their sensitivity to children will be explained by declining family income, less work satisfaction, child care instability, and poorer mental health.

Turning to moderation (the study’s third aim), the life course perspective and the parenting process model both highlight the importance of understanding the life histories of parents before any significant event, suggesting the need to consider how parents might experience that event in different ways if they took different routes to it. Here, I focus on maternal education—a status that taps into the personal histories preceding a job transition. I focus on maternal education, as opposed to other aspects such as marital status and income, for two reasons. First, education is an important determinant of the types of rewards gained from the labor market, such as higher incomes and other less tangible benefits associated with ‘good’ jobs (e.g., autonomy, flexibility) (Goldin & Katz, 2010). Importantly, job loss may be experienced differently by people with more education who occupy these ‘good’ jobs, where periods of unemployment are often shorter (Riddell & Song, 2011). Second, and in line with a larger body of the research that examines the role of education in parenting, education provides psychosocial resources that might moderate the effect of poor work experiences. For example, more education may buffer against the stress and upheaval of job loss (Augustine, 2014). Associations between work transitions and sensitivity, then, may be dulled because of the psychosocial resources and structural advantages of higher education that allow mothers’ to better protect their mother-child bond or lessen the fallout of job loss. Thus, the third aim is to test the hypothesis that mothers’ job losses will be more disruptive to their sensitivity to children’s development among women with low levels of education.

### *Method*

#### *Data and Sample*

The SECCYD is a longitudinal study of children’s environments and developmental outcomes (NICHD ECCRN, 2005). In 1991, 1,364 infants and their families were enrolled from 10 locations across the U.S. Participants were recruited from hospitals and met the study eligibility criteria if mothers were 18 years or older, they did not plan on moving within the next year, the birth was a singleton without a disability, and the mother spoke English. Although still diverse in terms of income, education, and racial and ethnic composition, mothers in this study were slightly more socioeconomically advantaged than the general population.

Two major benefits of the SECCYD for this study are its frequency of parent data collection and its psychometric depth of measurement of parenting and child development, both unparalleled in other large studies. I discuss the latter in the measurement section. As for the former, maternal sensitivity was measured when the child was 6-, 15-, 24-, and 36-months old during in-person interviews. Between these major interviews, parents were also contacted at three-month intervals by telephone and asked a variety of consistent questions about work, child care, and other factors. I drew on data from the major assessments and other assessments from birth through the third year to capture more dynamic change in parents’ lives than is the norm in this literature. The analytical sample for this study consists of 1,211 mothers who were not lost to attrition by the 36-month interview (excluding 153 mothers). Table A2 in the online supplement compares mothers in the analytic sample versus those who attrited on key sociodemographic characteristics. As expected, those who dropped out of the study had more disadvantaged sociodemographic characteristics, including lower levels of education, being non-Hispanic black, lower family incomes, and less likely to be married at the child’s birth.

#### *Measures*

*Maternal Sensitivity*. Study personnel videotaped in-home mother-child interactions at the 6- and 15-month interviews, and mother-child interactions in a laboratory setting at the 24- and 36-month interviews. During a 15-minute window, mothers were given tasks and toys that facilitated play with their young child. The videotaped recordings of the interactions were scored by coders at a central location, who received intensive training in examining and measuring items related to parenting quality and engagement (see NICHD ECCRN, 1999, for more information). For example, coders were asked to rate on a scale from *1 =* not at all characteristic to *4 =* very characteristic of the video recording, how supportive mothers were of their child’s play and exploration during the observation task. In this study, maternal sensitivity was coded in line with prior studies, representing a composite score. At the 6-, 15-, and 24-month interviews, this included measures rated on a 4-point scale (*1 =* not at all characteristics through *4 =* very characteristic) of sensitivity and responsivity to non-distress, positive regard for the child, and intrusiveness (reverse coded), representing a summed composite score ranging from 3-12. The 36-month maternal sensitivity composite score was the sum of three measures rated on a 7-point scale of respect for autonomy, supportive presence, and hostility (reverse coded).

It is important to reiterate that these measures represent sensitivity in free play and to the non-distressed behavior of the child. It may be that work transitions matter differently for sensitivity in response to child distress and in different environments. Despite examining one type of sensitivity, this composite score has good validity in terms of its predictive value of attachment security and stability across waves (NICHD ECCRN, 1999; 1997).

*Job Instability.* Three binary variables captured whether mothers experienced, between major interview periods: (1) a job entry; (2) a voluntary job exit; and/or (3) an involuntary exit. These measures were constructed from data collected at the major (1-, 6-, 15-, 24-, and 36-months) and minor (3-, 9-, 12-, 18-, 21-, 27-, 30-, and 33-months) interviews. At both, mothers were asked about their current paid employment and any employment changes in the last three months. Information on the primary job was used to examine transitions into and out of work. Starting a job at a new place of employment or leaving a place of employment were counted as transitions. Returning from maternity leave after the first month was counted as a job entry (since it necessitated a change in the daily family routine). Vertical or horizontal moves within a workplace were not included because these transition types were not captured in the data.

