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Child Care Disruptions and Working Mothers: An Experience Sampling Method Approach

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Abstract

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Within the last three decades the number of single-parent and dual career families in this country have nearly doubled resulting in a steady increase in the demand for high-quality, safe child care to replace the care once traditionally provided by stay-at-home parents. Unfortunately, the supply of quality child care has not kept pace with the increasing demand, leaving parents to struggle with the stress of lower-than-desirable child care and the disruptions that occur when there is a failure in such arrangements (Kahn & Kamerman, 1987; Miller, 1990). An important implication of this struggle is the effect that it has on parents’ ability to cope and function effectively at work. Past research on the interference of child care problems at work has been sparse and required parents to provide retrospective reports. The current study used an Experience Sampling Method (ESM) approach to examine the day-to-day experiences of working mothers with children in child care. Participants responded to questionnaires four times per day during work using a hand-held computer and recorded disruptions from caregiving responsibilities, psychological outcomes, and self-reported work outcomes. Results indicated that mothers experienced a considerable number of child care disruptions, which were related to more negative work outcomes, including decreased productivity and concentration; and more negative psychological outcomes, including increased stress levels and work-family conflict. Participants reported significantly more disruptions during daily recordings than by retrospective reporting of disruptions during the previous
year, indicating that ESM may be capturing aspects of child care disruptions not encapsulated in previous retrospective studies. Several significant moderators of the relationship between child care disruptions and psychological outcomes were found, including individual differences, such as neuroticism, family involvement, and parent-child relationship closeness; and social support, including spousal support and supervisor support. However, no significant moderators of the relationship between child care disruptions and work outcomes were found.
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Introduction

"Stress and the tension between work and family are increasing. Major changes in American families - and the lack of corresponding changes in many workplace policies and practices - are the causes. Balancing work and family responsibilities, particularly the responsibilities of child and elder care, will remain issues in the workplace of the future, touching each of us at some point in our work lives."

-U.S. Department of Labor, 1999

Two major shifts in the structure of households in the United States over the past three decades have had a decidedly meaningful impact on both the American family and the American workforce. First, the number of single-parent families has more than doubled, now accounting for 31 percent of all households with children (U.S. Census Bureau, 2002). Second, the number of dual-career families has increased by nearly 25 percent, with the majority of married-couple families having both parents working outside the home (U.S. Bureau of Labor Statistics, 2001b). Ultimately, this means that parents who once stayed home and cared for their children are now entering the workforce. Three-quarters of women with children under 18 are in the workforce, and 61 percent of children under the age of three are cared for during the day by someone other than their mother or father (U.S. Department of Labor, 2001). The result is that millions of working parents must simultaneously handle the responsibility of managing their child care arrangements and the daily demands of work.

Although the use of child care allows individuals to be both a parent and an employee, balancing these two highly demanding responsibilities is a difficult task and
can lead to conflict between work and family. The use of child care outside of the home can create problems for parents for a number of reasons. First, child care can be inconsistent and unreliable, causing frequent disruptions in a parent’s workday when there is a breakdown in the expected care arrangement (Fernandez, 1986). When parents have to deal with caregiving responsibilities during work hours, this can have consequences on their ability to handle their work responsibilities. Second, even if there is no failure in the planned child care arrangements, anxiety or stress at having to leave their children in child care can cause disruptions in parents’ ability to focus or concentrate at work (Googins, 1991). Finally, high quality child care arrangements that parents feel are both safe and healthy as well as affordable are increasingly difficult to find. When parents have to settle for lower-quality care, this can also be a significant source of stress and anxiety. The end result is that parents' capacity to cope with work demands and responsibilities may be limited due to disruptions brought on by child care arrangements. When this is the case, not only do employees suffer, but employers and organizations as a whole can be adversely affected by decreases in productivity, as well as problems with employee attitudes and morale.

The purpose of this project was to gain an in-depth look into the challenges that child care use and child care disruptions cause for working parents. The study looked specifically at the effects of child care problems on work outcomes such as job satisfaction, productivity, and motivation, as well as employee psychological outcomes, such as stress, conflict, and affect. This study has important implications for both parents and organizations, as well as for child care policy makers. For parents, child care problems may result in work stress and negative moods and may ultimately affect their
employability or promotability if disruptions interfere too often with work. For organizations, the inability of parents to meet the demands of work due to child care problems may result in decreases in productivity and performance, as well as increases in turnover and absenteeism. Finally, the degree to which child care problems have an effect on parents and organizations has implications for the development of child care policies in this country. In particular, it is important to understand the nature and extent of disruptions, as well as to be able to identify individuals at risk for disruptions in order to determine how to create effective policies that will benefit the greatest number of individuals.

By following parents over the course of a two-week period and recording their behaviors and attitudes at work, this study served to gain insight into the kinds of child care problems that they encounter and the effects of these problems on work outcomes. Specifically, this study was designed to explore the rich interplay among demographic variables, organizational characteristics, individual characteristics, family characteristics, and child care arrangements, and their relation to the problems and consequences experienced by working parents. While previous research has attempted to examine some aspects of parents' experiences with child care, the vast majority have done so retrospectively, asking parents to report their overall experiences in the past (e.g., Tetrick, Miles, Marcil & Dosen, 1994). The major limitation of these studies lies in the fact that participants are forced to try to remember events long after they have happened. Participants are likely to be somewhat inaccurate in their reporting, as well as to lose important details that speak to the whole of their experiences. This study seeks to expand on this research by examining the direct relationship between these variables as they
occur in order to capture the complexity and depth of the issues involved in managing caregiving and work.

The Work-Family Interface

Working parents are responsible for two very demanding roles – that of a parent and that of an employee – and interrole conflict results when the pressures of one role interfere with parents’ ability to handle the other role (Kopelman, Greenhaus, & Connolly, 1983). This conflict can be a function of role overload, which is a result of the excessive time and energy required to manage both roles, or role conflict, which results when the expectations and demands of the two roles collide (Neal, Chapman, Ingersoll-Dayton, & Emlen, 1993). Parents must answer to the needs of their children as well as those of the organization, and sometimes these needs conflict, causing stress and anxiety for the parents. This conflict has been referred to in the literature as work-family conflict and was defined by Greenhaus and Beutell (1985) as the “simultaneous pressures from both work and family which are mutually incompatible in some respect.” For example, a parent may be faced with the decision of choosing between an important meeting and a child’s soccer game. If they miss an important meeting they risk retribution from work, but if they miss their child’s game they risk disappointing their child and causing conflict at home.

The problems that parents experience as a result of trying to balance work and family can have serious consequences on parents’ health and well-being. For instance, work-family conflict is related to increased occurrences of alcohol consumption, hypertension, and poor physical health in working parents (Frone, Russell, & Cooper, 1997). The difficulties in balancing can also lead to stress, fatigue, and depression
(Chapman, Ingersoll-Dayton, & Neal, 1994), as well as lower life satisfaction (Adams, King, & King, 1996; Kossek & Ozeki, 1998). One theory that explains how interrole conflict decreases the general health of working parents is the scarcity hypothesis, which assumes that the sum total of human energy is fixed. Parents unsuccessfully attempt to increase their energy output in order to handle two demanding roles, and strain, stress, and conflict result (Baruch, Biener, & Barnett, 1987). Chapman et al. (1994) confirmed that individuals attempting to handle multiple roles experience significantly more stress than individuals who are responsible for a single role.

In addition to affecting parent’s well-being, work-family conflict can also cause problems for organizations. Interrole conflict is related to higher levels of stress in the work environment (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). In the family domain, frustrations and problems at home can spillover into work and decrease parents’ ability to enjoy and concentrate on work (Greenhaus & Parasuraman, 1999), as well as increase the occurrence of absences from work (Goff, Mount, & Jamison, 1990). When parents’ home lives interfere at work, it decreases their overall job satisfaction (Adams et al., 1996; Kossek & Ozeki, 1998) and makes them less capable of being effective and efficient employees. The result is that organizations are negatively affected by the problems and concerns that employees bring with them to work.

One of the largest sources of work-family conflict lies in the responsibility of arranging and managing child care. As the number of working women and single-parent and dual-career families has increased, so has the need for affordable, quality child care. And while the demand for quality child care has increased dramatically, the available supply is not sufficient to meet the needs of working parents (Clarke-Stewart, 1982; U.S.
General Accounting Office, 1995, 1997). A 1995 study found that the majority of child care centers in America offer poor to mediocre care and that 12 percent of centers have care low enough to jeopardize the health and development of children (Helburn, 1995). At the same time, only one in seven centers is rated as providing overall good quality child care (Helburn, 1995). The result of this shortage of quality care is that the majority of parents has a serious problem finding a place where they feel comfortable leaving their children (U.S. Department of Labor, 1994).

Effects of Child Care Problems

Placing children in non-parental care, regardless of the quality of the care, can result in difficulties for both working parents and organizations. When parents experience child care problems while at work, parents and organizations are likely to suffer the consequences. There are two primary avenues by which child care problems typically affect individuals and corporations – through the logistical, practical problems of dealing with child care issues, and through the psychological and physical stress caused by balancing caregiving and work (Fernandez, 1986).

The practical problems associated with child care are most often the result of a breakdown or failure in the normal child care arrangements. Child care arrangements may fail if children get sick and cannot go to day care, or if the normal child care provider is not available for some reason (Galinsky, 1992). The high turnover rates among child care providers (around 33 percent; National Child Care Information Center, 1997) is another reason that parents may experience disruptions in child care arrangements. A report in Fortune magazine stated that 40 percent of parents had experienced at least two breakdowns in their normal child care arrangements during the
previous three months (Galinsky & Hughes, 1987). Child care breakdowns are associated with increases in absenteeism and tardiness among working parents (Fernandez, 1986; Galinsky, 1992; Galinsky, Friedman, & Hernandez, 1991; Zedeck & Mosier, 1990). In addition, 65 percent of workers admitted using corporate time to deal with child care issues, and over two thirds of managers reported missing work due to children’s illnesses (Fernandez, 1986). In a large-scale survey of the effects of child care on corporate productivity, Fernandez (1986) found that 67 percent of workers report that child care problems cost their company money in unproductive use of employees' time and energy. And it is not only the parents in an organization who are affected by child care disruptions—in one survey of non-parent employees, nearly half reported that their work had been disrupted in the past due to the child care problems of their colleagues (Mize & Freeman, 1989). The sum total of these findings is that parents and companies lose valuable work hours and suffer productivity losses when regular child care arrangements fail.

In addition to the practical problems associated with child care use, there is also the concern of the emotional and psychological ramifications of child care disruptions. Child care can cause serious stress for working parents who have to worry about whether they will be able to afford the care, whether their children are safe, and whether or not they are damaging their children by leaving them in day care all day. This stress can affect both parents’ well-being as well as organizations’ productivity. Galinsky and Hughes (1987) found that child care problems are related to higher levels of stress as well as stress symptoms, such as shortness of breath, smoking, alcohol consumption, back pain, and tranquilizer use. Even if there are no disruptions in normal child care
arrangements, leaving children with a child care provider can cause stress and anxiety for parents who worry about their children's health and welfare while they are separated from them. One in every three parents reports worrying about their children in day care all or most of the time that they are at work (Roth & Preston, 1989). This constant stress at work can affect parents' physical and psychological well-being (Ganster & Schaubroeck, 1991).

Organizations are also affected by the stress experienced by working parents. Working parents find that work stress due to child care issues makes their jobs significantly more difficult (Tetrick et al., 1994). Because work stress is estimated to cost organizations $100 billion every year (Rosch, 1984) and is related to both absenteeism and turnover (Gupta & Beehr, 1979), the increased stress that results from child care issues has the potential to be very costly for organizations. Parents report that when they are dealing with child care stress, they have difficulty concentrating on work (Galinsky, 1992; Tetrick et al., 1994). An obvious result of this inability to concentrate is a loss in parents' ability to be productive.

In sum, the current literature indicates that the use of non-parental child care arrangements can have a dramatic impact on both parents and organizations. The majority of research that has examined the impact of child care use and disruptions on work outcomes has taken a retrospective approach, asking parents to report past experiences with child care arrangements (e.g., Fernandez, 1986; Roth & Preston, 1989; Tetrick et al., 1994). One limitation of these studies lies in the fact that they require parents to recall disruptions that have occurred in the past and to summarize their feelings and emotions associated with child care problems. Given the complexity of issues
associated with the interface of work and family, a retrospective approach is not likely to capture the depth of experiences that working parents have as a result of child care problems. For example, parents would probably have a great deal of difficulty reporting the average amount of time they spend each day worrying about their children or indicating the resulting impact that this worrying has on their concentration levels. For this reason, this study uses an Experience Sampling Method (ESM) approach to conduct an in-depth examination of parents’ experiences with child care arrangements and disruptions.

*Experience Sampling Method*

The Experience Sampling Method was developed largely by Csikszentmihalyi and his colleagues (see Csikszentmihalyi & Larson, 1984) in order to randomly sample the experiences people have in their everyday lives. This methodology has been used successfully in a wide range of areas, including developmental, personality, organizational, and communications research (e.g., Alliger & Williams, 1993; Hormuth, 1986; Kubey, Larson, & Csikszentmihalyi, 1996; Stone, Kessler, & Haythornthwaite, 1991). The original procedure (known as signal-contingent ESM) developed by Csikszentmihalyi and his colleagues involved having participants carry an electronic pager throughout their normal day and complete brief questionnaires after being signaled at random times by the researcher. While numerous variations on this basic methodology have been used, the current study follows contemporary researchers in using hand-held computers for both signaling participants and administering questionnaires.

The major advantage of ESM is that it allows researchers to study behaviors and attitudes as they naturally occur so as to get a more accurate depiction of their actual
occurrence (Alliger & Williams, 1993). This avoids the interference of the laboratory setting and allows for examination of behavior in conjunction with the situation instead of in a contrived environment. In the current study, this will minimize the problems associated with retrospective recall of child care issues. A second major advantage of ESM is that it allows for a temporal depiction of psychological variables to allow for the examination of the duration and intensity of reactions to various stimuli over time (Alliger & Williams, 1993). In the current study, for example, this will allow us to examine when and for how long reactions to certain disruptions at work last. Finally, ESM allows us to examine individual differences that may not otherwise be evident when variables are collapsed across time (Alliger & Williams, 1993).

Research Questions and Predictions

While there is evidence that child care issues can cause extensive problems for families and organizations, previous research has not examined the depth of problems associated with child care disruptions. In this study, a number of research questions and predictions are proposed that will direct the examination of the impact of child care problems on psychological and work outcomes. While some specific predictions are formulated in the context of this research, the power and value of the current research lies also in the richness and descriptive nature of the data that will be captured through the sampling method itself.

In this thesis, I first discuss the impact of various aspects of child care on psychological and work outcomes, as well as examining predictors of child care disruptions. Then, I discuss individual differences and support systems that may impact the influence of child care on these outcomes. Although all working parents with
children in non-parental care may be susceptible to problems associated with child care, there are most likely some individuals in some situations that are more affected by these problems than others. In the context of this research, I explore several individual difference variables that I believe will influence experiences with disruptions due to daycare. In addition, I examine potential support mechanisms that may act to temper the negative impact of child care disruptions. A conceptual model of the issues presented in the following sections is presented in Appendix A to provide an overall framework of the research questions and predictions targeted and developed in the context of this study.

*Frequency of Child Care Disruptions.* While using non-parental care arrangements gives parents the freedom to combine work and family, managing child care responsibilities can also cause significant disruptions in the flow of the work day. Parents may be tardy to work if their normal child care arrangement does not begin on time or is not available, have to leave early if a child becomes ill, receive calls or e-mails during the day when there is a problem with their child that the care provider cannot handle, or miss work entirely if a child stays home for the day. Before examining the impact of disruptions, it is important to understand when and why these disruptions occur. Aspects of the care situation and characteristics of the child and the family were examined in order to determine what variables are significant predictors of the frequency of disruptions. In the family domain, it is likely that the higher the demand for caregiving, the higher the likelihood of experiencing disruptions. Demand for caregiving can increase as a function of a number of family and child characteristics. For example, younger children, who require more attention as a result of their lack of independence, and a greater number of children increase the demand for caregiving. Additionally,
children with special needs, including physical disabilities and reoccurring illnesses, typically require significantly more time and attention from their caregivers. As the demands increase, so too do the opportunities for some aspect of caregiving to interfere with work.

