ABSTRACT

Title of Document: THE IMPACT OF CHILD CARE SUBSIDIES ON CHILD CARE PROBLEMS, CHILD CARE-RELATED WORK DISRUPTIONS, AND MOTHERS' DESIRE TO SWITCH CARE

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Work requirements implemented through welfare reform have led to a focus on moving mothers into employment. As a consequence, the labor force participation rates of single mothers have increased dramatically in the last decade, increasing the importance of child care policies.

Although numerous studies have examined the impact of child care subsidies in assisting parents to obtain employment, very few have examined the impact of subsidies on maintaining employment. This study sought to determine whether families with a child care subsidy differed from families without a subsidy on three child care-specific variables assumed to affect a mother's ability to maintain employment: child care problems, child care-related work disruptions, and a desire to switch care arrangements. The mediating roles of child care costs and type of care on the relationships between child care subsidies and these variables were also examined.

Data for this study come from two samples of low-income single mothers. The first was a study of 40 mothers in a mid-Atlantic county interviewed before and after receiving a child care subsidy. The second was a subsample of 658 mothers from the

Fragile Families and Child Well-Being study. Data were analyzed via multivariate techniques and path models on both static and dynamic models, including comparing changes by the same parents over time.

Receipt of a child care subsidy was found to be a significant predictor of experiencing fewer child care problems and child care-related work disruptions across datasets and using multiple methods. Parents were also less likely to report desiring to switch their care arrangement when they had a child care subsidy compared to when they did not have a subsidy. Finally, the use of formal child care was found to mediate the relationship between child care subsidy status and child care-related work disruptions for parents in one of the samples. Policy and program recommendations for assisting low-income families balance work and family by minimizing experiences with child care-related work disruptions are discussed.

THE IMPACT OF CHILD CARE SUBSIDIES ON CHILD CARE PROBLEMS, CHILD CARE-RELATED WORK DISRUPTIONS, AND MOTHERS' DESIRE TO SWITCH CARE

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Chapter 1: Introduction

Increasing labor force participation rates among mothers in the U.S. highlight the growing need of families to balance work and family. For women with children under six, the labor participation rate has been rising steadily since the 1970s (U.S. Census Bureau, 2006). In the mid-1990s the demography of mothers in the labor force changed. Until this point, compared to single mothers, a greater percentage of married mothers were in the labor force. Around 1995, single mothers surpassed married mothers in labor force participation (U.S. Census Bureau, 2006). This shift was especially pronounced among mothers of children under the age of six. As of 2004, among mothers with children under six, 68% of single mothers were in the labor force compared to 59% of married mothers (U.S. Census Bureau, 2006).

The trends noted above can be credited to a number of changes in America's economy, philosophy, policy, and household structure. First, America's economy has affected women's labor force participation rate. This is due in large part to the globalization of traditionally male dominated manufacturing jobs and the consequent shift in American jobs from the manufacturing to service industry (Gornick & Meyers, 2003). Second, American philosophy regarding women in the workplace has changed dramatically. World War II brought with it the first invitation to the workforce for most women. Since the Second World War, women became more accepted into the labor force, increased their education, and consequently found more opportunities for employment (Gornick & Meyers, 2003). Third, with the passage of the 1996 Personal Responsibility and Work Opportunity Reconciliation Act, which changed welfare from a system of entitlement to employment-based assistance, American policy has limited impoverished and low-income mothers' choices about employment during their

children's formative years. This policy shift is temporally associated with large increases in labor force participation among single mothers.

Balancing Work and Family

All families with an employed member must to some degree balance work and family responsibilities. This struggle to manage home and work is most salient for families with children (Glass & Estes, 1997; Wohl, 1997). Families with children are faced with negotiating work demands, responding to children's needs, keeping up with household work, and, for some, caring for elderly/aging parents. Attempts at balancing these demands can lead to costly consequences for parents, including: stress and mental health symptoms, decreased productivity, absenteeism/ tardiness at work, limited career advancement/wages, and job terminations (Dodson & Bravo, 2005; Dwyer, 2004; Galinsky & Stein, 2003; Glass & Estes, 1997; Golden & Wiens-Tuers, 2006; Hart & Kelley, 2006; Lechner & Creedon, 1994; Parasuraman & Greenhaus, 1997; Press, Fagan, & Bernd, 2006; Saltzstein, Ting & Saltzstein, 2001)

Role of Child Care in Work/Family Balance

Non-parental child care plays a major role in the work-family balance of dual-earner and single parent households. According to the National Survey of American Families data, 75% of children under five with employed mothers were in non-parental child care in 2002 (Cappizzano & Adams, 2000). The number of hours a child spends in care varies with a significant proportion of children under five being in care full time. For example, in 2002, among children under five with working mothers, 41% were in care 35 or more hours per week (52% when examining only children whose mothers worked full time) (Cappizzano & Adams, 2000).

Work Family Balance and Economic Self-Sufficiency among Low-Income Single Parent Families

Successfully balancing work and family demands is difficult for low-income single parents. An inability to balance work and family demands has been associated with poor work and family outcomes such as decreased productivity, tardiness or missed days at work, entrapment in low-paying jobs, job probation/termination, debt, unstable child care arrangements, and, in extreme cases, welfare dependence, bankruptcy, and child endangerment (Dodson & Bravo, 2005; Dwyer, 2004; Galinsky & Stein, 2003; Glass & Estes, 1997; Lechner & Creedon, 1994; Parasuraman & Greenhaus, 1997; Press, 2003; Saltzstein et al., 2001).

Influences of Work/Family Balance on Low-Income Families

Several factors affect low-income[1] single parents' ability to balance work and family. First, fiscal constraints restrict families' ability to access services that facilitate the work/family balance. Second, low-income single parents are restricted in the type of work they do and the number of hours they work. These restrictions stem from parents' lack of education or job skills, economic necessity, and work-based assistance programs, such as welfare reform and child care subsidies that require parents work at least a prescribed number of hours in order to receive assistance. Third, low-income single parents, especially those with few skills or little education, are less likely to be offered the flexibility and family-friendly work policies offered to individuals in management and professional positions (Glass & Estes, 1997; Heymann, 2005; Hofferth, 2000; Saltzstein et al., 2001).

[1] Low-income families are generally defined as those under 200% of the federal poverty level (FPL), though the study analyses will include families up to 311% of the FPL.

Low-income single parent families are unique in that they are more likely than higher-income families to face multiple hardships that interfere with meeting work and family demands (Boushey, Brocht, Gundersen, & Bernstein, 2001). Using national datasets, Boushey et al. found 74% of low-income families experienced at least one serious hardship (i.e. being unable to make housing or utility payments, lacking health insurance, or having inadequate child care) in the last year. Additionally, Boushey et al. found 87% of all families who could not afford necessities for meeting work/family demands were under 200% of the federal poverty level.

Families who are unable to afford necessities for family living are likely to face difficult choices. First, parents may be forced to prioritize and choose among competing family and employment needs. For example, a single mother may choose to pay for high quality child care and sacrifice having a car. Although this choice may improve the mother's peace of mind regarding her child, it could limit her employment options and, depending on the availability of jobs, her earnings potential. Second, parents may choose to lower their standards regarding services or products. For example, a parent might choose to purchase less nutritious foods, less safe housing, or a lower quality child care arrangement than would be chosen if cost were not an issue. Third, parents with limited assets may choose to go into debt using credit cards, borrowing money, or failing to pay bills.

Child Care and Economic Self-Sufficiency

Among employed single parents, child care is essential for managing work/family issues. Unfortunately, for low-income single parent families without child care subsidies, child care can absorb a high proportion of the family budget (Anderson & Levine, 1999;

Brayfield & Hofferth, 1995; Hofferth, 1999; U.S. Department of Health and Human Services [USDHHS], 1999). Although the absolute cost of child care tends to be higher among middle- and upper-income families, the relative cost of child care, measured as a percentage of family income, is higher among impoverished and low-income families (Anderson & Levine, 1999; Brayfield & Hofferth, 1995; Hofferth, 1999; USDHHS, 1999). In 1999, employed mothers who paid for child care and were under the federal poverty threshold with children under five spent 34% of their monthly income on child care compared to 7% paid by higher income families (U.S. Census Bureau, 2005).

Impact of Unreliable/Low-Quality/Unstable Care on Employment

Low-income working parents struggling to achieve/maintain economic self-sufficiency often choose less expensive child care options that are low-quality, unreliable, or unstable (Knox, London, Scott, & Blank, 2003). Ironically, these choices can result in child care-related work problems that negatively impact parents' ability to maintain employment. Press (2003) found that two-thirds of her low-income sample of Philadelphia mothers had child care-related work problems including absenteeism, tardiness, an inability to be productive, and an inability to take a job/participate in school in the last year. These child care-related work problems were associated with lost wages, lost jobs, and limited career opportunities (Press, 2003).

Absenteeism is one consequence of child care problems.[2] In Schumacher and Greenberg's (1999) analysis of welfare leaver data, 22% of study participants in Florida reported missing work in the last month because of a child care problem. Additionally,

[2] Child care problems refer to episodes in which providers are unable to provide care without notice and other child care specific situations that arise, negatively affecting a parents' ability to work.

Press (2003) found that 47% of the mothers in her sample reported being absent from work with some regularity in the last year because of child care problems.

Tardiness and being unproductive at work have also been tied to child care problems. Interviews with low-income working parents and employers revealed that both agree that parents too often have to leave work early because of child care problems (Dodson & Bravo, 2005). Likewise, parents report arriving to work late because of child care problems. In one study, one-third of a sample of low-income mothers reported being late to work because of child care and one-fifth reported being late at least once a month (Press, 2003). Parents also reported problems with child care lead to depression, anxiety, conflicts at work, personal calls during work hours, an inability to be productive, and consequent work sanctions (Dodson & Bravo, 2005; Fernandez, 1986; Press, 2003; Press, Fagan, & Laughlin, 2006). Managers recognize the impact of child care problems on work performance. One study of management and crafts workers at five manufacturing plants revealed 67% of managers viewed child care problems as leading to distraction and unproductive usage of employee time (Fernandez, 1986). Each of the consequences of child care problems described above may not, in and of itself, lead to job termination. However, strong relationships between absenteeism/tardiness/ unproductivity and job termination have been established in the literature (Dodson, 2006; Holzer, 1999; Holzer, Stoll, & Wissoker, 2001).

Government Programs and the Work/Family Balance

To assist low-income families in their quest for economic self-sufficiency, a number of government programs have been developed[3]. A requirement for obtaining

[3] Though a plethora of programs/policies designed to support families in achieving economic self-sufficiency by facilitating work-family balance, supporting the health and development of children, and

services for many programs is that parents maintain employment or engage in employment-related activities. Thus, these programs mandate that parents meet both family and employment demands in order to be eligible for support services. Replacing the Aid to Families with Dependent Children (AFDC) program, the Personal Responsibility and Work Reconciliation Act of 1996 created Temporary Aid to Needy Families (TANF) to temporarily support impoverished parents in finding and maintaining employment through services such as cash assistance, job training, job placement, and child care. The TANF program requires that single parents maintain employment or involvement in work-related activities thirty hours per week and subsidizes the cost of child care. The Child Care Development Fund (CCDF), developed in 1996 by combining the Child Care Development Block Grant, At-Risk Child Care program, and Transitional Child Care program (Cohen, 1996), offers low-income parents child care subsidies in the form of vouchers or direct payment to providers with the goals of making the financial burden of child care manageable and minimizing the role of child care as a barrier to work as families transition off TANF. In order to be eligible for CCDF subsidies, single parents must be employed or in school, though the minimum number of hours per week varies by state. Tax programs such as the Earned Income Tax Credit (EITC) and the Child and Dependent Care Tax Credit (CDCTC) have been developed to lessen employed low-income parents' tax burdens and in some cases provide a tax refund. Both the EITC and the CDCTC are designed to assist only individuals/couples who are employed.

It is worthy to mention that despite the availability of these programs to many needy families only two programs listed above offer a useful benefit that is universally

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providing families with financial support, job training/placement, and other services are available, only a select few are mentioned here.

available to eligible low-income families without time restrictions. These programs are the EITC and CCDF subsidies at the federal and state level. TANF, the current welfare program, has a five year lifetime time limit on cash assistance and services and the CDCTC, although universally available, does not provide effective assistance to families with little or no tax liability because it is not refundable (Forry & Anderson, 2006).

