When Child Care Breaks Down:
Mothers' Experiences with Child Care Problems and Resulting Missed Work*

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Margaret L. Usdansky, Assistant Professor of Sociology Douglas A. Wolf, Professor of Public Administration Center for Policy Research Syracuse University

^{*} Direct correspondence to Margaret L. Usdansky, Center for Policy Research, 426 Eggers Hall, Syracuse University, Syracuse, NY 13244-1020, mlusdans@maxwell.syr.edu). Earlier versions of this paper were presented at the 2005 Population Association of America meetings in Philadelphia and the 2005 Eastern Sociological Association meetings in Washington, D.C. We thank Madonna Harrington Meyer, Janet Wilmoth, Christine Himes and Steve Brechin for their comments on this manuscript.

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Qualitative research suggests that day-to-day problems with child care produce significant costs for low-income mothers. But the potential relevance of daily child care problems for mothers of all socio-economic backgrounds has largely been overlooked. In this paper, we ask two interrelated questions: What factors shape how often mothers experience child care disruptions, and what factors shape how often care disruptions lead to maternal absences from work? Using the Fragile Families and Child Well-Being Study (N=1,309), we find that low-income mothers, mothers whose shifts vary, mothers who rely on patchworks of care and mothers with low social support are especially likely to experience care disruptions. But only mothers with low social support and mothers who use certain types of child care face an elevated risk of missing work as a result. Our findings underscore the widespread nature of child care problems and their heightened impact on mothers who are socially isolated.

Dramatic increases in mothers' labor force participation and in the use of child care (Harris, Raley, and Rindfuss 2002; Hofferth 1999; NICHD Early Child Care Research Network 2001) have inspired a growing scholarly literature in the U.S. about barriers and aids to maternal employment. Past research has probed aspects of child care associated with maternal labor force participation and attachment. These include the availability and affordability of child care (Han and Waldfogel 2001; Hofferth and Collins 2000), the availability of child care subsidies (Meyers, Heintze and Wolf 2002; Press, Fagan and Laughlin 2006), maternal satisfaction with child care (Glass and Estes 1996) and the timing of child care use (Bub and McCartney 2004).

Less attention, however, has been devoted to understanding the day-to-day problems mothers encounter with their child care arrangements, either in terms of disruptions of those arrangements or maternal absences from work resulting from such disruptions. While qualitative studies have explored these child care problems among low-income women (Clampet-Lundquist et al. 2004; Henly and Lyons 2000; Scott, London and Hurst 2005), to the best of our knowledge there has been no multivariate analysis of child care disruptions and resulting missed work among a national sample of women in varying economic circumstances. The National Child Care Study (Hofferth et al. 1991) examined these questions. But the NCCS, which is now more than 15 years old, was cross-sectional, and the analysis was descriptive rather than multivariate.

Thus, we know little about the prevalence of child care disruptions and resulting missed work or about factors that make some mothers prone to these problems and others better able to avoid them. This is a significant gap in the literature because women's greater responsibility for childrearing contributes to their relatively lower human capital compared with men and has been identified as a factor in the gender wage gap (Blau and Kahn 2000; Waldfogel 1997). Child care problems represent one avenue through which childrearing responsibilities hinder women's

ability to successfully combine work and family. Care disruptions and resulting missed work are also significant problems in their own right. Care disruptions are likely to entail additional legwork and stress for mothers, who must arrange backup care and ensure its quality. Missing work due to disruptions can mean using up valuable vacation or personal days or, for less fortunate mothers, losing pay or even a job (Perry-Jenkins 2005). Understanding the prevalence and predictors of child care disruptions and resulting missed work is a necessary first step toward developing policies to help mothers better bridge the domains of child care and employment.

In this paper, we ask two interrelated questions: What factors shape how often child care disruptions occur, and what factors shape how often disruptions lead to maternal absences from work? We consider four factors likely to be related to care disruption and resulting missed work: mothers' access to social support; mothers' work schedule; mothers' child care arrangements; and mothers' socio-economic status. We use the Fragile Families and Child Well-Being Study, which follows a cohort of children born in large cities between 1998 and 2000 and includes an over-sample of children born to unmarried mothers. While the Fragile Families data are designed to include a disproportionately large group of low-income children, the data also include non-trivial shares of middle- and upper-middle class children and their families.

This paper contributes to the literature on work and family by providing a multivariate analysis of child care disruptions and missed work in a national sample of women in varied socio-economic circumstances. It adds to a growing body of research examining quotidian logistical challenges that hinder many single- and dual-earner parents, such as non-standard work schedules (Presser 2003) and inadequate transportation networks (Roy, Tubbs, Burton 2004). We begin with a literature review of the implications of social support, work schedule, child care arrangements and socio-economic status for care disruptions and work absences. Next, we use

the Fragile Families and Child Well-Being Study to conduct a two-step analysis of the risk of child care disruption and, given a disruption, the risk of missed work. We conclude with a discussion of the implications of our findings. While we recognize that some fathers play an active role in managing child care, we focus on mothers because they handle a disproportionate share of this work (Pungello and Kurtz-Costes 1999), and because the Fragile Families study did not ask fathers about child care problems except in rare cases when the fathers had primary custody of children, thus making the potential sample of fathers too small for analysis.

DETERMINANTS OF CARE DISRUPTION AND MISSED WORK SOCIAL AND FAMILIAL SUPPORT

Social support is an important element of family functioning (Kana' Iaupuni et al. 2005; Wellman and Wortley 1990) and is likely to have implications for the quality of child care mothers obtain and the options they have when care arrangements fail (Henly 2002). Mothers with high levels of support may have better information about local care providers, which could lead to higher quality care arrangements. High quality care arrangements, in turn, may mean fewer disruptions. Social support may also help mothers find reliable backup providers when disruptions do occur and thus could also reduce work absences due to disruptions. Social support may be especially important to low income parents and single mothers, who often rely on networks of kin and close friends for financial assistance and practical help, including child care (Edin and Lein 1997; Harknett 2006). However, middle-class, married mothers are also likely to benefit from social support and may have greater access to it, to the extent that members of middle-class support networks have more resources to share (Henly, Danziger and Offer 2005).