In contrast to demand, resources that are available to aid in caregiving are likely to reduce the frequency of disruptions. Such resources can include back-up and emergency care arrangements, as well as the availability of normal child care arrangements in the evenings or on the weekend. Finally, higher quality care arrangements with smaller caregiver-child ratios and better caregiver education are more likely to be able to manage situations that occur while caring for children without disrupting parents, and so serve as a better resource for parents. Therefore, I predict that both higher caregiving demand and lower caregiving resources will be related to higher frequency of child care disruptions (Prediction 1).

Impact of Child Care Disruptions. When parents have to take time from work to handle disruptions caused by child care issues, they are unable to use that time for work responsibilities. In addition to tangible disruptions that require time from work to handle, child care responsibilities can also cause psychological disruptions when parents spend time thinking and worrying about their children during the day. If parents' attention is occupied by their children, they will be less able to attend to their work tasks. Given that time and energy during the workday are limited, the more time is taken by child care disruptions, the less likely parents will be able to concentrate on work and be productive employees. Consequently, I predict that the occurrence of disruptions will be negatively
related to parents' work outcomes, including motivation, productivity, concentration, and job satisfaction (Prediction 2).

In addition to impacting parents' ability to be effective employees, child care disruptions are also likely to negatively impact the psychological well-being of working parents. Having to take time from work and being aware of the challenges that this may present for their coworkers and organization can be a significant source of stress and conflict for parents. We know that parents face significant stress as a result of balancing work and caregiving, and frequent disruptions from child care arrangements might only increase the stress. Kossek and Nichol (1992) found that experiencing problems with child care was associated with more negative attitudes towards the interaction of work and family. Overall, I predict that the frequency of workday disruptions will be positively associated with psychological outcomes, including stress, work-family conflict, and negative affect, and negatively associated with positive affect (Prediction 3).

Quality of Care. The care provided by a non-parental child care arrangement is a function of numerous factors that determine the safety, well-being, and benefit of the child care experience for children. These factors, according to the National Academy of Sciences Panel on Child Care Policy, include the caregiver-child ratio, caregiver qualifications, caregiver stability, the structure of daily activities, and space and facilities (Hayes, Palmer, & Zaslow, 1990). In contrast, parents tend to use a different set of criteria to judge the quality of care than those used by child development specialists. For parents, the most important factors in determining quality tend to be convenience (e.g., hours, location), dependability, safety, and the quality of the learning environment (see Kisker & Maynard, 1991). While objectively-measured quality of care is key in
predicting the development or well-being of children in care settings, it is the parents’
perception of quality that is most important in understanding how they are affected by the
quality of care. In this study, I focus on parents’ perceptions of the quality of care based
on a combination of factors, including parents’ reports of the caregiver-child ratio,
caregiver education, and overall satisfaction with the quality of care that their children are
receiving.

As many as half of all parents report some level of dissatisfaction with the quality
of their current care arrangements (Neal et al., 1993). This dissatisfaction may reflect
parents’ concerns with the safety of their children, the relationship between their children
and the caregiver, or the educational value of the care arrangement for their children. If
parents are not satisfied with their care arrangements, they are likely to worry about their
children during the day, leading to both stress and conflict between work and family. For
example, Goff et al. (1990) found that parents experienced significantly less work-family
conflict if they were satisfied with their child care arrangements. If parents are concerned
with their child care arrangements, this may increase the amount of mental energy that
must be devoted to caregiving responsibilities, leaving less cognitive capacity for dealing
with work responsibilities. Parents’ satisfaction with child care also spills over into
affective work outcomes. Child care satisfaction is associated with higher job
satisfaction and organizational commitment (Buffardi & Erdwins, 1997). In addition,
working mothers experience less anxiety about being separated from their children when
they are satisfied with their care arrangements (Buffardi & Erdwins, 1997). Therefore, I
predict that parents with children in higher quality care who are more satisfied with their
care arrangements will have higher overall psychological well-being and higher work outcomes (Prediction 4).

In addition to the above aspects of quality of care, the cost of care and its relationship to outcome variables were also examined. While there is a strong relationship between the quality of care and the resource costs of care (Kisker & Maynard, 1991), the relationship between the quality of care and the real cost of care (based on what parents actually pay) is not as clear. The gap between resource costs and what parents pay is often a function of the low salaries of caregivers, the uncompensated capital costs of running a care center, and the subsidies and donated resources that reduce the costs to parents (Kisker & Maynard, 1991). Moreover, informal care provided by family or friends is often significantly less expensive than would be expected based on calculated resource costs of providing the care. In short, the relationship between actual costs paid by parents and the quality of care is unclear. However, the cost of care, regardless of its relationship to quality, is likely to be a significant source of stress for many parents. Finding care that is affordable is one of the key sources of stress related to managing child care for working parents. Although I do not have specific predictions related to the cost of care, I wish to explore the relationship of the cost of care to parents' experiences of overall well-being, affect, stress, and work-family conflict.

In addition to the absolute cost of care, the cost that parents pay relative to their household income is equally important in understanding the importance of cost. On average, working parents spend nine percent of their income on child care expenditures, and this number climbs to as much as 20 percent for low-income families (The Urban Institute, 2001). The result is that lower income families have a more difficult time
finding quality child care that they are able to afford. A study by the Carnegie Corporation of New York (1996) found that children in low- and moderate-income families are more likely to be in child care that does not meet minimum quality standards than were high-incomes families. Emlen and Koren (1984) found that low-income families who had difficulty paying for quality child care were more likely to experience work-family conflict, had more difficulty finding child care, and were more likely to experience stress and worry due to child care than high-income families. Therefore, I also examine the importance of the relative cost of care (as a percentage of overall income) and its impact on the well-being of parents.

Type of Child Care Arrangement. Parents who decide to enter the workforce and leave their children with a child care provider have to face the important decision of which type of care arrangement to use. The three most popular options for non-parental care are day care centers (used by 30 percent of families), family home care (used by 21 percent), and family/friend care (used by 26 percent; Casper, 1996). Day care centers provide care in a non-residential facility, usually with 13 or more children; family home care provides care in a private residence other than the home of the child; and family/friend care is care provided by a relative (other than a parent) or a friend.

The comparative absence of data and conflicting results of studies that have been conducted on the advantages of one form of care over another make it difficult to predict which form is likely to have the largest positive or negative impact on working parents. On one hand, traditional day care centers have been found to be more problematic than other forms of care. For instance, Emlen and Koren (1984) found that absentee rates were lower for women using family home care than for those using day care centers. In
addition, Erdwins and Buffardi (1994) found that mothers with children in day care centers were less satisfied with the availability and dependability of care than were mothers who used family home care. On the other hand, traditional day care centers can also have advantages. For instance, many parents prefer such child care because these centers are more likely to be supervised and licensed by government agencies than are family home care locations. Additionally, these centers are more likely to provide consistent care even if one of the caregivers is ill or goes on vacation (Scarr, 1998), and they typically provide a more flexible, diverse environment that can change and grow with the children (Kahn & Kamerman, 1987). While family/friend care has not received as much research attention because of the informal nature of the care, there is evidence that parents who use family/friend care experience fewer child care disruptions than do users of day care centers or family home care (Kossek, 1990). Family/friend care also tends to be less expensive than the other care options, making it a good option for low-income families (Scarr, 1998).

In this study, I wished to further explore parents' experiences with different child care arrangements to see what differences they present on a day-to-day basis. Because of the contradictions and inconsistencies found in other research relative to the benefits of various forms of care, research questions were posed around this issue rather than articulating specific predictions. For example, I wished to see if there were significant differences in the reliability of the care and the frequency of disruptions among the different care arrangements. More specifically, does the form of care predict outcomes above and beyond what can be understood from examining the quality of the care and reliability of the care? Are parents more satisfied with one form of care than another?
In addition to examining the three major forms of child care discussed previously, I also examined one sub-category of day care centers – employer-sponsored child care centers. This increasingly popular form of care consists of a center located in or near an organization, usually developed and run by one or more employers for the use of their employees. Although this type of care is currently only available to a small minority of the working population, it is included in the current study due to the increasing attention it is receiving from parents, organizations, and child care policy makers. The evidence of the benefits of on-site child care centers relative to other forms of care are clearer than for the other child care options. Women with children in an on-site day care facility have less stress and higher levels of job satisfaction (Raber, 1994), increased motivation and productivity, and decreased absenteeism and turnover (Roth & Preston, 1989). The benefits associated with on-site child care facilities are likely to be at least partially due to the quality and reliability of care provided by this care arrangement. I examined on-site day care centers as a sub-set of day care centers in some analyses to determine how they compare to other forms of care in the frequency of disruptions and their impact on parents’ ability to balance work and family.

*Individual Differences.* While some individuals have very negative experiences with child care and face significant amounts of tension between work and caregiving, there are others who have pleasant, beneficial experiences with child care. To some degree, these differences in experiences are probably due in some part to differences in the quality of care and the frequency of disruptions. However, there are also differences in how parents experience disruptions when they occur. It is likely that individuals have diverse reactions to child care issues, which are influenced by a host of individual and
environmental factors. I discuss briefly some of the individual differences that I predict will moderate the relationship between child care disruptions and work and psychological outcomes.

**Neuroticism.** Individuals who show high levels of neuroticism tend to be more sensitive and emotional and experience more feelings that are upsetting to them, such as anxiety and fear (Costa and McCrae, 1992). Experiences that might have very little impact on someone low in neuroticism can cause more extreme negative emotional reactions for individuals who are high on neuroticism. In the context of child care, when disruptions occur and interrupt the work day, individuals who are high on neuroticism are likely to be more sensitive to the disruption and experience more negative emotions as a result. Therefore, I predict that child care disruptions are more likely to have a negative impact on outcomes for individuals who are high on neuroticism than for individuals with low neuroticism (Prediction 5).

**Relationship Closeness.** The closeness of a relationship between two individuals is an indication of the interdependence that exists between them (Berscheid, Synder, & Omoto, 1989). By definition, the more interdependent a relationship is, the more the experiences of one individual in the relationship impact those of the other. In the current study, the concept of closeness can be applied to the parent-child relationship. Parents with a closer, more interdependent parent-child relationship may be more impacted when an issue arises with their children. For example, if parents who have a very close relationship with their child discover that their child has a particular illness that needs attention, they may be more likely to alter their own behavior to address that child’s dilemma. Therefore, I predict that parents who have a close relationship with their child
will be more impacted by child care disruptions than parents whose relationship with their children is not as close.

**Work and Family Involvement.** Work involvement is defined as “the degree to which one’s work is central to one’s self-concept or sense of identity” (Frone, Russel, & Cooper, 1992). Similarly, family involvement is the degree to which family is the focus of one’s identity (Adams et al., 1996). For individuals with high family involvement, problems that occur during work as a result of family issues have the potential to have a large impact because family is so important to these individuals’ sense of self.

Individuals with high family involvement are more vulnerable to problems in the family domain than individuals with low family involvement. When the family life of high family involvement individuals is disturbed in some way, so is their identity. Several studies have found that high levels of family involvement are associated with greater family interference with work (e.g. Adams et al., 1996; Frone et al., 1992). In addition to the psychological aspects of family involvement, family involvement is also an indication of how people spend their time and energy (Aryee, 1992). Because the total of one’s time and energy is fixed, as resource allocation in one domain increases, it is likely to decrease in the other domain. Fox and Dwyer (1999) found that individuals with high family involvement showed more of an effect of stress on work-family conflict.

Consequently, I predict that the relationship between child care disruptions and work and psychological outcomes will be stronger for individuals with high family involvement (Prediction 7).

In addition to examining family involvement, the role of work involvement is also explored. The impact that work involvement may have on handling child care
disruptions is less clear than the impact predicts by family involvement. Individuals who define themselves by their work might have strong reactions to disruptions at work because they interfere with the work domain, which is particularly important to them. However, being high on work involvement means that individuals allocate significant proportions of their time and energy to work activities. When disruptions occur, these individuals may be more able to continue with their work activities or compensate for time missed without much negative impact. I do not articulate specific predictions related to work involvement, but instead conduct exploratory analyses to examine its interactive effect with child care disruptions.

*Social Support.* Another set of important variables that have the potential to influence the relation between child care disruptions and psychological and work outcomes includes support mechanisms that are available to aid parents and alleviate the responsibility of dealing with child care issues. Social support can help minimize the psychological stress that results from disruptions by acting as a buffer between the disruptions and outcomes (see Gore, 1981). Support for working parents can come from both the family and the work domains.

*Family Support.* Support from spouses and other family members can help parents manage the demands of work and caregiving. Having a spouse or partner helps reduce the stress of caregiving demands (Chapman et al., 1994). Spouses provide both emotional support, giving their partners an opportunity to talk about their situation, as well as practical support in sharing responsibility. Similarly, individuals who have a relative living in their household or in close proximity have additional people on whom they might depend to manage child care responsibilities. Support from family is
associated with more positive work-family attitudes (Kossek & Nichol, 1992) and less interference of family in the work domain (Adams et al., 1996). I predict that the relationship between child care disruptions and work and psychological outcomes will be weaker for individuals with more support from spouses and extended family than for those with less support (Prediction 8).

**Organizational Support.** Similar to the aid provided by spouses or extended family members, organizations and supervisors can also provide support by aiding parents in dealing with child care and workday disruptions. For example, a supervisor who is supportive when an employee has to take a personal call to deal with a child care problem can help alleviate the psychological effects associated with the disruption. Indeed, support from organizations has been found to be associated with lower work-family and interrole conflict (Fox & Dwyer, 1999; Goff et al., 1990; Greenberger, Goldberg, Hamill, O’Neill, & Payne, 1989). In addition, Thomas and Ganster (1995) found that supportive supervisors were associated with higher employee perceptions of control over work and family, lower work-family conflict, and higher job satisfaction. Because a significant amount of stress related to child care disruptions can come from parents’ concern with their organization’s reaction to the disruptions, it follows that parents who perceive that they have the support of their organization will experience less impact of disruptions on psychological and work outcomes. Therefore, I predict that the relationship between child care disruptions and psychological and work outcomes will be weaker for individuals in supportive work environments (Prediction 9).
Method

Participants

Participants in this study were 80 working mothers from the Houston, Texas area with pre-school age children in full-time, non-parental care. The following sections provide details on how the sample was recruited and demographic information of the participants.

Participant Recruitment. In order to participate in this project, participants were required to have at least one child of pre-school age (i.e. 4 years of age at the start of the current school year) in full-time (defined as 35 or more hours per week), non-parental care. If child care was provided by a non-parental family member, that individual was required to be 18 years of age or older. Additionally, participants were required to be employed full-time (defined as 35 or more hours per week by the Bureau of Labor Statistics).

Participants in this study were recruited throughout the Houston area through advertisements posted in free, widely-available community newspapers (The Greensheet and The Houston Press) and at local stores and organizations (e.g., churches, schools, community centers, grocery stores). Locations were selected for advertising based on a sampling plan aimed at targeting an ethnically and socio-economically diverse participant pool. Posted advertisements described the requirements for inclusion in the study, but gave limited additional information (e.g., the length of the study was not mentioned) in order to reduce self-selection biases. Finally, the advertisements stated that participants would receive $30 for their participation, as well as tickets to be entered into a drawing for several additional rewards (e.g., tickets to a children’s museum).
Description of Sample. Individuals who called to express interest in the study were questioned about their eligibility and given more details on what was involved in participating. Of the individuals who called, several did not meet the eligibility requirements (e.g., were not employed full-time) and several others were not able to participate due to the nature of their work (e.g., a public defender who spent the majority of her time in court and would not be able to respond regularly to the study). The remaining individuals \((n = 124)\) agreed to participate in the study. Of this sample, 120 were women and 4 were men. Due to the low number of men who responded, only the female participants were included for the purposes of the current study. From the original female sample of 120, there was complete data from 80 participants. The remaining 40 participants were missing a significant amount of daily responses (more than 35\%) or did not complete all parts of the study. For the majority of the 40 participants removed from the study, non-completion was due to factors beyond their control (e.g., Palm Pilot was lost or stolen, Palm Pilot data was erased, death or illness in the family). A comparison of the 80 participants used in analysis to the 40 participants removed from the sample revealed no significant differences between the two groups on any demographic variables or key study variables (where available). All analyses are based on the final sample of 80 females.