Examination of Child Care Subsidies

Numerous studies have explored the impact of child care subsidies on parents' propensity to work (Averett, Peters & Waldman, 1997; Bainbridge, Meyers & Waldfogel, 2003; Berger & Black, 1992; Blau & Tekin, 2003; Henry, Werschkul & Rao, 2003; Lee et al, 2004; Lemke, Witte, Quaralt & Witt, 2000; Meyers, Heintze & Wolf, 2002; Tekin, 2004; U.S. General Accounting Office [USGAO], 1994). These researchers have studied the association between child care subsidies and employment with various samples of low-income mothers and found employment to be more probable among mothers receiving a child care subsidy than mothers not receiving a subsidy (Anderson & Levine, 1999; Bainbridge et al., 2003; Berger & Black, 1992; Blau & Tekin, 2003; Brooks, Reisler, Hamilton & Nackerud, 2002; Michalopoulos & Robins, 2002; Tekin, 2004, 2005; USDHHS, 1999; USGAO, 1994).

Few studies, however, have focused on the impact of child care subsidies on parents' ability to maintain employment. As low-income mothers have little choice regarding whether they will work, research on the impact of child care subsidies on facilitating behaviors that maximize a parents' ability to maintain employment (i.e. arriving to work on time, avoiding absenteeism, and working productively) is warranted. Based on the literature and theoretical underpinnings of rational choice, it is logical to

assume that child care subsidies may impact low-income parents' ability to maintain work. Research supporting a relationship between child care subsidies and employment has suggested that parents who are not able to afford child care may be limited in their employment opportunities (Averett et al., 1997; Bainbridge et al., 2003; Lee et al., 2004; Lemke et al., 2000; Meyers et al., 2002). Child care subsidies may facilitate not only an ability to afford child care, but an ability to afford reliable, satisfactory child care, both of which are associated with parents' ability to avoid absenteeism and work productively and ultimately parents' ability to maintain their jobs (Chaudry, 2004; Dodson, 2006; Fernandez, 1996; Henly & Lyons, 2000; Hofferth, 1996; Holzer, 1999; Holzer et al., 2001; Kisker & Silverberg, 1991; Press, 2003; Press, Fagan, & Laughlin, 2006).

Conclusion

In conclusion, with increasing numbers of low-income single mothers joining the labor force, the work/family balance is becoming more precarious. This struggle is especially difficult for low-income families who lack fiscal resources. Research on the effect of child care subsidies on parents' ability to maintain employment could further the field of family studies by providing insight into parents' preferences for child care, barriers to selecting preferred care, and how policies/programs can facilitate economic self-sufficiency by improving parents' ability to work reliably and efficiently. Such information could be helpful both for understanding families and for improving upon and developing new policies and programs for low-income families.

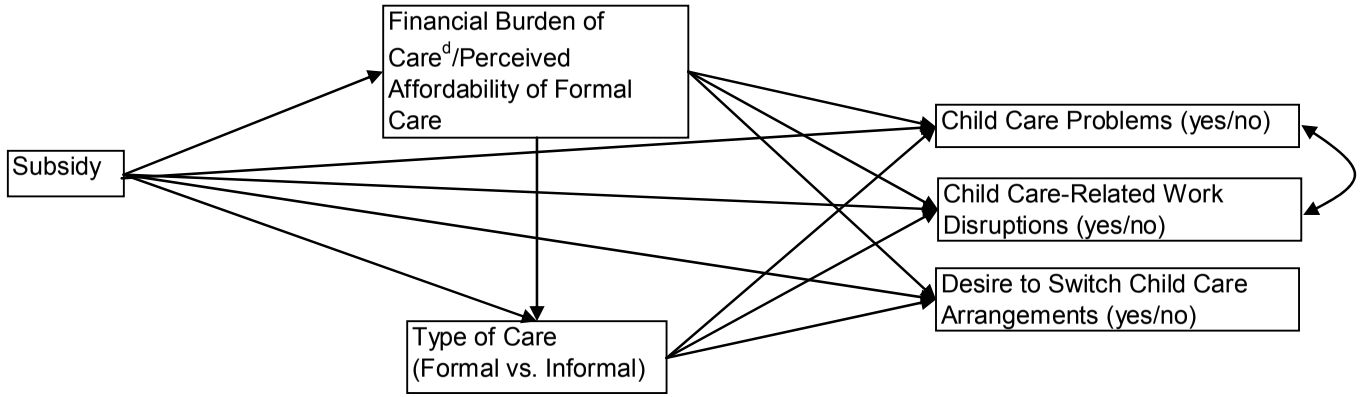
Introduction to Study

This study explored the impact of child care subsidies on parents' experiences of child care problems and child care-related work disruptions, as well as their desire to

switch child care arrangements (a proxy for parents' dissatisfaction with care). Each of these dependent variables were chosen because of their potential influence on parents' abilities to be consistent and productive employees and ultimately to maintain steady employment. Specifically, this study examined whether child care subsidies reduced parents' experiences of child care problems and child care-related work disruptions, as well as their desire to switch child care arrangements. This study also examined whether the relationships between child care subsidy status and child care problems, child care related work disruptions, and desire to switch care were mediated by the financial burden of child care (per child)[4], perceived affordability of formal care, and type of care chosen (formal v. informal) (See Figure 1 for Conceptual Model).

[4] Financial burden of care is defined as monthly out-of-pocket cost of care per child/monthly household income.

Figure 1. Conceptual Model



Note. [a] Though no regression lines are shown on this diagram, these controls were included in all analyses. [b]These controls were used in analyses with the Wait List study data. [c] These controls were used in analyses with the Fragile Families and Child Well-Being study data. [d] Financial burden of care is a ratio of out-of-pocket cost of care per child/household income.

Chapter 2: Review of the Literature

Introduction of Variables

In this section, each of the variables in the conceptual model (see Figure 1) of this study are defined. Child care subsidy, the independent variable for this study, refers to monetary subsidies provided through the government or a county-funded program either directly to a low-income family or to the family's child care provider. These subsidies cover a portion of one/more child(ren)'s child care expenses, leaving the family with a co-pay.

There are three main dependent variables in this study: child care problems, child care-related work disruptions and desire to switch child care arrangements. Child care problems are defined as events in which the child care provider is unexpectedly unavailable to care for a child, thus forcing the parent to find alternative child care arrangements. Child care-related work disruptions refer to events in which the unreliability of a child care provider results in the parent having to miss a day at work, be late for work or leave work early, change work hours, take their child to work with them, leave their child with an alternative child care arrangement, or leave their child home alone. Desire to switch child care arrangements refers to parents' hypothetical choice to switch child care arrangements assuming no financial constraints.

Three variables, financial burden of child care (per child), perceived affordability of formal care, and type of care, are hypothesized to mediate the relationships between child care subsidy status and the dependent variables[5]. Financial burden of child care per

[5] A fourth proposed mediator, perceived availability of formal care (i.e. was formal care able to be found, accessed, and of adequate quality to use), was included in the proposal of this study. This variable was found to have limited variance (almost all parents perceived formal care to be available) and it had a

child refers to the ratio of families' out-of-pocket child care expenses per child to the household income. Perceived affordability of formal care refers to a parent's perception that formal[6] child care providers are an economically feasible choice. Finally, type of care refers to the type of provider (formal/informal) that a parent is using.

This study includes eleven control variables[7]. These variables are defined as follows. The age of the focal child is defined differently in analyses with Wait List versus Fragile Families data. In the Wait List study, child's age is defined as age in years. In the Fragile Families study, the focal child age variable indicates which wave the data on this child was collected (wave one follow-up, children were approximately one year old, wave three follow-up, children were approximately three years old). Number of children aged 13 or under in care refers to the number of children related to the participant who were living in the household, aged 13 years or younger, and in non-parental/sibling/self child care. Number of adults in the household refers to the number of persons over the age of 18 on the household roster in addition to the study participant. Household income refers to the gross income from all members of the household. Maternal race refers to the mother's self-identified race and is broken into three categories: Hispanic, Black, and Non-Black, Non-Hispanic. Maternal education refers to the highest degree of education achieved by the mother at the time of data collection. It

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multicollinear relationship with other variables in the conceptual model. For these reasons, this variable was omitted from multivariate analyses.

[6] Formal child care arrangements include: child care centers, family day care providers, pre-kindergarten programs, before and after school programs. Informal care includes care provided by friends or family members of the child's parent/caregiver.

[7] Type of child care subsidy was included in the proposal for this study and was subsequently omitted when analyses revealed no significant difference between child care subsidy programs on the dependent variables. Likewise, some controls were omitted from the Wait List study analyses due to lack of significant effects and the sample size.

is also broken into three categories: less than high school, high school degree/GED/ vocational degree, and associates/bachelors degree. Maternal work hours is a continuous measure of work hours per week. It serves as an exogenous proxy for hours in child care. Mother in school is a dummy variable indicating whether the mother was in school or not. Work during non-traditional hours indicates whether the mother worked during evenings/nights (6 p.m. to 7 a.m.) or weekends. Maternal depressive symptoms is a dichotomous variable that indicates the mother either met the criteria for a Major Depressive Episode[8] in the year prior to data collection or was currently taking medication to treat depression. Use of multiple child care arrangements is an indicator as to whether more than one child care arrangement was used for the focal child. Finally, help paying for care from sources other than the governmental child care subsidy is a binary variable that signifies whether the mother received help from any of the following sources in paying for child care: non-residential father, relative, employer/foundation, child care provider, Head Start, community organization, or other source.

Theoretical Framework

The economically-based rational choice theory provides the theoretical foundation for this study. According to rational choice theory, individuals make decisions based on a rational evaluation of how they may maximize their satisfaction or utility and minimize their costs (White & Klein, 2002). Important concepts from rational choice theory include: constraints, utility maximization, costs, and rational choice.

Constraints refer to contextual factors that limit an individual's choices (White & Klein, 2002). Two frequently cited constraints are time and money. Constraints are

[8] Survey questions and coding instructions for this variable comes from the Composite International Diagnostic Interview (CIDI).

especially pertinent in this study because of the limited incomes of the study population. For example, one assumption of the proposed study is that low-income parents are frequently limited in their child care choices because of an inability to afford certain types of care. Additionally, characteristics of children (i.e. behavior problems, disabilities, or health issues) can constrain parents' child care choices.[9]

The second important concept from rational choice theory is utility maximization. Utility refers to benefits individuals receive from a choice or action (White & Klein, 2002). In the economic literature, utility primarily refers to financial gain. However, the experience of positive emotions, or any other obtained good or resource that is in line with one's values, may also be considered sources of utility. In the case of the current study, utility might refer to the income received from working or the peace of mind parents experience when using a trustworthy child care provider.

Costs are the opposite of utility. Costs refer to what one must sacrifice in order to gain some utility (White & Klein, 2002). Costs may take the form of money, time, or emotional/physical energy expenditures. Examples of costs relevant to the current study are the financial sacrifice of paying for child care and the emotional turmoil a parent might experience when using a child care arrangement with which he/she does not feel comfortable.

The final concept of rational choice theory important to this study is the act of choice. The act of choice refers to the idea that humans choose actions based on a rational evaluation of the involved costs, benefits, and constraints. This rational evaluation may be based on logical thought or emotion-based values and preferences. For example, a parent may choose a provider based on the provider's distance from the

[9] Characteristics of children are not controlled for in this study due to data and sample size limitations.

parent's home (logical) or her feelings that the provider will love and care for her children (emotional).

Two limitations of rational choice theory in explaining parents' choices involve a lack of information. First, information necessary for predicting whether one will obtain the utility they are seeking may not be available (Kahneman & Thaler, 2006). For example, the parent may not know if a provider is reliable until she experiences a child care problem. Second, information on alternative choices and how they impact one's choices is often not available (Kahneman & Thaler, 2006). For example, what other child care providers the parent perceives as available will likely affect the parent's choice of a provider.

