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Workplace Conditions and Maternal Sensitivity in Low-Income Families

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WORKPLACE CONDITIONS AND MATERNAL SENSITIVITY IN LOW-INCOME
FAMILIES

A Master's Thesis Presented

by

RACHEL JOY HERMAN

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ABSTRACT

WORKPLACE CONDITIONS AND MATERNAL SENSITIVITY IN LOW-INCOME FAMILIES

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The present investigation examined the role of low-wage work in the lives of employed, low-income mothers across the transition to parenthood. Specifically, the current study analyzed the extent to which workplace conditions predicted the quality of mothers' parenting at one-year postpartum, and the potential mediating role of mothers' psychological distress. It was hypothesized that demanding work conditions would interfere with mothers' ability to provide sensitive care for their infants via the process of increased depression and anxiety, and that supportive work conditions would mitigate the negative effects of demanding work conditions on mothers' mental health and parenting. Partial support was found for these hypotheses. Mothers who found their post-childbirth work experiences to be more engaging and self-directed were less distressed and, in turn, more responsive when interacting with their babies. In contrast, workplace urgency—when predictive of anxiety and depression—had a deleterious effect on future parenting quality. Contrary to hypotheses, supervisor support did not moderate the negative effects of workplace demands on mothers' distress. Results indicate that the conditions associated with low-wage employment are variable and have a meaningful effect on mothers' mental health and capacity to engage in sensitive parenting during the transition to parenthood.

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CHAPTER I

MATERNAL SENSITIVITY IN LOW-INCOME, WORKING FAMILIES

A. Introduction

A large research base has documented that positive parent–child interactions are critical for optimizing children’s developmental outcomes (Hollenstein, Granic, Stoolmiller, & Snyder, 2012; Magill-Evans & Harrison, 2001; Sandstrom & Huerta, 2013). The quality of early parent-child interactions exerts a meaningful and enduring influence on children’s cognitive, social, and emotional growth. Warm, responsive and accurately attuned caregiving during infancy has been linked to positive developmental outcomes for children including improved social functioning, cognitive capacity, emotion regulation and secure attachment (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2005; Beijersbergen, Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2012; Mesman, van IJzendoorn, & Bakermans-Kranenburg, 2012; Pungello, Iruka, Dotterer, Mills-Koonce, & Reznick, 2009).

Sensitive parenting may be especially influential for children living in families experiencing economic pressure, since responsive caregiving has been shown mitigate the adverse outcomes associated with growing up under financial strain (Fenning & Baker, 2012; Mesman et al., 2012). Although the negative effects of severe poverty on parental sensitivity are well established (Bakermans-Kranenburg, IJzendoorn, & Kroonenberg, 2004), much less is known about how the unique stressors faced by working-class and working-poor families may predict variability in sensitive caregiving. Often the work-family challenges of low-income families are subsumed within the broader research base on middle-class and professional families when, in fact, differences

in resources, job security, benefits and supports vary dramatically across social class levels (Perry-Jenkins, Smith, Goldberg, & Logan, 2011). Furthermore, there is increasing recognition of the ways in which demanding workplace conditions and poor supports can negatively influence both mothers' and fathers' psychological well-being and family relationships (Perry-Jenkins et al., 2011). Little is known, however, about the pathways connecting employment conditions, parental mental health, and specific parenting behaviors, particularly among low-income workers. Research in this area is especially important since it can provide insights into how workplaces may serve as important intervention sites for working parents. The current study aims to identify specific linkages between new mothers' employment conditions, mental health and caregiving quality during the transition to parenthood.

Research indicates that financial hardship negatively impacts children's development via the behavioral and emotional functioning of parents (Conger, 2005; Leinonen, Solantaus, & Punam, 2002; Newland, Crnic, Cox, & Mills-Koonce, 2013). While many parents that face significant financial hardship are unemployed, a significant proportion of low-income parents are, in fact, gainfully employed. Recent estimates from the Bureau of Labor Statistics (2013) indicate that there are approximately 5.5 million families living in the United States whose incomes fall below the national poverty level, despite having one family member in the workforce for half a year or more (Duh et al., 2014). These families are often referred to as the working-poor. An even greater number of families are considered working-class, with incomes that are less than 200 percent of the official poverty rate, despite participating in the labor force.

Although low-income, working parents face a set of unique challenges and

stressors, many research studies do not distinguish between employed and non-employed low-income families. Working-class and working-poor mothers are often employed in jobs that are low in pay, highly demanding, and unstable, all of which are considered risk factors for depression and anxiety. Therefore, maternal psychological distress is one potential mechanism linking demanding work conditions to decreased maternal sensitivity in low-income families. Children of depressed mothers tend to exhibit poorer affect regulation, more behavior problems, and poorer cognitive and language functioning than children whose mothers are not depressed (Goodman et al., 2011). Likewise, infants who are exposed to high levels of maternal stress and anxiety are at increased risk for adverse behavioral outcomes such as difficult temperament, sleep disturbances, lower cognitive performance and increased fearfulness (Barker, Jaffee, Uher, & Maughan, 2011a; Britton, 2011; Glover, 2014). Although the associations between psychological distress and decreased levels of maternal sensitivity are well established in middle class and impoverished families (Campbell et al., 2004; Murray, Fiori-Cowley, Hooper, & Cooper, 1996; NICHD Early Child Care Research Network, 1999) much remains to be learned about the pathways connecting work conditions and mental health among low-income, employed families.

The transition to parenthood marks a critical time to examine work and family issues, especially among low-income mothers who must return to work soon after giving birth due to limited parental leave policies, and often return to jobs that have little flexibility and low wages (Perry-Jenkins, Goldberg, Pierce, & Sayer, 2007). Little research has examined links between workplace conditions across the transition to parenthood and maternal well-being and parenting behaviors in low-income families.

The present study aims to address this gap in the literature by exploring how employment conditions in low-income jobs may predict mothers' capacity for sensitive caretaking via the process of increased psychological distress.

In the following literature review, I first provide a brief overview of the literature that defines maternal sensitivity and links it to developmental outcomes for children. This literature highlights the importance of studying factors that predict maternal sensitivity due to its critical role in shaping positive child development. I then introduce a theoretical framework (Conger, 2005; Conger et al., 2002) for conceptualizing the ways in which financial strain may compromise mothers' sensitive parenting, and apply this framework to the study of familial processes and parenting behaviors within a specific socio-contextual niche—working-class and working-poor families. Finally, I discuss how the unique challenges and stressors faced by low-income employees may shape the relationship between psychological well-being and sensitivity, and argue that the demanding work conditions experienced by low-income mothers may increase depression and anxiety, which in turn may interfere with their ability to provide sensitive care for their infants.

B. Maternal Sensitivity and Child Development

Maternal sensitivity is broadly defined as a mother's ability to promptly perceive and respond to her child's cues in a warm, appropriate and contingent manner (Ainsworth, 1969; Pederson et al., 1990). In addition, highly sensitive mothers avoid excessively interfering with their infants' ongoing activity. Research has consistently linked maternal sensitivity to a number of positive child outcomes including social functioning (Campbell, Matestic, von Stauffenberg, Mohan, & Kirchner, 2007), cognitive

competence (Tamis-LeMonda, Bornstein, & Baumwell, 2001), self-regulation (Eisenberg et al., 2001), physiological responses to stress (Hane & Fox, 2006) and perhaps most notably, secure attachment (Beijersbergen et al., 2012). The formation of secure attachments has long been an area of interest given the abundant evidence associating secure attachment with enhanced emotion regulation, problem-solving skills, social competence and peer relationships among children (Lyons-Ruth, Connell, Grunebaum, & Botein, 1990; Schore, 2001; Sroufe, 2005). In contrast, insensitive parenting, particularly in the context of multiple biological and ecological risk factors (e.g., low SES), has been reliably associated with negative developmental outcomes including externalizing behavioral problems, poor peer relations, and anxious and depressed mood (Campbell et al., 2007; Ispa et al., 2004). Due to the strong correlations between ecological risk factors, parenting style, and children's developmental outcomes, there is increasing interest among researchers and clinicians in identifying the antecedents of sensitive caregiving, particularly among families that are considered "at-risk."

C. Conger's Family Stress Model

Research has consistently linked low socioeconomic status with poor social-emotional, cognitive, and behavioral outcomes for children (Appleyard, Egeland, van Dulmen, & Sroufe, 2005; Duncan & Brooks-gunn, 2010; McLoyd, 1998). The associations between economic hardship and negative child outcomes are seldom direct; rather they are typically mediated by various intervening factors. The family stress model (Conger et al., 2002), aims to identify the mechanisms by which economic familial stressors—like poverty—affect parental behaviors and children's adjustment and psychosocial well-being. The family stress model posits that economic strain undermines

parents' mental health which, in turn, negatively influences parent-child relationships, ultimately hindering children's adjustment and functioning (see Figure 1). According to the model, the emotional strain of living under financial stress predicts familial mental health problems and reduces warmth and support in parent-child relationships (Conger, 2005). The literature exploring economic disadvantage and parenting has tended to focus on parental depression as the distress mediator connecting income and economic pressure with poor parenting. However, there are reasons to believe that depression may not be the only form of emotional distress connecting economic strain to compromised parenting practices. Recently, there has been growing recognition of the role that maternal anxiety may play during the perinatal period (Andersson, Sundström-Poromaa, Wulff, Aström, & Bixo, 2006; Barker, Jaffee, Uher, & Maughan, 2011b; Glover, 2014; Wolford et al., 2015). Low-income, employed mothers may be particularly at-risk for experiencing high levels of anxiety as they must manage the stress of returning to work soon after childbirth. The present study utilizes Conger's (2005) framework to explore how the emotional strain associated with one specific aspect of low-income families' lives—conditions of mothers' low-wage work—predict variability in mothers' mental health and subsequent parenting practices.

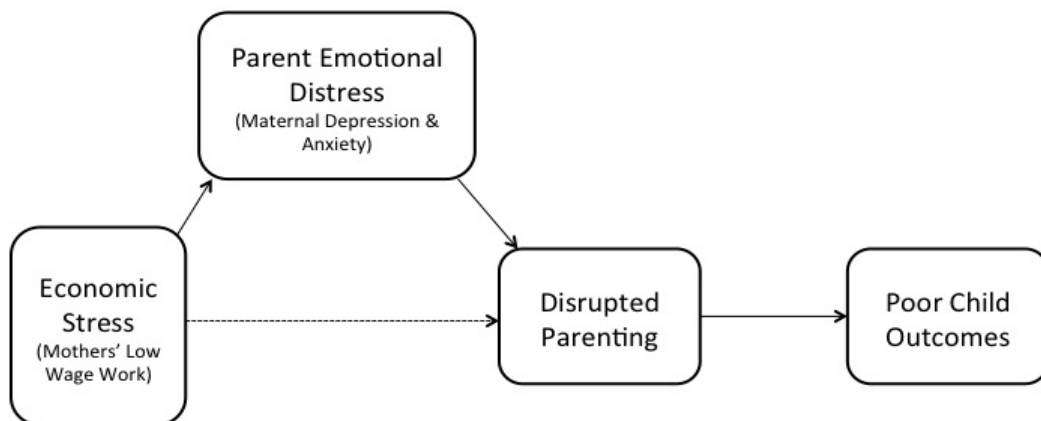


Figure 1. Modified Family Stress Model of Economic Hardship and Socialization (Conger, 2005).

D. Workplace Risk Factors Among Low-Wage Employees

Converging evidence indicates that conditions of employment can have a profound affect on workers' psychological well-being. Specifically, researchers have consistently linked high levels of job strain to increased levels of psychological distress among employees (Greenberger, O'Neil, & Nagel, 1994; Virtanen et al., 2011). However, much of this literature has either focused on the stressors facing middle-class families or subsumed all workers together, overlooking the unique stressors and challenges faced by workers employed in low-income jobs. When compared with their middle-class counterparts, low-income employees are more likely to face stressful work conditions involving mandatory overtime, low autonomy, variable work shifts, time-pressured productivity targets, and unpaid family leave (Perry-Jenkins et al., 2007, 2011). The following sections present evidence outlining the ways in which some of these workplace conditions may lead to deleterious mental health effects for workers.