Voluntary and involuntary job losses were distinguished by whether the exit was either employee or employer initiated. That is, although having to leave a job because of baby’s health needs could be considered an ‘involuntary’ exit, it was not coded as such since the main concern in distinguishing between job exits was whether the mother or the employer made the decision to terminate employment. This conceptualization is similar to prior studies. Voluntary and involuntary job exits were identified using follow-up questions asked of mothers who reported leaving a job, with mothers given answer options to choose from. The wording of these questions differed slightly across interviews and are presented in Table A1 in the online supplement. .Involuntary job exits included those where the respondent reported she left because she was fired, laid off, or for other employer reasons. Voluntary job exits were all other reasons, including problems with child care, the baby’s or mother’s health, returning to school, the birth of a new baby, work-family demands, or to improve job situation.

*Mediators.* Mediators were captured at each major interview. *Family income* was a continuous measure of annual family income in dollars, adjusted to 1991 dollars using the Bureau of Labor Statistics Consumer Price Index inflation calculator. *Work situation satisfaction* was a scale ranging from 1 (very dissatisfied) through 5 (very satisfied) reporting mothers’ response to the question “how satisfied are you with your decision about working/going to school/not working during the next year?” Importantly, this measure allowed both working and nonworking mothers to be asked the same question about their work-life situation. *Child care transitions* was a continuous variable of the number of entries into and exits from child care settings between waves. Finally, *maternal depression* was captured as a scale (0 through 54) using the Center of Epidemiological Studies Depression Scale (CES-D) (Radloff, 1977).

*Moderator. Maternal education* indicated mothers’ highest educational attainment at baseline using four dummy variables (no high school diploma/GED, high school diploma/GED, some college experience/associate’s degree, college degree or higher).

*Covariates.* A range of time-invariant and -variant factors were included to account for possible confounds in the association between employment stability and maternal sensitivity. A full list of these covariates and their measurement are presented in Table 1.

[Insert Table 1 about here]

#### *Analytical Plan*

In the multivariate analyses, I first examined whether the type of work transition was associated with maternal sensitivity (aim 1). To preview, involuntary job loss, not work entries or voluntary job exits, were associated with sensitivity. I then investigated whether any of the potential mediators—income, work satisfaction, child care instability, and depression—explained this association (aim 2). Finally, I explored whether mothers’ education moderated the association between job loss and sensitivity by including interaction terms (aim 3).

Autoregressive cross-lagged structural equation models (SEM) were used to explore the association between job instability and maternal sensitivity. The approach accounts for the time-ordered and reciprocal associations (which is an advantage over other approaches often employed to get at causal inference, such as fixed effects models) among the focal variables across and within time period. Moreover, given these models allow for the estimation of lagged effects across waves, periods that may be more or less important for the outcome can be identified. This approach allowed for the inclusion of time-variant (i.e., family structure, maternal health) and time-invariant (i.e., education, race and ethnicity) covariates, in addition to also allowing changes in the scales of the measures, which was important given the maternal sensitivity scale differed at the 36-month interview (Bollen & Curran, 2006).

Despite these advantages, these models cannot infer causality nor disentangle between- and within-level processes like more stringent approaches, such as autoregressive latent trajectory models with structured residuals (ALT-ST) and fixed effects (FE) (Berry & Willoughby, 2016; Hamaker, Kuiper, & Grasman, 2015). Differences in the outcome measurement over time and issues of model convergence using fewer waves of data did not allow for the estimation of these models for the current study.

Figure 1 illustrates this approach by highlighting how several equations across multiple waves of data were estimated simultaneously. For example, experiencing a job loss between 7-15 months (all months after the 6-month interview and including the 15-month major interview) predicted maternal sensitivity at the 15-month interview (the cross-lagged effect, and the focus of Aim 1), while also estimating the association between experiencing a job loss between 1-6 months and job between 7-15 months (an autoregressive effect) and the association between maternal sensitivity at 6 months and sensitivity at 15 months (another autoregressive effect).

All analyses were conducted in Mplus version 7.4 (Muthén & Muthén, 1998-2017). To test for mediation, Mplus’ INDIRECT procedure was used, with bootstrapping used to estimate standard errors and bias-corrected confidence intervals to account for non-normality of the effect distribution (MacKinnon, 2008). A multiple mediation approach was used, with one advantage (of many) of testing multiple mediators simultaneously as opposed to individually being that it is possible to examine indirect effects net of other mediators explaining the link between job loss and sensitivity (Preacher & Hayes, 2008).

Item missingness were handled through full maximum likelihood estimation (approximately 1.3% of the analytical data). Table A3 in the online supplement displays item-level missingness across the study variables. Overall, there were low rates of missingness, with the highest rates for maternal sensitivity at the 24- and 36-month waves (4.5%), and lowest among work satisfaction at the 36-month interview (0.3%).

### *Results*

Table 2 presents a description of the sample of mothers by whether they experienced a job transition during the entire study period. Overall, 85% of sample mothers experienced a job transition. Over 80% experienced a job entry, 54% a voluntary job exit, and 17% an involuntary job loss. Examining sociodemographic factors highlighted that mothers who experienced involuntary job losses were relatively more disadvantaged compared to mothers who did not. Mothers who experienced job loss were more likely to have not completed high school (15.9% vs. 7.6% among those who did not experience job loss), more likely to be non-Hispanic black (15.9% vs. 10.5%), had lower family incomes at the baseline interview ($32,410 vs. $40,670), and less likely to be married to the child’s biological father (64.4% vs. 81.9%).