Theoretical Basis for Path Model

In this section, the paths of the conceptual model (see Figure 1) are theoretically justified. The first path in the model is a direct relationship between child care subsidy status and each of the dependent variables: child care problems, child care-related work disruptions and desire to switch child care arrangements. Theoretically, receiving a child care subsidy is assumed to be a utility-enhancing resource that decreases the cost of child care. Parents with this resource were hypothesized to experience fewer child care problems/child care-related work disruptions and be less likely to desire switching their child care (a proxy for child care dissatisfaction)[10] compared to parents without a child care subsidy. This hypothesis is theoretically justified because the fiscal utility of a child

[10] As is discussed further in the literature review, desire to switch care is a proxy for child care dissatisfaction due to findings that dissatisfaction with child care is not a reliable measure (Hofferth, Brayfield, Diech, & Holcomb, 1991).

care subsidy is assumed to decrease the financial constraint of care, thereby allowing parents to choose more reliable and desirable child care.[11]

The second path in the model is between child care subsidies and financial burden/perceived affordability of formal care. It makes intuitive sense that the receipt of a government child care subsidy, a voucher or direct payment provided to a parent or child care provider in order to lessen the out-of-pocket cost of child care for a family, would have an impact on both the families' financial burden related to child care and their perception of the affordability of formal child care arrangements. This path in the model is based on the assumption that many low-income parents without child care subsidies are constrained in their child care choices by their limited financial resources and that child care subsidies help alleviate this constraint. Because child care subsidies lessen parents' out-of-pocket payments for child care, it was hypothesized that the receipt of a child care subsidy would be associated with a decrease in the financial burden of child care (out-of-pocket cost of care: income ratio) and an increase in the likelihood of perceiving formal child care arrangements as affordable. In theoretical terms, it was assumed that the receipt of a subsidy would result in an increase of fiscal utility for families.

Financial burden/perceived affordability of formal care is also linked directly to the dependent variables of child care problems, child care-related work disruptions, and desire to switch child care arrangements. These links were included based on the

[11] An assumption is made in this paragraph that formal care, which is often more expensive than informal care, is more reliable/desirable than informal care. This assumption is based on literature (Henly & Lyons, 2000; Hofferth, 1996; Hofferth & Wissoker, 1991; Kisker & Silverberg, 1991; Knox et al., 2003; Wolfe & Scrinver, 2004), but may not hold for all parents, especially parents of young infants/young toddlers who are more likely to prefer informal care (Burchinal & Nelson, 2000; Hofferth & Wissoker, 1991; Huston, Chang, & Gennetian, 2002; Mulligan, Brimall, West, & Chapman., 2005; Uttal, 2002).

concepts of constraints and utility from rational choice theory. It is assumed that a parent with minimal fiscal constraints, in this case one who did not spend a high proportion of her income on child care or who perceived she could afford formal child care providers, would choose a provider with whom she was satisfied and who would minimize her experiences of child care problems and child care-related work disruptions.[12] This assumption is justified theoretically because using a reliable child care provider and/or one who is perceived as satisfactory maximizes utility for a parent by minimizing her need to take time off work to deal with child care problems/child care-related work disruptions (which could ultimately affect her productivity, wages, and career advancement opportunities) and maximizing her peace of mind regarding child care. The link described in this paragraph also allowed for an examination of the relationships between child care subsidies and child care problems, child care-related work disruptions, and desire to switch care as mediated by financial burden/perceived affordability of formal care.

The next path in the model is between the financial burden of care/perceived affordability of formal care and the type of child care (formal or informal)[13] chosen. When considering financial burden, the assumption in this path is that parents spending a higher proportion of their income on child care are more likely using formal care than informal care compared to parents spending a lower proportion of their income on child care. This is assumed because formal care tends to be more expensive than informal care (Mulligan et al., 2005). Constraint may play a role in this relationship as parents who do

[12] This assumption does not consider parent's other preferences for child care.
[13] Formal arrangements include: child care centers, family day care providers, pre-kindergarten programs, before and after school programs. Informal care includes care provided by friends or family members of the child's parent/caregiver.

not have access to lower cost informal care have no choice but to pay a relatively high proportion of their income on formal care. Likewise, it is assumed that parents who perceive formal care to be affordable are more likely to use formal care than parents who perceive formal care to be unaffordable. This path highlights the role of fiscal constraints on child care choice. The paths between financial burden of care/perceived affordability of formal care and type of care also allowed for examination of the relationship between child care subsidy status and type of care (as mediated by financial burden/perceived affordability of formal care).

In addition to the indirect relationship by which subsidy predicts what type of child care parents will use (formal vs. informal) through financial burden/perceived affordability of formal care, it was hypothesized that receiving a child care subsidy would also have a direct influence on parents' use of formal care. This path was hypothesized due to presence of constraints on parental child care choices from regulations in the subsidy program that prohibit most informal providers from receiving child care subsidies. Thus, since parents who receive a child care subsidy may not be able to pay informal providers with their subsidy, it was hypothesized that they would instead choose formal providers who can accept the subsidy. This path also allowed for examination of the relationship between child care subsidies and the dependent variables as mediated by type of care.

The paths between type of care (formal/informal) and child care problems, child care-related work disruptions, and desire to switch care are next in the model. These paths were included based on the literature and the potential contribution of findings regarding these relationships for program and policy implications. The concept of utility

from rational choice theory can be applied to this path as formal child care providers might be more invested in (and gain more utlity from) their business than informal providers, who are often paid little and provide care to help out a friend/family member or to fill a gap in employment. Assuming this investment hypothesis is true, as events occur in the life of a provider (for example, illness or job opportunities), informal providers (as compared to formal providers) may experience greater utility from prioritizing things other than providing child care and their choice to discontinue or temporarily be unavailable to provide child care may more adversely affect parents since the provider may be the only person "on staff". The path between type of care and child care problems, child care-related work disruptions, and desire to switch care also allowed for examination of the relationship between child care subsidies and the dependent variables as mediated by type of care.

The final relationship explored in the model is between child care problems and child care-related work disruptions. Intuitively, one would assume a high correlation between child care problems and child care-related work disturbances. However, the prevalence of child care-related work disruptions may differ from the prevalence of child care problems experienced based on the characteristics and resources available to families. For example, some parents may have resources (sources of utility) that allow them to find alternative arrangements when child care problems occur. Others may face constraints (i.e. not having access to a phone), which could limit their ability to avoid child care-related work disturbances when child care problems arise. Thus, this path sheds light on the impact of resources/family characteristics on parents' ability to cope with child care problems.

Other variables thought to affect the relationships in this conceptual model include number of adults in the household, number of children aged thirteen or under in care, age of the focal child, household income, maternal race, education and work hours, whether the mother was in school, worked non-traditional hours, or had depressive symptoms, whether multiple child care arrangements were used, and whether help in paying for child care was received from sources other than the government child care subsidy. Three of these variables, mother's race, mother's education, and child's age are assumed to affect parents' preferences regarding child care providers. Three variables, household income, number of children aged thirteen or under in care and whether the mother works non-traditional hours, are assumed to constrain parents' choices regarding child care providers. And two variables, number of adults in the household and whether help in paying for child care was received from sources other than the governmental child care subsidy are assumed to be potential sources of utility for parents. The other control variables are included due to their potential associations with the dependent variables.

Current State of Knowledge

Next, a review of empirical findings regarding each of the variables in this study is presented. In this section, empirical evidence of the relationship between the dependent variables (child care problems, child care-related work disruptions, and parents' desire to switch care) and parents' ability to maintain employment is reviewed. Next, literature on the effects of child care subsidies on child care problems, child care-related work disruptions, and parents' desire to switch care is presented. Finally, a review of literature on each of the relationships among intermediary and control variables in the conceptual model (see Figure 1) is provided.

Connecting Child Care Problems, Child Care-Related Work Disruptions, and Parents' Desire to Switch Child Care Arrangements to Parents' Ability to Maintain Work

The literature connecting the dependent variables in this study (child care problems, child care-related work disruptions, and parents' desire to switch care) with parents' ability to maintain work is based mainly on studies of welfare recipients transitioning to work and low-income families who are at risk for returning to welfare. Chaudry (2004) and Dodson (2006) both interviewed low-income women about their ability to balance work and family. Chaudry followed the same women longitudinally and tracked their child care and employment choices. He found that mothers consistently prioritized their children over their work and that many of them left jobs voluntarily or were dismissed due to choices they made to ensure their children were safe and happy. These choices included leaving jobs when child care arrangements fell through or parents deeming the provider inadequate until another suitable provider could be found, making calls to check on children during work hours against employers' policies, and arriving to work late/leaving work early to drop-off/pick-up children.

Dodson's qualitative analysis of over 300 low-wage women from three studies conducted between 1998 and 2003 revealed similar findings. Dodson highlighted parents' perception of having to choose between their children and their work. She found that parents were willingly dismissed from jobs or left jobs themselves if they perceived a conflict between the needs of work and family. She also found many parents in her study were sanctioned/dismissed from jobs due to absenteeism and tardiness related to child care issues stemming from dissatisfaction with providers and provider unreliability.

Holzer (1999) conducted a survey of 900 employers in Michigan during 1997. In asking employers whether or not they would be willing to hire welfare recipients, Holzer found employers to be more concerned with "soft" skills, such as work attitude and absenteeism, than basic/skill-based job skills. Using a sample of 750 employers from four metropolitan areas in Michigan, Wisconsin, Illinois, and California who had hired former welfare recipients in the last two years, Holzer et al. (2001) evaluated the job performance and retention of the former welfare recipients. They found that over the course of two years, employees without absenteeism due to child care were more than two times more likely to have retained their job than employees with absenteeism due to child care. Interestingly, among those employees with child care-related absenteeism who had not retained their job, an equal percentage quit and was involuntarily dismissed. Finally, Holzer et al. obtained performance ratings on the former welfare recipients, ratings that influenced dismissal decisions and served as an indicator of productivity on the job. They found those with child care-related absenteeism were almost five times as likely to have had a worse performance rating relative to the other employees at that company. Holzer et al. concluded that absenteeism due to child care significantly affected both productivity and job retention.

Each of the studies described above has limitations. Notably, each used urban samples that were not nationally representative. Despite these limitations, the consistency of findings from the studies supports the argument that child care problems, child care-related work disruptions, and parents' desire to switch child care arrangements all affect parents' ability to maintain steady employment. This relationship results from

both employers' choices to dismiss parents who are frequently absent/unproductive and parents' choices to voluntarily leave jobs in order to meet their children's needs.

Impact of Child Care Subsidies on Child Care Problems and Child Care-Related Work Disruptions

Child care problems refer to episodes in which a child care provider is unreliable and thus fails to provide child care as expected. Child care problems affect the stability of child care arrangements as well as parents' ability to be a reliable and productive worker (Chaudry, 2004; Dodson & Bravo, 2005; Fernandez, 1986). Child care-related work disruptions refer to disruptions in one's ability to arrive at work on time, work the hours one is scheduled, and be productive while at work. Research has revealed some predictors of child care problems and child care-related work disruptions. These predictors include having limited social capital or income, having no family nearby, using informal care, and lacking alternatives to one's normal child care arrangement (Hofferth, 1996; Knox et al., 2003; Press, 2003).

The relationship between child care subsidies and child care problems/child care-related work disruptions has been empirically evaluated by a limited number of researchers. Two research teams, Danziger, Ananet, and Browning (2004) and Huston et al. (2002), did not find child care subsidies to have an effect on child care-related work disruptions. Using a random sample of women who received welfare in an urban area of Michigan, and including families who were and were not receiving a child care subsidy, Danziger et al. found that work disruptions did not differ between subsidy and non-subsidy users, with about half of the sample in each group reporting at least one child care-related work disruption in the last year. Using data from three random assignment

demonstration studies in three states, Huston et al. evaluated demonstration projects designed to raise the employment rate of low-income parents. In order to establish causality, the researchers conducted two interviews 18 months apart and found that 1) compared to those who did not report child care-related barriers to employment at baseline, those who did report such barriers had more child care problems that interfered with work after receiving a subsidy and 2) subsidy use was not a significant predictor of child care problems. These findings are contrary to the hypotheses of this study and may be specific to the urban samples or other factors such as the parents' choices of type of child care.

Two research teams found that parents who received a child care subsidy were less likely to experience child care problems that interfered with work than parents who did not receive a subsidy. Press et al. (2006) conducted interviews with low-income mothers residing in Philadelphia who received/applied/were signed up for a child care subsidy by their local welfare office in the last month. Forty-six percent of these mothers were receiving a child care subsidy at the time of the study. Using multivariate logistic regression models applied to a quasi-experimental design comparing women who were eligible and applied for a subsidy to those currently receiving a subsidy, Press et al. found that those who received child care subsidies were 21% less likely to experience at least one work-hour problem.[14] Weinraub, Shlay, Harmon, & Tran (2005) interviewed African American low-income parents in Philadelphia and using basic descriptive and comparative statistics found those who were receiving a child care subsidy were absent from work because of child care problems significantly less often than those who were

[14] A work-hour problem refers to a parent changing a work shift/schedule, working fewer hours per week than desired, or being unable to work overtime because of child care in the last year.

not receiving a child care subsidy. Both of these studies may have limited generalizability, since they were both conducted in one mid-Atlantic city. Additionally, the use of a cross-sectional research design by both studies precludes either from concluding a causal relationship between child care subsidies and child care-related work problems exists.