1. Work Hours

The literature connecting employment hours to mothers' mental health is inconclusive. Some researchers have found that working full-time has negative repercussions for mothers' mental health (Akinori, 2011; Baxter, Gray, Alexander, Strazdins, & Bittman, 2007) whereas others have found that full-time employment is protective for mothers' mental health (Bartley, Popay, & Plewis, 1992). It may be that the relationship between work hours and well-being depends on the reasons why a person is working those hours and the way in which they view their schedule (Gray, Qu, Stanton, & Weston, 2004). Some employees may prefer to work more hours for the financial security, or due to personal preferences or values, but do not have the opportunity to

work as much as they would like due to workplace constraints. In contrast, some employees may work longer hours due to pressure from their workplaces and supervisors, despite a preference for working fewer hours. Either of these scenarios could have consequences for employees' mental health (Akinori, 2011). Nonetheless, there is a substantial body of literature indicating that very long work hours (i.e., more than 48 hours per week) are detrimental to employees' well-being (Gray et al., 2004; Morris & Levine Coley, 2004). For example, a large nationally representative longitudinal study found that women who work more than 55 hours per week had a 2.67-fold greater risk of experiencing depression and 2.84-fold greater risk of developing anxiety compared to female employees who worked 40 hours per week (Virtanen et al., 2011). The negative effect of long hours on workers' mental health is magnified when employees work nonstandard schedules or have variable shifts. For example, there is research indicating that employees who have unpredictable work schedules are more likely to experience sleep disturbances, physical exhaustion, and increased levels of depression compared to employees who are not exposed to these workplace conditions (Howard et al., 2013; Perry-Jenkins et al., 2007; Roeters, van der Lippe, Kluwer, & Raub, 2012; Strazdins, Clemets, Korda, Broom, & D'Souza, 2006). In this way, long work hours—particularly when coupled with a nonstandard work schedule—may have significant mental health consequences for employees.

2. Job Autonomy and Urgency

Most research examining linkages between low-income employment and mental health has focused on objective job conditions such as hours, income and schedules. Less is known about how other aspects of employment conditions, such as autonomy and

urgency, as well as supervisor support, relate to low-income employees' mental health, particularly across the transition to parenthood. Workplace urgency generally refers to the degree of time pressure employees experience at work, while job autonomy refers to the extent to which employees' jobs provide opportunities for independence and growth. Indeed, several studies have found that high job strain (i.e., low autonomy, high urgency) is associated with increased depression and anxiety among employees (Grzywacz et al., 2002; Johnson & Hall, 1988; Morris & Levine Coley, 2004). For example, a study analyzing data from the 2002 National Study of the Changing Workforce found that employees with higher levels of job autonomy, defined as discretion over how the job is to be performed, were less likely to feel stressed and more likely to be satisfied with their job, family, and life in general (Lee & Cummings, 2008; Thompson & Prottas, 2006). The authors also found that employees who felt they had more control over their job experienced more positive spillover between work and home. These findings suggest that perceptions of control at work may promote psychological well-being among employees and their families.

Importantly, little research has explored the linkages between subjective workplace experiences and mental health among low-income employees, despite recent calls for more research examining how subjective workplace conditions might influence mothers' mental health (Brooks-Gunn, Han, & Waldfogel, 2010). Moreover, much of the literature on job conditions and mental health uses occupational codes as proxies for work conditions, rather than directly measuring workers' perceptions of autonomy and urgency at work (Parcel & Menaghan, 1994; Raver, 2003). This methodological approach assumes that low-income jobs are lower in autonomy and higher in urgency

than jobs at the higher end of the social class spectrum. However, there is recent research suggesting that the experiences of low-wage workers are actually quite varied and that low-income jobs can be experienced as positive (Perry-Jenkins et al., 2011), particularly under conditions of high coworker and supervisor social support. At the same time, low-income jobs that offer minimal autonomy in conducting daily work may impede employees' sense of control and well-being, and contribute to depressive symptomology (Perry-Jenkins et al., 2011). In this way, job conditions have the potential to be both a source of stress as well as a source of support and empowerment for low-income families.

3. Workplace Social Support

Research indicates that social support at work enhances employees' well-being and promotes positive work-family spillover (Perry-Jenkins et al., 2011; Plaisier et al., 2007; Thompson & Prottas, 2006). There is some evidence suggesting that the supportiveness of individual coworkers and supervisors may at times be more influential on employees' well-being than the formal work-family programs and benefits offered by a workplace (Anderson, Coffey, & Byerly, 2002). Employees who have supportive supervisors are less likely to experience work-family conflict and experience lower levels of work distress overall (Anderson et al., 2002; Grzywacz & Butler, 2005; Schieman, Whitestone, & Van Gundy, 2006). These findings are consistent with the research on low-wage employees. Perry-Jenkins et al. (2011) found that workplace supports, such as supervisor and coworker support, buffered against the deleterious effects of poor job conditions on depression in low-income women. Specifically, the authors found that women who worked long hours but endorsed high supervisor support experienced lower levels of

depressive symptoms compared to women who did not report high levels of supervisor support. Likewise, the authors found that low levels of supervisor support coupled with a high urgency workplace was a particularly detrimental combination, leading to elevated and sustained levels of depressive symptoms across the transition to parenthood. As such, supportive and congenial relationships with supervisors may enhance one's job experiences and mental health. Overall, these data indicate that the psychological toll that work demands—such as urgency—has on employees may depend on positive job attributes, such as supervisor support.

E. Maternal Mental Health, Parenting and Child Development

According to the family stress model (Conger, 2005), significant contextual stressors (e.g., low-pay, poor employment conditions) can disrupt effective caregiving via parental mental health. Maternal psychological distress (e.g., anxiety and depression) is one potential mechanism linking stressful work conditions to decreased levels of maternal sensitivity among low-income families.

1. Maternal Depression

Compared with non-depressed women, research suggests that depressed women's parenting behavior is less responsive and more hostile, critical and disorganized (Dougherty, Tolep, Smith, & Rose, 2013; Leigh & Milgrom, 2008). Specifically, depressed mothers' parenting is often characterized by alternating periods of disengagement and intrusion. Notably, parental depression does not need to be severe in order to have a deleterious effect on parenting behaviors. Maternal self-reports of depressive symptoms that do not reach a clinical threshold have been routinely associated with decreased sensitivity and less synchrony between mother and infant (Ciciolla, Crnic,

& West, 2013; Donovan, Leavitt, & Walsh, 1998; Field, 2010). The negative influences of depression on mother-infant interactions are potentiated when combined with additional socio-psychological and contextual risk factors such as financial stress, marital discord and low social support (Lyons-Ruth et al., 1990; Lyons-Ruth, Wolfe, & Lyubchik, 2000). Low SES parents are significantly more likely to experience psychopathology than their middle class counterparts, and the rates of depression for low-income mothers of young children are as high as 40% or greater (Coiro, 2001). Thus, low-income women are more likely to experience depression and their depression is likely to have a detrimental impact on their children.

Depression has been consistently linked with adverse developmental outcomes for children, and less competent parenting is likely a central mechanism through which depression affects children (Field, 2010; Goodman et al., 2011; Newland et al., 2013). Children of depressed mothers are at greater risk for experiencing various behavioral and developmental impairments (Griffin, 2010; Pawlby, Hay, Sharp, Waters, & Pariante, 2011). Specifically, children whose mothers are clinically depressed exhibit more negative affect and poorer affect regulation, less cooperation, and poorer cognitive and language functioning than children of non-depressed mothers (Goodman et al., 2011). These adverse outcomes are prevalent for infants as well. Infants whose parents exhibit depressive symptoms may experience their parents as unresponsive, unavailable or inconsistent (Campbell et al., 2004; Glover, 2014; NICHD Early child care research network, 1999), and research indicates that infants who have depressed parents display poorer mental and motor development, higher levels of withdrawal, and more irritability than infants who are not exposed to maternal depression (Feldman et al., 2009; Field,

2010). The influence of postpartum depression may be particularly salient, because babies are especially dependent on parental nurturance, stimulation and responsiveness from their primary caregivers during this period (Campbell et al., 2004). Likewise, evidence indicates that income effects on child outcomes are strongest during the preschool and early school years (Duncan & Brooks-Gunn, 2010). These studies suggest that infants, toddlers and young children of depressed parents, especially parents facing financial strain, are at particularly high risk for experiencing adverse developmental outcomes.

2. Maternal Anxiety

Several decades of research indicate that maternal depression can interfere with a mother's capacity to be a sensitive, warm and attuned caregiver. Recently, however, there has been increasing recognition that maternal anxiety may also play an important role in predicting parenting quality across the transition to parenthood. Although the literature base connecting maternal anxiety to parenting quality is less comprehensive and conclusive than the literature base linking maternal depression to compromised caregiving, several studies have reported that highly anxious mothers tend to engage in less effective parenting practices compared to mothers who are not anxious (Barker et al., 2011; Glover, 2014; Paul, Downs, Schaefer, Beiler, & Weisman, 2013). For example, several studies have found that anxious mothers tend to be more intrusive, negative and disengaged than non-anxious mothers when interacting with their children (Leinonen, Solantaus, & Punam, 2002; Newland, Crnic, Cox, & Mills-Koonce, 2013; Wolford et al., 2015). Furthermore, in some studies, maternal anxiety has predicted infants' attachment insecurity; and research

indicates that maternal sensitivity may mediate the relationship between maternal anxiety and attachment insecurity (Nicol-Harper, Harvey, & Stein, 2007; Stevenson-Hinde, Shouldice, & Chicot, 2011). In addition to disrupting the formation of secure attachments, research suggests that children born to anxious mothers are more likely to have difficult temperaments (Britton, 2011), behavioral symptoms of attention deficit hyperactivity disorder (Wolford et al., 2015), and socio-emotional challenges (Glasheen, Richardson, & Fabio, 2010). Given that approximately 8% of women experience clinically significant levels of anxiety during the perinatal period, and that low-income women are more likely to experience high levels of anxiety than their middle-class counterparts (Ross & McLean, 2006), perinatal anxiety may contribute to the prevalence of compromised parenting and poor developmental outcomes among low-income families. Taken together, there is compelling evidence that highly demanding workplaces may undermine parents' mental health and effective parenting practices, particularly during the transition to parenthood—a time of particular stress and change (Perry-Jenkins et al., 2011).

CHAPTER II

THE PRESENT STUDY

A. Limitations of Previous Research

The current study addresses a significant gap in the literature by examining how both objective (e.g., hours, wages) and perceived workplace conditions (e.g. autonomy, urgency) are associated with variability in maternal sensitivity within a sample of low-income, employed families. Most of the research examining linkages between workplace conditions and parenting has focused exclusively on how objective job conditions such as hours, income and schedules may influence parenting. Very little research has investigated how perceived conditions of employment, such as autonomy and urgency, as well as social support at work, relate to parenting (Brooks-Gunn et al., 2010). This study investigates the pathway by which conditions of employment exert their influence on maternal sensitivity by exploring whether demanding employment conditions directly predict levels of maternal sensitivity or if the effects are mediated through the presence of maternal depression and anxiety. In addition, the current study addresses whether workplace supports buffer against the potential negative effects of high demand work on maternal mental health and parenting. The goals of this study are addressed through three research questions.

B. Research Questions

Research Question 1: Will objective work conditions (work hours, income, work hours discrepancy) and perceived work demands (job autonomy and job urgency) directly predict maternal sensitivity (Figure 2, path c)?

Hypothesis 1: There is some evidence to suggest that workplace conditions may be directly related to parents' ability to be physically and psychologically available to their children (Strazdins, Korda, Lim, Broom, & D'Souza, 2004). However, few studies have directly explored the relationship between low-wage work conditions and observed maternal sensitivity. Far more evidence exists linking mothers' employment experience with psychological functioning (Goodman, Crouter, Lanza, Cox, & Vernon-Feagans, 2011; Gray et al., 2004; Greenberger et al., 1994; Perry-Jenkins et al., 2007), and mothers' psychological functioning to parenting practices (Conger, 2005; Leinonen et al., 2002; Newland et al., 2013). Therefore, it is hypothesized that there will be a small direct effect of workplace demands on maternal sensitivity, but that workplace demands will largely exert an influence on maternal sensitivity through mothers' depressive and anxious symptomology.

Research Question 2: Will mothers' psychological distress mediate the relation between objective and perceived work demands and maternal sensitivity (Figure 2, path a-b)?

Hypothesis 2: Research suggests that economic stress disrupts effective parenting through the psychological functioning of parents. There is strong evidence to suggest that low-wage employees are more likely to experience unpredictable work schedules, sleep disturbances, physical exhaustion, and increased levels of depression and anxiety compared to employees who are not exposed to these workplace conditions (Akerstedt et al., 2002; Akinori, 2011; Odom, Vernon-Feagans, & Crouter, 2013). There is also a significant research base linking maternal depression and anxiety to less effective parenting practices (Goodman et

al., 2011; Newland et al., 2013). Therefore, it is expected that psychological distress will mediate the relation between work demands and maternal sensitivity.

Research Question 3a: Will high levels of supervisor support moderate the direct effects of objective and perceived work demands on maternal sensitivity (Figure 2, path a1.)?