The average age of the participants was 33.89 \((SD = 6.94)\) and the median household income was $59,500.00 \((M = $66,213.92, SD = $43,347.08)\). In comparison, the median income for families in the City of Houston is $40,443 \((U.S. \ Census \ Bureau, 2002)\) and in the United States is $52,275.00 \((U.S. \ Bureau \ of \ Labor \ Statistics, 2001a)\). Figure 1 presents a histogram of the total household income of participants. The ethnic
composition of the sample was 40% White, 36% Black or African American, 18% Hispanic, and 5% Asian, compared to 31%, 25%, 37%, and 7% respectively in the City of Houston (U.S. Census Bureau, 2002). The majority (69%) of the participants were married or living with a lifetime partner, and the remaining 31% were single (including those who were divorced or widowed and not remarried and those who had never been married). On average, participants had 1.73 children ($SD = .83$). Eleven percent of the participants had a high-school education or less, 30% had some technical training or college coursework, 32% had a college degree, and 27% had completed some postgraduate work.

![Figure 1. Histogram of participant household income.](image-url)
Procedure

The data in this study were collected over a nine-month period from late August to early June of the 2001-2002 school year. The study period for each participant was two weeks and each participant began the study on a Monday and ended two weeks later. Due to the fact that some participants had children of school age as well as children in day care, no data collection took place in weeks that included major school holidays (e.g. Thanksgiving break). In addition, no data collection took place in the week immediately following the events of September 11, 2001. In order to ensure that the study was capturing a two-week period that was as typical as possible for each participant, sessions were scheduled such that participants had no planned vacations, surgeries, abnormal work circumstances, etc. during that period.

Each session began with a face-to-face orientation meeting between the researcher and the participant. At this meeting, the researcher gained informed consent from each participant and collected detailed background information and global measures. In addition, the participants were given the materials for the two-week study and were trained on the use of the study equipment. Each participant conducted at least one test session to ensure that they were comfortable with the process. Finally, participants were given a letter to keep with them throughout the study that explained the study and provided contact information for anyone who might have questions regarding the individual's participation (e.g., a supervisor or spouse).

After the orientation meeting, participants carried hand-held computers during work for ten consecutive work days and responded to questions daily. During that time, they were signaled randomly once during every two-hour block of time while they were
at work. Thus, participants were typically signaled four times per work day. Upon receiving a signal, participants completed a brief questionnaire on a Palm Pilot m-100 hand-held computer programmed using the Experience Sampling Program (ESP; Barrett, n.d.). All functions on the Palm Pilot other than the ESP program were disabled and the computer only functioned immediately after signaling respondents. Participants were given five minutes to respond to the signal. After they completed the survey, or if they did not respond within the allotted time, the Palm Pilot returned to a sleep mode until the next signal. In addition, if a participant took more than five minutes to respond to any one question, the session was terminated. The program recorded the time of the signal, the time the participant began the survey, and the amount of time that it took for the participant to complete the survey. If the participant did not complete a session, the computer recorded the time that the signal was sent. In order to ensure that participants did not have difficulty with the process and to encourage them to respond as frequently as possible, they were contacted within the first two days of the study for a brief phone interview. In addition, they were given a phone number at which they could contact the researcher at any time if they had problems with the Palm Pilot or the process. On average, participants responded to 87% of the study sessions, which resulted in an average of 35 sessions per participants over the two-week period.

At the end of the two-week period, participants attended a debriefing meeting with the researcher at which point they returned their Palm Pilots and received their compensation for participating. In addition, they completed a brief final survey on their reactions to the study. Finally, participants were given a detailed debriefing form that provided additional information on the purposes and goals of the research.
Background Measures

The background information completed at the initial face-to-face meeting gathered extensive personal information on each of the participants. The survey included five main sections: demographic information, work information, information on children, child care information, and parenting information. An abbreviated version of the complete background survey is included in Appendix B. Detailed information on the measures in each section follows.

Demographic Information. This section collected demographic information on the candidates, including gender, age, ethnicity, marital status, income, and education level.

Work Information. This section gathered detailed information on the participant’s work environment. Information was collected on the type of job and industry, turnover intentions, and the family-friendly benefits of the organization. In addition, this section included several scales related to the work environment. All of the scales used a five-point Likert scale ranging from strongly disagree to strongly agree, unless otherwise noted.

Support of work-family balance provided within the work environment was measured by an eight-item scale created for the purposes of this study. An exploratory factor analysis with Varimax rotation conducted on the eight items revealed that seven of the items loaded on a single factor (Eigenvalue = 4.13, \( \lambda = .88 \)), which was called workplace support. One of the items, “Most of my coworkers are understanding of my family responsibilities,” did not load on the overall factor and was removed from the scale. In addition to examining overall workplace support, the overall scale was also
divided into two sub-factors in order to examine support at two levels within the organization. The first factor, *organizational support* \( (\approx = .82) \), included 4 items that measured support at the organizational level and included such items as, “My company does better than most in helping working parents,” and “My company is understanding if I have to be absent for personal reasons.” The second factor, *supervisor support* \( (\approx = .74) \), included two items that examined the level of support directly from the supervisor, including “My boss is understanding when I have to deal with family problems during work hours.”

*Organizational commitment* was measured using the Organizational Commitment Questionnaire (Mowday, Steers, & Porter, 1979; Porter, Steers, Mowday, & Boulian, 1974). The scale included seven items with an Alpha reliability of .76. A sample item includes, “I really care about the fate of my company.”

Five items from Brayfield and Rothe’s scale (1951) were used to assess *overall job satisfaction*. Items included, “I find real enjoyment in my work,” “I feel fairly satisfied with my present job,” “Most days I am enthusiastic about my work,” “Each day at work seems like it will never end,” and “I consider my job to be rather unpleasant.” The alpha reliability for the job satisfaction scale was .88.

Mental well-being at work was measured using five items from the *Mental Ill-Health* sub-scale of the Occupational Stress Indicator (Cooper, Sloan, & Williams, 1988; Evers, Frese, & Cooper, 2000). Sample items included, “I usually feel relaxed and at ease during work,” and “If the job I am doing starts to go wrong, I sometimes feel a lack of confidence and panicky.” Alpha reliability for the scale was .86.
A portion of the NEO-Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992) was used as a basis for measuring neuroticism. The items used to measure neuroticism included "I am a worrier," "I often feel inferior to others," "I rarely feel lonely or blue," "I often feel tense and jittery," "I rarely feel fearful or anxious," and "I often feel helpless and want someone else to help me." These items were used to measure general neuroticism and were not specific to the work setting. Alpha reliability for the included neuroticism items was .72.

The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) was used to measure affect at work. Participants were presented with 10 negative affect adjectives (e.g. distressed, irritable) and 10 positive affect adjectives (e.g. alert, attentive) and instructed to indicate the extent to which each adjective described how they had felt at work during the past few weeks. Based on previous findings related to the factor structure of affect (see Watson and Tellegen, 1985), the positive affect items were combined to create a positive affect scale ($\alpha = .91$) and the negative affect items were combined to create the negative affect scale ($\alpha = .87$). The correlation between positive affect and negative affect was -.44 ($p < .001$).

In addition to the above scales, several items were created for the purposes of this study to measure self-reports of aspects of job performance. These items were designed to measure concentration, "I often have trouble concentrating on my work," "I find it easy to stay focused at work," and "I am often distracted during work hours"; motivation, "It is easy to stay motivated at work"; and productivity, "In general, my hours at work tend to be highly productive." The concentration items were combined to create a single scale ($\alpha = .77$).
**Information on Children.** Participants provided information on each child under the age of 18 living full-time in their home. This information included age, gender, and any special needs (e.g. physical handicaps, recurring illnesses). In addition, parents evaluated the independence of each child in child care, as well as their adjustment to child care. These questions included, “This child does not like to be separated from his/her parents,” “This child is very independent,” “This child gets along well with other children,” “This child is generally happy,” and “This child had a lot of friends at his/her child care location.”

**Child Care Information.** Parents provided information on the child care arrangement(s) used by each child under 18 in the household. Items included the type of care used, relationship of the care-giver to the child, the number of hours used per week, and the availability of the care arrangement for late hours. For the purposes of analyses, information on the primary child care arrangement of the child in full-time child care was used. The type of care used was coded into one of four categories: day care center, company-sponsored day care, Family/Friend care (care provided by non-parental family and friends), and family child care home (care provided by someone other than family or friend in their home). In addition to normal child care arrangements, participants reported the availability of back-up care arrangements, including back-up care centers and relative support. Finally, participants were asked to report the frequency with which they had experienced disruptions in their normal child care arrangements during the previous twelve months. Specifically, parents reported the number of times that they arrived late to work, left early from work, took phone calls or e-mails at work, left work for some portion of the day, or missed an entire day of work to manage caregiving
responsibilities. This final question was asked in order to compare retrospective reports of disruptions to daily recordings of disruptions.

In addition to assessing these aforementioned characteristics of the care arrangement, the overall quality of the care was also examined. While there are many ways of measuring the quality of care, there are several indicators that are commonly used, both individually and in combination, as proxies for quality when more formal care evaluations are not possible. These indicators include the cost of the care, the caregiver/child ratio, the education of the child care provider, and parents’ satisfaction with the quality of care provided. These specific indicators were selected for use in this study because they could be provided by parents without conducting site visits of the care facilities. Additionally, even more important than the objective measurement of the quality of care is the parent’s own perceptions of the quality of care. It is these perceptions of the quality of care and not the reality of the care situation in which the parents must envision their children each day.

Parenting Information. The final section of the initial interview gathered information on the parenting role of the participants. Questions included the percentage of care-giving for which the participant was responsible and the percentage of care-giving a spouse or partner was responsible for, as well as the percentage of the time the individual dealt with disruptions when they occurred during the work day. Participants reported the number of extended family members they had living in their household, as well as relatives in the Houston area. In addition, participants listed any major responsibilities they had outside of work and care-giving (e.g., caring for an elderly parent).
Four dimensions were used to examine the relationship between work and family: *negative work-family spillover, positive work-family spillover, negative family-work spillover, and positive family-work spillover*. Items for these scales were taken from Grzywacz and Marks' (2000) work on the work-family interface. Sub-scales were calculated for each of the four dimensions, as well as an overall measure of *work-family conflict* created from a composite of all 16 items (α = .71). Higher scores on the work-family conflict scale were associated with more conflict; higher scores on the positive spillover dimensions were associated with a more positive relationship.

To assess the level of interdependence between participants and their children, portions of Berscheid et al.'s (1989) Relationship Closeness Inventory (RCI) were used. First, parents rated the degree of influence their children had on various aspects of their lives. There were nine items in the *influence scale*, including “My children do not influence my mood,” and “My children influence the way I feel about myself.” Alpha reliability for the scale was .70. In addition to the influence questions, parents estimated the amount of time they spent with their children each day during the work week.

Participants' *work involvement*, or the degree to which their identity was defined by their work, was assessed using Kanungo’s (1982) six-item Work Involvement Questionnaire. Items included, “The most important things that happen in life involve work,” and “Work should be only a small part of one’s life.” In addition, two additional items were added for the purposes of this study to assess parents’ motivation for working. These items included, “I would quit my job if I could afford not to work,” and “I work because I want to, not because I have to.” In order to assess *family involvement*, the work involvement items were modified by changing “work” to “family” (see Frone et al.,
1992). For example, the first work involvement item was changed to, "The most important things that happen in life involve family." Alpha reliabilities for the work involvement and family involvement scales were .70 and .83, respectively.

**Daily Measures**

**Experience Sampling Method Measures.** Participants completed the same 21 multiple-choice questions each time they were signaled. The items used in the daily questionnaire are included in Appendix C. Each session took approximately two minutes to complete. The questions on the survey included an item on their activity when they were signaled (work, personal, or family activity); questions on their concentration, motivation, productivity, stress, work-family conflict, and job satisfaction when signaled; and three positive affect and three negative affect items (Watson et al., 1988).

Participants were instructed to respond to the affect items based on their mood or affect at the moment they were signaled. The three negative affect questions (distressed, unhappy, and nervous) were combined to make a negative affect scale, and the three positive affect items (enthusiastic, interested, and happy) were combined to make a positive affect scale. Because of the tendency of individuals high in neuroticism to experience negative emotions more extremely, the correlations between individual-level neuroticism and the ESM psychological variables were examined. Results of the correlations revealed that neuroticism was strongly correlated with both stress (r(80) = .40, p < .01) and negative affect (r(80) = .33, p < .01). Based on these results, analyses of relationships with stress and negative affect as outcomes were controlled for neuroticism.

Seven of the survey items assessed the occurrence of child care disruptions at any time since the previous signal. The disruptions included in the survey were selected
based on the results of focus groups with working parents. Participants recorded the occurrence of the following disruptions due specifically to child caregiving responsibilities: arriving late to work, using alternative care arrangements, missing work, taking time away from work, receiving phone calls or e-mails related to children, leaving work early, thinking about children, and worrying about children. In addition to examining the disruptions separately, all of the disruptions except thinking about children and worrying about children were summed to create a single variable that represented the total number of disruptions since the previous session.

*Diary Entries.* In addition to using a Palm Pilot for daily recordings, participants also carried a small notebook to use as a diary. The purpose of the diary was twofold. First, participants used the diary to supplement the Palm Pilot in case of errors made during responding or missed sessions. This data, when applicable, was used to fill in holes in the Palm Pilot data. Second, participants were instructed to write in the diary each evening using a critical incidents format in order to describe the events of the day in more detail. Each evening, participants recorded any major disruptions that occurred during the day and gave details about the incident and their reactions to it.

*Final Questionnaire*

The purpose of the final questionnaire was to determine the degree of disruption that was caused by the procedure for each participant, as well as their impressions of how well the study captured their typical experiences. The questionnaire was used to determine whether there were participants who needed to be eliminated because they had difficulty with the procedure or felt that the study period was not a typical two-week period for them. The items included in this survey were created for this study on the
basis of information on the kinds of disruptions caused by Experience Sampling Methodology. The final questionnaire can be found in Appendix D. Based on responses to the final survey, there were no participants from the final sample of 80 who had to be eliminated because they found the process disruptive or because the two-week study session was atypical in some way.

**Analyses**

For the analyses discussed in this paper, the signal-level ESM data were aggregated to the day level. The decision to aggregate was made for several reasons. First, when disruptions occur, it is likely that the effects last longer than the immediate time of the response. Also, the disruptions are not recorded exactly when they happen, but at the next signal session. By aggregating all ESM data to the day level, the overall impact of frequency of disruptions during one day can be related to overall outcomes during that day. Second, the statistical techniques used in this study assume independence of observations. This assumption is likely to be violated in this study at the signal-level because the variables being measured are empirically related across time. For example, an individual's affect at one point in time is related to affect at later points in time in the same day. However, there is evidence that dependency is disrupted across days (Stone & Neale, 1984), so one can examine relationships at the day level with much less concern for serial dependence in the data. Third, aggregating to the day level minimizes the impact of missing sessions. When using signal-level data, relationships between consecutive sessions are used to remove the effects of dependence in the data. Using this method, both missing sessions as well as sessions adjacent to the missing
sessions are lost. Finally, aggregation produces a more stable structure within which to examine the relationships being examined.