In conclusion, data on the impact of child care subsidies on child care problems and child care-related work disturbances are inconsistent. One factor that may have affected the results of the reviewed studies is the type of care used by parents. Danziger et al. (2004) mention that child care subsidies in their study state of Michigan were mostly used by parents to pay for in-home care provided by relatives. This may explain why no difference was found between parents who did and did not receive a child care subsidy (the type of care purchased was the same for both groups). Huston et al. (2002) lend support to this theory[15]. They found that parents from one of their samples reported formal care to be associated with fewer child care problems. Perhaps the most judicious conclusion regarding these studies is that more research needs to be conducted on this topic, especially research examining the role of child care type as a mediator between child care subsidy and child care problems/child care-related work disturbances.

Impact of Child Care Subsidies on Desire to Switch Care

Studies examining parents' satisfaction with child care are challenged by methodological issues. Studies that have measured satisfaction with child care by asking parents to rate their satisfaction on a continuum from very satisfied to very dissatisfied have revealed little variation in response with a high percentage of families being

[15] No significant differences in type of care were found in the Press et al. (2006) study of families receiving and not receiving a subsidy. Thus, this theory is likely not the only explanation for the diverse research findings in this section.

somewhat or very satisfied (e.g. Hofferth et al., 1991). In order to obtain a more valid response, some studies have asked whether parents desired to switch their child care arrangement as a proxy for dissatisfaction with care (Hofferth et al., 1991; Hofferth, 1995; Kisker & Silverberg, 1991). Such studies reveal a high proportion of single mothers and low income parents to be dissatisfied with their care and a high proportion of families using center-based care to be satisfied (Fernandez, 1986; Hofferth, 1995; Kisker & Silverberg, 1991; Wolfe & Scrivner, 2004).

Similar to the literature on child care subsidies and child care problems/child care-related work disruptions, findings from studies on the impact of child care subsidies on satisfaction with care and parents' desire to switch child care arrangements are mixed. Two research teams found that families who had child care subsidies were no more likely to be satisfied with their child care than families who did not have subsidies. Weinraub et al. (2005), who studied low-income African American parents, found no difference between parents who were or were not receiving a child care subsidy on parents' dissatisfaction with child care. A power analysis of the Weinraub et al. study revealed an inability to detect small effect sizes, thus small differences in dissatisfaction with care may have remained undetected in the study. Contrary to their hypothesis, the Press et al. (2006) study of low-income mothers who were eligible or receiving a child care subsidy also revealed no significant difference between families receiving and those not receiving subsidies when asked if they would prefer a different child care arrangement. This finding may result from differences among parents who endured the procedures to actually receive a child care subsidy versus those who applied and then dropped off the administrative roster without receiving a subsidy. In other words, parents who are

dissatisfied with their child care may seek out subsidies more persistently in order to gain access to more expensive providers than parents who are satisfied with their care. Thus, statistics may fail to detect a difference in satisfaction between parents receiving and not receiving subsidies.

Three research teams, Berger and Black (1992), Wolfe and Scrivner (2004), and Brooks et al. (2002) found child care subsidies to be associated with greater satisfaction with child care. Berger and Black, who conducted phone interviews with unmarried women either receiving or on the wait list for a child care subsidy, found that parents receiving a subsidy had a significantly higher level of satisfaction with their child care arrangements than parents on the wait list for a subsidy. Wolfe and Scrivner conducted a two-wave study of parents engaged in the Wisconsin Welfare Evaluation Study. Using a multivariate probit model, they concluded that receiving a child care subsidy for part of the year was significantly associated with a desire to change child care arrangements in the first wave. Receiving a child care subsidy for the whole year was not associated with a desire to change child care arrangements in either wave. Additional analyses of the types of care families used led these authors to conclude that the receipt of a child care subsidy (especially for a whole year) lessened the financial constraint of child care for low-income families, thus allowing them to choose center-based care, a type of care negatively correlated with a desire to switch child care arrangements. Finally, Brooks et al. conducted simple statistical comparisons on data from demographically matched working poor parents in Georgia who were either receiving a child care subsidy or on the wait list for a subsidy. They found that those receiving a subsidy were significantly less likely to report wanting to change their child care arrangement than those who were not

receiving a subsidy. Both Berger and Black and Brooks et al. analyzed cross-sectional data, which precludes one from drawing a causal inference about child care subsidies and satisfaction with care. Wolfe and Scrivner, though analyzing two waves of data, may not be generalizable past the study state of Wisconsin.

Though results from the studies described above are inconsistent, it is likely that child care subsidies are associated with satisfaction with care. This conclusion is made based on the consistency of findings by Berger and Black (1992), Wolfe and Scrivner (2004), and Brooks et al. (2002) and on the limitations and availability of alternative explanations for the Weinraub et al. (2005) and Press et al. (2006) studies. There is a need for researchers to continue investigating the relationship between child care subsidies and satisfaction with care, including type of care as a mediator to further clarify the relationship.

Review of Literature on Intermediary and Control Variables in the Conceptual Model

The conceptual model presented in Figure 1 displays a number of variables hypothesized to affect the impact of child care subsidies on child care problems, child care-related work disruptions and parents' desire to switch child care arrangements. In this section, literature on the relationships among these variables is reviewed.

Subsidy and perceived affordability of formal care/financial burden. Concern is often expressed over the ability of low-income families to access high quality child care due to financial constraints and the high cost of the service (Brandon, 1999; Brayfield & Hofferth, 1995; Burchinal & Nelson, 2000; Chin & Phillips, 2004). The last available data from the U.S. Census Bureau (2005) reveals families with children under five paid on average $94 per week for child care in 1999. This cost has likely increased in the last

eight years and does not accurately reflect the higher cost of care for infants or families living in urban areas. In addition to the high absolute cost of child care, the relative cost of care is particularly high for low-income families. Among such families, a high percentage of family income (up to 33.95% according to a recent Census Bureau publication) is spent on child care (Anderson & Levine, 1999; Brayfield & Hofferth, 1995; Hofferth, 1999; U.S. Census Bureau, 2005; USDHHS, 1999).

For families using a formal child care provider, receiving a child care subsidy decreases both the absolute cost and the relative financial burden of child care (Danziger et al., 2004; Weinraub et al., 2005).[16] Weinraub et al. (2005) studied African American employed parents living in an urban area with children under five, 52% of whom were receiving a child care subsidy, and found the absolute cost of child care to be reduced by half for parents with a child care subsidy. In a random sample panel study of women who received welfare in an urban Michigan county, Danziger et al. (2004) found that child care subsidies reduced the percentage of family income devoted to child care by about eight percentage points. Each of these studies should be generalized with caution due to their small sample sizes relative to most nationally representative data and the limited geographic representation of the samples. Additionally, caution should be taken in interpreting Weinraub et al.'s study as causality can not be assumed with a cross-sectional design.

Subsidies may also affect the perceived affordability of formal care. It is well established in the literature that child care subsidies are associated with the use of formal care providers (Huston et al., 2002; Lowe & Weisner, 2004; Tekin, 2005; Weinraub et al., 2005; Wolfe & Scrivner, 2004). Some researchers have concluded that this

[16] This statement assumes the formal child care provider accepts child care subsidies.

relationship is due to a selection effect with those families who prefer to use a formal provider applying for subsidies and those who prefer informal providers choosing not to apply (Lowe & Weisner, 2004). In her analysis of descriptive statistics from the nationally representative National Child Care Survey of 1990, Hofferth (1995) found child care subsidies to be associated with center-based care. Based on this finding, Hofferth concluded that high- and low-income families have similar preferences for child care, but low-income families without child care subsidies are constrained by the cost of care from utilizing formal providers. Berger and Black (1992) conducted a phone survey of mothers in Louisville, Kentucky who were on the waitlist or receiving child care subsidies and found that the majority of families who received a child care subsidy and subsequently changed their child care arrangements rated their new child care arrangement more positively than their pre-subsidy arrangement. This finding lends further support to the theory that child care subsidies enhance the affordability of preferred child care arrangements for many families. Despite the timing of the data collection pre-welfare and CCDF reform for both Hofferth's and Berger and Black's studies, their findings reveal a micro level theory of behavior that is likely applicable in the current policy context.

Perceived affordability of formal care/financial burden and child care problems/child care-related work disruptions. As mentioned, cost is a constraining factor on the child care choices of parents. One might guess that parents who are limited in their child care choices due to cost constraints are more likely to have problems with their child care than parents who are able to afford any provider. Surprisingly, few researchers have examined this relationship. Participants in Kisker and Silverberg's

(1991) study of teenage parents participating in a parenting demonstration program reported that cost, availability, and quality of care were all associated with child care-related work problems. The main limitation of this study is its limited generalizability due to the urban only sample taken from three cities in two states in the late 1980s.

More work has been done on the impact of fiscal resources on the stability of care. Brooks et al. (2002) ran a cross-sectional study comparing families receiving a child care subsidy and families on a wait list for a child care subsidy and concluded that mothers who received a child care subsidy had more stable child care arrangements than mothers without a subsidy. Henly and Lyons (2000) also examined the relationship between finances and child care stability in their study of low-income mothers, some of whom had welfare experience. The mothers in Henly and Lyons' study reported their financial instability to affect the stability of their child care arrangements. Though both Brooks et al. and Henly and Lyons provide useful information, both use a cross-sectional design. Thus a causal relationship between child care subsidies/financial stability and stability of child care can not be assumed.

In conclusion, more research is needed on the relationship between the financial burden/perceived affordability of formal care and child care problems/child care-related work disruptions. The research available to date does suggest that the financial burden of child care affects parents' ability to afford stable care. However, these studies are silent on issues of reliability and they rely heavily on cross-sectional research designs.

Perceived affordability of formal care/financial burden and desire to switch care. The relationship between perceived affordability of formal care/financial burden of care and desire to switch care is another relationship that makes intuitive sense, but has not

been well documented. Fernandez (1986) found, on average, lower income manufacturing employees were less satisfied with their child care arrangements than higher income managers. This finding suggests a relationship between family income and child care satisfaction exists. However, such a conclusion should be made with caution due to the plethora of other influences that could moderate this relationship (i.e. values, parental education level, work hours, etc.). Brooks et al. (2002) and Berger and Black (1992) both conducted cross-sectional analyses comparing families who received a child care subsidy with families who were on the wait list for subsidies. Both research teams found families who received a child care subsidy, a resource that would arguably increase the perceived affordability of formal care and decrease the family's financial burden from child care, were more satisfied with their child care than families who were on the wait list for a child care subsidy.

Each of the studies above has limitations. Fernandez's (1986) study, despite providing information otherwise absent in the literature, was conducted over twenty years ago and was limited to employees from one manufacturing company. For these reasons, this study should be generalized to present day low-income workers, most of whom work in the service industry, with caution. Brooks et al. (2002) also used a sample with potentially limited generalizability. This sample was taken from one southeastern state. Finally, both Berger and Black (1992) and Brooks et al. used cross-sectional research designs, thus precluding one from drawing causal inferences from their studies. Despite these limitations, it is likely that the findings on financial burden/perceived affordability of formal care and satisfaction with care described in this section are valid due to the

absence of studies providing findings to the contrary. Further research on this relationship using different samples and a panel study design is warranted.

Impact of child care subsidies on parents' child care choices. It is well established in the literature that receipt of a child care subsidy is predictive of using center-based care, even with young children (aged 0-5) (Huston et al., 2002; Lowe & Weisner, 2004; Tekin, 2005; Weinraub et al., 2005; Wolfe & Scrivner, 2004). Some researchers have concluded this strong association exists because of a selection effect, with those families who prefer to use a formal provider applying for subsidies and those who prefer informal providers choosing not to apply (Lowe & Weisner, 2004). This selection effect may occur for two reasons. First, informal care tends to be less expensive than formal care, so a child care subsidy might only be sought after by families who want to use formal care (Mulligan et al., 2005). Second, many informal providers are not eligible to receive a child care subsidy due to regulations of the subsidy program, so families who do obtain a child care subsidy may have little choice but to use a formal provider.

An alternative hypothesis put forth by Hofferth (1995) is that high- and low-income families have similar preferences for child care, but low-income families without child care subsidies are constrained by the cost of care from utilizing formal providers. Hofferth's conclusions were based on her analysis of descriptive statistics on children aged 0-12 from the nationally representative National Child Care Survey of 1990. Both Huston et al. (2002), whose sample included randomly assigned parents of children aged 0-10, and Tekin (2005), whose sample included children aged six and under, lent support to Hofferth's conclusion by conducting regressions on data containing low-income

families and finding subsidies to significantly increase the probability of such families using center-based care. Tekin's results were especially strong. He found a 33% increase in the probability of using center care and working when a subsidy was received. Additionally, in comparing families with and without child care subsidies, both Weinraub et al. (2005) and Wolfe and Scrivner (2004) found families with children aged 0-5 who received subsidies were more likely to use center-based care than families with children aged 0-5 without child care subsidies.