Hypothesis 3a: Research indicates that social support at work enhances employees' well-being and promotes positive work-family spillover (Akerstedt et al., 2002; Perry-Jenkins et al., 2011; Thompson & Prottas, 2006). However, very little research has explored whether supervisor support may moderate the negative effects of high work demand on mothers' mental health and parenting practices. Therefore, there is insufficient evidence to support a strong hypothesis at this time.

Research Question 3b: Will supportive work conditions moderate the negative effects of objective and perceived work demands on maternal psychological distress (Figure 2, path a2.)?

Hypothesis 3b: Perry-Jenkins et al. (2011) found that workplace supports, such as supervisor and coworker support, buffered against the deleterious effects of poor job conditions on depression in low-income women. Specifically, the authors found that women who worked long hours but endorsed high supervisor support experienced lower levels of depressive symptoms compared to women who did not report high levels of supervisor support. Therefore, it is hypothesized that workplace social support, defined as high levels of supervisor support, may serve as a protective factor to mitigate the negative relation between work conditions and mental health and maternal sensitivity.

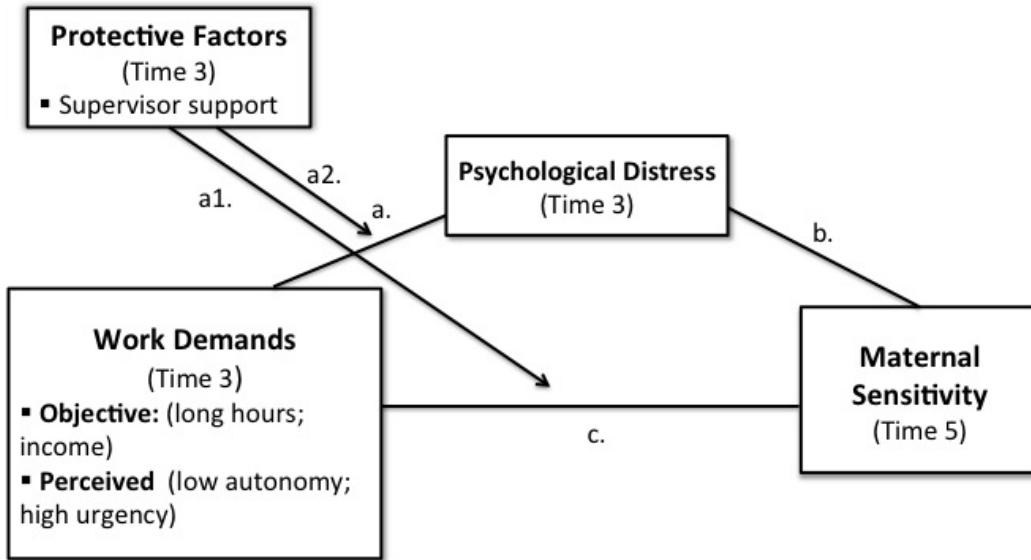


Figure 2. Moderated Mediation Model.

C. Research Design and Method

1. Participants

Participants for this study were drawn from a larger longitudinal study examining the transition to parenthood among 207 low-income, working families. The primary goal of the longitudinal study was to investigate how the return to paid employment following childbirth was related to the mental health and relationships of low-income parents and their children, and to better understand the work and family processes that lead to enhanced mental health outcomes and positive parent-child relationships for working families.

Data collection began in 2003 and ended in 2009. Mothers were required to meet the following criteria in order to be included in the study: 1) employed for at least 20 hours a week prior to the birth of their baby, 2) planned to return to work within six months after having the baby, 3) no higher than an Associate's degree and employed in unskilled or semi- skilled occupations.

The overall sample included 75 Latina (90% Puerto Rican), 74 White, and 46 African American mothers; however, only a subset of these mothers (n=70) remained in the study and agreed to participate in the filmed parent-child interaction portion of the project that occurred one- year postpartum (see Figure 6 for participant flow chart). The 70 mothers who agreed to participate in the filmed mother-child interaction portion of the study did not differ significantly from the overall sample in terms of age, education level or income.

The sample for the present study includes 35 White, 17 Latina, 14 African American, 1 Asian, and 3 Multiracial identified mothers (see Table 1). Mean age was

25.5 years ($SD=5.1$). Mothers' average annual take-home was \$14,582 ($SD=\$10,804$), and ranged from \$2,304 to \$33,600. Median overall family take-home income was \$36,090. Most families (70%) had overall take-home incomes that fell below 200% of the national poverty threshold. Approximately half ($n=34$) mothers were cohabiting with their child's biological father, while 29% ($n=20$) were married, and 23% ($n=16$) were single. Mothers reported their maternity leave to be 9.5 weeks, on average.

In terms of mental health, 28% ($n=19$) met the clinical cut-off for moderate depression on the CES-D, while 9% ($n=6$) had CES-D scores that were indicative of severe depressive symptomology ($CES-D>26$). Twenty percent of mothers ($n=14$) met the clinical cut-off for anxiety on the State-Trait Anxiety Inventory (STAI).

2. Procedure

Data were collected at 5 time points: 1) an interview during the third trimester of pregnancy; 2) a one-month postpartum interview; 3) an interview within 4 weeks of mothers' return to work; 4) a six-month postpartum interview (mail interview); 5) a one-year postpartum interview. Observational parent-child interaction data were collected at Phase 3 and Phase 5. Participants received \$50 for each of the four in-home interviews they took part in and \$25 for the mail-in interview.

Observational data for the present study were collected during Phase 5 data collection when mothers were approximately one-year postpartum. At this time point, a semi-structured, 10-minute mother-child observation was conducted at the family's home. Mothers were provided with a standard set of toys and instructed to play with their babies as they normally would. This 10-minute "free play" interaction was filmed and subsequently coded by trained undergraduate research assistants. Three subscales of

maternal behavior were coded (responsiveness, disengagement/detachment, and stimulation of cognitive development) on a scale from 1 to 5, indicating the degree to which the behavior characterized the interaction. Extensive descriptions of each point on the scale were provided as a guide for making accurate judgments (see Appendix A). Reliability was determined by calculating the intraclass correlation for ratings made by two coders. Reliability for each subscale was calculated and revised biweekly to monitor and prevent drift. The free play interaction and method for computing the sensitivity scores was very similar to procedures used in the NICHD Study of Early Childcare (NICHD Early child care research network, 1999). That study has reported excellent predictive validity for sensitivity measured in a 10-minute free play interaction, predicting many aspects of child development, including attachment security, self-control, compliance, behavior problems, and social competence (Newland et al., 2013; NICHD Early child care research network, 1999).

The questionnaire data used for the present study were collected at Time 3, shortly after mothers had returned to work (on average four months postpartum) via face-to-face interviews. A few mothers had not yet returned to work at this time and/or did not eventually return to their original jobs (n=5) and were therefore excluded from analyses (See Figure 6). Work conditions, depression and anxiety measured at Time 3 were used to predict maternal sensitivity at Time 5.

3. Measures and Variables

a. Parenting Behaviors

The present study utilized a modified version (Cox & Crnic, 2003) of the coding system used by the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care (NICHD Early Child Care Research Network, 1999). A copy of the complete coding scheme can be found in Appendix A. We examined three domains of maternal behavior: 1) *Responsiveness*, 2) *Detachment*, and 3) *Stimulation of Development*. Coders were required to make ratings at one-minute intervals on a 5-point scale, with scale points anchored in detailed behavioral descriptions. We then computed average scores for each dyad on each of the three parenting domains. Average scores for the three dimensions (responsiveness, detachment, stimulation of cognitive development) were used in the analyses. *Responsiveness* rates the degree to which mothers are prompt, appropriate and responsive to their infants; *Detachment* measures mothers' level of physical and emotional engagement (e.g., eye contact, verbal interaction, or responses to children's bids for attention); and *Stimulation of Cognitive Development* refers to the level of scaffolding of activities that the parent engages in with her child (e.g., labeling the child's experiences, reinforcing the child's attempts at mastery). Each 10-minute free play mother-child interaction was coded in 1-minute intervals by two independent raters. Reliability estimates were computed on a per-dyad basis. Reliabilities averaged across pairs of raters were .76 for Responsiveness, .65 for Detachment, and .70 for Stimulation of Development.

b. Work Hours and Income (Objective Work Demand)

Data on the structural aspects of the participants' job (hours and income) were

assessed at Time 3. Mothers provided detailed information on their work schedule and hours via a face-to-face interview with a trained graduate student.

c. Preferred Work Hours

Preferred work hours were measured at Time 3; four weeks within mothers' return to paid employment. At this time, mothers were directly asked how many hours they preferred to work and how many hours they *actually* worked each week. On the basis of prior research (Dooley, Prause, & Ham-Rowbottom, 2000; Reynolds, 2003), we hypothesized that a greater mismatch between the number of hours mothers' preferred to work and the number of hours they actually worked (i.e., working more or less than preferred) would be related to higher levels of psychological distress. Therefore, a work hours discrepancy variable was created by subtracting the work hours mothers reported preferring to work from the number of hours per week that they actually worked, and then computing the absolute value. Higher numbers indicated a greater discrepancy between preferred and actual weekly work hours.

d. Job Autonomy and Urgency (Perceived Work Demands)

Job autonomy and urgency were assessed using a scale developed by O'Neil (1994) and used by Greenberger, O'Neil, and Nagel (1995) (see Appendix B). The questionnaire uses a 5-point Likert scale with responses ranging from 1 = strongly disagree to 5 = strongly agree. The complete scale contains 26 items: 18 items assessed job autonomy, or the degree to which the respondent's job is challenging and self-directed. Sample items include, "I feel like I have a great deal of influence in the decision-making process at my job, and "I have a lot of control over the way I use my time while I'm at work." In the current sample, Cronbach's alpha for *Autonomy* = .80.

Job urgency, or the degree of speed and time pressure experienced on the job, was assessed by the remaining 8 items. Sample items include, “I often feel like I don’t have enough time to get all my work done,” and “My job requires me to work very fast most of the day.” In the current sample, Cronbach’s alpha for *Urgency* = .79.

e. Supervisor Support

Supervisor support was assessed with a scale developed by Caplan, Cobb and French (1975) (see Appendix C), which consists of a 5-point Likert scale questionnaire with responses ranging from strongly disagree (1) to strongly agree (5). The supervisor support scale assesses the degree to which the respondents’ supervisors made their work life easier, were easy to talk to, and could be relied on. Examples of questionnaire items include: “My supervisor can be relied on when things get tough,” and “My supervisors are willing to listen to my personal problems.” In the current sample, Cronbach’s alpha =.89.

f. Depression

Symptoms of depression were measured via the Center for Epidemiologic Studies Depression Scale (CES-D), a 20-item questionnaire that was designed to measure depressive symptomatology (see Appendix D). Items of the scale correspond to various clinical depression symptoms, such as feelings of guilt, sleep disturbance, low energy, anhedonia and suicidal ideation. Sample measure items include, “I was bothered by things that don’t usually bother me” and “I felt hopeful about the future.” Response options range from 0 to 3 for each item (0 = Rarely or None Of The Time, 1 = Some or Little Of The Time, 2 = Moderately or Much Of The Time, 3 = Most or Almost All The Time). Scores range from 0 to 60, with high scores indicating greater depressive

symptomology. A score of 16 or above is considered to be indicative of clinical depression, while scores greater than 26 are considered to be indicative of severe depressive symptomology. In the current sample, Cronbach's alpha = .85.

g. Anxiety

Symptoms of anxiety were measured using the state scale from the State-Trait Anxiety Inventory (STAI) (Spielberger, 1983) (see Appendix E). This 20-item questionnaire evaluates present feelings of apprehension, tension, nervousness and worry. Sample measure items include: "I am tense; I am worried" and "I feel calm; I feel secure." Respondents indicate intensity of feeling on a 1 to 4 scale (1= Not At All, 2= Somewhat, 3= Moderately So, 4=Very Much So). The range of possible scores is 20 to 80, with higher scores indicating greater anxiety. A score of 40 or above is indicative of clinical levels of anxiety and distress. In the current sample, Cronbach's alpha was .90.

4. Data Analytic Plan

Ordinary least squares path analysis (Hayes, 2012; Preacher & Hayes, 2008) was used to examine the direct and indirect effects (i.e., mediated effects) of perceived and structural workplace conditions on three dimensions of maternal sensitivity (see Figure 3). The direct effect of workplace conditions on maternal sensitivity is the unstandardized regression weight in a model predicting maternal sensitivity from workplace conditions and mothers' distress (path c'). The direct effect in this model quantifies how two cases that differ by one unit on X (workplace conditions) are expected to differ on the outcome Y (maternal sensitivity), when controlling for the mediator M (distress). The indirect effect (ab) represents how maternal sensitivity is influenced by workplace conditions through a causal sequence in which X (workplace conditions)

influences M (distress), which in turn influences Y (maternal sensitivity). PROCESS—a macro for SPSS developed by Preacher and Hayes (2008)—tests the statistical significance of the cross product (ab) path. The cross product of the a and b path coefficients is equivalent to the difference between the direct and indirect paths, and can therefore directly test the statistical significance of the impact of the mediator (distress) on the relationship between workplace conditions and maternal sensitivity. Bootstrapping was used to generate a confidence interval for the indirect effect. Mediation was considered significant if the confidence interval did not include zero.