[Insert Table 2 about here]

Similarly, Table 3 presents the same description at each wave by whether a job transition was experienced between waves. Overall, there was no statistical difference in maternal sensitivity among those who experienced a voluntary job exit versus not. The findings were mixed among those entering a new job, with higher sensitivity among those entering a new job between the 1-6 month waves, but lower sensitivity if that job entry was between the 24-36 month, compared to those not entering a new job. Consistently, however, maternal sensitivity was statistically lower after an involuntary job loss at every wave, except at 36 months. The gap between those who experienced an involuntary job loss versus those that did not, as a proportion of the wave-specific standard deviation of maternal sensitivity was widest at the 15- and 24-month waves (34% of a standard deviation gap). Among the four mediators, for most waves, family income was lower and maternal depression was elevated when there was an involuntary job exit. Child care transitions where more prevalent when any type of transition was experienced. Work satisfaction was lower among those entering work between 1 and 6 months and experiencing involuntary exits between 6 and 15 months.

[Insert Table 3 about here]

#### *Aim 1: Job Transitions and Maternal Sensitivity*

The analyses in Table 4 used cross-lagged autoregressive SEM models to examine whether job transitions were associated with maternal sensitivity, net of covariates—the goal of the study’s first aim. Although multiple pathways were estimated simultaneously (as illustrated in Figure 1), only the coefficients for the pathways informing the study aims are presented in Table 4. Model 1 shows the cross-lagged pathways where job transitions between 7-15 months predicted maternal sensitivity at 15 months (column a), transitions between 16-24 months predicted sensitivity at 24 months (column b), and transitions between 25-36 months predicted sensitivity at 36 months (column c). Overall, job entries and voluntary exits were not associated with sensitivity. Involuntary job loss between 7-15 months, was significant, however, with job loss, on average, associated with a -0.458 decrease in sensitivity (28% of a standard deviation). Put another way, experiencing job loss was equivalent to the effect of a mother having a high school diploma/GED compared to have a college degree, or being in fair versus excellent health (per the coefficient sizes in the models, available upon request). Investigating the pathways further, Figure 2 displays the analytical model for involuntary job loss. The autoregressive pathway for maternal sensitivity was statistically significant across all waves, however job loss at the wave prior (*t* -1) was only associated with greater likelihood of job loss at a subsequent wave (*t*) at one wave (job loss at 15-month predicting job loss at 24-month).

[Insert Figure 2 about here]

[Insert Table 4 about here]

#### *Aim 2: Mediators of the Association between Job Loss and Maternal Sensitivity*

Turning to mediation—the focus of Aim 2—I examined the sole significant association between job loss and maternal sensitivity at the 15-month interview. The results of these mediation models are presented in Table 5. Bootstrapped confidence intervals are presented, as opposed to *p*-values indicating statistical significance, because of the non-normality of the effect distribution. Recall that all four mediators—family income, work satisfaction, child care transitions, and maternal depression—were tested simultaneously. Overall, family income and maternal depression were significant mediators of the association between job loss and sensitivity. Regarding income, when mothers experienced job loss, the associated decrease in income had, on average, an effect of -0.35, with that decrease in income also associated with a decrease in maternal sensitivity. To contextualize this finding, this effect was approximately 21% of a standard deviation (a small to moderate effect size). Examining maternal depression, the job loss-associated increase in depression had, on average, a standardized effect of 1.16, with that increase in depression associated with a decrease in sensitivity. This represented a moderate to large effect size of approximately 71% of a standard deviation.

[Insert Table 5 about here]

Overall, maternal depression accounted for a larger share of the total indirect effect than family income. Despite these mediators accounting for a non-negligible share of the average association between job loss and sensitivity, a large part was left unexplained, pointing to other unmeasured causal mechanisms as important for explaining this association (such as anxiety and time invested in finding a new job).

#### *Aim 3: Education as a Moderator of the Association between Job Loss and Maternal Sensitivity*

Finally, to examine moderation in line with Aim 3 I continued to focus on the central association between job loss between the 7-15 month interviews and maternal sensitivity at the 15-month interview. Model 2 in Table 4 presents the results that included an interaction term between job loss and maternal education. In line with the hypothesis that the association between mothers’ job losses and sensitivity would be stronger at lower levels of maternal education, this association was stronger among mothers with some college experience/associate’s degree or a high school diploma/GED compared to college-educated mothers (column d). The interaction term between job loss and mothers who did not complete high school—albeit still negative—was not significant. One explanation could be that mothers with low levels of education are more likely to occupy jobs with characteristics associated with lower sensitivity and intensive parenting beyond those accounted for as controls (i.e., work status and schedules). These job characteristics could be as detrimental to mothers’ sensitivity than the experience of job loss. Figure 3 presents predicted maternal sensitivity at the 15-month interview from Model 2 (column d, Table 4) by maternal education and whether mothers experienced a job loss. Although there was statistically no difference between mothers who did and did not experience a job loss within the less than high school/GED and college-educated groups, there was a steep average drop in sensitivity among those who experienced job loss in the groups who had a high school diploma or some college experience. Notably, mothers who experienced job loss in these education groups had lower levels of predicted sensitivity than mothers who did not complete high school—a group who typically report the lowest levels of sensitivity.