Social and familial support may be conceptualized in terms of actual assistance received or the perceived availability of assistance (Sarason, Sarason and Pierce 1990). Since those in

greater need of support are likely to receive more support than those in less need, measures of received support risk confounding need for support with its availability. On the other hand, perceptions of support may be influenced by personality characteristics (Henly, Danziger and Offer 2005). For these reasons, we incorporate both perceived availability of support and potential support resources into our analyses.

Marital status provides one important source of potential support resources within the family. Using data from the Current Population Survey, Cohen (2002) found that cohabitation decreased race-ethnic differences in single mothers' employment rates such that African-American and Latina single mothers in cohabiting relationships were as likely to work as comparable, white single mothers. Just as spouses and partners often serve as regular child care providers (Han 2004; Perry-Jenkins 2005), they may also be an important source of backup child care when regular care arrangements are unavailable, particularly if the parents work different shifts. Alternatively, if male spouses or partners view child care as a something women arrange (Pungello and Kurtz-Costes 1999) or view men's employment as more important than women's (Pyke 1996), marital status may be unrelated to mothers' risk of missing work when care disruptions occur. Different aspects of father involvement tend to be positively correlated (Cooksey and Craig 1998). Thus, when fathers have frequent contact with their children, mothers may be better able to find high quality non-parental child care because they may be able to rely on fathers to provide temporary care while they search for desirable permanent arrangements rather than facing time pressure to find care. Fathers who have daily contact with their children may also be more likely to provide backup care than fathers who have less frequent contact.

Social support may also come from outside the mother's household as kin and friends may be a valuable source of assistance in finding reliable child care and in providing backup care

regardless of whether they co-reside. Using a scale of multiple social support measures, including the availability of temporary child care assistance, Henly, Danziger and Offer (2005) linked perceived social support to reductions in material hardship and household poverty among low-income families. Using different data but a similar scale of perceived social support, Harknett (2006) found strong support networks to be associated with increased work and earnings and reduced welfare use among single mothers.

WORK SCHEDULE

Qualitative research underscores the logistical challenges of combining work and family among low-income mothers (Henly and Lyons 2000; Scott, London and Hurst 2005). These mothers often hold working-class jobs that offer few or no benefits and require unexpected schedule or shift changes, making child care disruptions especially problematic (Henly and Lambert 2005; Perry-Jenkins 2005). But this literature cannot disaggregate the potentially distinct effects of class from effects of work schedule that are closely linked to class and cannot speak to the potentially costly impact of child care problems on middle-class mothers. While it may not be possible to completely disentangle the effects of class and work schedule, it is important to measure these concepts separately. It is also important to recognize that although work schedule challenges are especially likely to affect low-income mothers, they may also affect mothers in the middle class (Presser 2003).

Past research focusing on low-income mothers illustrates a variety of mechanisms through which work schedules may hinder mothers' ability to combine work and family. For example, mothers who work more than one job may be likely to experience child care problems because of the greater logistical demands of their schedules (Perry-Jenkins 2005). Mothers may also have difficulty arranging child care because they work non-standard shifts when formal care

is less available (Han 2004; Henley and Lyons 2000; Scott, London and Hurst 2005). Greater reliance on informal care may mean less reliable care (Henly and Lyons 2000) and a heightened risk of care disruptions and related missed work. On the other hand, working non-standard shifts may increase mothers' pool of potential informal child care providers if family members who work by day are available to supervise children after work (Han 2004). Different types of nonstandard work may also have different effects (Presser 2003). Working varying shifts, for example, is likely to increase the difficulty of finding reliable care, while evening or weekend work may be a preferred strategy for some parents who depend on friends or relatives for care (Han 2004).

The number of hours mothers work may also be relevant. Some mothers work long hours because employment is their sole source of economic support. Such mothers may place a higher value on avoiding child care disruptions than on other characteristics that have been shown to affect the choice of care arrangements, such as a convenient location (Henly and Lyons 2000). If this is the case, longer work hours could be associated with fewer child care problems. But longer work hours are likely to mean longer child care hours and, all else being equal, greater exposure to care disruptions and resulting work absences.

CHILD CARE ARRANGEMENTS

Like work schedules, child care arrangements also vary widely along a number of dimensions likely related to the reliability of care. While formal child care providers, including child care centers and licensed family day cares, must comply with state government regulations in order to be licensed, few regulations apply to the informal care sector. The quality of much child care in the U.S. is poor, even in formal settings (Pungello and Kurtz-Costes 1999). But the licensure process is likely to foster a greater sense of professionalism and commitment than is

typical of informal providers, who often perform child care to help out a relative or earn extra money (Henly and Lyons 2000; Pungello and Kurtz-Costes 1999) and whose availability may change due to pregnancy, employment shifts or illness (Scott, London and Hurst 2005).

Child care disruptions – particularly the unanticipated disruptions most likely to lead to missed work – may also occur less frequently in child care centers because centers employ multiple staff members and so can remain open when one employee falls ill or takes vacation. The setting where child care occurs may matter, too. Wolf and Sonnenstein (1991) found that care provided by a relative in the child's home was just as stable as the typical center-based care arrangement, while care by a relative outside the child's home was somewhat less stable.