Initial analyses, conducted with the full sample looking at depressive and anxiety symptoms separately, yielded no significant results for depression. Based on the literature on maternal depression, we reasoned that mothers with very severe depressive symptomology might function differently from mothers with high symptoms but not debilitating depression. In fact, research has shown that women with extremely high, clinical levels of depression ($CES-D > 26$) may differ systematically from women with moderate depressive symptoms (Gaynes et al., 2005; Lara et al., 2012; Tandon, Cluxton-Keller, Leis, Le, & Perry, 2012). Thus, we re-ran our analyses excluding mothers ($n=6$) who scored above a 26 on the CES-D, resulting in a final sample of mothers. A clearer pattern of results emerged for this reduced final sample.

In addition, anxiety and depression scores were highly correlated at $r = .83$ providing support for creating a composite index. Analyses were originally conducted with two scales separately where similar patterns emerged, but in all cases more consistent and significant results emerged when using the composite index. Thus, the two measures were averaged to create a composite psychological distress index (higher

scores denote greater psychological distress). Cronbach's alpha for the composite distress index was .94. Many researchers have used a similar process for measuring psychological well-being (Dipietro, Costigan, & Sipsma, 2008; Glazier, Elgar, Goel, & Holzappel, 2004; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003). The psychological distress variable was used as the mediator in all models. Mothers' age was controlled for in all analyses because age was significantly correlated with some of the variables in our model. Parity and mothers' report of child temperament were also included in initial analyses as control variables, but were unrelated to all outcomes, and therefore deleted from the final model in order to preserve statistical power.

5. Human Subjects

The proposed study, which utilizes data from a larger longitudinal study, has been approved by the University of Massachusetts Amherst's Institutional Review Board. In accordance with guidelines for this approval, the ethical protocol for work with human subjects has been met.

CHAPTER III

FINDINGS

A. Descriptive Data

The means and standard deviations for the main study variables are presented in Table 2. Four months after childbirth, mothers were employed an average of thirty hours per week, although some mothers ($n=2$) were employed for as few as eight hours per week and as many as fifty-nine hours per week. Most mothers (64%) reported a preference for working at this time; however, only seven (12%) reported that they were employed for the number of hours they preferred. The average discrepancy between preferred hours worked and actual hours worked was 17.7 hours ($SD = 13.8$). Approximately half of mothers (48%) were working more hours than they preferred, while 40% of mothers reported that they preferred to work more hours per week. This finding is of interest, because it is typically assumed that most new mothers would prefer to be employed for fewer hours. Workers develop preferences for work hours within a socio-economic context (Reynolds, 2003), and it is likely that many mothers in our sample preferred to work more hours due to financial hardship.

In general, correlations between work, mental health and parenting related variables were in the expected directions, although work and mental health variables showed minimal bivariate correlations with observations of parenting (see Table 3). Income was significantly positively associated with workplace urgency, workplace autonomy, work hours, and work hours discrepancy. Additionally, self-reports of workplace urgency and workplace autonomy were highly correlated suggesting that work

environments that allow for more autonomy and self-direction also tend to be more urgent.

Correlations between the three observational parent outcomes were in the expected direction. Mothers who were highly responsive with their infants were also more likely to engage in stimulating play during parent-child interactions, and were less likely to exhibit disengaged parenting behavior.

B. Structural Work Conditions and Maternal Sensitivity

1. Responsiveness

Work hours had a significant direct effect on mothers' responsiveness (Table 4); women who worked more hours per week were more responsive with their infants ($\beta = .01, p = .02$). The discrepancy between preferred work hours and actual work hours had a marginal direct effect on mothers' responsiveness such that larger discrepancies between preferred and actual work hours were related to lower levels of responsiveness ($\beta = -.01, p = .08$). There was no evidence of significant mediation among any of the models.

2. Stimulation of development

Structural demands (*i.e.*, work hours, work hours discrepancy, and income) did not directly or indirectly predict mothers' stimulation of development.

3. Detachment

Job hours had a marginal direct effect on mothers' detachment such that women who worked more hours per week were less detached with their infants ($\beta = -.01, p = .09$). Work hours discrepancy and mothers' income were not directly related to mothers' level of detachment. Likewise, there was no evidence of significant mediation in any of the models (see Table 5).

C. Perceived Work Conditions and Maternal Sensitivity

1. Responsiveness

A simple mediation analysis using ordinary least squares path analysis tested the direct and indirect effects of perceived workplace conditions on maternal responsiveness. As presented in Figure 4 and Table 6, analyses revealed a significant positive direct effect of workplace urgency on mothers' responsiveness such that higher levels of workplace urgency directly predicted increased maternal responsiveness ($\beta = .25, p = .02$). However, an examination of the indirect effects (Table 7) indicated that mothers' psychological distress significantly mediated the relationship between workplace urgency and responsiveness ($ab = -.10, 95\% \text{ CI: } -0.229 \text{ to } -0.004$). Mothers who reported high levels of workplace urgency were more likely to endorse higher levels of psychological distress ($a = 5.60$), which, in turn, predicted lower levels of maternal responsiveness ($b = -.02$). In other words, workplace urgency predicted increased anxiety and depressive symptomatology which, in turn, predicted decreased maternal responsiveness.

Psychological functioning also significantly mediated the relationship between workplace autonomy and maternal responsiveness. As presented in Figure 5 and Table 7, mothers who reported having more autonomy at work were less depressed and anxious, which, in turn, predicted increased maternal responsiveness ($ab = .13, 95\% \text{ CI: } 0.019 \text{ to } 0.310$). There was no evidence that job autonomy influenced maternal responsiveness independent of its effect on anxiety and depression.

2. Stimulation of Development

Workplace urgency had a significant direct effect on stimulation development. Mothers who reported more urgency at work engaged in more stimulating play with their

infants ($\beta = .18, p = .04$). Psychological distress did not significantly mediate this relationship. Workplace autonomy did not directly predict mothers' stimulation of development nor was there evidence of significant mediation within this model (See Table 7).

3. Detachment

As presented in Table 6, we observed a negative direct effect of workplace urgency on maternal detachment indicating that higher levels of urgency at work were associated with decreased detachment ($\beta = -.26, p = .05$). This direct effect was not significantly mediated through mothers' mental health. Workplace autonomy did not directly predict mothers' detachment nor was there evidence of significant mediation within this model.

D. Moderating Effect of Supervisor Support

Contrary to our hypotheses, supervisor support was not a significant moderator in any of the models, nor did it mitigate the negative effects of workplace urgency on mothers' distress and subsequent parenting quality (Index of Moderated Mediation = .002, 95% CI: 0.019 to 0.458).

CHAPTER IV

DISCUSSION OF FINDINGS

The current study examined the extent to which mothers' employment conditions were related to parenting quality during the transition to parenthood, and the potential mediating role of mothers' distress. In our analysis of longitudinal data, mothers' perceptions of work conditions (i.e., urgency and autonomy) and structural work conditions (i.e., hours, work hours preferences and income) upon return to work predicted the quality of parenting at one-year postpartum.

A. Direct Effects of Workplace Conditions on Sensitivity

We observed a few unexpected direct effects of work on mothers' sensitivity. Mothers who reported working more hours per week were more responsive and less detached when interacting with their infants, even when controlling for anxiety and depression. This is an intriguing finding, since it points to the positive impact of full-time employment on parenting, especially among low-income mothers. A growing theoretical and empirical literature (Gray et al., 2004) suggests that the effects of full-time work on parenting and child development depend on the nature of the job, family circumstances, and culturally informed beliefs concerning employment and motherhood. For example, Coley and colleagues (2007) found that stable, full-time employment among low-income, urban mothers predicted higher self-esteem and increased psychological well-being. In our study, work hours were unrelated to mothers' anxiety and depressive symptomatology, but directly predicted increased maternal responsiveness.

There are several potential explanations for this interesting finding. First, mothers with predictable, full-time employment may experience less acute financial pressure and more economic stability than parents who work fewer hours. These mothers may have more time to devote to sensitive parenting, because they are less preoccupied with the stress of meeting their children's basic needs. If, however, the work hours finding reflects the relationship between economic security and positive parenting (i.e., more work hours is associated with higher income) it is puzzling that income did not have a similar direct effect on maternal responsiveness. Other explanations for the work hours finding include the possibility that mothers who work full-time engage in higher quality interactions with their children in order to compensate for the time they spend outside the home (Bass, Butler, Grzywacz, & Linney, 2009). It may also be that stable employment increases low-income mothers' feelings of self-efficacy, agency and self-esteem, which in turn leads to increased parental warmth and engagement. It is unclear why work hours were related to mothers' level of responsiveness and detachment but not stimulation of development. It appears that mothers' ability to engage in cognitively stimulating play is not strongly associated with work demands or psychological well-being in our study.

Interestingly, mothers who reported experiencing a larger discrepancy between the number of hours they preferred to work and the number of hours they actually worked were less responsive with their infants, although this effect was only significant at the trend level. This finding suggests that, over and above work hours, it may be the experience of violated expectations or lack of agency around work obligations that are negatively related to mothers' parenting. Notably, 40% of the mothers in this study expressed a preference for working more hours each week. Mothers who are employed

part-time but wish to work full-time may experience levels of stress comparable to mothers who are employed full-time but wish to work part-time. Few studies directly ask low-income parents how many hours they wish to be employed, and it is possible that this omission accounts for some of the disparate findings in the literature base connecting work hours to psychological well-being and parenting. These findings highlight the importance of considering socioeconomic class and context when examining the implications of full-time employment on mothers' mental health and children's well-being. Future research should examine how mothers' beliefs and values around employment and motherhood affect the associations between work hours and parenting.

It is surprising that mothers' distress did not significantly mediate any of the relationships between structural work factors—such as work hours—and maternal responsiveness. This unexpected finding indicates that certain work conditions may directly influence parenting quality. It might also be the case that the underlying mechanisms connecting structural work conditions to parenting are heterogeneous. Future research should explore how alternative mediators (e.g., role overload, parenting stress, or self-efficacy) may connect employment conditions and parenting.

B. Mediated Effects of Workplace Conditions on Parenting

Consistent with our hypothesis, mothers' psychological distress significantly mediated the relationship between perceived workplace conditions and maternal responsiveness. High levels of workplace urgency were predictive of higher levels of distress, which, in turn, led to decreased levels of maternal responsiveness when infants were one-year-old. This suggests that highly urgent workplaces may disrupt effective parenting via their effect on mothers' psychological well-being. This is consistent with

extant research that has linked work stress to maternal well-being and mothers' parenting practices (Crouter, Bumpus, Maguire, & McHale, 1999; Greenberger et al., 1994)

Interestingly, when we controlled for mothers' anxiety and depression, workplace urgency actually had a positive effect on mothers' parenting. When controlling for anxiety and depression, mothers who reported higher levels of workplace urgency were more responsive, less detached, and engaged in more stimulating play with their infants than did mothers who reported lower levels of workplace urgency. Therefore, workplace urgency appears to have a deleterious effect on parenting only when it is predictive of increased anxiety and depressive symptomatology. When time pressure at work does not lead to increased depression and anxiety, workplace urgency may actually predict higher quality parenting. There are several potential explanations for this finding. First, it is possible that women who report higher levels of time pressure at work are employed in more prestigious and demanding jobs than women who do not report high levels of time pressure at work. In this way, urgency may be a proxy for job status. The positive correlation between workplace urgency and mothers' income is consistent with this interpretation (see Table 3). It is also possible that mothers who report higher levels of urgency at work are more likely to engage with their surroundings in a more active or involved manner. Consistent with this interpretation, Greenberger, O'Neil & Nagel (1994) found that mothers who reported increased time pressure at work were more likely to engage in cognitively challenging interactions with their 5-and 6-year-old daughters. Time pressure at work necessitates prioritizing, problem solving and quick thinking, and it is possible that these qualities generalize to a more engaged and stimulating parenting style. The high correlation between workplace urgency and workplace autonomy

supports this (see Table 3). Alternatively, mothers who have jobs that entail greater time pressure may feel more effective in their role as mothers than as workers and therefore engage in higher quality parenting practices. More research is needed to further explore these potential pathways, however; our findings indicate that the effect of workplace urgency on well-being and parenting is variable, and that when controlling for anxiety and depression, workplace urgency is associated with positive parent-child interactions.