As is common in studies using Experience Sampling Method data, the analyses that included ESM data were analyzed using hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992). HLM techniques allow for the estimation of multilevel random coefficient models in order to examine multilevel relationships between day-level ESM data and global, individual-level data, as well as cross-level moderator effects. Because the study included both day-level and individual-level data for each participant, HLM was used to model variance at two levels. Level 1, within-individual, day-level data were used to estimate a separate regression equation for each participant, regressing day-level outcome variables onto day-level predictors and partitioning between-persons variance and within-person variance. The total $n$ for the Level 1 data was 760, the total number of days completed across all 80 participants. Level 2, individual-level data were used to model the variance in the Level 1 intercepts and slopes, using random intercept regression to predict the between-persons variance. The total $n$ for the Level 2 data was 80, the total number of participants. All analyses of the significance of the HLM coefficients were conducted using one-tailed tests.

Results

Data that came from daily Palm Pilot recordings are referred to as ESM data, and global data gathered in the introductory and final surveys are referred to as individual data. Descriptive statistics and intercorrelations among the day-level ESM variables are included in Table 1. Descriptive statistics and intercorrelations among the individual-level variables and the aggregated ESM variables are included in Appendix E.
Table 1

Descriptive Statistics and Intercorrelations of Day-Level ESM Variables

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<th>SD</th>
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<td>4. Job Satisfaction</td>
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<td>6. Work-Family Conflict</td>
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<td>-0.21**</td>
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<td>7. Negative Affect</td>
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<td>8. Positive Affect</td>
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<td>0.65**</td>
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<td>-0.08</td>
<td>-0.09*</td>
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<td>10. Worrying</td>
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<td>-0.03</td>
<td>-0.02</td>
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<td>0.35**</td>
<td>0.30**</td>
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<td>0.88**</td>
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<td>11. Total Disruptions</td>
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<td>1.76</td>
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<td>-0.02</td>
<td>-0.02</td>
<td>-0.01</td>
<td>0.19**</td>
<td>0.20**</td>
<td>0.12**</td>
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<td>0.48**</td>
<td>0.45**</td>
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</table>

Note. N = 80. Work-family conflict was measured on a scale ranging from −1 (less work-family conflict) to 1 (more work-family conflict).

* p < .05. ** p < .01.
Frequency of Child Care Disruptions

The average number of disruptions experienced by parents in a day was 1.33 (SD = 1.74). In other words, parents typically experienced at least one disruption each day as a result of child care issues. The number of disruptions experienced in a single day ranged from zero to nine. Figure 2 presents a histogram of the number of disruptions experienced in a day during the study period.

![Histogram of Disruptions](image)

Figure 2. Histogram of the number of disruptions in a day.

The distribution of the number of daily disruptions had a skew of 1.79, indicating that the frequency of disruptions clustered at the lower end of the range. In order to attempt to correct for the large positive skew in the distribution of disruptions, a logarithmic transformation was conducted on the number of disruptions. However, because of the large number of days with zero or one disruptions, the logarithmic transformation did not
significantly reduce the skew of the distribution. Figure 3 presents a histogram of the log of the number of disruptions in a day. Because the skew of the log distribution was not significantly lower (1.42), the non-transformed variable was used in all analyses.

![Histogram of the log of number of disruptions in a day.](image)

In addition to examining the total number of disruptions, the frequency of the individual disruptions were also examined. Within the 10-day study period, on average mothers came in late 2.3 days, went home early 0.9 days, had to find alternative child care arrangements 1.2 days, had to miss work 0.6 days, had to take time during work 2.2 days, and had to take phone calls and e-mails 3 days. All of these disruptions were reported by parents to be specifically related to child care issues. For example, if a parent was late to work because their car broke down or they woke up late, this was not considered a child-care disruption.
In order to compare daily reports of disruptions to typical retrospective reports of disruptions, participants' reports of disruptions over the previous year were examined. First, the total number of disruptions from the previous year were divided by 24 to determine the average number of disruptions for a two-week period assuming that participants worked 48 weeks in the previous year. Then, the number of disruptions from the two-week study period were summed to determine the total number of disruptions experienced during the study. Based on these analyses, the average number of disruptions reported by participants for a two-week period during the previous year was 1.10 (SD = 2.10). In contrast, the analyses of the ESM data revealed that participants in this study experienced an average of 13.35 (SD = 11.30) disruptions during the two-week study period. Box plots of the ESM data and retrospective data are presented in Figure 4. A paired-samples t-test revealed that the number of disruptions from daily reporting was significantly higher than from retrospective reporting (t(63) = 8.65, p < .001).

Figure 4. Boxplots of ESM and retrospective data of number of disruptions.
To gain a better understanding of what leads to disruptions, several potential predictors of child care disruptions were examined. For these analyses, the frequency of disruptions associated with child care arrangements were aggregated to the individual level. Because there was variance in the number of sessions completed across individuals, the frequency of disruptions was aggregated by calculating the average number of disruptions per day for each individual. First, the frequency of disruptions was regressed onto caregiving demand variables. These included the age of the youngest child, the number of children, and the presence of children with special needs. Next, the frequency of disruptions was regressed onto caregiving resources, including back-up care, the availability of care arrangements for evening care, the availability of extended family, and spousal support for caregiving. Finally, the predictive ability of aspects of the quality of care, including the cost of care, satisfaction with care, child-caregiver ratios, and caregiver education, was examined. Table 2 presents the results of the regression analyses and descriptive statistics for the predictor variables.

While neither the number of children nor the presence of special-needs children were related to the frequency of disruptions, the age of the youngest child was negatively related to disruptions ($\beta = -.21, p = .04$). In other words, the younger the youngest child, the higher the frequency of child care disruptions. The only caregiving resource that was a significant predictor of disruptions was spousal support, with higher levels of support associated with fewer disruptions ($\beta = -.32, p = .02$). Both cost of care ($\beta = -.28, p < .01$) and satisfaction with care ($\beta = -.20, p = .04$) were negatively related to the frequency of disruptions. Neither the caregiver-child ratio nor caregiver education, additional aspects of child care quality, were significant predictors of child care disruptions. Overall,
Prediction 1 was partially supported – some aspects of caregiving demand and resources as well as child care quality were related to the frequency of disruptions.

Table 2

Results of Regression Analyses for Predictors of Child Care Disruptions

<table>
<thead>
<tr>
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<th>M</th>
<th>SD</th>
<th>B</th>
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<tr>
<td>Number of Children</td>
<td>1.73</td>
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<td>.17</td>
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<tr>
<td>Age of Children</td>
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<td>1.46</td>
<td>-.15</td>
<td>.09</td>
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<tr>
<td>Special-Needs Children</td>
<td>1.19</td>
<td>0.39</td>
<td>.29</td>
<td>.33</td>
<td>.10</td>
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<td><strong>Caregiving Resources</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Back-Up Care</td>
<td>1.53</td>
<td>0.50</td>
<td>-.09</td>
<td>.27</td>
<td>-.04</td>
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<tr>
<td>Evening Care</td>
<td>1.53</td>
<td>0.50</td>
<td>.14</td>
<td>.28</td>
<td>.06</td>
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<tr>
<td>Extended Family</td>
<td>12.03</td>
<td>22.56</td>
<td>.00</td>
<td>.01</td>
<td>-.02</td>
</tr>
<tr>
<td>Spousal Support</td>
<td>75.16</td>
<td>26.36</td>
<td>.01</td>
<td>.01</td>
<td>-.32*</td>
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<tr>
<td><strong>Quality of Care</strong></td>
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<tr>
<td>Cost of Care</td>
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<td>64.40</td>
<td>.01</td>
<td>.00</td>
<td>-.28**</td>
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<tr>
<td>Satisfaction with Care</td>
<td>4.49</td>
<td>0.80</td>
<td>-.29</td>
<td>.16</td>
<td>-.20*</td>
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<tr>
<td>Caregiver-Child Ratio</td>
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<td>3.94</td>
<td>.04</td>
<td>.03</td>
<td>.12</td>
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<tr>
<td>Caregiver Education</td>
<td>2.84</td>
<td>0.91</td>
<td>.06</td>
<td>.14</td>
<td>.05</td>
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</table>

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

The child care demand, resource, and quality variables were also correlated with thinking about children and worrying about children to examine which aspects predicted the disruptions caused by thinking and worrying. The results of the correlation analyses can be found in Table 3. The correlations revealed that although the presence of special-needs children did not predict the frequency of disruptions, it was significantly related to distractions from both thinking about and worrying about children ($r(80) = .20, p < .05$;
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<tr>
<td>2. Age of Children</td>
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<tr>
<td>3. Special-Needs Children</td>
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<tr>
<td>4. Back-Up Care</td>
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<td>6. Extended Family</td>
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<tr>
<td>7. Spousal Support</td>
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<td>0.10</td>
<td>-0.25*</td>
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<tr>
<td>8. Cost of Care</td>
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<td>10. Caregiver-Child Ratio</td>
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<td>0.12</td>
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<td>0.36**</td>
<td>0.01</td>
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<td>-0.02</td>
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<td>11. Caregiver Education</td>
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<td>0.30**</td>
<td>-0.03</td>
<td>0.18</td>
<td>0.03</td>
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<td>0.03</td>
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<td>0.33**</td>
<td>0.03</td>
<td>-0.01</td>
<td>-0.27*</td>
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<td>-0.30**</td>
<td>0.21</td>
<td>0.04</td>
<td>0.90**</td>
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</table>

* p < .05. ** p < .01.
\( r(80) = .26, p < .05 \), respectively. Similarly, the availability of back-up care was significantly related to thinking about children \( (r(80) = -.34, p < .01) \) and worrying about children \( (r(80) = -.33, p < .01) \). Specifically, individuals who had back-up care available when they needed it spent less time thinking and worrying about their children. Also, as was found with the frequency of disruptions, higher levels of spousal support and higher satisfaction with care were associated with less distraction associated with worrying and thinking about children.

**Impact of Child Care Disruptions**

Next, the effects of child care disruptions on work outcomes, including motivation, productivity, concentration, and job satisfaction, and psychological outcomes, including affect, work-family conflict, and stress was examined. The relationships between disruptions and outcomes were analyzed by computing regression equations for each individual and then averaging across these equations using HLM. Analyses with negative affect and stress as outcomes were controlled for neuroticism. For these analyses, the total number of daily disruptions were used as the dependent variable instead of examining each type of disruption separately. The results of the HLM analyses are presented in Table 4. In support of Prediction 2, higher frequency of child care disruptions was associated with lower productivity \( (\gamma(79) = -.04, p < .01) \) and lower concentration \( (\gamma(79) = -.04, p < .01) \). However, there was no significant effect on either motivation or job satisfaction. As we see in Table 1, ratings of motivation and job satisfaction varied as much as other work variables, but not as a function of child care disruptions.
Table 4

<table>
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<th>$SE$</th>
<th>T-Ratio</th>
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<td>-1.61</td>
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<td>Productivity</td>
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<tr>
<td>Concentration</td>
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<td>0.02</td>
<td>-2.20*</td>
</tr>
<tr>
<td>Job Satisfaction</td>
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<td>0.47</td>
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<td>Psychological Outcomes</td>
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<tr>
<td>Positive Affect</td>
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<tr>
<td>Negative Affect</td>
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<td>0.02</td>
<td>2.94**</td>
</tr>
<tr>
<td>Work-Family Conflict</td>
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<td>0.01</td>
<td>2.80**</td>
</tr>
<tr>
<td>Stress</td>
<td>0.04</td>
<td>0.02</td>
<td>1.97*</td>
</tr>
</tbody>
</table>

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

Prediction 3 was also partially supported. Child care disruptions were significantly positively related to stress ($\gamma(79) = .04, p < .05$), indicating that a greater frequency of disruptions was associated with increased stress levels. Additionally, child care disruptions were a significant positive predictor of negative affect ($\gamma(79) = .04, p < .01$) and work-family conflict ($\gamma(79) = .03, p < .01$). We can see how disruptions from child care can cause negative psychological outcomes in the following quote from one participant’s diary:

*Kaitie’s school called twice this morning to tell me that she was sick. It’s the first time they’ve called me at work since she started day care, and I got really upset.*
I could hear her crying in the background. I worry that she suffers through each day. It broke my heart to hear her in such pain and to have to be here at work.

Disruptions were not, however, significantly related to positive affect. This would indicate that child care disruptions appear to increase negative affect, but not decrease positive affect.

Thinking and worrying about children were also examined as forms of disruption during the workday. On average, parents reported only minimal distraction from thinking and worrying about children ($M = 1.75$, $SD = .90$; $M = 1.57$, $SD = .86$, respectively). However, in 18 percent of all response sessions, participants reported at least moderate levels of distraction from thinking and worrying about children. Table 5 presents correlations between thinking and worrying about children and the work and psychological outcome variables. In terms of work outcomes, distraction from thinking about children was significantly related to lower productivity and concentration, and both thinking and worrying were significantly negatively related to job satisfaction. One parent articulated how worrying about children during the day can disrupt parents’ ability to handle work responsibilities:

Today was not a very productive day for me. As much as I tried to complete as much work as I could, it seemed like a useless day. Last night, I spent 3.5 hours in the emergency room. Tony, my son, broke his wrist on an escalator when I wasn’t looking. My day at work was useless. I couldn’t stop blaming myself for the accident. I should have paid more attention. I had my mind on Tony all day and I couldn’t think about my work.
In addition, both thinking and worrying about children were strong predictors of all of the psychological outcomes. Specifically, more distraction from thinking and worrying was associated with lower positive affect and higher negative affect, work-family conflict, and stress.

| Table 5 |
| Correlations between Thinking and Worrying about Children and Outcome Variables |
| Thinking about Children | Worrying about Children |
| Work Outcomes |
| Motivation | -.08 | -.03 |
| Productivity | -.09* | -.02 |
| Concentration | -.09* | -.03 |
| Job Satisfaction | -.19** | -.20** |
| Psychological Outcomes |
| Positive Affect | -.25** | -.22** |
| Negative Affect | .40** | .42** |
| Work-Family Conflict | .30** | .30** |
| Stress | .32** | .35** |

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

Quality of Care

Because quality of care was measured at the individual level, ESM data was aggregated to examine the relationship between quality of care and work and psychological outcomes. Correlations between the quality of care variables and outcome variables are included in Table 6. Across all variables, caregiver-child ratio and
Table 6

*Correlations between Quality of Care and Aggregated Outcome Variables*

<table>
<thead>
<tr>
<th></th>
<th>Caregiver-Child Ratio</th>
<th>Caregiver Education</th>
<th>Satisfaction with Care</th>
<th>Cost of Care</th>
<th>Relative Cost of Care</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Work Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation</td>
<td>-0.06</td>
<td>-0.05</td>
<td>0.00</td>
<td>0.20*</td>
<td>-0.03</td>
</tr>
<tr>
<td>Productivity</td>
<td>-0.07</td>
<td>-0.03</td>
<td>0.01</td>
<td>0.17</td>
<td>0.00</td>
</tr>
<tr>
<td>Concentration</td>
<td>-0.10</td>
<td>-0.05</td>
<td>-0.04</td>
<td>0.17</td>
<td>-0.02</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>0.02</td>
<td>-0.04</td>
<td>0.02</td>
<td>0.24*</td>
<td>-0.01</td>
</tr>
<tr>
<td><strong>Psychological Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>-0.06</td>
<td>-0.04</td>
<td>0.03</td>
<td>0.27*</td>
<td>0.01</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>0.10</td>
<td>-0.04</td>
<td>-0.32**</td>
<td>0.05</td>
<td>0.00</td>
</tr>
<tr>
<td>Work-Family Conflict</td>
<td>0.10</td>
<td>-0.04</td>
<td>-0.20*</td>
<td>-0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Stress</td>
<td>0.16</td>
<td>-0.09</td>
<td>-0.33**</td>
<td>0.20*</td>
<td>0.02</td>
</tr>
</tbody>
</table>

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

caregiver education had no impact on any of the work or psychological outcomes.