The studies above each have strengths and limitations. Hofferth (1995), Tekin (2005), and Weinraub et al. (2005) rely on cross-sectional data with Hofferth and Tekin using nationally representative data. Thus, though the results of each of these studies are generalizable and valid, they can not establish a causal relationship between child care subsidy receipt and type of care chosen. The remaining studies in this section, though offering data from multiple time periods, used samples limited in geographic region and in the case of Lowe and Weisner (2004) from a small number (<40) of participants. Despite these limitations, it is clear that a relationship exists between child care subsidies and type of care chosen, with subsidy recipients being more likely than non-recipients to choose center-based formal care providers, even for their young children.

The relationship between child care subsidies and type of care chosen is noteworthy for this study because of the relationship between type of care and the dependent variables of interest. Studies have documented formal care to be a more reliable type of child care (Knox et al., 2003; Hofferth et al., 1991) as well as a more desirable type of care for many parents (Kisker & Silverberg, 1991; Wolfe & Scrivner,

2004).[17] Thus, the relationship between child care subsidies and type of care is key to understanding the mechanisms by which the independent variable in this study (child care subsidies) affects the dependent variables (child care problems, child care-related work disruptions, and desire to switch care).

Perceived affordability of formal care/financial burden and type of care. It is well established in the literature that the type of care a family chooses, formal or informal, is closely associated with family income with lower income families being more likely to choose informal care (Fuller, Kagan, Caspary, & Gauthier, 2002; Hirshberg, Huang, & Fuller, 2002; Mulligan et al., 2005). Fuller et al. (2002), who analyzed data from a longitudinal study of single mothers with preschoolers and a welfare history, found as the former welfare recipients earned more money, they were more likely to use formal child care providers. This change likely occurred because formal providers are more expensive than informal providers and thus can only be afforded when adequate financial resources are available (Johnansen, Leibowitz, & Waite, 1996).

Some researchers have further investigated the relationship between income and type of care chosen and found the cost of care to be one central factor in parents' choices among child care providers. Hofferth and Wissoker (1991) analyzed 1985 National Longitudinal Survey of Youth data and found strong labor markets, child care vouchers and tax credits to increase low-income parents' use of formal providers. Hofferth and Wissoker also found price to be an important predictor of a parent's choice among child care providers. Based on these findings, the researchers concluded that low-income

[17] It deserves mention that depending on who provides the informal care and other contextual factors, informal care in some cases may be more reliable than formal care. Additionally, some parents, for example parents of infants/young toddlers, are more likely to desire informal care (Uttal, 2002).

parents may prefer formal care but choose informal providers due to cost constraints. Chin and Phillips' (2004) study of families with fourth graders from an urban and socioeconomically diverse community support Hofferth and Wissoker's findings. Chin and Phillips found that parents reported cost to be the primary influence on choice of children's summer activities. Fuller et al. (2002) also highlighted the constraining effect of cost on child care arrangements by asking single mothers of preschoolers with a welfare history, approximately 50% of whom were using informal care, what type of child care they would use if all care were within close proximity and affordable. Sixty percent of the mothers in Fuller et al.'s study responded that they would choose formal, center-based care. Finally, Henly and Lyons (2000), in their research among low-income mothers in entry level jobs, found that providers' flexible payment plans and acceptance of non-cash payments were cited by parents as important factors in selecting care. This observation demonstrates parents need to minimize the financial costs of child care and build coping strategies around child care options with a high financial burden.

As can be seen, multiple researchers have found evidence to support the role of affordability/financial burden on type of care used. Each of these studies has limitations. Three of the summarized studies, Chin and Phillips (2004), Henly and Lyons (2000), and Fuller et al. (2002) used samples that were not nationally representative. Hofferth and Wissoker's (1991) study did use nationally representative data, but the date of data collection was pre-welfare and CCDF reform thus making it impossible to see the impact of the current policy environment. Despite these limitations, the evidence provided by these studies and the lack of studies that dispute this evidence allows for the conclusion that perceived affordability of formal care/the financial burden of child care does

influence the type of care chosen. Additional research on this topic using a nationally representative sample collected post-welfare and CCDF reform is warranted.

Type of care and child care problems/child care-related work disruptions. Center-based care is generally accepted as producing the fewest incidences of child care problems/child care-related work disruptions. In their ethnographic study of low-income families, Knox et al. (2003) found low-income parents were most often inconvenienced by child care problems experienced with informal providers. Using a nationally representative sample of families with children under thirteen, Hofferth et al. (1991) also found the highest proportion of unscheduled unavailability among child care providers to be among relatives and providers of in-home care.

Based on their ethnography of welfare recipients, Scott, London, and Hurst (2005) put forth one theory as to why informal providers are more unreliable than formal providers. This theory is that the instability of informal care, especially unpaid informal care, is likely a function of the situation that leads to the availability of such a provider: their own unemployment, illness or temporary disability (Scott et al., 2005). These conditions may cause or be correlated with causes of unreliability as a child care provider.

The Hofferth et al. (1991) study used a nationally representative dataset of families with children under thirteen years of age to provide reliable evidence of the relationship between center-based care and child care problems/child care-related work disruptions. Though the Knox et al. (2003) and Scott et al. (2005) studies are based on smaller samples (116 and 38 participants, respectively) of low-income mothers in urban areas, their use of ethnography allows for theoretical explanations of this relationship.

Type of care and desire to switch child care arrangements. While parents' satisfaction with child care depends on a myriad of factors, researchers have found most dissatisfied parents to prefer center-based care (Hofferth et al., 1991; Kisker & Silverberg, 1991; Wolfe & Scrivner, 2004). Hofferth et al.'s (1991) descriptive analysis of 1990 National Child Care Survey data revealed 26% of parents as desiring to switch child care arrangements. Preference to switch care providers was pronounced among employed mothers who were using in-home, sibling, or self-care, with parents' primary reason for wanting to switch child care arrangements being a desire to enhance the quality of care. Kisker and Silverberg (1991), who interviewed teen parents in a demonstration program, had similar results. Kisker and Silverberg reported that the majority of parents who were dissatisfied with their child care preferred their child be in center-based care. Reasons parents provided for desiring to switch their child care arrangements centered around desires for their child to experience more social interaction, more educational opportunities, and better care (Kisker & Silverberg, 1991). Finally, Wolfe and Scrivner's (2004) two-wave evaluation of welfare recipients in Wisconsin revealed parents to be more satisfied with center-based care than with other types of care. Wolfe and Scrivner also found parents who used center-based care less likely to want to change their child care arrangement. Though the findings reviewed above might be influenced by the age of the children in the studies and maturation effects, the consistency in findings despite varied research designs and ages of the data suggests that a relationship exists between type of child care and parents' satisfaction with/desire to switch care.

Control variables. A number of variables were selected for inclusion in this study based on their relationships with the independent, intervening, and dependent variables. Each of these variables and why they were selected in accordance with the literature is described below.

The first set of control variables to be discussed: household income, receipt of assistance in paying for child care from a source other than the governmental child care subsidy, parental work hours, age of the focal child, whether the mother work non-traditional hours, and number of children aged thirteen or under in care are all associated with the type of care chosen. In all cases, these associations are mediated at least in part to the financial burden/perceived affordability of formal care.

Multiple researchers have found income to be associated with type of care. Families who have a higher income are generally more likely to use formal care than families with a lower income (Burchinal & Nelson, 2000; Hofferth, 1995). Hirshberg et al. (2002) also found receiving help in paying for child care and working long hours to increase the likelihood of a parent choosing formal care.

Child's age also affects parents' child care choices. As children age, parents tend to desire formal providers that can offer a more educational experience (Sonenstein, Gates, Schmidt & Bolshun, 2002). However, parents of infants and young toddlers are more likely to choose informal care (Brayfield, Deich & Hofferth, 1993; Burchinal & Nelson, 2000; Fuller, Holloway & Liang, 1996; Hirshberg & Huang, 2000; Hofferth, 1996; Hofferth & Wissoker, 1991; Hunts & Avery, 1998; Huston et al., 2002; Mulligan et al., 2005; National Research Council & Institute of Medicine [NRC/IOM], 2003; Sonenstein et al., 2002; Uttal, 2002). This choice appears to be mostly based on parental

preference in line with the child's developmental abilities (many parents do not want to send their children to a formal provider when the children are too young to communicate verbally), though cost of care may be an issue as infant care is significantly more expensive than formal care for older children (Brayfield et al., 1993; Burchinal & Nelson, 2000; Fuller et al., 1996; Hofferth, 1996; Hofferth & Wissoker, 1991; Hunts & Avery, 1998; Huston et al., 2002; Mulligan et al., 2005; NRC/IOM, 2003; Sonenstein et al., 2002; Uttal, 2002).

Most parents work mainly traditional hours, between 8:00 a.m. and 6:00 p.m. Monday through Friday (Presser & Cox, 1997). Work schedules in which at least half of the hours worked fall outside this time frame (i.e. evenings, nights, and weekends) are considered non-traditional (Presser, 2000). Parents who work non-traditional hours, an employment trend that disproportionately affects low-wage workers (Hofferth, 1996), are less likely to use formal child care (Henly & Lyons, 2000; Hirshberg et al., 2002; Hofferth, 1996; Hunts & Avery, 1998; NRC/IOM, 2003; Riley & Glass, 2002). This usage pattern is likely due at least in part to parents' inability to find formal providers open during these hours.[18] Similar to infant care, due to a lack of supply, formal care during non-traditional hours is significantly more expensive then care during standard hours.

Finally, the number of children in the household has been found to affect the type of care parents choose, with families having more children being less likely to use formal care (Huston et al., 2002). This relationship likely results from the increased financial

[18] In Hofferth's (1996) review of the literature, it was reported that only 10% of centers and 6% of family day care providers offered weekend care. Additionally, only 3% of centers and 13-20% of family day care providers offered evening/night hours (Hofferth, 1996). Among formal providers, family day care providers offer more flexible hours than child care centers (Scott et al., 2005).

burden of having multiple children in care and the convenience that an informal provider (including an older child within the family) can offer in taking children of diverse ages (Hofferth and Wissoker,1991; Huston et al., 2002; Johnasen et al., 1996).

A variable that is associated with type of care chosen, but may not be mediated by financial burden/perceived affordability of formal care is maternal education. It has been well established in the literature among various samples that maternal education is linked to child care choice with more education being associated with a greater likelihood of using center-based care (Brayfield et al., 1993; Fuller et al, 1996; Fuller et al., 2002; Hirshberg et al., 2002; Huston et al., 2002; Leibowitz, Klerman & Waite, 1992; Mulligan et al., 2005; NRC/IOM, 2003; Wolfe & Scrivner, 2004).

A few variables were selected as controls in this study due to their potential association with the dependent variables. These variables include maternal depressive symptoms, use of multiple child care arrangements, and the number of adults in the household. Huston et al. (2002) found parents who experienced symptoms of depression to be more likely to experience child care problems than parents without depressive symptoms. Likewise, Scott et al. (2005) found when parents used multiple providers, they were more likely to experience both child care problems and child care-related work disruptions. Finally, Ciabattari (2007) found the presence of other adults (except grandparents) in the household to be associated with a small decrease in perception of work-family conflict among low-income, primarily single mothers. This decrease is likely due in part to other adults' availability to serve as back-up child care providers should child care problems occur.

The final two control variables, maternal race and whether the mother is in school were selected for methodological reasons. Maternal race was included in the study as a proxy for a weighting variable. Whether the mother was in school served as a dummy variable to control for hours spent in school since actual hours in school was not available in the Fragile Families data.

Conclusions and Gaps in Research

Inconsistency in the results of studies in the above literature review and an over reliance on cross-sectional data among the studies reviewed highlight the need for additional research on the relationships between child care subsidies and child care problems/child care-related work disruptions as well as child care subsidies and parents' desire to switch care. The current study adds to this literature in important ways. First, including financial burden, perceived affordability of formal care and type of care as mediators further clarifies the relationships between these concepts. Second, using a national sample contributes to the reliability of understanding these concepts, which to date have primarily been studied through pilot program evaluations and geographically limited studies. Third, though some of the studies reviewed rely on panel data, none follow the same parents specifically before and after receiving a child care subsidy. As a pre-/post-design allows for causal inferences, using this research design offers researchers, policymakers and program administrators a better understanding of the impact of subsidies.