Mothers who reported their jobs to be more stimulating, varied and self-directed experienced lower levels of psychological distress and, in turn, engaged in more responsive parenting with their children. This finding suggests that certain conditions of low-wage work can actually enhance mothers' capacity to be responsive caregivers to their children. Past researchers have generally relied on two theoretical frameworks to account for the relationship between positive workplace conditions and effective parenting practices. The first theory holds that positive feelings, attitudes, and experiences at work can "spill over" into the family environment and enrich family life (Grzywacz et al., 2002; Kirchmeyer, 1992; Stevens, Minnotte, Mannon, & Kiger, 2007). Other researchers have posited that parents whose jobs involve a high degree of challenge and self-monitoring may apply these same cognitive resources to their interactions with their children and therefore engage in higher quality parenting (Greenberger et al., 1994). Our results are more consistent with the spillover framework, because challenging workplace conditions did not directly predict mothers' maternal responsiveness; rather, challenging work increased positive parenting via its salutary effect on mothers' psychological health.

This finding provides further evidence that there is significant variability in the work experiences of low-wage workers, and that this variability has important implications for mothers' mental health and parenting. There is a tendency for researchers to consider low-wage workers as a homogeneous group who experience consistently poor work conditions; however, our findings suggest that even within the same social stratum, individuals' employment experiences differ considerably. In fact, our results suggest that low-wage work may have the potential to be a source of empowerment and strength for some working mothers, particularly when mothers find their work stimulating, engaging and self-directed.

Surprisingly, there was no evidence of significant mediation in the models that examined maternal detachment and stimulation of development as the parenting outcomes. It is possible that workplace conditions differentially predict specific facets of parenting or that our sample size was too small to detect the less robust effects within these models. In addition, in our coding scheme, responsiveness was more reliably measured than detachment and stimulation of development, which may explain the weaker results for the latter two measures.

C. Moderating Role of Supervisor Support

We did not find evidence for the hypothesis that supervisor support would moderate the effects of workplace conditions on mothers' distress and parenting. These results contradict those reported by several researchers (Perry-Jenkins, Smith, Goldberg, & Logan, 2011; Thompson & Prottas, 2006) who have found that supportive work environments may mitigate the deleterious effects of demanding work conditions on parents' mental health. Mothers in our study who reported high levels of supervisor

support did tend to report lower levels of anxiety and depression; however, supervisor support did not significantly moderate the pathways connecting high urgency workplace conditions to mothers' mental health and caregiving. It may be that for the women in our study, supportive supervisors could not counteract the negative effects of workplace urgency and other work stressors on mothers' mental health.

D. Limitations and Strengths

It is important to note the strengths and weaknesses of the current study. First, not all mothers from the broader study agreed to participate in the observational parent-child interaction task, and several mothers had not returned to work by phase 3 when data on employment conditions were collected (see Figure 6). Therefore, our sample size and statistical power were limited. It would be interesting and important to examine how mothers' race and ethnicity influenced the pathways connecting workplace conditions, mental health and maternal sensitivity; however, our limited sample size precluded such analyses. Second, this study does not rule out the possibility that mothers who report greater levels of depression and anxiety may experience their work as more urgent or less fulfilling than parents reporting fewer symptoms; that is, subjective experiences of work conditions may be related to variations in parents' mental health. Future research should examine the bidirectional relationships between work and psychological distress.

Third, although the inclusion of observational parent-child interaction data is a significant strength of the current investigation, it is important to acknowledge the limitations of this approach. For example, as is the case for many studies that rely on observational methodology, the present study provides a "snap shot" of mothers' caregiving on one day. It is plausible that mothers' behavior during the observational task

was not representative of their typical interactions and parenting style. Future research should investigate how mothers' capacity to be sensitive may wax and wane across the transition to parenthood. It is also worth noting that this study did not attend to the reciprocal and bidirectional nature of parent-child interactions.

Finally, this study focuses exclusively on mothers' caregiving and workplace experiences. However, fathers and extended family members may serve as critical caregivers and provide a meaningful role in shaping children's development. Future research should examine the validity of these mediated models with fathers. It is also worth noting that procedures and measures of maternal sensitivity may reflect ethnocentric biases. It is important for researchers to consider how sensitivity constructs may be biased toward individualistic Western norms and values, and to acknowledge that coding procedures may reflect these cultural assumptions.

The current study has three key strengths. First, many previous research studies that examined linkages between low-income employment conditions and parenting behaviors are cross-sectional. Our longitudinal design provides a more methodically rigorous test of the pathways connecting mothers' early work experiences to future caregiving quality. Almost all of the mothers in our sample returned to work within four months of childbirth, and our findings indicate that the conditions of employment that these mothers encountered had significant implications for the quality of their future parenting. Second, the use of observational measures to assess parenting quality is unusual in the work-family literature, although structured observational measures have consistently been shown to be more reliable predictors of child outcomes than self-report parenting measures (Zaslow et al., 2006). Finally, the inclusion of both structural (hours,

income, hours discrepancy) and perceived workplace conditions (urgency and autonomy) is a significant strength of this study. The majority of studies that examine work and family issues across the transition to parenthood focus on benefits and policies that provide parents with the flexibility to be away from work, with little attention to how the subjective conditions of employment are related to their psychological well-being and parenting (Perry-Jenkins et al., 2011). Our findings highlight the importance of measuring low-wage employees' subjective employment experiences in addition to structural work variables.

E. Conclusions and Implications

This study helps to clarify the pathways connecting work conditions, mental health and parenting among working-poor families. Steady full-time employment appears to enhance low-income mothers' parenting quality across the transition to parenthood, although more research is needed to understand the specific mechanisms connecting work hours to sensitive caregiving. Likewise, when there is a smaller discrepancy between the number of hours new mothers wish to work and the number of hours they are actually employed when they return to paid employment, mothers tend to engage in more sensitive parenting practices. Subjective workplace conditions are related to parenting via their effect on mothers' well-being. Mothers who found their post-childbirth work experiences to be more engaging and self-directed were less distressed and, in turn, more sensitive when interacting with their babies, while workplace urgency—when predictive of anxiety and depression—had a deleterious effect on future parenting quality. These findings highlight the variability within low-wage workers' employment experiences and help move the field beyond the assumption that all low-wage work is bad work that

interferes with effective parenting. Taken together, our results indicate that the conditions associated with low-wage employment are variable and meaningful and have effects that extend beyond enhancing overall employee wellness. Workplace policies and interventions designed to facilitate a rewarding and stimulating work environment in low-income occupations may be crucial in supporting optimal parenting practices and child outcomes in these families.

Table 1. Race and Family Structure

	Frequency	Percent
Race/Ethnicity		
White	35	50.0
Latina	17	24.3
African American	14	20.0
Asian	1	1.4
Multiracial	3	4.3
Family Structure		
Cohabiting	34	48.6
Married	20	28.6
Single	16	22.9
Total (N=70)		

Table 2. Demographic Information

	<i>M</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
Age	25.5	5.1	18.7	38.0
Total work hours	30.0	11.2	8.0	59.0
Work hours discrepancy	17.7	13.8	0.0	50.0
Mothers' annual take-home income	\$14,582	\$10,804	\$2,304	\$33,600
Depression (CES-D)	12.4	9.4	0.0	42.0
Anxiety (STAI)	33.7	10.0	20.0	66.0
Distress Composite	39.8	14.2	20.5	86.0

Note. N's range from 65 to 70 due to occasional missing data.

Table 3. Correlations Between Workplace and Mental Health Predictors and Maternal Sensitivity Domains

	1	2	3	4	5	6	7	8	9	10	11
(1) Workplace Urgency											
(2) Workplace Autonomy	.31*										
(3) Total Work Hours	.22	.05									
(4) Work Hours Discrepancy	.12	.07	.27*								
(5) Income	.33**	.32**	.56**	.37**							
(6) Supervisor Support	-.13	.33*	-.09	-.14	.03						
(7) Anxiety	.20	-.19	-.01	.01	-.01	-.14					
(8) Depression	.22	-.22	.04	.07	-.01	-.24	.83**				
(9) Distress Composite	.22	-.20	.00	.09	-.07	-.18	.98**	.92**			
(10) Responsiveness	.18	-.06	.01	-.24*	-.10	.03	-.08	.03	-.05		
(11) Detachment	-.25**	-.01	-.16	.07	-.06	.02	.03	-.02	.01	-.56**	
(12) Stimulation of Development	.22	.06	.13	-.12	.02	-.12	.05	.13	.08	.45**	-.30*

Table 4. Direct Effects of Structural Workplace Conditions on Psychological Distress and Dimensions of Maternal Sensitivity

Pathways	Coefficient	SE	t	p (two-tailed)
Direct effect of total work hours on maternal sensitivity (c'path)				
Total work hours→Responsiveness	.01	.01	2.4	.02
Total work hours→Detachment	-.01	.01	-1.7	.09
Total work hours→Stimulation of development	.01	.01	1.47	.15
Direct effect of work hours discrepancy on maternal sensitivity (c'path)				
Work hours discrepancy→ Responsiveness	-.01	.01	-1.81	.08
Work hours discrepancy→Detachment	.00	.01	.49	.62
Work hours discrepancy→Stimulation of development	-.01	.01	-1.42	.16
Direct effect of mother's gross income on maternal sensitivity (c'path)				
Income→Responsiveness	.00	.00	-1.62	.10
Income→Detachment	.00	.00	.87	.39
Income→Stimulation of development	.00	.00	-.62	.54
Direct effect of structural workplace conditions on mediator (a path)				
Total work hours→Distress	.04	.10	.34	.73
Work hours discrepancy →Distress	.10	.09	1.04	.30
Income→Distress	-.00	.00	-.48	.63

Table 5. Indirect Effects of Structural Workplace Conditions on Maternal Sensitivity Through Mother's Psychological Distress (ab path)*

	Effect	Boot SE	95% Bootstrapped CI	
			Lower	Upper
Indirect effect of workplace hours on sensitivity through distress (ab path)				
Responsiveness	-.00	.01	-.004	.001
Detachment	-.00	.00	-.003	.002
Stimulation of development	-.00	.00	-.004	.014
Indirect effect of hours discrepancy on sensitivity through distress (ab path)				
Responsiveness	.00	.00	.000	.000
Detachment	.00	.00	.000	.000
Stimulation of development	.00	.00	.000	.000
Indirect effect of income on sensitivity through distress (ab path)				
Responsiveness	-.00	.00	-.092	.001
Detachment	.00	.00	-.001	.007
Stimulation of development	.00	.00	-.001	.004

Note. 95% Bootstrapped CI=bias-corrected confidence interval; *10,000 resamples.

Table 6. Direct Effects of Perceived Workplace Conditions on Psychological Distress and Dimensions of Maternal Sensitivity

Pathways	Coefficient	SE	t	p (two-tailed)
Direct effect of workplace urgency on maternal sensitivity (c'path)				
Urgency→Responsiveness	.25	.10	2.38	.02
Urgency→Detachment	-.26	.19	-1.10	.05
Urgency→Stimulation of development	.18	.09	2.09	.04
Direct effect of workplace challenge on maternal sensitivity (c'path)				
Autonomy→Responsiveness	-.07	.14	-0.39	.69
Autonomy→Detachment	-.05	.23	-0.22	.82
Autonomy→Stimulation of development	-.07	.15	-0.46	.65
Direct effect of perceived workplace conditions on mediator (a path)				
Urgency→Distress	5.60	1.45	3.87	<. 001
Autonomy→Distress	-7.63	2.71	-2.70	.01
Direct effect of distress on maternal sensitivity (b path)				
Distress→Responsiveness	-.02	.01	-2.05	.04
Distress→Detachment	.01	.01	1.19	.24
Distress→Stimulation of development	.00	.01	0.17	.98

Note. Psychological distress is an average of mothers' scores on the CES-D and State-Trait Anxiety Inventory for Adults.

Table 7. Indirect Effects of Perceived Workplace Conditions on Maternal Sensitivity Through Mother's Psychological Distress (ab paths)

	Effect	Boot SE	95% Bootstrapped CI	
			Lower	Upper
Indirect effect of workplace urgency on sensitivity through distress (ab path)				
Responsiveness	-.10	.06	-.229	-.004
Detachment	.06	.10	-.049	.221
Stimulation of development	.00	.05	-.087	.100
Indirect effect of workplace autonomy on sensitivity through distress (ab path)				
Responsiveness	.13	.09	.019	.310
Detachment	-.08	.10	-.360	.056
Stimulation of development	-.00	.06	-.128	.132

Note. 95% Bootstrapped CI=bias-corrected confidence interval; *10,000 resamples.