The relationship between some aspects of child care and child care problems is uncertain. Mothers who use more than one child care provider have greater exposure to child care problems, but they also have other providers to turn to when faced with care disruptions (Folk and Yi 1994; Scott, London and Hurst 2005). Mothers who have difficulty finding and maintaining reliable care may be more likely to change providers, but mothers who change providers may also improve the quality of their child care (Scott, London and Hurst 2005). Finally, the number of hours a child is in care each week has an ambiguous relationship to care disruptions and missed work. More care hours translate into greater potential for both these events to transpire. But mothers who use longer hours of care may be more invested in finding dependable arrangements to avoid missed work.

SOCIO-ECONOMIC STATUS

Socio-economic status may also affect the likelihood of care problems. Parents with high levels of education may have better sources of information about the quality and reliability of care providers in their vicinity and thus be better able to find stable care arrangements and avoid

care disruptions (Harknett 2006). The relationship between education and access to back-up care is less clear. Highly educated mothers might have better access to backup care when they do face care disruptions because social networks tend to be homogenous with regard to socio-economic status, meaning that mothers with greater resources also tend to have social networks with greater resources (Harknett 2006). On the other hand, low-income mothers may be more likely to belong to social networks that emphasize the exchange of assistance with practical problems such as child care disruptions (Henly, Danziger and Offer 2005). Moreover, mothers in working class jobs rarely have benefits such as personal or sick days and thus may have few options in the face of care disruptions other than to find backup care and keep working (Perry-Jenkins 2005).

In addition, some research indicates that among users of a given care type, quality of care is lower among children from less affluent families (Meyers et al. 2004; NICHD Early Child Care Research Network 1997). Mothers with higher incomes may be better able to afford reliable child care and backup care, but they may also have better benefits, such as vacation and personal days, which make it less costly for them to take off work when they do experience disruptions (Perry-Jenkins 2005). Mothers who have previously relied on welfare may face special problems affording and keeping reliable care, due to their low incomes and inconsistent access to child care subsidies (Clampet-Lundquist et al. 2004; Scott, London and Hurst 2005).

Given the findings reported above, we expect mothers with high levels of social and familial support to be less likely to experience care disruptions and less likely to miss work when disruptions do occur. We expect work and care arrangements to be related to care disruptions and missed work although the expected direction of these relationships is not always clear. And we expect mothers from less-advantaged socio-economic backgrounds to be more likely to

experience care disruptions. The relationship between socio-economic status and missed work is uncertain given the alternate hypotheses described above.

METHODS AND DATA

Our analysis uses data from the Fragile Families and Child Wellbeing Study, which follows a cohort of children born to 3,712 unmarried mothers in 75 hospitals in 20 U.S. cities between 1998 and 2000, with a comparison group of children born to 1,188 married mothers. Mothers and fathers were interviewed shortly after the child's birth and reinterviewed when the child was approximately one and three years old. Response rates were generally high, including 87 percent of unmarried mothers and 82 percent of married mothers eligible at baseline, 90 percent of unmarried mothers and 91 percent of married mothers eligible at first follow up and 87 percent of unmarried mothers and 90 percent of married mothers eligible at second follow up.

The full study includes a sub-sample of children born to 3,489 mothers in 15 cities. When weighted, this sub-sample is representative of non-marital births and nearly representative of marital births that occurred between 1998 and 2000 in U.S. cities with populations above 200,000. (The sampling frame was designed around non-marital births.) We used the national sub-sample to generate representative estimates of child care problems among urban mothers of toddlers who were using non-parental child care or a combination of non-parental and parental care. Cases from Austin, Texas were omitted because of differences with the other 14 cities in the wording of child care questions. To take this into account, we applied weights designed specifically for use with the nationally representative set of cities excluding Austin.

The Fragile Families survey did not collect child care data from families in which all child care was provided by the parents. Questions were asked only about disruptions in *non*-parental child care. Thus, we cannot compare the prevalence or consequences of disruptions in

parental care with disruptions in non-parental care. We recognize, however, that some families in our sample relied on both forms of care and that prior research suggests that care by fathers may be less stable than non-parental care, perhaps because many fathers provide care when they are in between jobs or working non-day shifts and stop providing care when their work schedules change (Hofferth and Collins 2000).

We constructed our independent and control variables mainly using data from the second wave survey conducted around the focal child's first birthday. However, maternal race and immigration status and child gender were collected only at the initial survey when the focal children were born. Our outcome measures were taken from the third wave interview when these children were approximately three. Because we were interested in the relationship of maternal characteristics measured at waves one and two and child care problems measured at wave three, we limited our potential analytic sample to the 2,290 mothers in the nationally representative sub-sample who were interviewed at all three waves of data collection. As the study did not ask child care questions of mothers who used only parental care, we further limited our analytic sample to the 1,349 mothers who used some non-parental child care at wave three. (We cannot ascertain how many of the 941 mothers who did not use any non-parental care provided all care themselves and how many relied on the child's father for care.) After eliminating 40 cases with missing data, our analytic sample for the model of care disruption consisted of 1,309 mothers who used some non-parental care at wave three and were interviewed at all three waves. Our analytic sample for the model of missed work given a care disruption consisted of 233 employed mothers who had a child care disruption and were at risk of missing work as a result.

The lack of child care information for mothers who used parental care exclusively prevents us from examining care disruptions and missed work among mothers who supervised

their children while they worked or relied solely on the child's father for care. But the distinction between these groups of mothers makes theoretical sense given the special circumstances of mothers who rely exclusively on parental care. These mothers are unlikely to miss work because their provider takes vacation or falls ill, for example, but they may be especially likely to miss work if their spouse's or partner's shift changes (Han 2004).