Research Questions and Hypotheses

The following research questions are examined in this study: 1) Are families who are currently receiving a child care subsidy less likely to experience child care problems,

child care-related work disruptions, and a desire to switch child care arrangements than families who are not currently receiving a subsidy? Additionally, are the relationships between child care subsidies and child care problems, child care-related work disruptions, and a desire to switch care mediated by parents' perceived affordability of formal care, the financial burden of care, the type of care used, or a combination of these variables? 2) Does a change from not receiving a child care subsidy to receiving a child care subsidy for the same family over time lessen the number of child care problems and child care-related work disruptions a parent experiences and reduce that parent's desire to switch child care arrangements? Additionally, are these relationships between change in child care subsidy status and changes in child care problems, child care-related work disruptions, and desire to switch care mediated by changes in parents' perceived affordability of formal care, financial burden of care, type of care used, or a combination of these variables? In order to answer these questions, the conceptual model presented in Figure 1 was tested as both a static model, allowing for a comparison of families who were and were not receiving a child care subsidy at one point in time, and as a change model, allowing for an analysis of the same families over time. Hypotheses for the static and change models are detailed in Table 1.

Table 1. Hypotheses

	Child Care Problems/Child Care-Related Work Disruptions	Desire to Switch Care
Static Model	1a: Parents with a child care subsidy will be less likely to report child care problems and child care-related work disruptions than parents who do not have a subsidy. 1b: The relationships between child care subsidy receipt and child care problems/child care-related work disruptions are mediated by at least one of the following variables: financial burden of care, perceived affordability of formal care, or type of care. 1c: The relationships between child care subsidy receipt and child care problems/child care-related work disruptions are mediated by the combined effects of financial burden/perceived affordability of formal care and type of care.	1a: Parents who are receiving a child care subsidy will be less likely to report a desire to switch child care arrangements than parents who are not receiving a child care subsidy. 1b: The relationship between child care subsidy receipt and desire to switch child care arrangements is mediated by at least one of the following variables: financial burden of care, perceived affordability of formal care, or type of care. 1c: The relationship between child care subsidy receipt and desire to switch child care arrangements is mediated by the combined effects of financial burden/perceived affordability of formal care and type of care.
Change Model	2a: Parents who were not receiving a child care subsidy at Time 1 and were receiving a child care subsidy at Time 2 will report a decrease in child care problems/child care-related work disruptions from Time 1 to Time 2. 2b: The relationships between	2a: Parents who were not receiving a child care subsidy at Time 1 and were receiving a child care subsidy at Time 2 will report a decrease in desire to switch child care arrangements from Time 1 to Time 2. 2b: The relationship between changes in child care subsidy receipt and

	changes in child care subsidy receipt and changes in child care problems/child care-related work disruptions are mediated by at least one of the following variables: change in financial burden of care, change in perceived affordability of formal care, or change in type of care between time periods. 2c: The relationships between changes in child care subsidy receipt and changes in child care problems/child care-related work disruptions are mediated by the combined effects of change in type of care and the change in financial burden/perceived affordability of formal care between time periods.	change in desire to switch child care arrangements is mediated by at least one of the following variables: change in financial burden of care, change in perceived affordability of formal care, or change in type of care between time periods. 2c: The relationship between changes in child care subsidy receipt and change in desire to switch child care arrangements is mediated by the combined effects of change in type of care and the change in financial burden/perceived affordability of formal care between time periods.

Note. The financial burden and perceived affordability of formal care were both included in these hypotheses so that the absolute fiscal impact of subsidies could be tested in addition to the impact of subsidies on parents' subjective perception of child care affordability. Financial burden of child care per child was used to test the conceptual model shown in Figure 1 with both the Fragile Families and Wait List data. Perceived affordability of formal care was used to test the conceptual model for the Wait List data only. Additionally, due to data limitations, research question two (hypotheses 2a, 2b, and 2c) was only tested using Wait List data.

Chapter 3: Methods

Data

Two sources of data were used for this study. The first, herein referred to as the Wait List data came from a sample of 40 low-income employed mothers from a mid-Atlantic county, which was collected by the investigator in 2005 and 2006. Participants in this sample were interviewed twice, once while on the wait list for a child care subsidy and again approximately eight months later. The majority of participants received a child care subsidy in the period between interviews, thereby allowing for a pre-/post-research design. This dataset was included in this study because it allows the same family's choices to be compared before and after receiving a child care subsidy. Few research studies on child care subsidies have employed this approach. The Wait List dataset also includes administrative data regarding subsidy receipt, thereby allowing for accurate reporting of the type and amount of child care subsidy families were receiving. The second dataset was from the Fragile Families and Child Wellbeing (Fragile Families) study, a longitudinal study following a 1998-2001 cohort of children born to a nationally representative sample of predominately low-income single parents. Mother interview data from follow-up waves one and two of the Fragile Families Study were examined in this research. The Fragile Families dataset was included in the study in order to replicate the study model, to the degree possible, with a national sample of unmarried women who were demographically similar to participants in the Wait List dataset.

Wait List Study Data

The Wait List Study panel data were collected in two waves, the first of which occurred in the summer of 2005 and the second in the spring of 2006. The interviews for

this study included open- and closed-ended questions in order to allow for an in-depth analysis of information from parents. The county in which this study was conducted has two child care subsidy programs. The first program is funded and governed by the rules of the Child Care Development Fund (CCDF). The second program is county-run and designed to support low-income families (~ 300% FPL and below) who exceed the income cut-off for CCDF subsidies in the study state, which, at the time of data collection, was equivalent to $29,990 for a family of three. The county child care subsidy program also differs from CCDF in that it prioritizes children in a family, providing the majority of the subsidy to the oldest child in the family, and it prohibits parents from using the subsidy to pay informal care providers.

Shortly before data collection began for this study, a funding allocation allowed the state in which data were collected to open its wait lists for CCDF and county-provided child care subsidies. This funding allocation provided an opportunity to interview parents who had been on the wait list for a child care subsidy before and after they received the subsidy[19], thus providing for a natural quasi-experiment via a pre-/post-test design.

Sampling procedures. Through a partnership with the county Commission on Child Care and the county child care office of the Department of Health and Human Services, contact information for parents on the wait list that had consented to being contacted for research studies was obtained. The investigator then contacted all parents from this list to educate them about the study and asked if they would be interested in participating. Among parents contacted, the only eligibility criterion was that parents

[19] Some parents in this study were awarded a subsidy before the initial interview took place. For these parents, retrospective data were collected.

spoke and understood English. There was a 65% response rate among parents called with non-response resulting from language barriers (6%), refusal to participate (47%), and inability to be reached (47%). Parents who were interested in participating were provided an informed consent form to sign and the first interview was scheduled. Parents were given the choice of being interviewed by phone or in-person in order to maximize their comfort with the research project and minimize the burden of participation in the study.[20]

Before commencing the first interview, parents who preferred to be interviewed via phone were mailed a consent form with the investigator's phone number, should they have any questions. The parents were then read the consent form prior to the first interview, given an opportunity to ask questions about the study, and asked to provide oral consent. Once each of these steps was completed, the investigator conducted the first interview. Parents then mailed the signed consent to the investigator in a pre-paid stamped envelope. For parents who preferred to be interviewed in-person, a consent form was provided to the parents before the first interview. Parents were read the consent form and provided an opportunity to ask questions about the study during the first scheduled meeting. If applicable, questions were answered. Parents then signed the consent form and were interviewed.

The consent form (see Appendix A) explained the purposes of the research, research procedures, costs and benefits of the study, rights of a research participant, and grievance procedures. The consent form also offered a place for study participants to give permission for the researcher to obtain access to their records at the county child care office and provided a space for the interviewee to give contact information for three

[20] Including both waves of data collection, thirty in-person and thirty-eight phone interviews were conducted.

emergency contacts should the interviewee be unreachable for the second round of interviews. Parents were provided a $10.00 incentive each time they were interviewed for the study.

Thirty percent of the 2005 interviews took place before school recessed for the summer. Although summer is not ideal for interviewing parents about their child care choices (many parents' child care needs change from part-time to full-time care when school recesses), the first interview was conducted at this time in order to maximize the number of parents interviewed while still on the child care wait list. The second set of interviews occurred in winter 2006 with the average duration between interviews being 7.5 months.

In the winter of 2006, parents were called to schedule participation in the second round of interviews. The response rate for this round of interviews was 70% with non-response resulting from active refusal to participate (8%), passive refusal to participate (17%), and an inability on the part of the researcher to reach the interviewee (75%). For parents who were interested in participating in the second round of interviews, a second interview via phone or in-person depending on the parent's preference, was scheduled and conducted.

Demographics. The participants of this study were primarily young (mean age=30) unmarried females. The sample was racially diverse with African Americans comprising the largest proportion.[21] All participants had a high school degree/GED and the majority (56%) had at least some college. Most of the participants (95%) were

[21] The racial breakdown of this sample is: African American (50%), Caucasian (18%), Hispanic (8%), Asian (8%), not reported (16%).

employed at the time of the first interview. Parents worked an average of 36 hours per week and had an average annual income of $27,839.

Advantages/disadvantages of data. There are both advantages and disadvantages of using the Wait List data for this study. The advantages are threefold. First, because of the timing of the data collection around a CCDF funding allocation, the Wait List data allows for a unique opportunity to examine the same families' child care choices, child care problems, child care-related work disruptions, and desire to switch child care arrangements both before and after receiving a child care subsidy. Unlike most studies of governmental child care subsidies, which have employed a cross-sectional approach to examine such issues, having information on the same families allows for a comparison of the same families over time, avoiding a comparison between unlike families. Such an analysis allows the investigator to make inferences about causality, which have previously been impossible in studies of CCDF subsidies. Second, the use of administrative data allow for accurate information regarding the type and amount of child care subsidy each family received. Third, because the survey was designed by the student investigator, with input from faculty in the Department of Family Studies and the county child care commission, questions not included in the Fragile Families study were able to be incorporated. Inclusion of such questions was particularly useful because it allowed the student investigator to test the conceptual model for this study in different ways and with more depth than would be permitted by using the Fragile Families dataset alone.

There are a few disadvantages to the Wait List Study data. First, the sample size of this study is small. Complete data are available for forty families from the first wave and twenty-eight families from the second. The small sample size is attributable to the

limited number of families who consented with the study county to be contacted for research studies and the investigator's inability to reach all families who did consent to be contacted. To compensate for the small sample size in the static research model, data across waves was pooled and a clustering variable was included to eliminate the effect of pooling on bias in the standard errors. Additionally, in the change model, the inclusion of retrospective questions asked of some participants at each wave allowed for multiple comparisons between waves of data collection for the same family.[22] Again, a clustering variable was included to adjust standard errors. Despite these efforts, as a result of the small sample size, the number of control variables included in the Wait List analysis was limited. Second, participants were from one mid-Atlantic county and are thus not nationally representative. To compensate for this limitation, the proposed study model was replicated, to the degree possible, using a larger national sample of low-income, primarily single, urban parents from the Fragile Families dataset. Third, sampling bias may have been introduced through the voluntary nature of the study. To address this concern, an attrition analysis was run using administrative data for all participants and characteristics among the Wait List and Fragile Families samples were compared.

Fragile Families

Fragile Families is a longitudinal dataset. The baseline surveys were conducted between 1998 and 2001 and the first two waves of follow-up interviews occurred twelve and thirty-six months after the baseline (Reichman, Teitler, Garfinkel, & McLanahan, 2001). Data collected from unmarried low-income mothers in the first and second follow-up interviews of the Fragile Families study are used for this analysis. Mothers were selected for the study sample if, at the time of the interview, they were employed/in

[22]Details on the construction of the Wait List static and change datasets are provided in the results sections.

school, living at or below 300% of the federal poverty level (FPL) with no more than one child in the household, age 18 or older, using non-parent/sibling/self-care for their child's primary child care arrangement, and had non-missing responses on the child care subsidy status variable. This subsample was selected to make the Fragile Families sample as comparable as possible in terms of range of mother's and children's ages, marital status, and income to the Wait List sample. The choice to include only families with one child in the household was out of necessity because some of the variables of interest in the Fragile Families survey refer to the focal child while others refer to all children in the household. The choice to include only mothers who were employed/in school was necessary due to skip patterns involving work/school status and the dependent variables. Finally, the choice to include mothers who did not use parent/sibling/self-care was made due to child care subsidy policies that prohibit subsidies from paying for this type of care (except in the case of sibling care when the sibling is 16-21 years or older[23]).