[Insert Figure 3 about here

### *Discussion*

Prompted by a new era of increased job instability, more research and policy attention has focused on the consequences of work transitions generally, and job loss specifically, for families. In line with an extensive body of research that has tried to understand what rising rates of maternal employment have meant for children, this study examined whether employment instability mattered for mothers’ responsive parenting. Although past research has typically found that job loss is associated with negative outcomes for children, many of these studies did not directly test parenting—the hypothesized mechanism through which the consequences of job instability operate. This literature has laid the foundation for this study, which examines the association between mothers’ job instability and maternal sensitivity during the first three years of a child’s life. Maternal sensitivity is a consistent predictor of short- and long-term child wellbeing and one that has been responsive to maternal employment in prior research (Raby et al., 2015). In addition, this study went further by detangling different types of instability, examining the potential mechanisms through which job loss affects maternal sensitivity, and identifying for whom it matters most. Three important findings emerged.

First, the type of work transition mattered (aim 1). Job loss, but neither job entries nor voluntary exits, was negatively associated with maternal sensitivity. This finding is important, especially in light of policy interventions that overwhelmingly emphasize preparing mothers for job entry (Zedlewski, 2012). The finding suggests that helping mothers—and assisting employers in—maintaining consistent employment may have a greater impact on their and their children’s wellbeing.

Importantly, the association between job loss and maternal sensitivity appeared concentrated during the first year (at 15 months vs. when the child was 2- or 3-years old). One potential explanation might center around the reasons *why* mothers go back to work during their child’s first year of life. For example, those who return to work earliest may do so out of economic necessity, meaning that job loss—and the accompanying financial stress it brings—may be more acute for families’ wellbeing. Indeed, the mediation and moderation findings, whereby income was a significant mediator of the association between job loss and sensitivity and those with less education felt job loss more acutely (in terms of the associated decline in sensitivity), support this explanation. Another explanation could be the reciprocal nature of maternal sensitivity and child temperament (Belsky & Fearon, 2002), whereby a decline in sensitivity is associated with child detachment and temperament and, in turn, maternal sensitivity remains at a lower level. Regardless, the significant link between job loss and maternal sensitivity during the earliest period suggests potential outsized consequences for later mother-child attachment and child development and identifies a critical intervention point. Future research should examine the possibility of a lagged effect of job loss on later sensitivity.

Second, aim 2 highlighted that decreases in family income and increases in maternal depression were mechanisms through which job loss affected maternal sensitivity. The association between these mechanisms and parenting is well-developed in the literature (Duncan & Brooks-Gunn, 1997; Lovejoy et al., 2000), and job loss has been shown to be associated with income decline and depression among workers, generally (Brand, 2015), but prior research has not empirically connected these pathways. That income is an important mechanism explaining the association between job loss and maternal sensitivity is promising from a policy perspective, given that income supports are seen as more amenable to intervention than many other aspects of family life (Scarr, 1998). Further research should examine the moderating effect on parenting of state-level variation in unemployment insurance that attempts to stabilize job loss-related income fluctuations.

Third, the negative association between job loss and maternal sensitivity was strongest for mothers whose highest level of education was a high school diploma/GED or associate’s degree/some college experience (compared to mothers with a college degree) (aim 3). This finding is in line with the parenting process model, which suggests that experiences of job loss would affect mothers with different forms of human capital in different ways. Importantly, maternal education is one of the strongest factors predicting inequalities among children (McLanahan, 2004), a trend that persists in this study in terms of the disparate effects of job instability. Conversely, however, there was no difference between mothers in the lowest education category (i.e., mothers without a high school diploma/GED) and college-educated mothers. One potential explanation is that the very different structural constraints and rewards of the labor market for the least educated are not fully accounted for in the models. That is, the types of jobs available for women who do not complete high school are often associated with work characteristics that are detrimental to parenting (e.g., lack of autonomy, supervisor support, and consistent scheduling). This makes the experience of work fundamentally different and, perhaps, more stressful, at least in terms of how that translates into their interactions with their young children.

A primary concern of research on job transitions, and job loss more specifically, has been how much of the association between job loss and a wide array of negative outcomes for children and their parents is due to unobserved and unmeasurable factors that might be endogenous to work experiences and parenting, such as ‘personality’ or ‘effort.’ Despite controlling for a wide range of covariates potentially associated with both work stability and parenting and using a rigorous analytical approach, the analytical strategy and data source likely does not account for all sources of endogeneity, which makes completely ruling out a spurious correlation difficult. Indeed, there are potentially many unobserved time-variant factors that could explain the association between job loss and sensitivity, such as the development of substance abuse or the death of a family member. Despite the potential for these omitted variables, three-quarters of job loss experiences around the time these data were collected came through restructuring, displacement, and business failure (Farber, 1996)—transitions less likely to be a consequence of the type of time-variant factors that would be endogenous to both job loss and maternal sensitivity. Data collection geared at further understanding the link between employment instability and family dynamics needs to capture a wider array of time-varying behaviors and life events to account for the ways in which job loss happens and its subsequent effect on parenting. Moreover, analytical approaches that can disentangle between- and within-person effects, such as ALT-SR and fixed effects, would also allow for more causal inference.