KEY VARIABLES

Child Care Disruptions and Missed Work. The first dependent variable in our two-step analysis is child care disruption, a dichotomous measure coded one if the mother reported that her usual care arrangement "fell through" in the month prior to the three-year follow up survey. This variable is based on a question that asked mothers, "Approximately how many times in the past month did you have to make special arrangements because your usual child care arrangement fell through?" Mothers were instructed to consider such child care disruptions to include both unscheduled events such as provider illness or closings due to inclement weather and scheduled events such as provider vacations.

Missed work is a dichotomous measure coded one if the mother reported that she missed work due to a child care disruption in the month prior to survey. This variable was derived from a question that asked mothers who had made special care arrangements, "How many times in the past month did you miss work or school because your child care arrangement fell through?" Because missing work has clearer negative consequences for mothers in terms of potential lost income and the risk of termination due to unexpected work absences, we limited this portion of our analysis to mothers who were employed and not in school at the time of the three-year follow-up. This enabled us to be sure that these mothers were at risk of missing work, not school.

Social and Familial Support. We used the same independent variables in both stages of our analysis. This enabled us to determine whether any of the explanatory variables exhibited distinctive direct effects—that is, effects conditional on the experience of child care disruptions and indirect effects operating solely through the experience of care disruptions—on the ultimate dependent variable, missing work. Our first set of independent variables concerned mothers' access to social support at wave two when the focal child was approximately one. We measured social and familial support in terms of potential resources within the family and perceived access to assistance within or beyond the household. Within the family, we distinguished among married, cohabiting and single mothers. We also captured variation in the likelihood that the child's father would provide support that reduced the risk of care disruptions and missed work by including the number of days in past month that the mother reported that the father had seen the child (Father's Contact With Child). In initial models, we also included a specific measure of father's assistance with child care. This variable, based on a question that directly asked mothers how often fathers helped with child care when the mothers "needed to do things," was unrelated to care disruptions or resulting missed work.

To capture perceived availability of social support, we used a scale based on six questions asking whether the mother could "count on someone" for help in the next year if she needed various types of assistance. These included financial assistance (a \$200 loan, a \$1,000 loan, co-signing a \$1,000 bank loan and co-signing a \$5,000 bank loan) and practical assistance (a place to live and emergency child care). The six-item scale ranged from zero (none of these supports available) to six (all types available) and had an alpha coefficient of 0.81, indicating a high degree of internal consistency.

Work Schedule. These variables captured characteristics of mothers' employment at one-year follow up. They included a dichotomous variable coded one if the mother had held more than one job at a time since the child's birth and a set of four dichotomous variables indicating whether the mother had worked non-standard days or hours since the child's birth (some evenings, some nights, some weekends, and varying shifts). Mothers' usual weekly work hours were also coded. Mothers who did not work between birth and one-year follow up were coded as having values of zero for employment variables, which would otherwise have been treated as missing. A dummy variable coded one if the mother was *not* employed at the time of one-year follow up controlled for this approach to handling missing values.

Child Care Arrangements. We distinguished five types of child care arrangements reflecting the relationship between the child and the provider and the location where care was provided (center-based care, including nursery schools and Head Start; relative care in the child's home; relative care outside the child's home; non-relative care outside the home; and "other" care types, including 15 cases in which a non-relative provided care in the child's home). For mothers who reported using more than one care provider, we coded child care type based on the primary arrangement. Other measures included the number of child care providers the mother used, the number of times the mother had changed providers since the child's birth, and the usual number of hours the child received care each week. Mothers who used non-parental child care at wave three but not at wave two were coded as having values of zero on care-related variables. A dummy variable coded one if no child care information was available at wave two was incorporated into the analysis to enable us to include this group of mothers.

Socio-Economic Status. Our measures of socio-economic status included household income (measured in thousands), education (less than high school, high school graduate, college

graduate), and a dummy variable coded one if the mother had received Temporary Assistance to Needy Families (TANF) in the year prior to the survey. We included a dummy variable coded one in the six percent of cases in which mothers were missing household income data. An examination of the unweighted summary statistics for the socio-economic status variables confirmed that the sample included adequate variation in household income and education to allow analysis of income and education effects as indicated in the Appendix.

Control Variables. We included demographic factors, such as mother's age, and race and immigrant status, which may be related to socio-economic status and child care type and thus could influence care reliability. We also included separate measures of the number of male and female children under age six. Having multiple children increases the likelihood of relying on informal arrangements (Harris, Raley and Rindfuss 2002) and could decrease the affordability of reliable care and increase the difficulty of finding backup care. Child gender influences parents' child care decisions. Parents select non-relative care over relative care more often for female than for male pre-school age children (Hiedemann, Joesch and Rose 2004), and parents may be similarly inclined to take gender into account in handling child care problems although the nature of the relationship is uncertain.

METHODS

We observed our outcome variables roughly three years after the focal child's birth and our independent variables either at birth or approximately one year later. Measuring outcomes and independent variables at different points in time reduces the likelihood of reverse causality. The two-year gap between the two follow-ups also creates a conservative test of the relationships in our models since social and familial support, child care and employment characteristics and, to a lesser extent, socio-economic status, may have varied over this two-year period. To take into

account variation in the timing of interviews across cases, we included the number of months that elapsed between birth and wave two follow up and between waves two and three.

We used aML Multilevel Multiprocess Statistical Software (Version 2.0) (Lillard and Panis 2003) to estimate logistic regression models and employed sampling weights in both the descriptive and the multivariate analyses. This makes the descriptive findings representative of non-marital births and nearly representative of marital births in urban areas of 200,000 or more and takes into account the over-sample of births to unmarried mothers, who tend to have low incomes. Significance tests in the logistic regressions were based on robust standard errors.

The vast majority of mothers who reported more than one care disruption or more than one resulting episode of missed work, reported no more than two or three disruptions or absences. We conducted a subsidiary analysis (not shown) using multinomial logit models to test for potential differences in predictors of single versus multiple disruptions and work absences. Results of the multinomial logistic regression and binary logistic regression of child care disruptions produced similar results. Repeated work absences were too rare to permit multinomial logistic regression. Thus, we report only the binary logistic regression results.