Sampling procedures. The Fragile Families study is a collaborative multi-site study designed to obtain information on (a) non-marital childbearing, (b) welfare reform, and (c) the role of fathers (Reichman et al., 2001). Fragile Families used a three-stage sampling process. Through this sampling process, a national sample of urban dwelling, primarily single and low-income parents included 4,700 parents (3,600 unmarried and 1,100 married) at baseline survey from seventy-five hospitals in twenty cities in the U.S. Cities were chosen for the Fragile Families study according to the following criteria: (a) population of 200,000 or more, (b) diverse policy environments on the dimensions of welfare generosity and child support enforcement, and (c) diverse labor market strengths

[23] Allowable age of informal providers is state-dependent (U.S. Department of Health and Human Services [US DHHS], 2007).

(as indicated by unemployment rates, job growth rates and population growth) (Reichman et al., 2001). The Fragile Families sample consisted of parents from the following cities: Austin, TX; Baltimore, MD; Boston, MA; Chicago, IL; Corpus Cristi, TX; Detroit, MI; Indianapolis, IN; Jacksonville, FL; Nashville, TN; Newark, NJ; New York NY; Norfolk, VA; Oakland, CA; Philadelphia, PA; Pittsburg, PA; Richmond, VA; San Antonio, TX; San Jose, CA; and Toledo, OH (Reichman et al., 2001). In cities with five or fewer birthing hospitals, interviews were conducted in all hospitals located within city limits. For cities with more than five birthing hospitals, hospitals were selected randomly from a list of hospitals that allowed the researchers to interview parents while in-patient (Reichman et al., 2001).[24]

The Fragile Families study collected data from both mothers and fathers. Parents were included in the study through random selection until certain sampling quotas were met (Reichman et al., 2001). Parents were excluded from the study if they met any of the following criteria: (a) the parents planned to put the child up for adoption, (b) the father of the baby was deceased, (c) neither parent spoke English/Spanish well enough to complete the interview, (d) either the mother or infant was too ill for the mother to complete the interview, or (e) the infant died before the baseline interview (Reichman et al., 2001).

Demographics. Participants of the study sample from the Fragile Families data were primarily young (mean age=24) unmarried females. The sample was primarily

[24] The Fragile Families dataset is a nationally representative sample of predominately low-income, single mothers living in urban areas. Because the Wave 3 weights had not yet been released at the time of this study's analysis, the Fragile Families sample in this analysis is not nationally representative.

Black and Hispanic.[25] Participants varied in education, with 33% not having a high school degree/GED, 41% having obtained a high school degree/GED/vocational degree, and 26% having an associates/bachelors degree. All members of the sample were employed or in school. Parents worked an average of 36 hours per week and had an average annual household income of $20,685[26].

Advantages/disadvantages of data. As with the Wait List Study data, the Fragile Families data have both advantages and disadvantages for use with the current study. The first advantage of the Fragile Families data is that it is a national sample of mostly unmarried low-income parents living in urban areas. As such, it is similar to the sample of participants in the Wait List Study, thus making it appropriate to use for replicating the proposed conceptual model. The second advantage of the Fragile Families data is that the sample size is large. Having a large sample size allows for more power in statistical procedures and increases the likelihood that the results of this study will be generalizable to the population being studied.

The main disadvantage of using the Fragile Families data is that the range and average age of children in the datasets differ significantly. A second disadvantage is that some variables of interest for the current study (i.e. perceived affordability of formal care and parental desire to switch care) were not included. Additionally, some variables of interest that were included in the survey (i.e. child care problems/child care-related work disruptions) differed in time frame from the Wait List variables and, in the case of child care-related work disruptions, were less comprehensive in scope compared to the Wait

[25] The racial breakdown of this sample is: Hispanic (42%), African American (41%), non-Black, non-Hispanic (14%).

[26] This income has been inflated to 2005 dollars. The income variable for the Fragile Families study includes income from social service programs.

List study. Despite these limitations, the Fragile Families dataset is appropriate for this study because it allows for the study's conceptual model to be tested on a national sample that is comparable in most characteristics to the Wait List sample.

Measures

This section defines the variables in this study and their operationalization through the survey questions. Sources for the survey questions are provided, where applicable, along with a brief description of these sources use with samples comparable to the current study sample. Finally, psychometric properties of index variables are also provided when appropriate.

Variables and Survey Questions

As can been seen in Table 2, each of the variables in this study has been measured with question(s) that reflect the variable's conceptual definition.

Table 2. Variables, Conceptual Definitions, and Survey Questions

Variable	**Conceptual Definition**	**How measured**	
		Wait List Study	**Fragile Families**
Child Care Subsidy	A government-provided (CCDF/county) voucher or cash payment to a parent/child care provider in order to help parents pay for child care.	The type of government child care subsidy received (CCDF or county-run subsidy program) and the amount of subsidy per child were obtained from the county child care office's administrative records.	Does any person or any agency give you money, a voucher, or a scholarship to help pay for child care? Who gives you the money or voucher or scholarship? (government agency is one response option) How much money does the government agency give you? Per what time

Variable	Conceptual Definition	How measured	
		Wait List Study	**Fragile Families**
			period?
Financial Burden of Care	Ratio of out-of-pocket child care expenses per child to household income.	How much do you (and your partner) currently pay out-of-pocket for child care per week for all of your children? Which of your children did this payment cover? The interviewer then probed to obtain the breakdown of cost per child for child care. The household income was obtained from administrative records at the county child care office.	How much do you pay out-of-pocket for all the child care you currently use? Is this amount for (focal child)'s care only, or does it cover other children from your household? How many children (including focal child) are included in this amount? What was your total household income before taxes last year, from all sources?
Perceived Affordability of Formal Care (Wait List only)	For each type of formal care, is this type of care considered affordable by the parent for the child.	Which of the following types of care could you afford before/after getting your child care subsidy? (Question asked for each child.)	
Type of Care	Whether the type of arrangements currently used for child care were formal or informal. Formal options: a child care center (includes churches, community centers, Head Start, pre-K, Before/After school Program, and child care centers run at place of	Please tell me all child care arrangements you use for each child on a regular basis, that is, at least once a week for the last two weeks. Starting with your youngest child, what child care arrangements have you used in the last two weeks? (Options incorporate all types of care listed in conceptual definition provided.	What type(s) of arrangement(s) are you using now? If more than one arrangement, what is your primary arrangement? By primary, I mean the arrangement where (child) spends the most time.

Variable	Conceptual Definition	How measured	
		Wait List Study	**Fragile Families**
	employment), a family day care provider, extracurricular activities (i.e. sports teams, after school clubs/lessons), babysitters (non-relatives in the child's home). Informal options: a (non-spouse) relative/non-custodial parent in your/their home, parental care while at work, spouse/partner care, self-care, sibling care, maternal care.	Parents were able to choose multiple types of care.)	
Desire to Switch Care (Wait List only)	Whether or not a parent would switch child care arrangements if no constraints were imposed on her.	Assuming you could have any type or combination of care arrangements you wanted for your children, would you prefer some other type or combination of care instead of what you have now? Why would you like to change (child)'s care? What changes would you make to your child's child care arrangements?	
Child Care Problems [a]	The presence of events in which the provider got ill, had personal problems or closed early and consequently the parent had to find alternative child care arrangements.	How often have you experienced a situation like your provider getting ill or having personal problems, or the child care facility being closed in which you needed to find an alternative to your regular child care	Approximately how many times in the past month did you have to make special arrangements because your child care fell through?

Variable	Conceptual Definition	How measured	
		Wait List Study	**Fragile Families**
		arrangement?	
Child Care-Related Work Disruptions (Missed Work/Made Alternative Child Care Arrangements) [a]	The presence of events in which the unreliability of the child care provider resulted in the parent having to change work hours, take their child to work with them, leave child with an alternative child care arrangement, leave child home alone, miss a day at work, be late for work or leave work early.	Parents sometimes experience times when they have to find different child care arrangements from the ones they usually use. In the last three months did you experience situations such as your provider getting ill or having personal problems, or the child care facility being closed that made you: a) change your work hours? b) take your child to work with you? c) leave child with a friend/ relative? d) leave child at home alone? In the last three months, as a result of a problem with your child care arrangement (for example the problems we were just discussing), a) Were you late to work? b) Did you leave work early? c) Did you miss a day of work? d) Was your spouse/ partner late to work? e) Did your spouse/partner leave work early? f) Did your spouse/partner miss a day of work?	[Only asked if participant reported experiencing a child care problem.] How many times in the last month did you miss work or school because your child care arrangement fell through?
Control Variables			
Non-Traditional Work Hours (Fragile Families only)	Whether or not the parent worked evenings/nights (after 6 p.m.) or weekends.	Are your work hours usually standard (8 a.m. to 6 p.m. Monday through Friday), non-standard	Do you sometimes work evenings (6 p.m. to 11 p.m.), nights (11 p.m. to 7

Variable	Conceptual Definition	How measured	
		Wait List Study	Fragile Families
		(nights/weekends), or do they change? If work hours change, how often?	a.m.), weekends, different times each week?
Child's Age	The child's chronological age in years.	Starting with the youngest, how old is each person in the household?	What is (child)'s birthday? (month, year)
Mother's Education (Fragile Families only)	Mothers' highest achieved grade/degree from school.	What is your highest degree from school or a vocational education program?	What programming or schooling have you completed?
Mother's Race (Fragile Families only)	Mothers' self-reported race.	Mother's self-reported race was obtained from the county child care office's administrative records.	Which of these categories best describes your race?
Number of Children Aged 13 or Under in Care (Wait List only)	Number of children living in the household and related to the mother by birth, adoption, or marriage who are thirteen years old or younger and are not in parent/self/sibling care as their primary care arrangement.	Calculated from the child care arrangement questions.	
Household Income (Fragile Families only)	Income from all members of the household.	Administrative data received from county (gross income from all household members).	Now, please think of your household income from all sources. Include not just your own income, but the income of everyone living with you. What was your total household income last year before taxes?

Variable	Conceptual Definition	How measured	
		Wait List Study	Fragile Families
Number of Adults in the Household (Fragile Families only)	Number of persons over the age of 18 in the household.	For each person in household, what is their relationship to you? What is their age?	For each person in household, what is their relationship to you? What is their age?
Maternal Depressive Symptoms (Fragile Families only)	Mother meets the criteria for having experienced a major depressive episode in the last twelve months, or is currently being medicated for depression.		Mental Health Scale for Depression: 15 item scale based on the Composite International Diagnostic Interview. Coded via instructions from the Fragile Families website.
Multiple Child Care Arrangements (Fragile Families only)	More than one child care arrangement is used to care for focal child.	Please tell me all the child care arrangements you use for each child on a regular basis, that is, at least once a week for the last two weeks.	If more than one child care arrangement, which is your primary? By primary, I mean the arrangement where the child spends the most time.
Maternal Work Hours (Fragile Families only)	Number of hours mother usually works per week.	How many hours a week do you work?	How many hours do you usually work per week at this/that job?
Mother in School (Fragile Families only)	Mother is currently enrolled in school.	Are you currently going to school?	Are you currently attending any school or participating in any training programs or taking any classes? Please include regular high school, GED classes, vocational or

Variable	Conceptual Definition	How measured	
		Wait List Study	**Fragile Families**
			trade school, Job Corps, college or other types of school as well as training programs to learn job skills.
Other Help in Paying for Child Care (Fragile Families only)	Mother is currently receiving help for paying for child care from a source other than the governmental child care subsidy.		Does any person or any agency give you money, a voucher, or a scholarship to help pay for child care? Who gives you the money or voucher or scholarship? (government agency is one response option)

Note. [a] The conceptual definition is not precisely reflected in these questions because of limitations in the availability of variables in the Fragile Families study. A number of control variables were excluded from the Wait List multivariate analyses, including maternal education and marital status, due to the small sample size of this dataset.

Sources of Survey Questions and Application to Comparable Populations

As can be seen in Table 3, a number of the questions used in the Wait List study[27] were taken from other well-known surveys used with comparable populations. A review of these surveys and their samples follows.