However, the correlations with caregiver-child ratio were all in the expected direction – negative correlations with work outcomes and positive correlations with psychological outcomes, indicating more negative psychological experiences. Individuals who were more satisfied with their care arrangements experienced significantly less negative affect ($r(80) = -.32, p < .01$), work-family conflict ($r(80) = -.20, p < .05$), and stress ($r(80) = -.33, p < .01$). There is some support for Prediction 4 – while caregiver-child ratio and caregiver education were not related to outcome variables, parents who were more satisfied with their child care arrangements experienced less negative psychological
outcomes. This result is related to the earlier findings that individuals with higher care satisfaction spent significantly less time worrying about their children (see Table 3). Participants articulated in their diaries how being satisfied with their care arrangements gave them a reprise from worrying about their children, including the following quote:

*I am blessed because I do not get phone calls or e-mails about my child during work and I am never distracted about her safety or well-being. I love the school my daughter attends and I know I can trust them to take good care of her.*

As this quote also suggests, it is possible that the relationship between satisfaction and psychological outcomes is due in part to the fact that disruptions are significantly related to satisfaction ($r(80) = -.25, p < .05$), and parents who experience fewer disruptions have more positive psychological experiences (see Table 4). In order to determine if satisfaction with care added anything to the prediction of psychological outcomes above the impact of disruptions, hierarchical regressions were conducted with negative affect, stress, and work-family conflict as outcomes. In the first step, the frequency of disruptions was entered, and in the second step satisfaction with care was added. The results indicated that satisfaction with care added significantly to the overall model above the effect of disruptions in the prediction of negative affect ($\Delta R^2 = .09; F(2,77) = 4.28, p < .05$) and stress ($\Delta R^2 = .07; F(2,77) = 8.25, p < .01$), but not in the prediction of work-family conflict ($\Delta R^2 = .01; F(2,77) = 3.26, \text{n.s.}$).

Table 6 also contains correlations between outcome variables and the absolute and relative cost of care. The mean cost of care was $110.10 per week ($SD = 64.40$), and the mean percentage of annual household income spent on child care was 11.23 percent ($SD = 8.06$ percent). Overall, the cost of care as a function of total household income
showed essentially no relationship with any outcome variables. However, the absolute cost of care was related to higher motivation and job satisfaction, higher positive affect, and more stress. The results indicate that more expensive care is associated with both positive and negative outcomes.

Type of Child Care Arrangement

The types of care used by parents were grouped into three main categories: day care centers, family home care, and family/friend care. In the current sample, 71 percent of parents used day care centers, 14 percent used family home care, and 15 percent used family/friend care. While there was not an even distribution of participants in each category of care providers, exploratory analyses were conducted to examine whether there were significant differences among the groups. Specifically, ANOVAs were conducted to determine what differences existed in the experiences of parents using different forms of child care. Individual-level ESM data were used in these analysis. Table 7 presents means and standard deviations by form of child care arrangement for the disruption variables and satisfaction with care.

Table 7

<table>
<thead>
<tr>
<th></th>
<th>Day Care Center (N = 57)</th>
<th>Family/Friend Care (N = 12)</th>
<th>Family Home Care (N = 11)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Frequency of Disruptions</td>
<td>1.49</td>
<td>1.23</td>
<td>1.03</td>
</tr>
<tr>
<td>Thinking about Children</td>
<td>1.83</td>
<td>0.77</td>
<td>1.67</td>
</tr>
<tr>
<td>Worrying about Children</td>
<td>1.64</td>
<td>0.76</td>
<td>1.50</td>
</tr>
<tr>
<td>Satisfaction with Care</td>
<td>4.33</td>
<td>0.87</td>
<td>4.83</td>
</tr>
</tbody>
</table>
While day care centers were associated with more disruptions than the other forms of care, there were no significant differences across type of care on disruptions ($F(2,77) = 1.92, p = .15$). Similarly, there were no significant differences on time spent thinking about children ($F(2,77) = 0.97, p = .39$) or time spent worrying about children ($F(2,77) = 1.10, p = .34$). There was a significant main effect for type of care on satisfaction with care ($F(2,77) = 4.04, p < .05$). Tukey’s post hoc analyses revealed that parents using family home care were significantly more satisfied than those using day care centers.

Next, day care center care was separated into private care and company-sponsored care to examine the specific case of day care provided by organizations for their employees. Using this classification, 56 percent of participants used private day care centers, 15 percent used company-sponsored day care centers, 15 percent used family/friend care, and 14 percent used family home care. Table 8 contains means and standard deviations by form of child care arrangement (including company-sponsored care) for the disruption variables and satisfaction with care. The results of ANOVA analyses indicated that the results of the previous ANOVAs were not changed when company-sponsored day care centers were examined separately. Company-sponsored day care did not differ from any of the other forms of care on any of the outcome variables.
Table 8

Average Disruptions and Satisfaction with Care by Care Arrangement
(Including Company-Sponsored Care)

<table>
<thead>
<tr>
<th></th>
<th>Private Day Care Center (N = 45)</th>
<th>Company-Sponsored Day Care Center (N = 12)</th>
<th>Family/Friend Care (N = 12)</th>
<th>Family Home Care (N = 11)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
</tr>
<tr>
<td>Frequency of Disruptions</td>
<td>1.53</td>
<td>1.32</td>
<td>1.34</td>
<td>0.88</td>
</tr>
<tr>
<td>Thinking about Children</td>
<td>1.88</td>
<td>0.81</td>
<td>1.67</td>
<td>0.60</td>
</tr>
<tr>
<td>Worrying about Children</td>
<td>1.70</td>
<td>0.83</td>
<td>1.41</td>
<td>0.59</td>
</tr>
<tr>
<td>Satisfaction with Care</td>
<td>4.29</td>
<td>0.92</td>
<td>4.50</td>
<td>0.67</td>
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</tbody>
</table>

Individual Differences

We now turn to an examination of moderators of the relationship between disruptions and work and psychological outcomes. First, the individual difference variables, including neuroticism, relationship closeness, work involvement, and family involvement are examined. Analyses were conducted on the interactions of individual difference variables with both frequency of disruptions and disruption caused by thinking about children. Because disruption from thinking about children and disruption from worrying about children were highly correlated ($r(80) = .90, p < .01$), only disruptions from thinking about children were included in these analyses. Table 9 presents the results of HLM analyses of the interactions between the individual difference variables and frequency of disruptions and thinking about children for the work outcome variables. Table 10 presents the results of HLM analyses of the interactions between the individual difference variables and frequency of disruptions and thinking about children for the psychological outcome variables.
<table>
<thead>
<tr>
<th></th>
<th>Concentration</th>
<th>Productivity</th>
<th>Motivation</th>
<th>Job Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>γ</strong></td>
<td><strong>SE</strong></td>
<td><strong>t-Ratio</strong></td>
<td><strong>γ</strong></td>
<td><strong>SE</strong></td>
</tr>
<tr>
<td>Neuroticism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td>-0.04</td>
<td>0.07</td>
<td>-0.52</td>
<td>0.06</td>
</tr>
<tr>
<td>Disruptions</td>
<td>-0.00</td>
<td>0.03</td>
<td>-0.03</td>
<td>-0.01</td>
</tr>
<tr>
<td>Relationship Closeness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td>-0.22</td>
<td>0.13</td>
<td>-1.53</td>
<td>-0.01</td>
</tr>
<tr>
<td>Disruptions</td>
<td>0.03</td>
<td>0.04</td>
<td>0.78</td>
<td>-0.02</td>
</tr>
<tr>
<td>Work Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td>-0.06</td>
<td>0.08</td>
<td>-0.76</td>
<td>0.03</td>
</tr>
<tr>
<td>Disruptions</td>
<td>0.02</td>
<td>0.03</td>
<td>0.65</td>
<td>0.00</td>
</tr>
<tr>
<td>Family Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td>0.10</td>
<td>0.09</td>
<td>1.10</td>
<td>0.06</td>
</tr>
<tr>
<td>Disruptions</td>
<td>0.00</td>
<td>0.04</td>
<td>0.01</td>
<td>0.02</td>
</tr>
</tbody>
</table>

* p < .05. ** p < .01.
Table 10

HLM Results of Interactions of Individual Differences and Disruptions on Psychological Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Positive Affect</th>
<th></th>
<th>Negative Affect</th>
<th></th>
<th>Work-Family Conflict</th>
<th></th>
<th>Stress</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Y</td>
<td>SE</td>
<td>t-Ratio</td>
<td>Y</td>
<td>SE</td>
<td>t-Ratio</td>
<td>Y</td>
<td>SE</td>
</tr>
<tr>
<td>Neuroticism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td>-0.08</td>
<td>0.07</td>
<td>-1.04</td>
<td>0.05</td>
<td>0.08</td>
<td>0.64</td>
<td>-0.06</td>
<td>0.05</td>
</tr>
<tr>
<td>Disruptions</td>
<td>0.01</td>
<td>0.02</td>
<td>0.48</td>
<td>-0.06</td>
<td>0.03</td>
<td>-2.40*</td>
<td>0.01</td>
<td>0.03</td>
</tr>
<tr>
<td>Relationship Closeness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td>-0.16</td>
<td>0.08</td>
<td>-2.01*</td>
<td>-0.01</td>
<td>0.09</td>
<td>-0.07</td>
<td>-0.05</td>
<td>0.06</td>
</tr>
<tr>
<td>Disruptions</td>
<td>0.00</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.97</td>
<td>-0.01</td>
<td>0.02</td>
</tr>
<tr>
<td>Work Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td>0.08</td>
<td>0.07</td>
<td>1.05</td>
<td>-0.01</td>
<td>0.09</td>
<td>-0.04</td>
<td>-0.06</td>
<td>0.04</td>
</tr>
<tr>
<td>Disruptions</td>
<td>-0.02</td>
<td>0.02</td>
<td>-0.75</td>
<td>0.02</td>
<td>0.02</td>
<td>0.76</td>
<td>0.03</td>
<td>0.02</td>
</tr>
<tr>
<td>Family Involvement</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td>0.19</td>
<td>0.09</td>
<td>2.16*</td>
<td>-0.17</td>
<td>0.08</td>
<td>-2.12*</td>
<td>-0.08</td>
<td>0.05</td>
</tr>
<tr>
<td>Disruptions</td>
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<td>0.02</td>
<td>-0.54</td>
<td>-0.01</td>
<td>0.02</td>
<td>-0.18</td>
<td>0.03</td>
<td>0.02</td>
</tr>
</tbody>
</table>

* p < .05. ** p < .01.
First, there were no significant interactions between any of the individual difference variables and disruptions on any of the work outcomes (see Table 9). In other words, the relationships between disruptions and work outcomes were not affected by neuroticism, relationship closeness, work involvement, or family involvement. The individual difference predictions were not supported with respect to work outcome variables.

Prediction 5 was supported for one of the psychological outcome variables. There was a significant interaction between disruptions and neuroticism for negative affect ($\gamma = -.06, t(75) = -2.40, p < .05$). Examination of the cell means revealed that the frequency of disruptions had a stronger relationship with negative affect for individuals high in neuroticism than for those low in neuroticism. Prediction 6 was also supported for one of the psychological outcomes. The relationship between disruptions and positive affect varied as a function of relationship closeness ($\gamma = -.16, t(75) = -2.01, p < .05$). Specifically, the frequency of disruptions had less of an impact on positive affect for individuals with lower relationship closeness.

The results of the interactions between family involvement and disruptions from thinking about children indicate some support for Prediction 7. There were significant interactions between family involvement and disruptions for work-family conflict ($\gamma = -.08, t(75) = -1.67, p < .05$), positive affect ($\gamma = .19, t(75) = 2.16, p < .05$), and negative affect ($\gamma = -.17, t(75) = -2.12, p < .05$). The results of the interaction between disruptions and work-family conflict are presented in Figure 5. Consistent with the stated prediction, disruptions had more of an impact on work-family conflict for mothers with high family involvement than those with low family involvement. Similarly, individuals with high
family involvement showed a stronger relationship between disruptions and both positive affect and negative affect.

\begin{figure}
\centering
\includegraphics[width=0.8\textwidth]{figure5}
\caption{Interaction between thinking about children and family involvement on work-family conflict.}
\end{figure}

In addition to examining the role of family involvement, exploratory analyses were conducted on the interaction effects of work involvement. There was a significant interaction between disruptions and work involvement for work-family conflict ($\gamma = .03$, $t(75) = 1.80, p < .05$) and stress ($\gamma = .08$, $t(75) = 2.18, p < .05$). For example, Figure 6 presents the results of the interaction between disruptions and work involvement on stress. Participants who were high in work involvement showed less effect of disruptions on stress than those who were low in work involvement.
Figure 6. Interaction between disruptions and work involvement on stress.

Figure 7 presents the results of the interaction between disruptions and work involvement on work-family conflict. Again, participants high in work involvement showed less of an effect of disruptions on work-family conflict.
Figure 7. Interaction between disruptions and work involvement on work-family conflict.

Social Support

The results of the HLM analyses for the interactions between disruptions and social support variables on work outcomes are included in Table 11. The effects of the same interactions on psychological outcomes are presented in Table 12. These tables include both the frequency of disruptions and disruption caused by thinking about children. There were no significant interactions between support and disruptions for any of the work outcomes. However, support variables did interact significantly with disruptions for psychological outcomes.
### Table 11

*HLM Results of Interactions of Social Support and Disruptions on Work Outcomes*

<table>
<thead>
<tr>
<th></th>
<th>Concentration</th>
<th>Productivity</th>
<th>Motivation</th>
<th>Job Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \gamma )</td>
<td>( SE )</td>
<td>( t )-Ratio</td>
<td>( \gamma )</td>
</tr>
<tr>
<td><strong>Supervisor Support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
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<td>0.06</td>
<td>0.40</td>
<td>0.06</td>
</tr>
<tr>
<td>Disruptions</td>
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<td>0.02</td>
<td>-0.71</td>
<td>-0.03</td>
</tr>
<tr>
<td><strong>Organizational Support</strong></td>
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</tr>
<tr>
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<tr>
<td><strong>Spousal Support</strong></td>
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<td>-0.83</td>
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<tr>
<td>Disruptions</td>
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<td>0.62</td>
<td>0.00</td>
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<tr>
<td><strong>Family Support</strong></td>
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</tr>
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<td>0.00</td>
</tr>
<tr>
<td>Disruptions</td>
<td>0.00</td>
<td>0.00</td>
<td>0.14</td>
<td>0.00</td>
</tr>
</tbody>
</table>

* * p < .05. ** p < .01.
Table 12

*HLM Results of Interactions of Social Support and Disruptions on Psychological Outcomes*

<table>
<thead>
<tr>
<th></th>
<th>Positive Affect</th>
<th></th>
<th></th>
<th>Negative Affect</th>
<th></th>
<th></th>
<th>Work-Family Conflict</th>
<th></th>
<th>Stress</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \gamma )</td>
<td>SE</td>
<td>t-Ratio</td>
<td>( \gamma )</td>
<td>SE</td>
<td>t-Ratio</td>
<td>( \gamma )</td>
<td>SE</td>
<td>t-Ratio</td>
<td>( \gamma )</td>
<td>SE</td>
</tr>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
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<td>1.36</td>
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<td>0.03</td>
<td>0.48</td>
<td>0.05</td>
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<td>-0.01</td>
<td>0.01</td>
<td>-1.04</td>
<td>-0.03</td>
<td>0.01</td>
<td>-2.17*</td>
<td>-0.01</td>
<td>0.01</td>
<td>0.82</td>
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<td>Support</td>
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<tr>
<td>Thinking</td>
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<td>-0.11</td>
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<td>-0.82</td>
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<tr>
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<tr>
<td>Thinking</td>
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<tr>
<td>Disruptions</td>
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<td>2.71*</td>
<td>-0.05</td>
<td>0.04</td>
<td>-1.85*</td>
<td>0.00</td>
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<tr>
<td>Family Support</td>
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<tr>
<td>Thinking</td>
<td>-0.01</td>
<td>0.00</td>
<td>-0.57</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.72</td>
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<td>0.00</td>
<td>-0.71</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>Disruptions</td>
<td>0.05</td>
<td>0.07</td>
<td>1.67</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.83</td>
<td>0.00</td>
<td>0.00</td>
<td>1.01</td>
<td>0.00</td>
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</table>

\* \( p < .05 \). \** \( p < .01 \).
In support of Prediction 8, there was a significant interaction between disruptions and spousal support on both positive affect ($\gamma = .06, t(75) = 2.71, p < .05$) and negative affect ($\gamma = -.05, t(75) = -1.85, p < .05$). With respect to positive affect, disruptions had no impact on positive affect for individuals with high spousal support; however, individuals with low spousal support showed decreases in positive affect with increases in disruptions (see Figure 8).