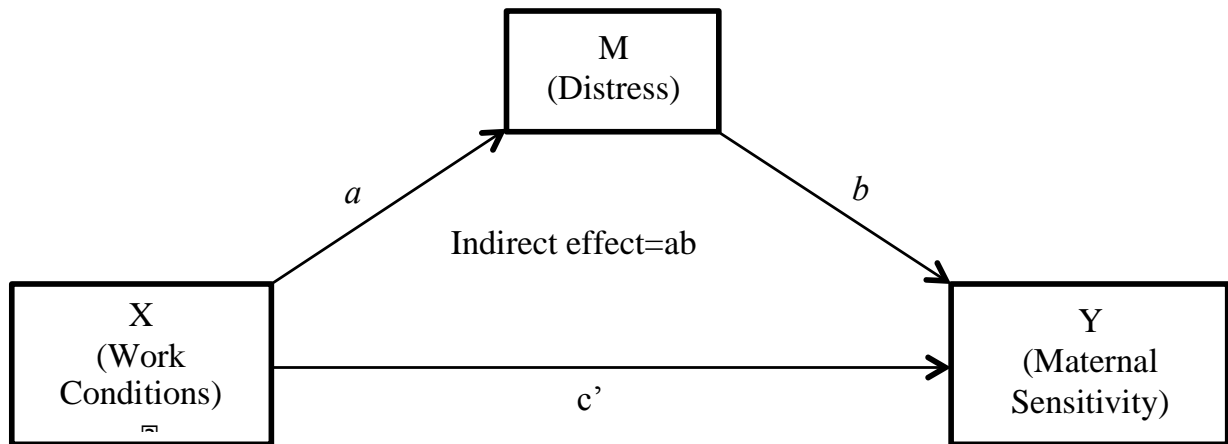


Figure 3. Mediation Model

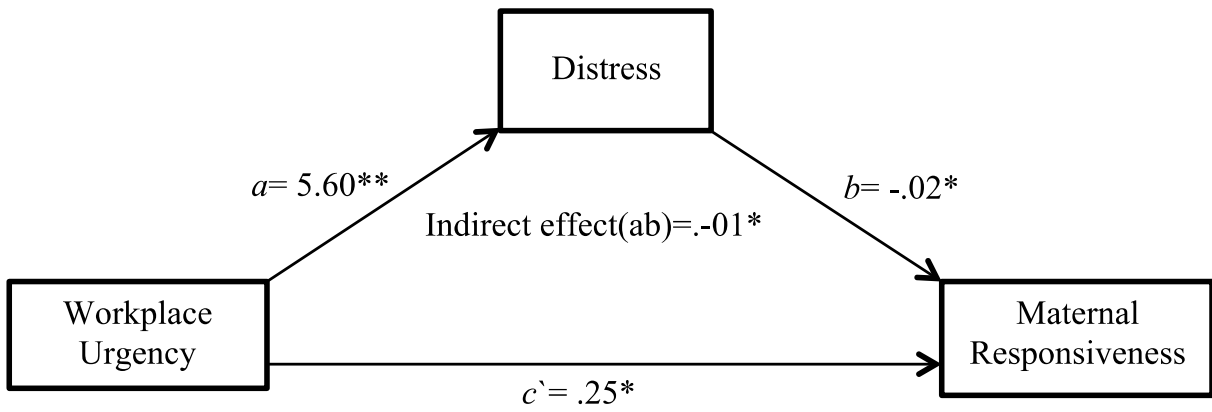


Figure 4. Mediation Model: Work Urgency and Responsiveness

$*p < .05$. $**p < .01$

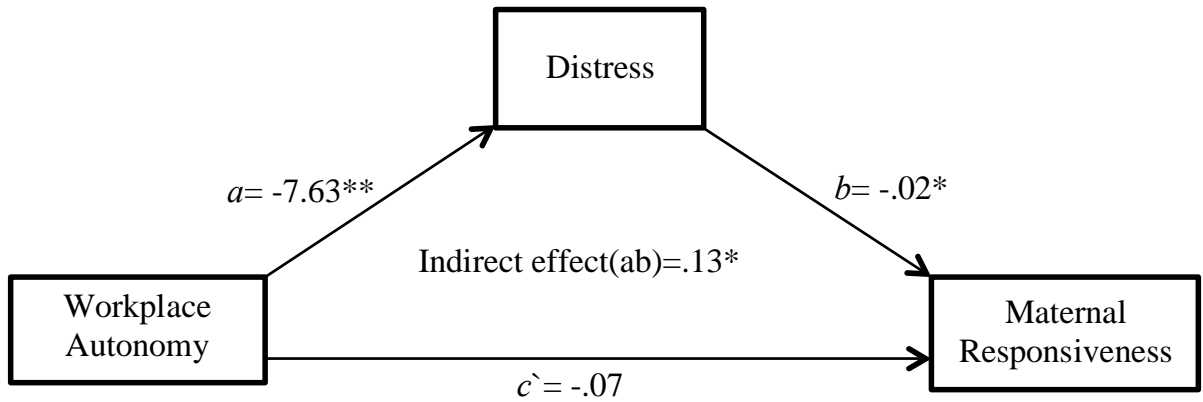


Figure 5. Mediation Model: Work Autonomy and Responsiveness

* $p < .05$ ** $p < .01$

WFTP Participant Flow Diagram

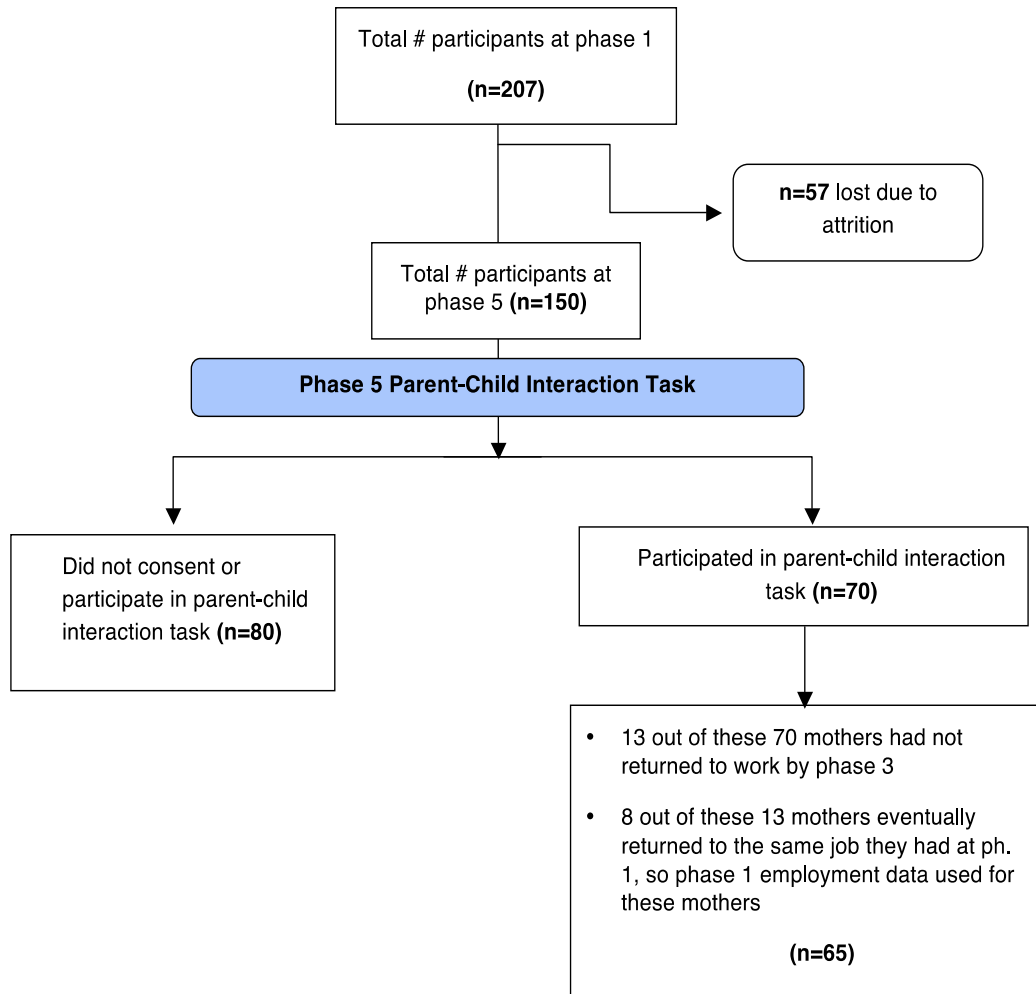


Figure 6. Participant Flow Diagram

APPENDIX A

QUALITATIVE RATINGS FOR PARENT-CHILD INTERACTION AT 3-12 MONTHS OF AGE

Martha J. Cox, Ph.D. and Keith Crnic,
Ph.D. August 2003

Prior to coding: *Please note the start and end times of the parent-child interaction. At 3-months, the interaction should only be 7 minutes long (give or take a few seconds). At 6-months, the interaction should only be 10 minutes long (give or take a few seconds). If the interaction is longer than the specified time and there are no false starts, only code from the beginning of the interaction up until 10 minutes have elapsed. If there are false starts, watch the false starts and pay attention to them, but only code them if you see behaviors in the false starts that contradict what you have seen in the actual interaction (e.g. parent shows strong signs of negative regard towards target child (not a sibling), but is very positive towards the child in the interaction). However, do not code the false starts when behaviors are elicited that are in direct response to events external to the parent or child (e.g. baby is hungry, siblings come on screen, etc.).*

PARENT CODES

SENSITIVITY/RESPONSIVENESS (Adapted from Ainsworth)

This scale focuses on how the parent observes and responds to the child's social gestures, expressions, and signals as well as responds to cries, frets, or other expressions of negative affect. The key defining characteristic of a sensitive interaction is that it is child-centered. The sensitive parent is tuned to the child manifests awareness of the child's needs, moods, interests, and capabilities, and allows this awareness to guide his/her interaction.

If the child initiates social gestures and expressions (looking at the parent, reaching toward the parent, waving, clapping hands, handing objects), or makes demands, desires, or requests known (stretching arms to be picked up, reaching for toys the parent is holding), the sensitive parent responds appropriately.

If the child loses interest, the sensitive parent takes time to re-engage the child in a manner that demonstrates sensitivity to the child's mood. When the child is bored or frustrated, the parent offers toys or other distractions. When the child is interested and involved with toys, the sensitive parent allows him/her to independently explore them. During play, the sensitive parent provides one toy or game at a time and bases continuation on the child's response. How and what they play is geared to whether or not the child seems to be enjoying the activity. The parent does not persist with an

activity or toy that the child is obviously not enjoying. During feeding, the parent follows the child's signals (open mouth, reaching, etc.) as to when the child wishes more food.

A sensitive parent provides stimulation that is appropriate to the situation. He/she provides the child with contingent vocal stimulation and acknowledges the child's interest, efforts, affect, and accomplishments.

Sensitive parents can spend some time watching the child, but the difference between them and the detached parent is that the sensitive parent seems to be actively taking an interest in the child's activities, as evidenced by comments and embellishments when the child loses interest. It is at these times--when the child loses interest or is distracted--that the difference between the sensitive parent and the detached, under-stimulating parent is most easily seen; the detached parent does not respond, responds in a listless manner, or responds with developmentally inappropriate comments and behavior. The insensitive parent could also be overstimulating/intrusive and might continue in his/her attempts to engage the child even when the child is providing clues that he/she is seeking to end the interaction.

A sensitive interaction is well timed and paced to the child's responses, a function of its child-centered nature. Such an interaction appears to be "in sync". The parent paces games or toy presentation to keep the child engaged and interested, but also allows him/her to disengage in order to calm down and reorganize his/her behavior. Sensitivity involves judging what is a pleasurable level of arousal for the child and helping the child to regulate arousal and affect. When the child loses interest, the sensitive parent switches to a new tactic or toy and observes the child's reaction, or stops interacting entirely. In this way the sensitive parent can be distinguished from both an intrusive and a detached parent.

Markers of sensitivity include: (a) acknowledging the child's affect; (b) contingent vocalizations by the parent; (c) facilitating the manipulation of an object or child movement; (d) appropriate attention focusing; (e) evidence of good timing paced to the child's interest and arousal level; (f) slowing the pace when the child appears over stimulated or tired (e.g., demonstrates gaze aversion, fussiness); (g) picking up on the child's interest in toys or games; (h) shared positive affect; (i) encouragement of the child's efforts; (j) providing an appropriate level of stimulation when needed; and (k) sitting on floor or low seat, at the child's level, to interact. Thus, the sensitive parent demonstrates the ability to adapt interactions to the child's mood and level of development. The parent neither over nor under understimulates. The parent knows when it is time to increase or reduce the amount of stimulation the child is experiencing. For example, the parent discontinues an activity that is beyond the child's capacity for response or introduces a new activity when the child appears bored. Ratings on this scale should be based on both quality and quantity of parent behavior.