 There are several limitations that speak to the generalizability of this study’s findings. First, the dataset, although sociodemographically diverse in terms of race and ethnicity and income, is not nationally representative. Second, these data were collected between 1991-1993. The economy has continued to diversify and created unequal returns to workers (Goldin & Katz, 2010) and there have been profound changes in the welfare safety net (Sawhill, Weaver, & Kane, 2002). Third, true job instability was likely undercounted. The data do not contain information on vertical and horizontal within-company movement, which could be a result of restructuring or promotions that can change responsibilities and workloads that spill over into family life and have the potential to be just as important as job loss. Nor did this study distinguish between different causes of job entries (such as the one following the birth of a baby). Moreover, although a handful of women experienced multiple transitions within a given time period, given the small number it was not possible to disaggregate in a meaningful way those who experience multiple job losses versus just one to see whether intensity (i.e., number of job losses) mattered above and beyond exposure (i.e., any job loss). Fourth, the study measures one type of maternal sensitivity. It is possible that job loss has an outsized or negligible effect on maternal sensitivity to child distress or under different observation conditions. Moreover, there is debate among developmental scholars about the cultural universality and appropriateness of the ways in which maternal sensitivity is measured (Keller et al., 2018; Mesman et al., 2017). These points highlight the need for future data collection that more accurately captures job movements across time and can point to how this new era of job instability is associated with family dynamics among a larger, more representative sample. Moreover, additional value can be gained from nuanced measures of parenting behaviors that incorporate the complexity and cultural specificity of these processes.

 Finally, this study was motivated to examine maternal sensitivity because prior research on parental job loss and child development hypothesizes, but largely does not test, a mediational role of parenting behavior. This study provides suggestive evidence for that mediational link, but does not test whether these processes link to child outcomes. Future research should explore these complete pathways in order to understand whether a mediational link exists and, if so, how much of the association between job loss and children’s development is explained by changes in parenting behavior.

Early childhood is increasingly recognized as a crucial period for child development—one that is consistently linked with children’s short- and long-term wellbeing and implicated in the intergenerational transmission of inequality. Not surprisingly, then, interventions aimed at families with young children have broad bipartisan political and policy support. The findings from this study provided further evidence of the importance of this developmental period for targeted interventions. Not only is this period a vulnerable time generally for mothers as they transition into parenthood, this vulnerability is heightened by increased job instability typically experienced as mothers exit and potentially prematurely re-enter the work force in lieu of more flexible maternity leave policies to which mothers in all other developed countries are entitled (Bogenschneider & Corbett, 2010). The findings from this study suggest that targeting the work stability of mothers with young children directly, or indirectly assisting mothers who experience job loss through changes to eligibility requirements that stabilize or expand unemployment insurance, are potential policy levers that can help protect children from the new era of increased job instability.

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Table 1. Time-invariant and time-variant study covariates

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Variable type | Values | Wave measured (child age in months) |
| 1 | 6 | 15 | 24 | 36 |
| Maternal age at child’s birth | Continous | Years | X |  |  |  |  |
| Maternal race/ethnicity | Dummy variables (3 categories) | 1) Non-hispanic white; 2) Non-Hispanic black; 3) Other race/ethnicity. | X |  |  |  |  |
| Mother employed prior to child’s birth | Binary variable | 1 = yes; 0 = no. | X |  |  |  |  |
| Study site | Dummy variables(10 categories) | 1) Little Rock, AR; 2) Boston, MA; 3) Irvine, CA; 4) Lawrence, Kansas; 5) Chapel Hill, NC; 6) Philadelphia, PA; 7) Pittsburgh, PA;8) Charlottesville, VA; 9) Seattle, WA; 10) Madison, WI. | X |  |  |  |  |
| Maternal self-reported health | Ordinal variable | 1 = poor through 4 = excellent |  | X | X | X | X |
| Maternal employment status and schedule | Dummy variables (6 categories) | 1) Full-time (30+ hours per week), standard (hours worked primarily between 9am-5pm) schedule;2) Full-time, nonstandard (hours worked outside standard daytime hours or did shift work) schedule; 3) Part-time (1-29 hours per week), standard schedule; 4) Part-time, nonstandard schedule; 5) Unemployed and seeking work; 6) Not employed, not seeking work. |  | X | X | X | X |
| Family structure (relationship of adults in child’s household) | Dummy variables (4 categories) | 1) Married biological parents;2) Cohabiting biological parents; 3) Biological mother and married or cohabiting stepfather;4) Biological mother only. |  | X | X | X | X |
| Siblings in the home | Continuous variable | Count of siblings |  | X | X | X | X |
| Arrival of new baby | Binary variable | 1 = mother gave birth/adopted a baby during wave interval |  |  | X | X | X |
| Primary child care arrangement | Dummy Variables (3 categories) | 1) Parental care;2) Formal care (e.g., center care);3) Informal care (e.g., care by a non-parent relative, home-based day care, in-home sitters). |  | X | X | X | X |