![Graph](image)

**Figure 8.** Interaction between disruptions and spousal support on positive affect.

The interaction between disruptions and spousal support on negative affect is depicted in Figure 9. Similar to the findings for positive affect, there was a stronger relationship between disruptions and negative affect for individuals with low spousal support. There
were no other significant interactions with spousal support for either work or psychological outcomes.

*Figure 9.* Interaction between disruptions and spousal support on work-family conflict.

Prediction 9 was partially supported for supervisor support, but not for organizational support. Supervisor support interacted significantly with disruptions for both negative affect ($\gamma = -.02$, $t(75) = -2.71, p < .05$) and stress ($\gamma = .05$, $t(75) = 1.95, p < .05$). As we see in Figure 10, while disruptions had little effect on the negative affect of individuals with high supervisor support, negative affect increased significantly as a function of disruptions for individuals with low supervisor support.
**Figure 10.** Interaction between disruptions and supervisor support on negative affect.

Figure 11 shows the results of the interaction between disruptions and supervisor support on stress. Consistent with Prediction 9, the frequency of disruptions was more strongly related to higher stress for individuals with low supervisor support than for those with high supervisor support. However, there were no other significant interactions between disruptions and supervisor support. Also, there were no significant interactions between disruptions and organizational support.
Figure 11. Interaction between disruptions and supervisor support on stress.

Additional Analyses

In addition to examining the effects of daily disruptions on daily reports of work outcomes, the impact the disruptions on global, individual-level work outcomes measured in the introductory survey were examined. These variables included organizational commitment, job satisfaction, positive and negative affect, turnover intentions, and psychological well-being at work. Both the frequency of disruptions, as well as disruptions from worrying and thinking about children were examined. Correlations between disruptions aggregated to the individual level and various individual-level work outcomes are included in Table 13.
Table 13

Correlations Between Disruptions and Global Measures of Work Outcomes

<table>
<thead>
<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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<tbody>
<tr>
<td>1. Turnover Intentions</td>
<td>1</td>
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<tr>
<td>2. Organizational Commitment</td>
<td>-0.39**</td>
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<td></td>
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<tr>
<td>3. Job Satisfaction</td>
<td></td>
<td>-0.41**</td>
<td>0.58**</td>
<td></td>
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<tr>
<td>4. Work Well-Being</td>
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<td></td>
<td></td>
<td>-0.22*</td>
<td>0.12</td>
<td>0.49**</td>
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<td></td>
</tr>
<tr>
<td>5. Positive Affect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.25*</td>
<td>0.53**</td>
<td>0.70**</td>
<td>0.51**</td>
<td></td>
</tr>
<tr>
<td>6. Negative Affect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.15</td>
<td>-0.12</td>
<td>-0.37**</td>
<td>-0.64**</td>
</tr>
<tr>
<td>7. Total Disruptions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.08</td>
<td>0.11</td>
</tr>
<tr>
<td>8. Thinking about Children</td>
<td></td>
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<td></td>
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<tr>
<td>9. Worrying about Children</td>
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</table>

* p < .05. ** p < .01.
The frequency of disruptions was not related to any of the work outcome variables. However, both worrying and thinking about children were positively related to global negative affect ($r(80) = .32, p < .01$; $r(80) = .31, p < .01$, respectively).

The race of participants was also examined to determine if individuals from different racial groups had different experiences with child care disruptions (see Table 14). Results of ANOVA analyses revealed that there were no significant differences across race on disruptions or satisfaction with child care.

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Black/African-American</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Disruptions</td>
<td>1.39</td>
<td>1.23</td>
<td>1.10</td>
</tr>
<tr>
<td></td>
<td>1.56</td>
<td>0.86</td>
<td>0.95</td>
</tr>
<tr>
<td>Thinking about Children</td>
<td>1.86</td>
<td>1.67</td>
<td>1.79</td>
</tr>
<tr>
<td></td>
<td>0.67</td>
<td>0.76</td>
<td>0.72</td>
</tr>
<tr>
<td>Worrying about Children</td>
<td>1.52</td>
<td>1.58</td>
<td>1.71</td>
</tr>
<tr>
<td></td>
<td>0.60</td>
<td>0.80</td>
<td>0.77</td>
</tr>
<tr>
<td>Satisfaction with Care</td>
<td>4.50</td>
<td>4.52</td>
<td>4.71</td>
</tr>
<tr>
<td></td>
<td>0.88</td>
<td>0.69</td>
<td>0.47</td>
</tr>
</tbody>
</table>

Finally, marital status and its relationship to outcome variables was examined to see if there were differences between single and married mothers in experiences of child care disruptions. Table 15 includes means and standard deviations of disruptions and satisfaction with care by marital status. There were no significant differences in the number of disruptions or the time spent thinking or worrying about children based on marital status. However, single parents were significantly more satisfied with their child care arrangements than were married parents ($t(78) = 2.78, p < .01$). Single parents’
satisfaction with child care arrangements may be related to their choice of care. Chi-square analyses revealed that single parents were significantly more likely to use non-center care than were married-couple parents ($\chi^2 = 8.53, p = .01$). Because satisfaction with care is lowest for individual using center care, this may explain the higher satisfaction of single participants.

Table 15

*Means and Standard Deviations of Disruptions And Satisfaction with Care by Marital Status*

<table>
<thead>
<tr>
<th></th>
<th>Single</th>
<th></th>
<th>Married/Partner</th>
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</thead>
<tbody>
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<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Frequency of Disruptions</td>
<td>1.10</td>
<td>0.72</td>
<td>1.44</td>
<td>1.27</td>
</tr>
<tr>
<td>Thinking about Children</td>
<td>1.66</td>
<td>0.52</td>
<td>1.82</td>
<td>0.77</td>
</tr>
<tr>
<td>Worrying about Children</td>
<td>1.46</td>
<td>0.40</td>
<td>1.63</td>
<td>1.57</td>
</tr>
<tr>
<td>Satisfaction with Care</td>
<td>4.84</td>
<td>0.37</td>
<td>4.33</td>
<td>0.88</td>
</tr>
</tbody>
</table>

*Summary of Results*

A summary of the major research findings is included below.

- In partial support of Prediction 1, younger children, lower spousal support, lower cost of care, and lower satisfaction with care were associated with a higher frequency of child care disruptions.

- Distraction from thinking and worrying about children was positively associated with the presence of special-needs children, and negatively related to the availability of back-up care arrangements, spousal support, and satisfaction with caregiving arrangements.
- In support of Prediction 2, child care disruptions were negatively associated with self-reported concentration and productivity. In addition, distraction from thinking about children was significantly related to lower productivity and concentration, and both thinking and worrying were significantly negatively related to job satisfaction.

- Prediction 3 was partially supported – disruptions were positively associated with both negative affect and stress. Also, both thinking and worrying about children were strong predictors of lower positive affect and higher negative affect, work-family conflict, and stress.

- Prediction 4 was generally not supported. Neither caregiver-child ratio nor the education of caregivers were related to any outcome variables. However, higher satisfaction with care arrangements was associated with more positive psychological outcomes.

- Overall, the cost of care as a function of total household income showed essentially no relationship with any outcome variables. However, the absolute cost of care was related to higher motivation and job satisfaction, higher positive affect, and more stress.

- There was no effect of type of care on frequency of disruptions or time spent thinking or worrying about children during the day. Parents using family home care were significantly more satisfied than those using day care centers.

- In support of Prediction 5, the frequency of disruptions had a stronger relationship with negative affect for individuals high in neuroticism.
• Results indicated that the frequency of disruptions had less of an impact on positive affect for individuals with lower relationship closeness, providing partial support for Prediction 6.

• Consistent with Prediction 7, individuals with high family involvement showed a stronger relationship between disruptions and work-family conflict, positive affect and negative affect.

• High work involvement was associated with less of an impact of disruptions on work-family conflict and stress.

• Prediction 8 was supported for spousal support, but not for family support. There was a stronger relationship between disruptions and both decreased positive affect and increased negative affect for individuals with low spousal support than for individual with high spousal support.

• In support of Prediction 9, while disruptions had little effect on the affect and stress of individuals with high supervisor support, negative affect and stress decreased as a function of disruptions for individuals with low supervisor support.

• There were no significant moderators of the relationship between disruptions and any of the outcome variables.

Conclusion

Major Findings

The purpose of this study was to examine the day-to-day experiences of parents using full-time non-parental care in order to understand the problems that occur as a result of child care disruptions and the effects of these disruptions on various psychological outcomes and work-related outcomes. The working mothers in this study
experienced, on average, a little over one child care-related disruption per day, including missing work, coming in late, leaving early, taking time during work, having to arrange alternative care, and taking e-mails and phone calls during work. When compared to the frequency of disruptions that participants reported at the beginning of the study based on the previous year of child care use, the ESM data revealed a strikingly greater number of child care disruptions than were reported retrospectively. In addition, this frequency of disruptions is significantly higher than that reported previously in retrospective survey research. For example, in a large-scale survey of 5,000 employees, Fernandez (1986) found that only 39 percent of women reported coming in late at any time in the previous year because of family-related matters, 60 percent reported leaving early, and 63 percent indicated that they had taken time during work for family issues. While these reports do not allow us to estimate the daily occurrence of disruptions, it is clear that the parents in the current study reported considerably more disruptions. In fact, in the two-week study period, participants reported an average of 13.3 disruptions.

One possible explanation for the significantly higher reports of disruptions in the current study is the methodology that was used. Because respondents recorded disruptions within at most two hours of when they occurred, they were not required to recall occurrences from memory. Fernandez (1986), as well as the majority of other researchers who have examined the same question, have asked participants to report disruptions that occurred over the previous year. However, given the complexity of the daily lives of working parents, it is not surprising that they are unable to recall the day-to-day disruptions. As one participant put it in her final diary entry:
I had no idea how many times things come up every day that interfere with my work until I did this study. I tackle each situation as it arises and then move on, not really remembering how often it happens. I probably would have told you two weeks ago that my work life and family life are pretty separate, but I would have been wrong.

A second possible explanation for the frequency of disruptions reported in this study is the sample that was used. The large surveys that have examined these issues previously (e.g. Fernandez, 1986; Googins, 1991) typically used a corporate population consisting of few very low-income individuals. The sample used in this study, however, came from a wider range of income levels, with a significant number of lower-income individuals. While there was no significant relationship between the frequency of disruptions and income level, it is likely that income is related to other variables that were not examined in the current study that play an important role in the experience of disruptions, such as the autonomy of an individual's job or the use of expensive alternative caregiving resources.

In addition to reporting the frequency of disruptions, the amount of disruption that occurred from worrying and thinking about children in child care during the day was also assessed. Women in this study reported being at least moderately distracted by their children in 18 percent of the sessions. This is a particularly hard form of distraction to report retrospectively because parents are not always aware of how much they are thinking or worrying about their children. Googins (1991) asked parents to report how much time they spent at work on average worrying about their children and found that 22 percent of parents reported worrying about their children all or most of the time. While
Googins' findings suggest that working parents do worry about their children during the day, that study was able to further determine that parents were frequently thinking about their children to the point of distraction.

Several predictors of child care disruptions were examined to determine what factors were related to higher frequency of disruptions as well as increased worrying and thinking about children. Individuals with younger children experienced significantly more disruptions, which was consistent with previous findings that parents with younger children miss significantly more work than parents with older children (Fernandez, 1986; Klein, 1986). This effect is likely due to the fact that younger children are less independent and require more attentive care. Caregivers tend to be more conservative in handling problems with younger children than with older children and are more likely to call the parents when issues arise. For probably much the same reasons, individuals with a special-needs child were significantly more distracted by worrying and thinking about their children. Neal et al. (1993) also found that having a child with a disability was related to significantly more missed days of work.

Two important support resources for caregiving, spousal support and satisfaction with care, were also significant predictors of disruptions. Mothers who received more support from a spouse or partner experienced significantly fewer disruptions and were less distracted from worrying about their children. While it makes sense that parents with spousal support would experience significantly fewer disruptions because there are two people to deal with issues when they arise, it is interesting that parents also spend less time worrying about their children if they have more spousal support. It suggests that parents share not only the practical burden of managing disruptions, but also the
psychological burden of worrying about children. Higher satisfaction with care was also associated with both a lower frequency of disruptions as well as less disruption from worrying. The direction of this relationship is more questionable than for the other predictors, however. It may be that parents are more satisfied with care that is associated with fewer disruptions, or that satisfaction with care is a measure of the overall quality of care, which is related to the frequency of disruptions. The current data does not allow us to tease apart these two possibilities.

Next, the impact of child care disruptions on psychological and work outcomes was examined. Previous research has asked parents and organizations to report on the degree to which child care and family problems interfere with work. For example, Fernandez (1986) found that parents report significant amounts of lost work time as a result of child care problems. However, no previous studies have looked at the direct effect of disruptions on outcome variables as they occur. In this study, the occurrence of child care disruptions was directly related to lower concentration and lower productivity. Also, participants who were distracted from worrying about their children were significantly less satisfied with their jobs. However, there was no effect of disruptions on employee motivation. While disruptions caused parents to lose concentration and productivity, they were apparently still able to maintain their motivation to work.

There were also significant effects of disruptions on the psychological well-being of participants. Specifically, disruptions were related to higher negative affect and stress. Also, thinking and worrying about children were strong predictors of lower positive affect, higher negative affect, more work-family conflict, and more stress. For both psychological and work outcomes, thinking and worrying about children seemed to cause
even more distraction than more tangible disruptions, such as taking phone calls at work. This may be due in part to how these variables were measured. When parents were signaled, they reported disruptions that had occurred since the last session, which could have been as much as two hours earlier. However, their reports of thinking and worrying about children were made based on the moment the signal was received, as were the outcome variables. Therefore, the relationships between thinking and worrying and outcome variables were directly linked in time, whereas there was the potential for a time lag with respect to disruptions. Overall, disruptions from child care were associated with more negative psychological and work outcomes.

Comparisons of the different forms of child care used revealed that there was very little difference among the arrangements in terms of disruptions. There was no effect of type of care on the frequency of disruptions or time spent thinking or worrying about children during the day. The only difference that was found among child care arrangements was that parents using family home care were significantly more satisfied than those using day care centers. Also, there was no evidence that employer-sponsored, on-site child care facilities provided any advantage in terms of disruptions from child care. This is in contrast to previous findings that sited that on-site child care arrangements were associated with significantly lower absenteeism (Goff et al., 1990). However, this study combined across all forms of disruptions. It may be that while parents using on-site day care facilities are less likely to miss entire days of work, they face as many if not more disruptions as a result of child care. Given their close proximity to their children, they may be more likely to handle situations that would be handled by the care provider if the care facility were further away. In all, the lack of findings of
differences among the care arrangements is not surprising given the lack of consistency in earlier research. While there may be key aspects of care arrangements that are related to disruptions, there was no evidence that the type of care, nor the child-caregiver ratio or the education of the caregiver were useful predictors.

While there was significant evidence that child care disruptions had a negative impact on a number of outcome variables, there was also support for moderators of this relationship. In particular, there were several individual differences that predicted the degree to which disruptions impacted outcomes. For example, disruptions had a stronger impact on negative affect for individuals who were high on neuroticism. This makes logical sense given that individuals who are high on neuroticism are more susceptible to negative emotional and affective reactions (Costa & McCrae, 1992). Also, as predicted, individuals in closer relationships with their children were more affected by disruptions, resulting in more significant decreases in positive affect. Because individuals who are high on relationship closeness are more influenced by their children (Berscheid, Synder, & Omoto, 1989), it follows that they would be more affected when child-related issues arise.