This scale also focuses on how the parent responds to the child's cries, frets,

or other expression of negative affect. It is judged in the following three ways:

1) Proportion of distress signals responded to. The parent consistently responds to all distress signals.

2) Latency of response. The parent responds promptly. Mild fussiness does not require the parent to respond as quickly as does the child's acute distress.

3) Appropriateness of response. Appropriateness of the adult's behavior can generally be inferred by its effectiveness in soothing the child. However, the completeness of the response should also be taken into account. For example, a parent who responds distally (e.g., voice from the other side of the room) should not be judged as sensitive as a parent who approaches and/or picks up the child. Parents who do not acknowledge distress, even if the infant self-soothes quickly, should be judged as less sensitive than those who do acknowledge the distress, however short lived. Parental responses to infant distress generally involve speaking to the child, approaching the child, changing position, offering toys, patting, picking up, holding closely (especially in a ventral/ventral position), and rocking. Any of these or other behaviors can be considered appropriate if they appear to have the effect of soothing the child. If the parent's first response to the distressed infant does not soothe the child, the episode should be judged as insensitive/unresponsive (even if their response was immediate) unless the parent proceeds to offer a "fuller" response (i.e., more proximal soothing behaviors).

1 = Not at all characteristic. There are almost no signs of parent sensitivity. Thus, the parent is either predominantly intrusive or detached. The parent rarely responds appropriately to the child's cues, and does not manifest an awareness of the child's needs. Interactions are characteristically ill timed or appropriate. When the child cries or frets, the parent responds not at all, or very slowly or inappropriately. If there is a response, it is only after the child becomes very demanding, and the response is so delayed that it cannot be construed to be contingent upon the child's behavior. A parent who typically appears oblivious or punitive to the child's distress would receive this score.

2 = Minimally characteristic. This rating should be given to parents who display infrequent or weak sensitivity/responsiveness. While the parent is sometimes sensitive, the balance is clearly in the direction of insensitivity. The parent may give some delayed perfunctory responses to cues. The parent responds rarely or slowly to the child's signals (e.g. vocalizations, affect, distress), and appears more unresponsive than responsive. The responses tend to be minimal or perfunctory. For example, if the child shows distress, the parent may talk to or briefly pat a crying child and he/she may not pick up the child. The parent may not typically bring the child to a ventral/ventral position.

3 = Somewhat characteristic. This rating should be given to parents who display some clear instances of sensitive responding. The parent can be characterized as sensitive to the child; however, the parents' behaviors may be mechanical in quality and ill paced. There are fleeting instances of genuine comforting of child (e.g. picking up the child, bringing him/her to a ventral/ventral position), but these instances may be

delayed or perfunctory. The interaction can be characterized by a mix of well-timed and faster paced episodes, or by a parent who is trying to be sensitive, but the interaction has signs of insensitivity. This rating can also be given when the parent is making an effort to comfort his/her child, but he/she may appear to not know what he/she should do. The parent is inconsistently sensitive and hard to categorize.

4= Moderately characteristic. This rating should be given to parents who are predominantly sensitive/responsive. The parent demonstrated sensitivity in most interactions but may neglect to give a fuller response or a well-timed or appropriate response. If the child cries or frets, the parent typically responds promptly to the child's distress, demands, and signals, but there is some time in which clear child signals do not receive a response or in which the response is somewhat delayed. Some of the parent's responses are mixed, i.e. some are half-hearted or perfunctory, but the majority are full responses.

5 = Highly characteristic. This rating should be given to parents who are exceptionally sensitive and responsive. Instances of insensitivity are rare and never striking. Interactions are characteristically well timed and appropriate. If the child shows distress, this rating should be given to parents who are exceptionally sensitive and responsive to distress. The parent responds quickly and appropriately to the child's distress. If the child is upset, the parent takes the time to soothe and calm the child. Overall most responses are prompt, appropriate, and effective.

INTRUSIVENESS

An intrusive, insensitive interaction is adult centered rather than child centered. Prototypically, intrusive parents impose their agenda on the child despite signals that a different activity, level, or pace of interaction is needed. High arousal, vigorous physical interaction, or a rapid pace, are not, by themselves, indicative of intrusive overstimulation--if the child responds positively with sustained interest and is not engaging in defensive behaviors. It is when the child averts his/her gaze, turns away, or expresses negative affect and the parent continues or escalates his/her activity that intrusive behavior is evident. Intrusiveness is also apparent when the parent does not allow the child a "turn" or an opportunity to respond at his/her pace. Some intrusive parents persist in demonstrating toys to the child long after his/her interest has been gained and he/she obviously wants to manipulate the toy him/herself. These parents appear unable to facilitate the child's exploration or regulation of the activity. Another controlling intrusive behavior is displayed by parents who overwhelm the child with a rapid succession of toys or approaches, not allowing him/her time to react to one before another occurs.

Extreme intrusiveness can be seen as overcontrol to a point where the child's autonomy is at stake. It should be kept in mind that a parent can become involved in play with the child without being highly intrusive.

Intrusiveness can also be displayed during routine care. During spoon-feeding, a

non-intrusive parent will wait for the child to open his/her mouth for food, whereas an intrusive parent will persist in trying to stick the spoon into the child's mouth, even as the child tries to turn away. An intrusive parent will tend to use any opening of the mouth to give the child another bite of food, even when the open mouth clearly has a socially interactive intent (e.g., open-mouth smile, vocalization). A rapid pace of feeding is not in itself a sign of intrusiveness if the pace appears to match the child's desired focus on food.

Specific behaviors characterizing intrusive interactions include (a) failing to modulate behavior that the child turns from, defends against, or expresses negative affect to; (b) offering a continuous barrage of stimulation (physical and/or verbal), food, or toys; (c) not allowing the child to influence the pace or focus of play, interaction, or feeding; (d) taking away objects or food while the child still appears interested; (e) not allowing the child to handle toys he/she reaches for; (f) insisting that the child do something (play, eat, interact) in which he/she is not interested; (g) not allowing the child to make choices; and (h) manipulating the child's body in an intrusive manner (e.g. making the child dance or bounce for the parent).

Parent's actions, which are clearly in the child's best interests, such as removing a child from danger, administering medicine, or putting an obviously tired child to bed, are not included in the considerations of intrusiveness. Similarly, bringing the child back to the mat for play when instructions to the mother are to do so, will not be judged intrusive unless the child is handled in an unduly perfunctory or rough manner.

Intrusiveness must be evaluated from the perspective of the child. If fast-paced stimulation is enjoyed by the baby, as shown by smiles and laughter, or seems a part of a game or ritual that is clearly enjoyed, parental behavior that might otherwise be judged intrusive will not be counted as such. An important element in judging the behavior as intrusive or not is the degree to which the parent modulates his/her behavior in response to the child's interest and enjoyment in the stimulation.

1 = Not at all characteristic. This rating should be given to parents who display almost no signs of intrusive behavior. The interactions are well-timed and tuned to the baby's signals. The interaction is clearly "child centered".

2 = Minimally characteristic. This rating should be given to parents who display minimal intrusiveness. There is some evidence of intrusiveness, but it is not typical. The parent may initiate interactions with and offer suggestions to the child, which occasionally are not welcomed. The parent may sometimes continue his/her activity in instances when the child engages in defensive behavior, but even when this happens; the parent does not escalate the activity.

3 = Somewhat characteristic. This rating should be given to parents who display frequent, but weak signs of intrusiveness or display a few clear instances of unwelcomed behavior. The parents engage in activities that are characterized by the parent's agenda, and may repeat or escalate these activities, even if the child does not

respond negatively to them. The parents are not predominately intrusive, however, intrusive behaviors appear to be more typical than a minimally characteristic (rating of 2) interaction. There may be inconsistent intrusive behavior and the parents may be hard to categorize.

4 = Moderately characteristic. This rating should be given to parents who are regularly intrusive. Parental intrusiveness occurs with moderate frequency. The pace is frequently controlled by the parent and ill timed to the baby's signals. Parents persist with intrusive behaviors even when the child engages in defensive behavior.

5 = Highly characteristic. This rating should be given to parents who are highly intrusive. The parent is consistently and typically intrusive. Most of the observation period is marked by the parent completely controlling the interaction, allowing the child little self-direction in his/her activities. The parent allows the child little autonomy, and essentially negates the child's experience.

DETACHMENT/DISENGAGEMENT

The detached parent appears emotionally uninvolved or disengaged and unaware of the child's needs for appropriate interaction to facilitate involvement with objects or people. This parent does not react contingently to the child's vocalizations or actions, and does not provide the "scaffolding" needed for the child to explore objects. Detached parents "miss" the child's looks to them or reach for a toy, and their timing is out of synchrony with the child's affect and responses (although not the overwhelming barrage of stimulation that intrusive parents present. Simply allowing the child to play by him/herself is not necessarily a sure sign of detachment; this can be appropriate at times, such as when the child is playing happily or contentedly and the parent checks in with the child visually. The detached parent will remain disengaged even when the child makes a bid for interaction with the parent. The detached parent is passive and lacks the emotional involvement and alertness that characterizes a sensitive parent. He/she appears uninterested in the child. There may be a "babysitter-like" quality to the interaction in

that the parent appears to be somewhat attentive to the child, but behaves in an impersonal manner that fails to convey an emotional connection between the parent and the child. Other parents may demonstrate a performance-orientation in that the interaction is tailored towards performing for the camera rather than reacting to and facilitating child-centered behavior.

A parent receiving a high rating for detachment is considered to be insensitive. A low rating for detachment can signal either sensitivity or intrusiveness.

Detachment can be marked by (a) putting the child so he/she faces away from the parent, without attempts to visually "check in"; (b) presenting toys without first engaging the child or showing him/her how to manipulate them; (c) rarely making eye contact or rarely talking to the child; (d) not responding to the child's vocalizations, smiles, or reaches for toys; (e) an unawareness of the child's capabilities and appropriate activities; (f) positioning the child so that he/she cannot reach or manipulate a toy; (g) cleaning

the child, rocking, diapering, or feeding in a mechanical, detached, distant way without social interaction; (h) ignoring the interesting things the child does; (i) letting the child play unsupervised without checking in; and (j) continually calling the child "baby" instead of using his/her name; (k) directing comments or stares towards the camera; (l) behaving in a mechanical or performance-oriented manner and m) behaving in an emotionally uninvolved manner or appearing to be a baby-sitter rather than a parent when interacting with the child. While an intrusive parent might persist in sticking a spoon into a child's mouth even if the child turns away, the detached parent does not respond to the child's bids to be fed (e.g., the child opens his/her mouth for the spoon and the parent neglects to then feed the child). Detached parents tend to pay greater attention to the toys than to their child's response to the toys, or they tend to pay greater attention to other objects or people outside of the play interaction, or they appear distracted, for whatever reason, from attending to the child's interest. When interactions do occur, they may have an artificial or performance-oriented quality.

This scale contains both qualitative and quantitative components. A parent who interacts consistently with the child but does so in a perfunctory or indifferent manner with little or no emotional involvement would be rated high on detachment.

1 = Not at all characteristic. This rating should be given to parents who display almost no signs of detachment or under involvement. When interacting with the child, the parent is clearly emotionally involved. These parents can be sensitive or intrusive.

2 = Minimally characteristic. This rating should be given to parents who display minimal signs of detachment. While they are clearly emotionally involved with the child during most of the interaction, there may be brief periods of detachment.

3 = Somewhat characteristic. This rating should be given to parents who remain involved and interested in the child while at the same time demonstrating the tendency to act in an uninterested, detached or perfunctory manner. Parents alternate between periods of engagement and disengagement. The periods of disengagement may be marked by unemotional or impersonal behavior. There may be a low-level of impersonal/unemotional behavior running throughout the interaction.

4 = Moderately characteristic. This rating should be given to parents who are predominantly detached. While there may be periods of engagement, the interaction is characterized chiefly by disengagement. The parent may be passive and fail to initiate interactions with the child. When interactions do occur, they may be marked by an impersonal, perfunctory style. Parent may show a lack of emotional engagement throughout the interaction

5 = Highly characteristic. This rating should be given to parents who are extremely detached. The child lies or sits without parent attention almost all of the time, even when the parent is within a suitable distance for interacting. In the minimal instances of involvement, the parent's behaviors are simple, mechanical, stereotyped, bland, repetitive, and perfunctory. The parent is clearly not emotionally involved with the child, and appears to be "just going through the motions".

STIMULATION OF DEVELOPMENT

This scale measures the degree to which the parent tries to foster the child's development. A stimulating parent may take advantage of even simple activities (like feeding and diapering) to stimulate development, and will consistently engage in a variety of activities that can facilitate learning. The parent will make deliberate attempts to encourage the child's development, achievement and learning.