|  |
| --- |
| Table 2. Sample description (*n =* 1,211) |
|  | Total sample | Entry | Voluntary exit | Involuntary exit |
|  | Never | Ever | Never | Ever | Never | Ever |
|   | *n* | % / Mean (std. dev.) |
| *Moderator* |  |  |  |  |  |  |  |
| Maternal education (at child's birth) |  |  |  |  |  |  |  |  |
| No HS diploma/GED | 109 | 9.00 | 14.35 | 7.84\* | 6.98 | 10.74\* | 7.58 | 15.87\* |
| HS diploma/GED | 248 | 20.48 | 17.59 | 21.11 | 20.21 | 20.71 | 20.24 | 21.63 |
| Some college/associate's degree | 401 | 33.11 | 28.70 | 34.07 | 32.38 | 33.74 | 32.30 | 37.02 |
| College degree or higher | 453 | 37.41 | 39.35 | 36.98 | 40.43 | 34.82\* | 39.88 | 25.48\* |
| Maternal age at child's birth |  | 28.39 | 28.94 | 28.27 | 29.59 | 27.35\* | 28.77 | 26.53\* |
|  |  | (5.58) | (6.03) | (5.48) | (5.54) | (5.41) | (5.46) | (5.81) |
| *Key covariates* |  |  |  |  |  |  |  |  |
| Maternal race/ethnicity |  |  |  |  |  |  |  |  |
| White, non-Hispanic | 1,018 | 84.06 | 79.17 | 85.13\* | 82.29 | 85.58 | 84.85 | 80.29 |
| Black, non-Hispanic | 138 | 11.40 | 14.81 | 10.65 | 11.81 | 11.04 | 10.47 | 15.87\* |
| Other race/ethnicity | 55 | 4.54 | 6.02 | 4.22 | 5.90 | 3.37 | 4.69 | 3.85 |
| Employed prior to child's birth | 1,011 | 83.48 | 58.33 | 88.94\* | 78.35 | 87.88\* | 82.75 | 87.02 |
| Family income (1,000s) |  | 39.25 | 49.22 | 37.06\* | 43.82 | 36.18\* | 40.67 | 32.41\* |
|  |  | (33.56) | (42.54) | (30.85) | (36.31) | (30.71) | (33.93) | (30.90) |
| Family structure |  |  |  |  |  |  |  |  |
| Married, biological father | 955 | 78.86 | 75.93 | 79.50 | 81.04 | 76.99 | 81.85 | 64.42\* |
| Cohabiting, biological father | 91 | 7.51 | 7.41 | 7.54 | 6.08 | 8.74 | 6.38 | 12.98\* |
| Stepfather (married or cohabiting) | 6 | 0.50 | 0.00 | 0.60 | 0.72 | 0.31 | 0.40 | 0.96 |
| Single | 159 | 13.13 | 16.67 | 12.36 | 12.16 | 13.96 | 11.37 | 21.63\* |
| Person-level *N* | 1,211 | 100.00 | 216 | 995 | 559 | 652 | 1,003 | 208 |
| Proportion of sample |   | 100.00 | 17.84 | 82.16 | 46.16 | 53.84 | 82.82 | 17.18 |
| Note: \*T-test and chi2 test indicating 'ever' statistically different from 'never' at (p <.05). ‘Never’ means the mother did not experience a particular job transition over the entire study period (i.e., 1-36 months). ‘Ever’ means the mother experienced at least once a particular job transition during the entire study period. |