One of the most strongly supported predictions was the interaction between family involvement and disruptions. Mothers with high family involvement were more affected by disruptions than mothers with low family involvement. In particular, disruptions had more of an effect on work-family conflict, positive affect, and negative affect for participants who were high on family involvement. This is consistent with the findings of Fox and Dwyer (1999) that individuals with high family involvement showed more of an effect of stress on work-family conflict. Individuals with high family
involvement define themselves by their families (Adams et al., 1996), so a blow to their families, in this case in the form of a child care problem, is in essence a blow to their own identity.

While there were no specific predictions with regard to work involvement, results indicated that work involvement did interact significantly with disruptions in the prediction of work-family conflict and stress. The results revealed that individuals with high work involvement were less affected by disruptions than low work-involvement individuals. The reasons for this finding are not clear. One explanation discussed earlier was that individuals with high work involvement are more focused on their work activities. Therefore, when disruptions occur, they are able to stay engaged in their work activities or return as soon as possible. However, the moderating effects of work involvement were on psychological outcomes and not work outcomes. Another possible explanation is that individuals with high work involvement are not as affected by problems in the family domain because they are able to “retreat” in a way to their work domain when problems with family occur. Similar to the common colloquial saying “don’t put all of your eggs in one basket,” there is evidence that people who have multiple domains that are important to them are safeguarded when problems occur in one domain by their roles in the other domains. Indeed, Martire, Stephens, and Atienza (1997) found that higher involvement in work served to buffer individuals who were caring for an elderly parent from the stress of caregiving.

Importantly, there was no moderating effects of the individual difference variables on any of the work outcomes, including productivity, concentration, or job satisfaction, all of which were significantly related to disruptions. In part, this may be
due to the lack of control that parents have over work outcomes as opposed to psychological outcomes. When disruptions occur that require parents to take time from work, almost by definition they will be unable to be productive and concentrate on work during that time because they must attend to other problems. However, with psychological outcomes, disruptions do not necessarily have to reduce affect or increase stress if the individual is able to cope with the disruptions effectively.

Similar to what was found with individual difference variables, social support did not interact with disruptions to reduce the impact of disruptions on any of the work outcomes. In other words, the effects of disruptions on productivity, concentration, and job satisfaction were consistent regardless of the amount of social support an individual was receiving. In contrast, social support did serve as an important buffer for several of the psychological outcomes. As predicted, individuals with more spousal support were less affected by disruptions, specifically with regards to both negative and positive affect. Interestingly, because of the way disruptions were measured in this study, one can conclude that the usefulness of spousal support was not in handling the disruptions that occurred because those disruptions happened to the participant. Still, knowing that they had the support of a spouse appeared to protect these working mothers from decreases in positive affect and increases in negative affect. While spousal support played an important role in moderating the impact of disruptions, there was no evidence of an effect of family support. One explanation for this might be the result of a floor effect, such that participants in this study on average received so little support from family on a day-to-day basis that there was not enough variance to detect a difference. This does not indicate that family support did not play an important role for some individuals, but that
overall such an effect was not identifiable. Also, family support was measured based on
the availability of extended family for providing support. A better measure of family
support would be the actual amount of support provided by family on a daily basis.

Supervisor support also played a significant role in moderating the impact of
disruptions on psychological outcomes. The occurrence of disruptions had significantly
less impact on negative affect and stress for individuals with high supervisor support.
For individuals with supportive supervisors, it is easier to manage child care disruptions
without suffering adverse psychological effects because they do not have to worry about
reactions or consequences from their supervisor on top of worrying about the disruption
itself. In contrast to the findings with regards to supervisor support, there was no support
for the moderating role of organizational support. This is particularly important for
organizations that attempt to create a family-friendly corporate image without ensuring
that these concepts are upheld at the level of the individual supervisors.

Study Limitations

While Experience Sample Methodology allows for the examination of questions
that would not be answerable using other methodologies, there are also problems and
limitations associated with its use. For example, there is a concern that the disruptiveness
of the methodology creates some of the very same issues that the study is intended to
examine. In this study, one concern was of studying disruptions with a methodology that
creates its own disruptions. However, previous researchers have found that minimizing
the length of the questionnaires can allow participants to return to their normal work
activities with little disruption in the flow of their activities (e.g. Alliger & Williams,
1993). Because participants in the current study responded to the same questions each
time they completed a questionnaire, they were able to complete a session within a couple of minutes. To support the fact that participants were not overly distracted by the methodology itself, the final questionnaire measured the perceived disruptiveness of the methodology according to the participants. The results of this survey indicated that participants found the methodology to be only minimally distracting during the workday. Additionally, participants reported that they were easily able to return to their work after a session without losing the momentum of their efforts.

Another potential concern with ESM is participants' response rates. Given the frequency with which individuals are asked to respond, there is a lot of room for missing data. In order to maximize response rates in this study, a research alliance was formed with each of the participants. The purpose of the research alliance was to create an atmosphere in which participants understand the importance of responding and feel capable of doing so. Building a research alliance with each participant included discussing in detail the importance of responding and the importance of the research in the initial interview, calling participants during the study to avoid feelings of isolation and encourage participation, and providing participants with contact information so they feel free to interact with the researchers. The average response rate in this study for the final sample was 87% and participants used diaries to supplement this data even further. However, there were participants who had to be removed from the study because their response rates were too low (below 65%). However, this number was low enough that the differences between these individuals and the remainder of the study sample did not present serious concerns. In addition, the low response rates were often the result of unavoidable circumstances.
One limitation of this study that is both a function of ESM research as well as survey research in general is the fact that all of the data came from self reports from the same individuals. In other words, participants both reported disruptions and rated psychological variables, as well as rated their own work functioning. It is unknown how self ratings of performance in this study relat to participants actual, objective performance. However, these measures do provide information on how working mothers experiences work. While there is no simple alternative when using ESM (e.g., supervisors are not likely to be willing to evaluate performance several times a day), it is important to be aware that all measures were self-report and common method variance and the objectiveness of responses is a concern.

*Future Directions*

One additional limitation of this study presents a clear opportunity for future research. That is, because of the small number of men who participated in the study, the examination of gender differences was not possible. It is clear that men and women have significantly different experiences with caregiving roles, but the current study could not address these issues. Ironically, it is some of these very differences that made recruiting male participants very difficult. Several men who were contacted during recruitment could not understand what they would have to add to a study of caregiving. The women in the current study reported being responsible for an average of 75 percent of all caregiving responsibilities. It would be fruitful to study both the men who handle the remaining 25 percent, as well as men who are the primary caregiver in a household. In addition to including men in future research, it would be particularly interesting to study married-couple parents as a unit. This would allow us to understand how two individuals
in the same household experience caregiving responsibilities differently in the context of the same study period.

The results of this study indicate that social support can play a significant role in allowing working parents to cope with work and caregiving demands. An important next step is to develop a more in-depth working model of how and why social support is important. For example, what processes are involved in allowing social support to minimize the effects of disruptions? This model will have important implications, both for providing a framework for this relatively unexplored area of research, as well as pointing researchers in the direction of solutions and recommendations.

The lack of findings with regard to moderating the impact of disruptions on work outcomes presents another interesting arena for further exploration. None of the moderator variables that were examined in this study had any effect on reducing the impact of child care disruptions on concentration, productivity, or job satisfaction. For organizations, however, these variables are clearly as important if not more important than the psychological outcomes examined. Consequently, an important next step will be to consider additional moderators that might play more of a role in minimizing the impact of child care disruptions. For example, are their aspects of organizational structure (e.g. flexible scheduling) that might allow employees to manage disruptions without significantly impacting work outcomes?

Policy Implications

This study has implications for parents, organizations, and policy makers who are interested in the issues that arise when parents enter the workplace and leave their children in the care of someone other than a parent. In an attempt to help parents
optimally balance work and family issues, this project attempted to thoroughly identify the problems that parents have and the complexities and dynamic factors that comprise and contribute to these problems. It is clear from the results of this study that disruptions are a real and salient part of every day for a parent attempting to balance work and caregiving demands. Further, these disruptions have ramifications for both the practical functioning of employees, as well as their psychological well-being. The results of this study have implications for addressing these problems. First, spousal support plays an important role in helping married-couple parents manage their caregiving responsibilities. For single parents, this is a significant resource that is not available to them. This research suggests that single parents should seek out support mechanisms, such as parenting groups and back-up care sharing, that can help serve the role of a second parent.

Massive deployment of American armed forces creates a particularly interesting situation for married-couple military families who, although married, function essentially as single parents for months or even years at a time. Because these individuals are dual-couple parents for some or most of the year, they may be less likely to develop the types of support mechanisms that are needed for single caregivers. Therefore, the military services have an opportunity to explore programs and systems that might aid in these efforts.

Of particular interest for organizations is the fact that supervisor support in this study served to reduce the effects of disruptions on outcomes, while organizational support did not do so. Organizational efforts to help working parents manage work and caregiving typically happen at the organizational level with global programs that are
intended to “trickle down” throughout the organization. However, regardless of the
“family friendliness” of the corporate image, if a parent’s direct supervisor does not play
a supportive role, this study suggests that the organizational efforts are not likely to make
an impact. One suggestion that extends from this study is for organizations to make an
effort to push work/balance responsibilities to the supervisor level. In a similar fashion to
how we now train diversity management and sexual harassment awareness, supervisors
can be trained on sensitivity to issues concerning work and family. This training could
serve to create a direct link of support between supervisors and employees.

One thing that is clear from reports of child care researchers and comments from
parents is that most working parents are not able to successfully manage work
responsibilities and caregiving responsibilities on their own without support from other
sources. While this study provides some suggestions for where this support might come,
there is a clear opportunity to create a wider understanding of how parents experience
work and caregiving and how they can be aided in these efforts so as to minimize the
negative impact on organizations, parents, and families.
References


Appendix A

Conceptual Model of Predictions and Research Questions
NOTE: Numbers represent the corresponding research predictions.
Appendix B

Introductory Survey
PLEASE PRINT

DEMOGRAPHIC INFORMATION

1. DATE OF BIRTH: _____/_____ 

2. GENDER: ___ Male ___ Female 

3. RACE: ____ White 

_____ Asian 

_____ African American 

_____ Hispanic (non-White) 

_____ Other 

5. ANNUAL HOUSEHOLD INCOME: 
(PLEASE APPROXIMATE IF UNKNOWN) 

   Yourself $ ____________ 
   Spouse / Live-In Partner $ ____________ 
   Other $ ____________ 

4. EDUCATION LEVEL: 
PLEASE CHECK HIGHEST DEGREE OBTAINED 

   ____ No High School 
   ____ Some High School 
   ____ High School Diploma 
   ____ Some College or Technical School 
   ____ Technical or Trade School Degree 
   ____ College Degree 
   ____ Masters or Professional Degree 

6. MARITAL STATUS: 

   ____ Single (Never Married) 
   ____ Married / Lifetime Partner 
   ____ Divorced/Separated (Not Remarried) 
   ____ Widowed (Not Remarried) 

WORK INFORMATION

7. NAME OF EMPLOYER: ______________________ 

8. TITLE WITHIN COMPANY: __________________ 

9. OCCUPATION: IF DIFFERENT FROM TITLE ______________________ 

10. YEARS WITH CURRENT COMPANY: _____ YEARS 

11. YEARS IN CURRENT POSITION: _____ YEARS 

12. WORK SCHEDULE: 

   a. AVERAGE HOURS WORKED PER WEEK _____ HOURS 

   b. USUAL HOURS WORKED: 
      BEGIN ____ : ____ am / pm 
      END ____ : ____ am / pm 

   c. USUAL DAYS WORKED: CHECK ALL THAT APPLY 
      ____ Monday ____ Tuesday ____ Wednesday ____ Thursday ____ Friday 
      ____ Saturday ____ Sunday 

13. IF YOUR SCHEDULE VARIES, PLEASE EXPLAIN BELOW THE HOURS YOU TYPICALLY WORK: 

   ____________________________________________________________ 
   ____________________________________________________________ 
   ____________________________________________________________
14. ARE YOU CURRENTLY LOOKING FOR JOBS IN OTHER ORGANIZATIONS?  
   ___YES  ___NO

15. HOW LIKELY IS IT THAT YOU WILL LEAVE YOUR CURRENT ORGANIZATION WITHIN THE NEXT YEAR?  
   ___HIGHLY LIKELY  ___LIKELY  ___NEUTRAL  ___UNLIKELY  ___HIGHLY UNLIKELY

16. FAMILY-FRIENDLY BENEFITS IN YOUR COMPANY  
   PLEASE CHECK ALL OF THE FOLLOWING THAT ARE CURRENTLY PROVIDED BY YOUR COMPANY  

   ___Flexible Work Schedules  
   ___On-Site or Near-Site Child Care Center  
   ___Financial Aid With Child Care Costs  
   ___Emergency Child Care Services  
   ___Child Care Referral Services  
   ___Paid Maternal Leave  
       ___If so, how many weeks per year:  ____WEEKS  
   ___Paid Paternal Leave  
       ___If so, how many weeks per year:  ____WEEKS  
   ___OTHER:  
       Please Specify:  ____________________________  

17. PLEASE CIRCLE ANY CHECK MARKS YOU MADE ABOVE IF YOU USE OR HAVE USED THE BENEFIT

COMPANY’S SUPPORT OF FAMILY DEMANDS

PLEASE INDICATE HOW MUCH YOU AGREE WITH EACH OF THE FOLLOWING QUESTIONS WITH RESPECT TO YOUR PLACE OF EMPLOYMENT:

18. I am satisfied with my company’s attempt to help me balance my work demands and my family demands.

19. My company does better than most in helping working parents.

20. My boss is understanding when I have to deal with family problems during work hours.

21. Help is available from my company when I have problems.

22. My company is understanding if I have to be absent for personal reasons.

23. Most of my coworkers are understanding of my family responsibilities.

24. I feel like I can talk to my boss if I am having a problem at home.

25. I do not feel like it is a good idea to talk about my family at work.

______

1 All questions were rated on a five-point scale ranging from strongly disagree to strongly agree unless otherwise indicated.
FEELINGS TOWARD YOUR COMPANY

26. I am willing to put in a great deal of effort beyond that normally expected in order to help my company be successful.

27. I feel very little loyalty to my company.

28. I find that my values and the company’s values are similar.

29. It would take very little change in my present circumstances to cause me to leave my company.

30. I find it difficult to agree with my company’s policies on important matters relating to its employees.

31. I really care about the fate of my company.

32. For me this is the best of all possible companies to work for.

FEELINGS ABOUT YOUR JOB

33. My job is flexible enough for me to handle all my demands.

34. I find it easy to stay focused at work.

35. I often have trouble concentrating on my work.

36. In general, my hours at work tend to be highly productive.

37. It is easy for me to stay motivated at work.

38. I am often distracted during work hours.

39. I often leave work feeling like I did not get enough done.

40. I feel fairly satisfied with my present job.

41. Most days I am enthusiastic about my work.

42. Each day at work seems like it will never end.

43. I find real enjoyment in my work.

44. I consider my job to be rather unpleasant.

45. During a working day, there are times when I feel unsettled, though the reasons for this are not always clear.

46. There are times at work when I feel so exasperated that I think to myself that “life is all really too much effort.”

47. As I do my job I have noticed myself questioning my own ability and judgment.

48. I usually feel relaxed and at ease during work.

49. If the job I am doing starts to go wrong, I sometimes feel a lack of confidence and panicky.
GENERAL FEELINGS

50. I am a worrier.

51. I often feel inferior to others.

52. I rarely feel lonely or blue.

53. I often feel tense and jittery.

54. I rarely feel fearful or anxious.

55. I often feel helpless and want someone else to help me.

EMOTIONS AT WORK

THE FOLLOWING IS A LIST OF FEELINGS AND EMOTIONS THAT YOU MAY EXPERIENCE WHILE AT WORK. READ EACH ITEM AND THEN MARK THE APPROPRIATE ANSWER. INDICATE TO WHAT EXTENT YOU HAVE FELT THIS WAY DURING THE PAST FEW WEEKS WHILE YOU ARE AT WORK. USE THE SCALE PROVIDED.