Means or proportions and standard deviations for variables used in the analysis appear in Table 1. In addition to presenting descriptive statistics for all mothers who used non-

TABLE 1 ABOUT HERE

parental care when the focal child was roughly age three, Table 1 compares those mothers with four sub-groups. Columns two and three give descriptive statistics for mothers who did and did not experience care disruptions. Columns four and five show descriptive statistics for the subset of mothers at risk of missing work due to disruptions – those mothers who were employed but not in school at wave three and who experienced a care disruption in the month prior to survey.

While 381 mothers experienced a care disruption (column three), we analyzed the risk of missed work among the 233 mothers who were employed and not in school at wave three (columns four and five) in order to distinguish the effects of missing work from those of missing school.

Only a few statistically significant differences distinguish the five groups. Mothers who experienced a care disruption and missed work as a result were less likely to hold a college degree than the average mother in the sample and less likely to have had care by a relative inside the home. Mothers who experienced a disruption without missing work were less likely than average to hold multiple jobs and less likely to have had a non-relative provide child care outside the home. There were no statistically significant differences in levels of social support across the five groups. Mothers with and without a care disruption were statistically indistinguishable on all measures. The only significant difference between mothers who missed work as a result of a disruption and those who did not involved child care type; one percent of mothers who missed work used in-home care provided by a relative, compared with 20 percent of mothers who experienced a disruption but did not miss work.

RESULTS

Table 2 presents findings from our logistic regression models. We include marginal TABLE 2 ABOUT HERE

effects, evaluated at the sample means, to ease interpretation of the logit coefficients. These marginal effects present partial slopes of the probability function for continuous variables and discrete changes in probability for categorical variables.

Child care disruptions were a common experience among mothers in our sample, as indicated at the bottom of Table 2. Thirty-one percent of Fragile Families mothers who used non-parental care for their toddlers reported a disruption in their regular arrangement in the month

prior to the three-year survey, and almost half (46 percent) of the sub-sample of employed mothers who experienced a disruption missed work as a result. Not only were disruptions and resulting missed work common, but many mothers reported experiencing these events more than once. Half of mothers who experienced a care disruption (55 percent) and half of those who missed work as a result (52 percent) experienced these events two or more times in the month before the survey. Reports of four or more disruptions or absences, however, were rare.

Social and Familial Support. The analysis presented in Table 2 provides no evidence that the presence of a spouse or partner reduced the risk of child care disruptions. Mothers with a spouse or partner were no less likely to experience care disruptions than single mothers.

Frequency of contact between the father and child, an indicator of father involvement, also did not protect against care disruptions.

In contrast, perceived access to social support – whether from family members or others – was associated with a reduction in the risk of care disruptions. The marginal effect of -.032 indicates that the likelihood that a mother experienced a disruption declined by three percentage points with each additional measure of social support she reported. This finding provides support for the hypothesized inverse relationship between social support and care disruptions and suggests two mechanisms through which this relationship may operate. First, since it is likely that many of the mothers' kin and friends are themselves mothers who have past experience with local child care providers, mothers with high levels of perceived support may draw on their support network members' knowledge to gain information about the reliability of potential providers. Second, mothers with greater support may be able to conduct longer and more effective searches for reliable permanent child care arrangements because they can turn to support network members for temporary child care during the search process.

With regard to the consequences of care disruptions, our results showed that neither marital status nor father-child contact was associated with missed work. But the likelihood that a mother who experienced a disruption missed work as a result dropped by 18.7 percentage points with each additional measure of social support she reported. Since our scale of perceived support was derived from questions about access to practical and financial assistance, including the provision of emergency child care, mothers with higher levels of support were likely to have greater numbers of backup providers to call on in case of care disruptions. But supplemental analyses (not shown) indicated that all components of our social support measure reduced the odds of missed work, including access to emergency shelter, loans and other financial assistance.

Work Schedule. As expected, several elements of mothers' work schedules were predictive of child care disruptions. Working varying shifts increased the risk of disruptions by 12 percentage points, while working evenings decreased this risk by nine percentage points.

Night and weekend work were not associated with disruptions. These results are consistent with previous research pointing to the complex effects of non-standard work, which may ease efforts to combine work and family in some cases and hinder them in others (Presser 2003). Finding reliable child care is likely to be particularly difficult for mothers whose work shifts vary as few providers accommodate frequent requests for schedule changes. But working evenings may ease the search for reliable care for mothers who have relatives or friends willing to provide care after work hours when formal child care is not usually available. Contrary to our expectations, holding multiple jobs did not increase the risk of disruptions. Usual work hours were also unrelated to care disruptions, suggesting that when a mother works may have more bearing on her risk of care disruptions than how much she works. No aspect of work schedule we examined was related to work absences due to care disruptions.

Care Arrangements. The type of child care mothers used also affected their risk of care disruptions. Having a relative provide care in the child's home reduced the odds of disruption compared with having a relative or non-relative provide care outside the home (p<0.01 and p<0.05, tests not shown). Perhaps relatives who are willing to travel to a child's home to provide care have especially close ties to the child and mother and therefore are more committed to their work than relatives or non-relatives who offer care outside the home. (Fewer than one percent of providers in our sample were relatives who lived with the child and mother.) Care disruptions were no less likely to occur among families using organized child care centers than among families who relied on other forms of care. While child care centers don't close when one staff member falls ill or takes vacation, they may be more likely than other care providers to close for poor weather, staff training or holidays.