|  |
| --- |
| Table 3. Sample description by study wave |
|  | No Entry | Entry | No voluntary exit | Voluntary exit | No involuntary exit | Involuntary exit |
|   | % / Mean (std. dev.) | % / Mean (std. dev.) | % / Mean (std. dev.) |
| *6-month wave* |  |  |  |  |  |  |
| Maternal sensitivity (0-12 scale) | 9.10 | 9.32a | 9.23 | 9.26 | 9.24 | 8.76c |
|  | (1.77) | (1.79) | (1.79) | (1.74) | (1.77) | (2.08) |
| *Mediators* |  |  |  |  |  |  |
| Family income (1,000s) | 43.49 | 53.09a | 50.28 | 36.91b | 49.54 | 37.12c |
|  | (42.60) | (37.05) | (40.43) | (27.12) | (39.99) | (23.74) |
| Work satisfaction | 4.05 | 3.80a | 3.90 | 3.93 | 3.90 | 3.88 |
|  | (1.15) | (1.09) | (1.13) | (1.03) | (1.12) | (1.07) |
| Child care transitions | 1.88 | 2.55a | 2.29 | 2.16b | 2.26 | 3.00c |
|  | (2.32) | (2.43) | (2.41) | (2.42) | (2.40) | (2.62) |
| Maternal depression | 9.79 | 8.26a | 8.85 | 9.15 | 8.87 | 9.35 |
|  | (9.05) | (7.43) | (8.16) | (8.21) | (8.14) | (8.83) |
| *n* | 484 | 707 | 1,092 | 99 | 1,157 | 34 |
| *15-month wave* |  |  |  |  |  |  |
| Maternal sensitivity (0-12 scale) | 9.46 | 9.33 | 9.42 | 9.25 | 9.45 | 8.89c |
|  | (1.62) | (1.70) | (1.71) | (1.81) | (1.63) | (1.81) |
| *Mediators* |  |  |  |  |  |  |
| Family income (1,000s) | 50.88 | 42.42a | 51.80 | 44.22b | 49.30 | 35.89c |
|  | (42.86) | (27.89) | (39.31) | (37.01) | (40.27) | (29.44) |
| Work satisfaction | 3.96 | 3.92 | 4.01 | 3.93 | 3.95 | 3.59c |
|  | (1.08) | (1.04) | (1.07) | (1.05) | (1.07) | (1.15) |
| Child care transitions | 2.02 | 2.53a | 2.58 | 3.16b | 2.13 | 2.36 |
|  | (2.27) | (2.42) | (2.66) | (2.83) | (2.30) | (2.45) |
| Maternal depression | 8.92 | 8.87 | 9.19 | 9.97 | 8.87 | 10.27 c |
|  | (8.17) | (7.81) | (8.37) | (9.09) | (8.07) | (8.42) |
| *n* | 897 | 279 | 852 | 320 | 1,127 | 67 |
| *24-month wave* |  |  |  |  |  |  |
| Maternal sensitivity (0-12 scale) | 9.42 | 9.25 | 9.41 | 9.23 | 9.40 | 8.81c |
|  | (1.71) | (1.81) | (1.73) | (1.80) | (1.73) | (1.98) |
| *Mediators* |  |  |  |  |  |  |
| Family income (1,000s) | 51.80 | 44.22a | 51.44 | 42.78b | 49.87 | 41.52c |
|  | (39.31) | (37.01) | (39.01) | (37.04) | (37.52) | (55.01) |
| Work satisfaction | 4.01 | 3.93 | 3.98 | 3.98 | 3.99 | 3.94 |
|  | (1.07) | (1.05) | (1.07) | (1.09) | (1.07) | (1.11) |
| Child care transitions | 2.58 | 3.16a | 2.69 | 2.94 | 2.66 | 4.15c |
|  | (2.66) | (2.83) | (2.73) | (2.69) | (2.65) | (3.41) |
| Maternal depression | 9.19 | 9.97 | 9.10 | 10.39b | 9.27 | 11.66c |
|  | (8.37) | (7.93) | (8.35) | (9.40) | (8.49) | (10.47) |
| *n* | 852 | 320 | 910 | 279 | 1,124 | 67 |
| Table 3 continued on next page |  |  |  |  |  |  |
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| Table 3 continued |  |  |  |  |  |  |
| *36-month wave* |  |  |  |  |  |  |
| Maternal sensitivity (0-21 scale) | 17.32 | 16.95a | 17.26 | 17.03 | 17.23 | 16.77 |
|  | (2.53) | (3.25) | (2.62) | (3.16) | (2.72) | (3.38) |
| *Mediators* |  |  |  |  |  |  |
| Family income (1,000s) | 51.47 | 45.12a | 51.13 | 44.74b | 50.53 | 35.28c |
|  | (43.24) | (32.77) | (42.50) | (33.44) | (41.12) | (25.37) |
| Work satisfaction | 3.99 | 3.91 | 3.96 | 3.97 | 3.97 | 3.87 |
|  | (1.09) | (1.03) | (1.09) | (1.05) | (1.07) | (1.16) |
| Child care transitions | 3.17 | 3.53a | 3.20 | 3.47 | 3.22 | 3.94c |
|  | (2.34) | (2.52) | (2.37) | (2.47) | (2.38) | (2.57) |
| Maternal depression | 9.09 | 9.51 | 9.17 | 9.36 | 8.99 | 12.28c |
|  | (8.31) | (8.43) | (8.35) | (8.27) | (8.21) | (9.19) |
| *n* | 821 | 364 | 887 | 319 | 1,121 | 85 |
| Note: T-test and chi2 test indicating mean statistically different at least at p <.05 from: a No entry; b No voluntary exit; c No involuntary exit. Descriptives were conducted on pre-imputed data and will not always equal the analytical sample size in cases with item-level missing data. |