Behaviors characterizing stimulation include: (a) attempting to focus the child on an object or task; (b) focusing the child's attention on perceptual qualities (sounds, colors, movement, etc.) of objects; (c) verbally responding to or expanding the child's verbalizations or vocalizations, (d) encouraging the child to actively participate in activities, and (e) assisting in motor movement or coordination. However, parents who simply focus or encourage a child should not be given the highest scores. Higher scores should be reserved for parents who engage in some of the following: (a) describe or label toys or objects or demonstrate how they work; (b) stimulate the child's verbalizations or vocalizations and expand on them; (c) read or recite to the child; (d) encourage or reinforce the child's attempts at mastery, or challenge the child to try something new; (e) present activities in an organized sequence of steps; (f) teach the child or give him/her an opportunity to experiment with materials that illustrate or teach concepts; (g) ask questions that require problem solving; (h) label and interpret the child's experiences (e.g., "You think that's funny"); (i) assist the child in motor coordination or mastery of a developmental milestone, and so on.

Activities involving strictly physical stimulation such as rough and tumble play, bouncing, and tickling are not considered as stimulating development per se, but it is possible for a caregiver to provide stimulation in these contexts if the caregiver expands on these experiences with verbal labels. For example, active play with a child that expands on the child's abilities or assists in the coordination of the child's movements would be considered stimulation of development because it encourages and elaborates on the child's current ability and mastery. This scale does not measure those activities that are only social (smiling) or caretaking (soothing), but stimulation can occur in these contexts as well.

The focus of this scale is on the amount and quality of activities that may ultimately enhance perceptual, cognitive, linguistic, and physical development. The parent's attempts may be less than perfect from a developmental psychologist's point of view, but they reflect the parent's belief that he/she is teaching the child. Simply placing objects in front of the child or handing him/her toys is not to be considered stimulating. Stimulation must involve effortful interaction with the child in the contexts described above.

All qualitative judgments must be considered in relation to the quantity of stimulation provided by the parent: How many of the available opportunities for stimulation were taken advantage of? A parent who simply repeats a word or phrase

that a child says (e.g., “shoe”) would be lower level stimulation than putting the word in a sentence or elaborating on it (e.g., “The shoe is red”). A rating of 1 should be given to those parents who provide almost no stimulation of development. If a parent spends a very brief portion of the time in high-quality interactions with the child and provides that child with no stimulation for the remainder of the time, he/she would receive a rating of

2. A parent might also receive a 2 if stimulation is continuous but minimally advantageous. A rating of 3 is generally given when the parent doesn’t strive to offer cognitive or physical stimulation for some small portion of the time or when he/she neglects some aspects of stimulation (e.g., manipulative skills), but otherwise engages in stimulating activities. A rating of 4 should be given to parents who clearly have a stimulation agenda, but may fail to take full advantage of opportunities or whose efforts are not “rich” in stimulation. A rating of 5 should be given to those parents who work at providing exceptionally advantageous stimulation.

Note that at 3 months, stimulation of development may take the form of physical and sensory-motor stimulation, whereas at 6 months, stimulation of development may tend to focus on cognitive stimulation.

1 = Not at all characteristic. This rating should be given to parents who provide little or no stimulation. The parent makes almost no attempts to teach the child anything or provide any stimulation. He/she may provide routine care but does not use it as an opportunity for learning. The parent may ignore the child’s activities or interact perfunctorily, providing no stimulation. The parent never does more than offer toys in a perfunctory, mechanical manner, without demonstration or labeling or bounce the child around. The parent is typically silent. Any efforts made are developmentally inappropriate.

2 = Minimally characteristic. This rating should be given to parents who provide infrequent or weak stimulation. The parent’s conscious and purposeful attempts to engage the child in development-fostering experiences are limited. He/she may label or demonstrate materials or demonstrate physical activities, but does so perfunctorily and with minimal elaboration.

3 = Somewhat characteristic. The parent makes some effort to stimulate development, but it may not be her/his main agenda or the parent’s agenda is inconsistent. Efforts to engage the child are limited in number and are often unsuccessful. The parent does not consistently take advantage of opportunities to provide stimulation. The parent provides few opportunities for rich, varied stimulation and most attempts are repetitive.

4 = Moderately characteristic. This rating should be given to parents who have a clear agenda of expanding their child’s physical and/or cognitive mastery. Parents who receive this rating provide adequate stimulation but could reasonably be expected to provide more and higher-quality stimulation. The parent may find some new ways to engage the child with toys or activity, for example, but these ways are limited in

number. Parents who provide a rich linguistic or physical environment, but do not demonstrate the potential of toys or movements, would receive this rating as well as parents who demonstrate toys or movements in a stimulating but non-vocal manner.

5 = Highly characteristic. This rating should be given to the parent who is consistently stimulating and takes advantage of many activities as opportunities for stimulation. The parent provides frequent stimulation through “lessons,” explanations, activities, physical games, or toys. Teaching and fostering development is a primary intent of the parent’s frequent interactions with the child, and as such the stimulation episodes should be more frequent and prolonged. The parent thoughtfully varies and elaborates on these activities, providing numerous opportunities, which are exceptionally advantageous to the child. He/she provides rich stimulation in terms of language and movement as well as embellishment of the potential of the physical world.

APPENDIX B
ABOUT YOUR JOB
(O'Neil, 1991)

This is a list of specific job characteristics. Please read each statement, and using the scale provided circle the number which best describes your situation at work.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree

- | | | | | | |
|---|---|---|---|---|---|
| 1. My job requires me to work very hard most of the day. | 1 | 2 | 3 | 4 | 5 |
| 2. I have a lot of control over the way I use my time while I'm at work. | 1 | 2 | 3 | 4 | 5 |
| 3. My job requires me to work very fast most of the day. | 1 | 2 | 3 | 4 | 5 |
| 4. I feel like I have a great deal of influence in the decision-making process on my job. | 1 | 2 | 3 | 4 | 5 |
| 5. My job doesn't really demand that I get a great deal of work done. | 1 | 2 | 3 | 4 | 5 |
| 6. I am able to vary the order that I complete my tasks at work each day. | 1 | 2 | 3 | 4 | 5 |
| 7. I often feel like I don't have enough time to get all my work done. | 1 | 2 | 3 | 4 | 5 |
| 8. I'm given a chance to do the things I do best when I'm at work. | 1 | 2 | 3 | 4 | 5 |
| 9. I'm always able to make a personal phone call during my work hours. | 1 | 2 | 3 | 4 | 5 |
| 10. My job is often mentally demanding. | 1 | 2 | 3 | 4 | 5 |
| 11. I'm able to plan my work tasks to allow time for a private visitor during work hours. | 1 | 2 | 3 | 4 | 5 |
| 12. I'm frequently expected to solve challenging problems at work. | 1 | 2 | 3 | 4 | 5 |

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree

13. My job requires that I do the same things over and over. 1 2 3 4 5
14. I face a lot of deadlines on my job. 1 2 3 4 5
15. I always have enough time to get the job done. 1 2 3 4 5
16. It's usually up to me to decide how to do a job once I've been given the assignment. 1 2 3 4 5
17. I do a lot of different things on my job. 1 2 3 4 5
18. I'm not usually expected to do excessive amounts of work. 1 2 3 4 5
19. I'm frequently required to deal with unexpected projects or tasks. 1 2 3 4 5
20. I have the freedom to decide what I do on my job. 1 2 3 4 5
21. It is basically my responsibility to decide how my job gets done. 1 2 3 4 5
22. I have trouble finding time to take a break when I'm at work. 1 2 3 4 5
23. I decide who I work with on my job. 1 2 3 4 5
24. I'm required to meet extremely high standards where I work. 1 2 3 4 5
25. The work I do is interesting. 1 2 3 4 5
26. I have an opportunity to develop my own special skills at work. 1 2 3 4 5

APPENDIX C

SUPERVISOR AND CO-WORKER SUPPORT

(Caplan et al., 1975)

This is a list of statements that people have used to describe their supervisor and co-workers. Please read each statement and using the scale provided, circle the number which best describes your situation at work.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree

- | | | | | | |
|--|---|---|---|---|---|
| 1. My supervisor goes out of his/her way to make my work life easier. | 1 | 2 | 3 | 4 | 5 |
| 2. My supervisor is easy to talk to. | 1 | 2 | 3 | 4 | 5 |
| 3. My supervisor can be relied upon when things get tough. | 1 | 2 | 3 | 4 | 5 |
| 4. My supervisor is willing to listen to my personal problems. | 1 | 2 | 3 | 4 | 5 |
| 5. My supervisor is concerned about the welfare of those under him/her. | 1 | 2 | 3 | 4 | 5 |
| 6. My supervisor is understanding when I talk about personal or family issues. | 1 | 2 | 3 | 4 | 5 |
| 7. My co-workers go out of their way to make my work life easier. | 1 | 2 | 3 | 4 | 5 |
| 8. My co-workers are easy to talk to. | 1 | 2 | 3 | 4 | 5 |
| 9. My co-workers can be relied upon when things get tough. | 1 | 2 | 3 | 4 | 5 |
| 10. My co-workers are willing to listen to my personal problems. | 1 | 2 | 3 | 4 | 5 |

APPENDIX D

FEELINGS INVENTORY (CES-D)

(Radloff, 1975)

Below is a list of the ways you might have felt or behaved recently. Please circle the number that indicates how often you have felt this way during the past week.

<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

- | | | | | |
|--|---|---|---|---|
| 1. I was bothered by things that don't usually bother me. | 0 | 1 | 2 | 3 |
| 2. I did not feel like eating; my appetite was poor | 0 | 1 | 2 | 3 |
| 3. I felt that I could not shake off the blues even with help from my family or friends. | 0 | 1 | 2 | 3 |
| 4. I felt that I was just as good as other people. | 0 | 1 | 2 | 3 |
| 5. I had trouble keeping my mind on what I was doing. | 0 | 1 | 2 | 3 |
| 6. I felt depressed. | 0 | 1 | 2 | 3 |
| 7. I felt that everything was an effort. | 0 | 1 | 2 | 3 |
| 8. I felt hopeful about the future. | 0 | 1 | 2 | 3 |
| 9. I thought my life had been a failure. | 0 | 1 | 2 | 3 |
| 10. I felt fearful. | 0 | 1 | 2 | 3 |
| 11. My sleep was restless. | 0 | 1 | 2 | 3 |
| 12. I was happy. | 0 | 1 | 2 | 3 |
| 13. I talked less than usual. | 0 | 1 | 2 | 3 |
| 14. I felt lonely. | 0 | 1 | 2 | 3 |
| 15. People were unfriendly. | 0 | 1 | 2 | 3 |
| 16. I enjoyed life. | 0 | 1 | 2 | 3 |
| 17. I had crying spells. | 0 | 1 | 2 | 3 |
| 18. I felt sad. | 0 | 1 | 2 | 3 |
| 19. I felt that people dislike me. | 0 | 1 | 2 | 3 |
| 20. I could not get "going." | 0 | 1 | 2 | 3 |

APPENDIX E

SELF-EVALUATION QUESTIONNAIRE (STAI)

(Spielberger et al., 1972)

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to best describe your present feelings.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Not at all	Somewhat	Moderately so	Very much so

- | | | | | |
|--|---|---|---|---|
| 1. I feel pleasant. | 1 | 2 | 3 | 4 |
| 2. I feel nervous and restless. | 1 | 2 | 3 | 4 |
| 3. I feel satisfied with myself. | 1 | 2 | 3 | 4 |
| 4. I wish I could be as happy as others seem to be. | 1 | 2 | 3 | 4 |
| 5. I feel like a failure. | 1 | 2 | 3 | 4 |
| 6. I feel rested. | 1 | 2 | 3 | 4 |
| 7. I am "calm, cool and collected." | 1 | 2 | 3 | 4 |
| 8. I feel that difficulties are piling up so that I cannot overcome them. | 1 | 2 | 3 | 4 |
| 9. I worry too much over something that really doesn't matter. | 1 | 2 | 3 | 4 |
| 10. I am happy. | 1 | 2 | 3 | 4 |
| 11. I have disturbing thoughts. | 1 | 2 | 3 | 4 |
| 12. I lack self-confidence. | 1 | 2 | 3 | 4 |
| 13. I feel secure. | 1 | 2 | 3 | 4 |
| 14. I make decisions easily. | 1 | 2 | 3 | 4 |
| 15. I feel inadequate. | 1 | 2 | 3 | 4 |
| 16. I am content. | 1 | 2 | 3 | 4 |
| 17. Some unimportant thought runs through my mind and bothers me. | 1 | 2 | 3 | 4 |
| 18. I take disappointments so keenly that I can't put them out of my mind. | 1 | 2 | 3 | 4 |
| 19. I am a steady person. | 1 | 2 | 3 | 4 |
| 20. I get in a state of tension or turmoil as I think over my recent concerns and interests. | 1 | 2 | 3 | 4 |

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