Mothers who used more child care were less likely to have their care arrangement fall through. Perhaps their greater need for care led them to value reliability over other relevant factors, such as convenience, in selecting a care provider. In contrast, relying on multiple care providers increased the likelihood of care breaking down by 18 percentage points for each additional provider. Previous research has suggested that patchworks of care can represent either successful efforts to build a system of care provision or the tenuous nature of care arrangements (Folk and Yi 1994; Scott, London and Hurst 2005). Our findings are consistent with the latter picture, in which mothers turn to patchwork systems when care is unreliable. Changing providers neither increased nor decreased the odds of disruption.

Turning to the risk of missing work, Table 2 indicates that child care type affected the likelihood of work absences. Given a disruption, mothers who relied on a non-relative for care provided outside the home were more likely to miss work than mothers who used center-based

care, while mothers who relied on a relative for care inside the child's home were less likely to miss work than mothers who relied on a relative or non-relative outside the home (p<0.05 and p<0.01, tests not shown). These differences may reflect variation in the amount of notice providers give mothers when they cancel care arrangements. Disruptions involving child care centers, for example, may more often stem from scheduled closings for holidays or staff training than from unscheduled closings. Disruptions involving non-relatives outside the home, who often work alone and must cancel arrangements if they become ill or have an emergency, are more likely to be unplanned. To the extent that working inside the child's home reflects a particularly close relationship between the mother and the care provider, relatives who work inside a child's home may be more committed to providing advance notice of disruptions stemming from personal needs than relatives or non-relatives who work outside the home. But care type was the only aspect of child care we measured that was associated with the risk of missing work. The number of hours of care, the number of providers, and the number of changes in providers were unrelated to work absences.

Socio-Economic Status. Previous qualitative research has suggested that mothers who are less advantaged in terms of income and education face greater barriers to combining work and family in part because they have poorer access to high quality, reliable child care (Scott, London and Hurst 2005). This analysis found mixed evidence with regard to the impact of socio-economic status on care disruption. Each additional thousand dollars of reported household income was associated with a .1 percentage point reduction in care disruptions, indicating that low-income mothers were more likely to rely on care arrangements that broke down often, probably because reliable care was expensive. But only income mattered. Neither maternal education nor past welfare receipt affected the risk of disruption. For mothers who did

experience a disruption, none of our indicators of socio-economic status affected the odds of missing work. Thus, while financial resources reduced the risk of having a disruption in the first place, they did not help mothers avoid missing work when disruptions did occur.

Two of our control variables were also associated with the risk of disruptions. AfricanAmerican women were less likely to experience disruptions, while immigrants were more likely to experience them. But neither of these control variables was associated with missed work, and none of the remaining controls (maternal age, number of male and female children under six, and being in school) was related to either outcome.

DISCUSSION AND CONCLUSIONS

This analysis of the multi-city Fragile Families data represents the first multivariate examination of child care disruptions and resulting missed work of which we are aware. It goes beyond previous qualitative studies of child care problems among small samples of low-income mothers (Henly and Lyons 2000; Scott, London and Hurst 2005) by examining care disruptions and resulting work absences among a large sample of mothers in varying economic circumstances in multiple cities. The results indicate that care disruptions and missed work are common occurrences for mothers of toddlers living in large urban areas. Almost one in three mothers in the Fragile Families sample who used non-parental child care three years after the focal child's birth reported that her regular care arrangement fell through in the month before the survey. Almost half of mothers reporting a care disruption said they missed work as a result. Half of mothers who experienced these events reported multiple episodes of disruption and resulting missed work, underscoring the potentially serious effects of child care problems on mothers.

We found partial support for the expected effects of social and familial support, work schedule, care arrangements and socio-economic status on the risk of care disruptions. Mothers

who had high levels of perceived social support, who worked evenings, who used many hours of child care and who had high household incomes experienced reduced odds of care disruption. Mothers who relied on a relative to provide care inside the child's home experienced lower odds of care disruptions than mothers who relied on a related or unrelated provider outside the home. In contrast, mothers who worked varying shifts and mothers who relied on more than one provider faced an increased risk of care disruptions. However, a number of our measures had no bearing on the risk of care disruptions. These included fathers' frequency of contact with the child, and mothers' marital status, usual work hours, number of jobs, number of changes in care providers, educational attainment and past welfare use. Moreover, only two of the characteristics we measured had an impact on mothers' risk of missing work given a child care disruption: social support, which reduced the odds of missing work, and child care type.

Not all types of social and familial support were equally effective. Perceived access to practical and financial support from kin and friends alleviated the risk of child care disruptions and the risk of missing work when disruptions occurred, while marital status and father-child contact were unrelated to either outcome. The greater relevance of perceived access to support within and outside the household compared with potential support resources based on relationships with current or former spouses and partners highlights the continuing gender gap in child care evident in prior research. Sharing a household or having a child in common may not mean sharing responsibility when child care problems arise, whether because men use their greater economic resources to opt out of child care duties, face greater time constraints or subscribe to traditional gender ideologies (Lewin-Epstein, Stier and Braun 2006). Our measures of work schedule, child care arrangements and socio-economic status were generally associated with the risk of child care disruptions but not with the risk of resulting work absences. Other than

perceived access to social support, only care type was linked to a mother's odds of missing work when care disruptions occurred.

Our findings have implications for both policy and research. While the Fragile Families data allow us to examine predictors of care disruptions and missed work, they only hint at the cost of these events to mothers. At a minimum, disruptions mean inconvenience, requiring a change of plans or time and effort to arrange backup care. For some mothers, disruptions lead to missed work, which could mean lost income. Other mothers, particularly those in the working class, face tremendous pressure to continue working despite care disruptions because many low-income jobs do not provide benefits like paid sick days or personal days (Perry-Jenkins 2005). For these mothers, finding backup care is essential to avoid losing pay or even their jobs. Government and private support for the development of "emergency" child care centers offering drop-in services when mothers need care unexpectedly could help alleviate this pressure.