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| Table 4. Cross-lagged autoregressive models predicting sensitivity (coefficients) (*n =* 1,211) |
|  | Model 1 | Model 2 |
|   | 15 mths | 24 mths | 36 mths | 15 mths | 24 mths | 36 mths |
|  | (a) | (b) | (c) | (d) | (e) | (f) |
| *Cross-lagged pathway* |  |  |  |  |  |  |
| Job entry (*t -* 1) | 0.123 | -0.018 | -0.014 | 0.135 | 0.010 | -0.005 |
|  | (0.121) | (0.135) | (0.202) | (0.122) | (0.135) | (0.203) |
| Voluntary job exit (*t -* 1) | -0.223† | 0.016 | 0.073 | -0.239† | 0.005 | 0.066 |
|  | (0.125) | (0.131) | (0.196) | (0.125) | (0.130) | (0.196) |
| Involuntary job loss (*t -* 1) | -0.458\* | -0.163 | -0.118 | 0.259 | 0.068 | 0.137 |
|  | (0.194) | (0.211) | (0.283) | (0.385) | (0.380) | (0.528) |
| *Autoregressive pathway* |  |  |  |  |  |  |
| Maternal sensitivity (*t* - 1) | 0.208\*\*\* | 0.246\*\*\* | 0.507\*\*\* | 0.207\*\*\* | 0.251\*\*\* | 0.506\*\*\* |
|  | (0.026) | (0.031) | (0.044) | (0.026) | (0.031) | (0.044) |
| *Moderator* |  |  |  |  |  |  |
| Maternal education (ref: College degree or more) |  |  |  |  |  |  |
| No high school diploma/GED | -0.864\*\*\* | -0.839\*\*\* | -1.628\*\*\* | -0.904\*\*\* | -0.920\*\*\* | -1.702\*\*\* |
|  | (0.195) | (0.208) | (0.316) | (0.199) | (0.212) | (0.327) |
| High school diploma/GED | -0.529\*\*\* | -0.543\*\*\* | -0.949\*\*\* | -0.498\*\*\* | -0.521\*\*\* | -0.942\*\*\* |
|  | (0.135) | (0.141) | (0.216) | (0.136) | (0.144) | (0.223) |
| Some college/associate's degree | -0.270\* | -0.327\*\* | -0.441\* | -0.227\* | -0.281\* | -0.413\* |
|  | (0.105) | (0.112) | (0.172) | (0.106) | (0.114) | (0.175) |
| *Involuntary job loss x Education interactions* |  |  |  |  |  |  |
| Job loss x No high school diploma/GED |  |  |  | -0.224 | 0.689 | 0.354 |
|  |  |  |  | (0.626) | (0.594) | (0.888) |
| Job loss x High school diploma/GED |  |  |  | -1.019\* | -0.310 | -0.377 |
|  |  |  |  | (0.521) | (0.589) | (0.728) |
| Job loss x Some college/associate's degree |  |  |  | -1.139\* | -0.802† | -0.592 |
|  |  |  |  | (0.477) | (0.482) | (0.674) |
| R2 | 0.292 | 0.296 | 0.358 | 0.300 | 0.303 | 0.360 |
| Note: \*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1. Standard errors in parentheses. |
| Controls for: Maternal race/ethnicity, age, whether worked prior to child's birth, maternal health, family structure, number of siblings, entry of a new baby, primary child care type, and study site. |

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| Table 5. Path coefficients for models predicting maternal sensitivity at 15-month interview via mediators (*n =* 1,211) |
|  | Family income | Work satisfaction | Child care transitions | Maternal depression | Maternal sensitivity | Indirect effect |
|   | B [Bootstrapped confidence intervals] |
|  |  |  |  |  |  |  |
| Involuntary job loss | -0.351 | -0.083 | -0.011 | 1.164 | -0.461 | -- |
|  | [-0.610, -0.072] | [-0.235, -0.073] | [-0.336, 0.071] | [0.626, 1.930] | [-0.900, -0.454] |  |
| Family income | -- | -- | -- | -- | 0.014 | -0.005 |
|  |  |  |  |  | [0.001, 0.021] | [-0.013, -0.001] |
| Work satisfaction | -- | -- | -- | -- | -0.019 | 0.002 |
|  |  |  |  |  | [-0.036, -0.006] | [-0.003, 0.000] |
| Child care transitions | -- | -- | -- | -- | 0.012 | 0.000 |
|  |  |  |  |  | [-0.002, 0.024] | [-0.007, 0.000] |
| Maternal depression | -- | -- | -- | -- | -0.015 | -0.017 |
|  |  |  |  |  | [-0.017, -0.012] | [-0.021, -0.001] |
|  |  |  |  |  |  |  |
| Total indirect effect |  |  |  |  |  | -0.020 |
|   |   |   |   |   |   | [-0.044, -0.009] |
|  |  |  |  |  |  |  |
| Controls for: Voluntary job exists, job entries, maternal work hours, working nonstandard/shift hours, maternal education, race/ethnicity, age, whether worked prior to child's birth, maternal health, family structure, number of siblings, entry of a new baby, primary child care type, and study site. |

Figure 1. Conceptual model: Job transitions predicting maternal sensitivity

Job transition between

24-36 months

Job transition between

16-24 months

Job transition between

7-15 months

Job transition between

1-6 months

Maternal education

Maternal education

Maternal education

Maternal education

Sensitivity

at 6 months

Sensitivity

at 15 months

Mediators

at 24 months

Mediators

at 36 months

Mediators

at 6 months

Mediators at 15 months

Sensitivity

at 24 months

Sensitivity

at 36 months

Figure 2. Analytical model: Involuntary job loss predicting maternal sensitivity (based on Table 4, Model 1, column a)

0.096\*\*

0.056

0.048

Job loss between

1-6 months

Job loss between

7-15 months

Job loss between

16-24 months

Job loss between

24-36 months

Sensitivity

at 6 months

Sensitivity

at 15 months

-0.022

-0.017

-0.064\*

-0.011

0.319\*\*\*

Sensitivity

at 36 months

Sensitivity

at 24 months

0.231\*\*\*

0.226\*\*\*

Figure 3. Predicted maternal sensitivity when child was 15 months by maternal education and whether mother experienced involuntary job loss between 7-15 months (based on Table 4, Model 1, column d)