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INFORMATION ON CHILDREN

PLEASE PROVIDE THE FOLLOWING INFORMATION FOR EACH CHILD UNDER 18 LIVING IN YOUR HOME:

76. CHILD'S NAME: ____________________________________________

   a. AGE: ____

   b. GENDER: ___MALE ___FEMALE

   c. GRADE: ____
   d. NAME OF SCHOOL (IF ATTEND): ____________________________

   e. Any Special Needs (Physical or mental handicaps, recurring illness, etc.):

   ____________________________________________________________

   f. Answer the following questions about this child.

      1. This child does not like to be separated from his/her parents.
      2. This child is very independent.
      3. This child gets along well with other children.
      4. This child is generally happy.
      5. This child has a lot of friends at his/her child care location.

77. CHILD'S NAME: ____________________________________________

   a. AGE: ____

   b. GENDER: ___MALE ___FEMALE

   c. GRADE: ____
   d. NAME OF SCHOOL (IF ATTEND): ____________________________

   e. Any Special Needs (Physical or mental handicaps, recurring illness, etc.):

   ____________________________________________________________

   f. Answer the following questions about this child.

      1. This child does not like to be separated from his/her parents.
      2. This child is very independent.
      3. This child gets along well with other children.
      4. This child is generally happy.
      5. This child has a lot of friends at his/her child care location.

NOTE: Please ask the researcher for additional pages if you have more than two children.
CHILD CARE INFORMATION

PLEASE LIST CHILD CARE ARRANGEMENTS THAT YOU USE AND COMPLETE THE INFORMATION ON EACH ONE. PLEASE PROVIDE CHILD CARE INFORMATION FOR EACH CHILD SEPARATELY.

EXAMPLES OF TYPES OF CARE:
A. Private Day Care Center
B. Company-Provided Day Care
C. Relative (e.g., aunt, grandparent)
D. Neighbor or Friend
E. In-Home Care (nanny or babysitter)
F. Non-Relative Family Care (care in home of non-relative or friend)
G. OTHER (Please Explain)

78. CHILD'S NAME: _______________________________________________________
   a. Type of Care (SEE LIST ABOVE): ______________________________________
   b. Name of Center (IF APPLICABLE): ________________________________
   c. Relation of Care-giver To Your Child (IF APPLICABLE): ________________
   d. Number of Days Used Per Week: _____ DAYS
   e. Average Number of Hours Used Each Day: _____ HOURS
   f. Average Cost Per Week: $ ______
   g. Estimate how many children there are for every adult in this child care arrangement: ____
   h. Amount of Extra Driving Required to Take Child to Child Care: _____ MINUTES
   i. How satisfied are you with this child care arrangement? (please check one)
      ______ VERY SATISFIED ______ SATISFIED ______ NEUTRAL ______ UNSATISFIED ______ VERY UNSATISFIED
   j. Estimate the highest degree obtained by the person who normally cares for your child.
      ______ High School Degree or Less ______ Some College ______ College Degree
   k. Is this child care available when you need to work late? _____ Yes _____ No

79. CHILD'S NAME: _______________________________________________________
   a. Type of Care (SEE LIST ABOVE): ______________________________________
   b. Name of Center (IF APPLICABLE): ________________________________
   c. Relation of Care-giver To Your Child (IF APPLICABLE): ________________
   f. Number of Days Used Per Week: _____ DAYS
   g. Average Number of Hours Used Each Day: _____ HOURS
   f. Average Cost Per Week: $ ______
   g. Estimate how many children there are for every adult in this child care arrangement: ____
   h. Amount of Extra Driving Required to Take Child to Child Care: _____ MINUTES
   i. How satisfied are you with this child care arrangement? (please check one)
      ______ VERY SATISFIED ______ SATISFIED ______ NEUTRAL ______ UNSATISFIED ______ VERY UNSATISFIED
   k. Estimate the highest degree obtained by the person who normally cares for your child.
      ______ High School Degree or Less ______ Some College ______ College Degree
   k. Is this child care available when you need to work late? _____ Yes _____ No

NOTE: Ask the researcher for additional pages if you use more than two types of care.
80. If there is a problem with your normal child care arrangements, do you have an alternative (such as a relative or other back-up care) to turn to?

   ___ No    ___ Yes: if so, who/what? ________________________________

81. How many times have each of the following occurred within the last year as a result of problems with child care arrangements (this includes problems with children that make them unable to attend their normal child care)?

   a. ____ had to arrive late to work
   b. ____ had to leave early
   c. ____ had to take phone calls at work
   d. ____ had to leave work for some portion of the day
   e. ____ had to miss an entire day of work

PARENTING INFORMATION

82. When children are not in child care, what percentage of overall parenting responsibilities are each of the following people responsible for? (Should add up to 100%)

   a. ___% You
   b. ___% Your spouse/live-in partner
   c. ___% Other (Please Specify): ______________________

83. If there is a problem related to your children during the work day, what percentage of the time do each of the following typically handle the problem? (Should add up to 100%)

   a. ___% You
   b. ___% Your spouse/live-in partner
   c. ___% Other ______________________

84. Approximately how many relatives do you have living in the Houston area (not including those who live in your household)? ______

85. Do you have any extended family who live in your home?

   ___ No    ___ Yes: if so, what relation are they to you? ______________________

86. During the past week, what was the average amount of time, per day, that you spent with your children?

   ____ HOURS

87. In addition to caring for your children, do you have any additional significant responsibilities outside of work that demand a large amount of your time and energy? (e.g., caring for an elderly parent or a disable spouse, president of the PTA, etc.).

   ____ NO    ____ YES: Please Specify: ____________________________________________
THE FOLLOWING QUESTIONS CONCERN THE INTERACTION OF WORK AND FAMILY IN YOUR LIFE. PLEASE ANSWER USING THE SCALE PROVIDED.

88. My job makes me feel too tired to do the things that need attention at home.

89. Stress at work makes me irritable at home.

90. Job worries or problems distract me when I am at home.

91. My job reduces the effort I can give to activities at home.

92. Personal or family worries and problems distract me when I am at work.

93. Stress at home makes me irritable at work.

94. Activities and chores at home prevent me from getting the amount of sleep I need to do my job well.

95. Responsibilities at home reduce the effort I can devote to my job.

96. The love and respect I get at home makes me feel confident about myself at work.

97. My home life helps me relax and feel ready for the next day’s work.

98. Talking with someone at home helps me deal with problems at work.

99. Providing for what is needed at home makes me work harder at my job.

100. Having a good day at my job makes me a better companion when I get home.

101. The things I do at work help me deal with personal and practical issues at home.

102. The things I do at work make me a more interesting person at home.

103. The skills I use on my job are useful for things I have to do at home.

104. I feel guilty leaving my child in child care every day.

THE FOLLOWING QUESTIONS CONCERN THE AMOUNT OF INFLUENCE YOUR CHILDREN HAVE ON YOUR THOUGHTS, FEELINGS, AND BEHAVIORS. PLEASE ANSWER USING THE SCALE PROVIDED.

105. My children do not influence everyday things in my life.

106. My children influence important things in my life.

107. My children influence the way I feel about myself.

108. My children do not influence my moods.

109. My children influence the basic values that I hold.

110. My children do not influence the type of career I have.
111. My children influence the way I feel about the future.

112. My children do not have the capacity to influence how I act in various situations.

113. My children influence and contribute to my happiness.

**THE FOLLOWING QUESTIONS CONCERN YOUR ATTITUDES TOWARDS WORK INVOLVEMENT. PLEASE ANSWER USING THE SCALE PROVIDED.**

114. The most important things that happen in life involve work.

115. Work is something people should get involved in most of the time.

116. Work should be only a small part of one's life.

117. Work should be considered central to life.

118. In my view, an individual's personal life goals should be work-oriented.

119. Life is worth living only when people get absorbed in work.

120. I would quit my job if I could afford not to work.

121. I work because I want to, not because I have to.

**THE FOLLOWING QUESTIONS CONCERN YOUR ATTITUDES TOWARDS FAMILY INVOLVEMENT. PLEASE ANSWER USING THE SCALE PROVIDED.**

122. The most important things that happen in life involve family.

123. Family is something people should get involved in most of the time.

124. Family should be only a small part of one's life.

125. Family should be considered central to life.

126. In my view, an individual's personal life goals should be family-oriented.

127. Life is worth living only when people get absorbed in their family lives.
Appendix C

Experience Sampling Method Measures
1. What were you DOING when you were signaled?
   A. Work Activity
   B. Personal Activity (No Family)
   C. Family-Related Activity
   D. Other

2. When you were signaled, how high was your CONCENTRATION level?
   A. Very High
   B. High
   C. Moderate
   D. Low
   E. Very Low

3. When you were signaled, how high was your MOTIVATION level?
   A. Very High
   B. High
   C. Moderate
   D. Low
   E. Very Low

4. When you were signaled, how high was your PRODUCTIVITY level?
   A. Very High
   B. High
   C. Moderate
   D. Low
   E. Very Low

5. When you were signaled, how high was your STRESS level?
   A. Very High
   B. High
   C. Moderate
   D. Low
   E. Very Low

6. When you were signaled, which best describes the INTERACTION OF your FAMILY LIFE and your WORK LIFE?
   A. Family Positively Affecting Work
   B. Family Negatively Affecting Work
   C. Work Positively Affecting Family
   D. Work Negatively Affecting Family
   E. Neither Affecting Each

7. When you were signaled, how SATISFIED were you WITH YOUR JOB?
   A. Very Satisfied
   B. Satisfied
   C. Neutral
   D. Unsatisfied
   E. Very Unsatisfied

8. How ENTHUSIASTIC were you just before you were signaled?
   A. Very Much
   B. Much
   C. Somewhat
   D. A Little
   E. Not At All

9. How INTERESTED were you just before you were signaled?
   A. Very Much
   B. Much
   C. Somewhat
   D. A Little
   E. Not At All

10. How HAPPY were you just before you were signaled?
    A. Very Much
    B. Much
    C. Somewhat
    D. A Little
    E. Not At All

11. How DISTRESSED were you just before you were signaled?
    A. Very Much
    B. Much
    C. Somewhat
    D. A Little
    E. Not At All

12. How UNHAPPY were you just before you were signaled?
    A. Very Much
    B. Much
    C. Somewhat
    D. A Little
    E. Not At All
13. How NERVOUS were you just before you were signaled?
A. Very Much
B. Much
C. Somewhat
D. A Little
E. Not At All

14. If you were LATE to work today, why?
(Press SKIP if already answered today.)
A. Problem With Child Care
B. Driving Child to Child Care
C. Child Sick
D. Dealing With Other Family Issues
E. Other/WAS NOT LATE

15. If your child is NOT at their REGULAR CARE PROVIDER today, where are they?
(Press SKIP if already answered today.)
A. With Spouse/Relative
B. With Friend/Neighbor
C. At an Emergency/Back-Up Care Center
D. At Some Other Alternative Child Care Provider
E. At NORMAL CHILD CARE

16. If you had to MISS WORK today, why?
(Press SKIP if already answered today.)
A. Child Care Not Available
B. Child Sick
C. Other Family Reason
D. Other Non-Family Reason
E. DID NOT MISS WORK

17. Since your last session, have you had to TAKE TIME AWAY from your work activities to deal with:
A. Problems With Child Care
B. Other Child-Related Issues
C. Other Non-Work Related Issues
D. None Of the Above

18. Since your last session, have you received PHONE CALLS or E-MAILS from:
A. Your Child(ren)
B. Your Spouse Related to Child Issues
C. Your Child's Child Care Provider
D. Your Child's School
E. None of The Above

19. Since your last session, have you had to LEAVE WORK during work hours to deal with:
A. Problems With Child Care
B. Other Child-Related Issues
C. Other Non-Work Related Issues
D. None Of the Above

20. Since your last session, how DISTRACTED have you been in your work due to THINKING ABOUT YOUR CHILDREN?
A. Extremely Distracted
B. Very Distracted
C. Somewhat Distracted
D. Slightly Distracted
E. Not at All Distracted

21. Since your last session, how DISTRACTED have you been in your work due to WORRYING ABOUT YOUR CHILDREN?
A. Extremely Distracted
B. Very Distracted
C. Somewhat Distracted
D. Slightly Distracted
E. Not at All Distracted
Appendix D

Final Questionnaire
INSTRUCTIONS: PLEASE INDICATE HOW MUCH YOU AGREE WITH EACH OF THE FOLLOWING STATEMENTS.¹

1. Being in this study disrupted my work a great deal.

2. I found this study to be very interesting.

3. I was able to return to my work after each session with very little disruption in what I was doing.

4. Being in this study disrupted my family life a great deal.

5. Being a part of this study made me aware of stresses I experience that I had not noticed before the study began.

6. I feel that this is important research that needs to be done.

7. Being in this study caused problems for me with my boss.

8. Being in this study caused problems for me with my coworkers.

9. Being in this study caused problems for me with my family.

10. My spouse/significant other (if applicable) was supportive of me participating in this study.

11. My boss was supportive of me participating in this study. (Leave blank if boss was unaware of your participation.)

12. I would recommend that my friends participate in this study.

13. The past two weeks were typical of other weeks for me.

14. Despite being in this study, I was able to accomplish as much at work these past two weeks as I normally do.

15. Participating in this study had very little impact on my life over the past two weeks.

16. This study was easy for me to complete.

17. This study thoroughly captured my experiences of being a working parent with children in child care.

Please add in the space provided any comments that you have about the study and your experiences over the past two weeks.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

¹All questions were rated on a five-point scale ranging from strongly disagree to strongly agree unless otherwise indicated.
Appendix E

Descriptive Statistics and Intercorrelations for Aggregated ESM

Variables and Individual Variables
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*Note.* Bolded correlations are significant at *p < .05*. Variables in italics are aggregated ESM variables.
<p>| 1 Late for Work | 2 Alternative Child Care | 3 Miss Work | 4 Take Time from Work | 5 Phone Call/E-Mail | 6 Leave Early | 7 Total Disruptions | 8 Thinking about Children | 9 Worrying about Children | 10 Concentration | 11 Motivation | 12 Productivity | 13 Job Satisfaction | 14 Positive Affect | 15 Negative Affect | 16 Work-Family Conflict | 17 Stress | 18 Total Household Income | 19 Turnover Intentions | 20 Supervisor Support | 21 Organizational Support | 22 Org. Commitment | 23 Job Satisfaction | 24 Well-Being at Work |
|----------------|-------------------------|-------------|----------------------|-------------------|--------------|-------------------|-----------------------|--------------------------|-----------------|----------------|----------------|-------------------|----------------|----------------|---------------------|---------|----------------|--------------------|----------------|----------------|----------------|----------------|
|                |                         |             |                      |                   |              |                   |                       |                          |                 |               |                 |                   | 1.00            | -0.32            | 1.00                |         | 0.13            | 0.00               | 0.06            | 1.00            | 0.00            | -0.22           | 0.71            | 0.40            | 1.00                | -0.32            | 0.42            | 1.00                |         | 0.26            | -0.19              | -0.24           | -0.11           | 0.13            | -0.18           | 1.00            | 0.31            | -0.32            | -0.19           | -0.21           | 0.14            | -0.16           | 0.70            | 1.00                |         | 0.46            | -0.25              | -0.27           | -0.17           | 0.12            | -0.37           | 0.51            | 0.64            | 1.00                |         | 0.45            | -0.31              | -0.13           | -0.13           | 0.22            | -0.40           | 0.49            | 0.48            | 0.57                | 1.00       | -0.16           | 0.48              | 0.11            | 0.37            | -0.04           | 0.21            | -0.12           | -0.21           | -0.11           | -0.48           | 1.00                |         |</p>
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