Significant questions about the impact of child care problems await the collection of indepth data on this subject. More than half of the Fragile Families mothers who experienced care disruptions did not miss work as a result. It is important to learn more about these mothers. How many of them reluctantly left their children in backup care arrangements they weren't confident of because they feared being fired if they missed work? How many of them experienced other costs, such as extra child care fees or strains on social-support networks? The consequences of missing work constitute another gap in our knowledge. The Fragile Families data do not include information about the use of employment benefits to alleviate the impact of care disruptions. How often are mothers who miss work due to child care disruptions able to use vacation, personal or sick days to cover their absences, and how often do they lose pay? Better capturing the complexity and fluidity of child care arrangements and the nature and consequences of care

disruptions would allow the development of stronger theoretical models and provide a richer portrait of the impact of child care problems on mothers and children.

Our research is subject to some limitations. As in any non-experimental study, conclusions regarding causal effects must be qualified, notwithstanding the fact that our explanatory factors are measured two years prior to our outcome measures. Moreover, our measure of child care problems refers to a single time period. Thus, we can say little about the degree to which certain mothers may be prone to repeated care disruptions and related work absences. In addition, the Fragile Families data preclude an analysis of child care problems among mothers who rely exclusively on parental care, a significant limitation given the prevalence of paternal care of young children (Hofferth et al. 1991) and high levels of instability in paternal care (Hofferth and Collins 2000). The data also do not allow us to distinguish between scheduled and unscheduled child care disruptions, which may help explain why so few characteristics we studied were predictive of missing work and why disruptions themselves were so common.

Nevertheless, our analysis contributes to the literature on work and family in important respects. We provide the first multivariate analysis of child care disruptions and missed work using national data. Our findings confirm the widespread nature of these two problems, previously analyzed mainly in the context of small samples of economically disadvantaged mothers, and underscore the need for broader child care assistance for mothers of young children, particularly for mothers who are socially isolated.

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Table 1
Descriptive Statistics for Mothers Using Some Non-Parental Child Care

	All Mothers		Mothers v a Ca Disrup	re	Mothers with a Care Disruption		Employed Mothers with a Care Disruption but no Missed Work		Emplo Mothers Care Disr and Mi Wor	with a ruption ssed
	(1))	(2)		(3))	(4))	(5)	
	n=1309		n=92			81	n=142		n=9	1
	Mean/%	SD	Mean/%	SD	Mean/%	SD	Mean/%	SD	Mean/%	SD
Social and Familial Support										
Marital status										
Single	0.21		0.22		0.17		0.12		0.20	
Cohabiting	0.15		0.15		0.17		0.16		0.15	
Married	0.64		0.63		0.66		0.72		0.65	
Father's contact with child	25.00	10.54	25.60	10.87	25.80	9.75	27.20	8.18	25.40	10.31
Social support scale	4.70	1.71	4.78	1.64	4.52	1.84	5.10	1.20	4.11	2.20
Employed between birth and one year	0.77		0.75		0.83		0.83		0.80	
Work Characteristics (if employed)										
Usual weekly work hours	35.20	12.10	35.70	12.40	34.30	11.20	37.20	10.10	32.80	11.80
Multiple jobs	0.08^{4}		0.09^{4}		0.06		0.02^{12}		0.08	
Non-standard work										
Some evenings	0.35		0.35		0.34		0.31		0.32	
Some nights	0.15		0.17		0.12		0.16		0.09	
Some weekends	0.48		0.48		0.48		0.46		0.45	
Varying shifts	0.30		0.27		0.36		0.43		0.27	
Used non-parental care at one year	0.57		0.51		0.69		0.71		0.76	
Care Characteristics (if using non-parental care)										
Care type										
Day care center	0.27		0.27		0.26		0.31		0.21	
Relative in home	0.15^{5}		0.17^{5}		0.11^{5}		0.20^{5}		0.01^{1234}	
Relative outside home	0.27		0.22		0.36		0.17		0.55	
Non-relative outside home	0.14^{4}		0.14		0.15		0.04^{1}		0.17	
Other	0.17		0.20		0.13		0.28		0.06	

Table 1 (continued)
Descriptive Statistics for Mothers Using Some Non-Parental Child Care

	(1) n=1309		Mothers a Ca Disrup	ire	Mothers with a Care Disruption		Employed Mothers with a Care Disruption but no Missed Work		Employed Mothers with a Care Disruption and Missed Work	
			(2)		(3)	(3)		(4))
				n=928 n=38			n=142		n=91	
	Mean/%	SD	Mean/%	SD	Mean/%	SD	Mean/%	SD	Mean/%	SD
Hours of child care per week	32.80	12.00	34.10	12.20	30.60	11.30	30.60	9.70	28.20	12.80
Number of care providers	1.18	0.46	1.13	0.35	1.26	0.59	1.40	0.72	1.10	0.30
Number of provider changes since birth	0.61	0.92	0.56	0.94	0.69	0.88	0.76	0.90	0.45	0.69
Socio-Economic Status										
Household income (in thousands)	52.40	56.50	56.00	62.2	44.60	40.50	51.00	45.90	43.70	34.20
Household income missing	0.05		0.05		0.06		0.09		0.04	
Education										
Less than high school	0.19		0.19		0.18		0.16		0.26	
High school graduate	0.54		0.52		0.60		0.57		0.66	
College graduate	0.27^{5}		0.29^{5}		0.21		0.27		0.07^{12}	
Receives TANF	0.10		0.11		0.10		0.07		0.09	
Demographic and Control Variables										
Age	28.60	6.40	28.70	6.30	28.50	6.40	29.80	6.40	27.50	6.30
Race										
White	0.43		0.41		0.46		0.50		0.40	
African American	0.25		0.25		0.25		0.16		0.26	
Hispanic	0.25		0.24		0.28		0.32		0.33	
Other	0.07^{5}		0.10^{45}		0.01		0.02^{2}		0.01^{12}	
Immigrant	0.20		0.20		0.21		0.26		0.21	
No. of male children under age six	0.86	0.66	0.85	0.66	0.87	0.67	0.64	0.61	0.94	0.58
No. of female children under age six	0.63	.66	0.62	0.67	0.65	0.66	0.83	0.63	0.49	0.69
In School	0.16^{4}		0.15^{4}		0.16		0.05^{12}		0.10	

NOTE: All means and proportions are weighted. Superscripted numbers identify statistically significant differences across columns at the p<.05 level (two-tailed tests), with ¹ signifying a difference with the mean or proportion in column 1; ² with column 2; ³ with column 3; ⁴ with column 4 and ⁵ with column 5.

Table 2
Weighted Logistic Regression Predicting Child Care Disruptions and Resulting Missed Work

	Care Disruption			Missed Work Due To Care Disruption			
	N	Model 1	[N	Iodel 2		
Variable	Coefficient	(SE)	Marginal Effect ^a	Coefficient	(SE)	Marginal Effect ^a	
Social and Familial Support							
Marital status (single omitted)							
Cohabiting	0.419	0.342	0.089	-0.406	2.037	-0.087	
Married	0.320	0.322	0.067	0.395	2.027	0.095	
Father's contact with child	0.012	0.012	0.003	0.003	0.088	0.001	
Social support scale	-0.146**	0.048	-0.032	-0.778*	0.372	-0.187	
Work Characteristics							
Usual weekly work hours	-0.004	0.008	-0.001	-0.032	0.052	-0.008	
Multiple jobs	-0.698	0.381	-0.134	4.111	2.356	0.605	
Non-standard work							
Some evenings	-0.435*	0.184	-0.092	1.069	1.046	0.260	
Some nights	0.019	0.250	0.004	1.892	1.431	0.431	
Some weekends	-0.002	0.161	-0.001	-1.675	1.023	-0.378	
Varying shifts	0.531 **	0.183	0.119	-0.407	1.009	-0.096	
Care Characteristics							
Care type (day care center omitted)							
Relative in home	-0.468	0.314	-0.087	-2.533	1.993	-0.275	
Relative outside home	0.469	0.241	0.106	2.299	1.374	0.508	
Non-relative outside home	0.232	0.294	0.050	3.796*	1.668	0.643	
Other	0.221	0.297	0.048	-2.028	1.286	-0.253	
Hours of child care per week	-0.019*	0.007	-0.004	0.011	0.058	0.003	
Number of care providers	0.830 **	0.187	0.181	-0.964	1.037	-0.232	
Number of provider changes since birth	0.137	0.095	0.030	-0.933	0.637	-0.225	

Table 2 (continued)
Weighted Logistic Regression Predicting Child Care Disruptions and Resulting Missed Work

	Care Disruption			Missed Work Due To Care Disruption			
	N	10del 1		N	Model 2	,	
Variable	Coefficient	(SE)	Marginal Effect ^a	Coefficien	t (SE)	Marginal Effect ^a	
Socio-Economic Status							
Household income (in thousands)	-0.004*	0.002	-0.001	0.008	0.013	0.002	
Household income missing	0.000	0.296	0.000	-1.544	2.210	-0.291	
Education (high school graduate omitted)							
Less than high school	-0.020	0.206	-0.005	2.243	1.512	0.500	
College graduate	-0.190	0.201	-0.041	-0.199	1.441	-0.041	
Receives TANF	0.037	0.252	0.008	-1.589	1.462	-0.298	
Demographic and Control Variables							
Age	-0.009	0.015	-0.002	-0.109	0.078	-0.026	
Race (white omitted)							
African American	-0.577 **	0.205	-0.130	-0.333	1.367	-0.076	
Hispanic	-0.389	0.207	-0.090	0.427	1.219	0.105	
Other	-2.395 **	0.560	-0.355	-0.328	2.902	-0.074	
Immigrant	0.550 **	0.206	0.126	-0.162	1.088	-0.039	
No. of male children under age six	0.265	0.139	0.058	0.889	0.792	0.214	
No. of female children under age six	0.091	0.128	0.020	-0.935	0.794	-0.225	
In School	-0.031	0.202	-0.007	1.006	1.732	0.246	
Constant	-3.020*	1.199		7.434	6.014		
-2 log likelihood	1	401.08	}		168.41		
Model χ^2	224.36 **			153.08 **			
df		1275			199		
% Reporting care disruptions/missed work		31.2			46.0		
n		1309			233		

^{*}p < 0.05; **p < 0.01 (two-tailed tests).

^a slope for continuous variables; discrete change for categorical variables

Appendix

Unweighted Sample Descriptives and National Comparisons of Socio-Economic Status

	All Fragile Families Mothers Using Non- Parental Child Care	Employed Fragile Families Mothers With a Care Failure	U.S. Families/Women ^a	
	Percentage	Percentage	Percentage	
Household income (in thousands)				
Below \$25,000	0.50	0.47	0.23	
\$25,000 - \$49,999	0.23	0.26	0.26	
\$50,000 - \$74,999	0.14	0.16	0.20	
\$75,000 or more	0.13	0.11	0.31	
Education				
Less than high school	0.22	0.17	0.14	
High school graduate	0.63	0.68	0.61	
College graduate	0.15	0.15	0.25	
Receives TANF	0.22	0.20	0.05	

^a National income data are for families with at least one child under age 18 (U.S. Census Bureau 2003a). Education data are for women ages 18 to 44 (U.S. Census Bureau 2003b). TANF data are for households (U.S. Census Bureau 2003c).