[27] Documentation on the source of survey questions used by the Fragile Families study is available online at http://www.fragilefamilies.princeton.edu/surveys/Fragile%20Families%20One-Year%20Scales%20Documentation%20-jk%20092905.pdf

Table 3. Source of Survey Questions for Wait List Study

Variable	Source of Survey Question
Out-of-Pocket Cost of Child Care	National Child Care Survey of 1990
Child's Age	National Child Care Survey of 1990
Mother's Education	Philadelphia Survey of Child Care and Work
Type of Care	National Child Care Survey of 1990
Desire to Change Child Care Arrangements	National Child Care Survey of 1990 Philadelphia Survey of Child Care and Work
Child Care-Related Work Disturbances	Index created using survey questions from: National Child Care Survey of 1990 Philadelphia Survey of Child Care and Work Women's Employment Study

The surveys in Table 3: National Child Care Survey (NCCS) of 1990, Philadelphia Survey of Child Care and Work, and Women's Employment Study (WES) were all conducted on samples similar in demographics to the sample in the current study. The NCCS was conducted on a nationally representative sample of U.S. families with children under thirteen. An analysis of low-income families in this study through the Low-Income Sub-Study of the NCCS was conducted. The parents in this sub-study had a similar income to the majority of families in the Fragile Families sample and were primarily single mothers (Brayfield et al., 1993). The parents in the low-income sub-study differed from those in the current study in that a higher proportion of African American parents are in the current study (Brayfield et al., 1993). The Philadelphia Survey of Child Care and Work was administered to parents living in low, medium, and

high poverty neighborhoods of Philadelphia. The parents in this study were similar to the current study sample in terms of income, education, racial diversity, maternal age, and labor force participation rate (Press, 2003). Finally, the WES was administered to current and former welfare recipients living in an urban county of Michigan. The respondents of this survey were similar in demographics to the current study sample in terms of age and race. Additionally, the subset of the WES sample that was wage-reliant was similar in income and labor force participation rates to the sample in the current study (Michigan Program on Poverty and Social Welfare Policy, 2004).

Psychometric Properties

No psychometric properties are available for most of the variables in this study because the straightforward nature of the concepts (i.e. maternal education, child's age, type of care) allowed for measurement through single questions rather than indexes or scales. An index was used to measure child care-related work disturbances in the Wait List study. This index had an acceptable measure of reliability (alpha=.778) (Nunnally, 1978).

Analysis

This section presents the analysis plan for this study, including the basic analytical models tested, how data were coded for analysis, and what analyses were conducted. Strengths and limitations of the analysis plan are also presented.

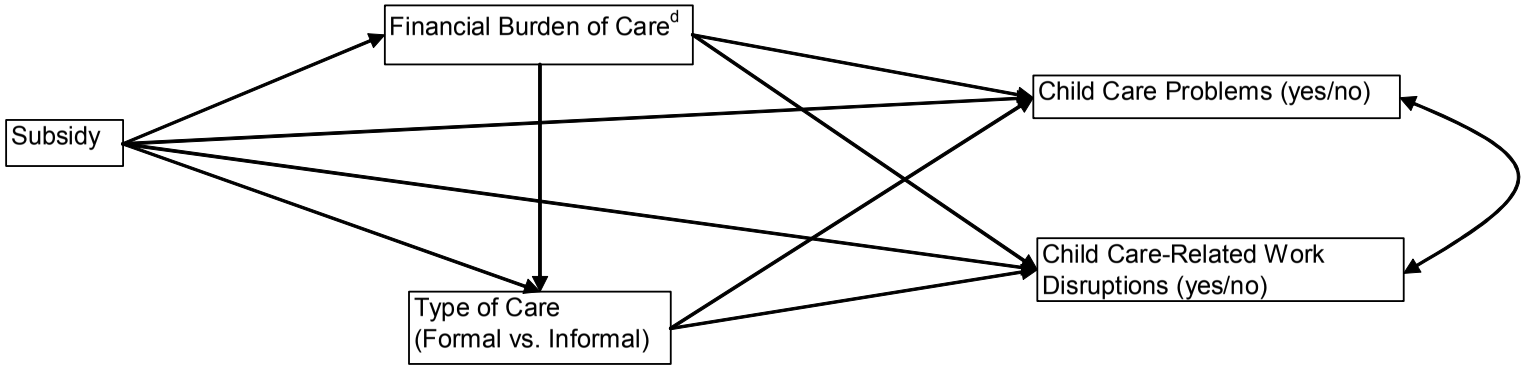
Static Model

Descriptive and bivariate statistics including means and t-values comparing participants with and without a child care subsidy are presented for each sample. The primary analyses in this study were conducted using multivariate analyses and path

analysis. Descriptive statistics and the static path model shown in Figure 2 were used on each sample and in a comparison[28] of the Wait List and Fragile Families samples. Due to the availability of the perceived affordability of formal care and parents' desire to switch care variables in the Wait List study only, the path model in Figure 3 was tested in the Wait List sample only. The path models in Figures 2 and 3 include direct effects between child care subsidy status and the dependent variables (child care problems, child care-related work disruptions, and desire to switch care), indirect effects between the child care subsidy status variable and the dependent variables through financial burden/perceived affordability of formal care and type of care, a direct effect between financial burden/perceived affordability of formal care and type of care, and a correlation between child care problems and child care-related work disruptions.

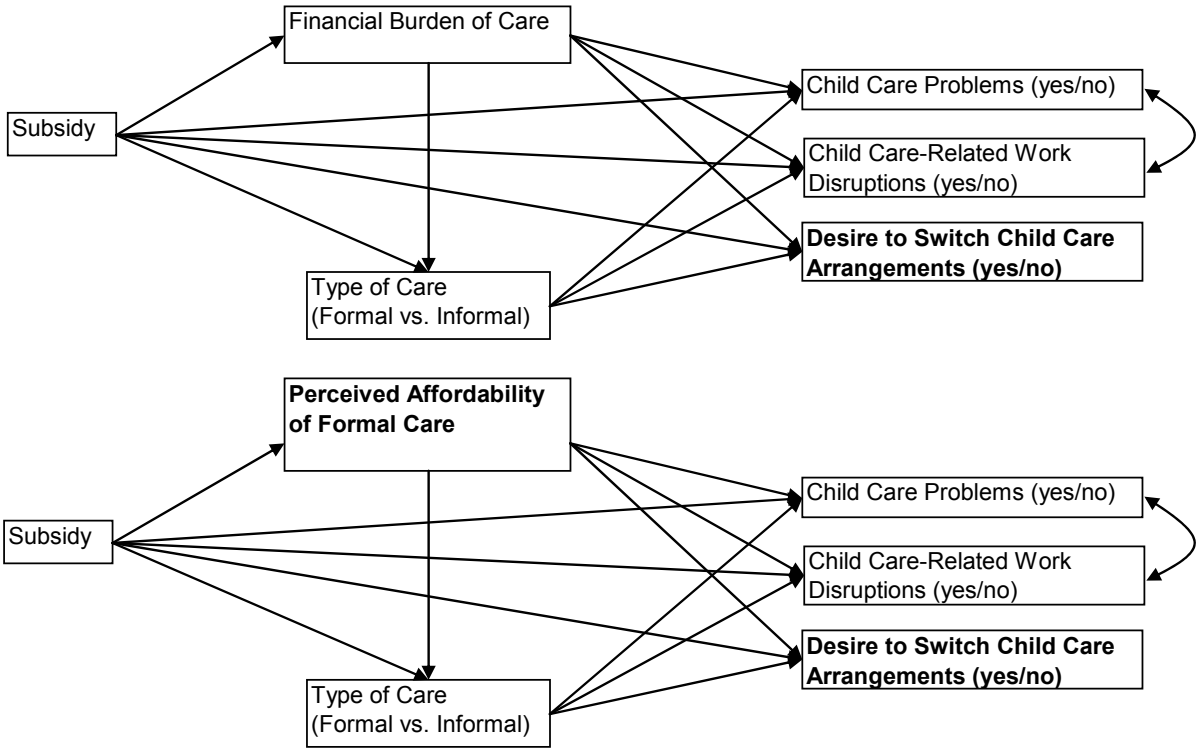
[28] In the comparison path model, control variables were limited to number of children aged thirteen or under in non-parent/sibling/self care and focal child's age.

Figure 2. Static Path Model (Basic Model)



Note. [a] Controls were included in all paths. [b]These controls were used in analyses with the Wait List study data. [c] These controls were used in analyses with the Fragile Families and Child Well-Being study data. [d] Financial burden of care is a ratio of out-of-pocket cost of care per child/household income.

Figure 3. Additions to Path Models (Wait List data only)



Controls[a]:
Focal Child's Age[bc], Number of Children Aged 13 or Under in Care[b], Number of Adults in the Household[c], Household Income[c], Maternal Race[c], Maternal Education[c], Maternal Work Hours[c], Mother in School[c], Mother Works Non-Traditional Hours[c], Maternal Depressive Symptoms[c], Multiple Child Care Arrangements[c], Help in Paying for Care from Sources Other than Governemental Child Care Subsidy[c]

Note. [a] Controls were included in all paths. [b]These controls were used in analyses with the Wait List study data. [c] These controls were used in analyses with the Fragile Families and Child Well-Being study data.

Change Model

Due to sample size issues in the Fragile Families data, the change model was only analyzed with the Wait List data. Descriptive and bivariate statistics including means and t-values comparing the same participants across time points are presented for this sample. Additionally, multivariate analyses in which a) change scores on the dependent variables are regressed on the change in child care subsidy, and b) a series of tests for

mediation among change variables are reported.[29] It is worthy of mention that the design of the Wait List change dataset allows for analyses over varying intervals ranging from one month to three months. No adjustments were made to compensate for this difference in interval.

Variables

The variables for both the static and change analyses are coded as delineated in Table 4 unless otherwise specified.

Table 4. Variable Coding

Variable	Static Model	Change Model (Change from Time 1 to Time 2)
Child Care Subsidy	0= Not Currently Receiving Subsidy 1= Currently Receiving Subsidy	0=No Change in Child Care Subsidy Status from No Subsidy at Time 1 to Subsidy at Time 2 (Omitted) 1= Change in Child Care Subsidy Status from No Subsidy at Time 1 to Subsidy at Time 2
Financial Burden	Out-of-Pocket Child Care Costs Per Child/ Household Income	Difference between Out-of-Pocket Child Care Per Child/ Household Income (T2 – T1)
Perceived Affordability of Formal Care (Wait List only)	0= Parent Perceives Formal Care as Unaffordable 1= Parent Perceives Formal Care as Affordable	0=No Change from Perceiving Formal Care as Unaffordable at Time 1 to Perceiving Formal Care as Affordable at Time 2 (Omitted) 1= Change from Perceiving Formal Care as Unaffordable at Time 1 to Perceiving Formal care as Affordable at Time 2 (Omitted)
Type of Care [a] (Primary Arrangement)	0= Informal Care 1= Formal Care	0=No Change from Using Informal Care at Time 1 to Using Formal Care at Time 2

[29] Due to the small sample size and conservative nature of the change analyses, no path model was conducted on the change data. An attrition analysis was conducted. The methodology and results from this analysis are reported in Chapter 6.

		(Omitted) 1= Change from Using Informal Care at Time 1 to Using Formal Care at Time 2 (Omitted)
Desire to Switch Child Care Arrangements [b] (Wait List only)	0= Parent Does Not Desire to Switch Child Care Arrangements 1= Parent Desires to Switch Child Care Arrangements	0=No Change from Desiring to Switch Child Care Arrangements at Time 1 to Not Desiring to Switch Child Care Arrangements at Time 2 (Omitted) 1= Change from Desiring to Switch Child Care Arrangements at Time 1 to Not Desiring to Switch Child Care Arrangements at Time 2
Child Care Problems [b]	0= No Child Care Problems Reported 1= At Least One Child Care Problem Reported Continuous Variable (Fragile Families only)=Number of Child Care Problems Experienced in the Last Month	0=No Change from Experiencing Child Care Problems at Time 1 to Not Experiencing Child Care Problems at Time 2 (Omitted) 1= Change from Experiencing Child Care Problems at Time 1 to Not Experiencing Child Care Problems at Time 2 Continuous Variable (Wait List only)=Difference Between Number of Child Care Problems (T2-T1)
Child Care-Related Work Disruptions [bc]	0= No Child Care-Related Work Disruption Reported 1= At Least One Child Care-Related Work Disruption Reported Continuous Variable (Fragile Families only)=Number of Child Care-Related Work Disruption Experienced in the Last Month	0=No Change from Experiencing Child Care-Related Work Disruptions at Time 1 to Not Experiencing Child Care-Related Work Disruptions at Time 2 (Omitted) 1= Change from Experiencing Child Care-Related Work Disruptions at Time 1 to Not Experiencing Child Care-Related Work Disruptions at Time 2

		Continuous Variable (Wait List only)=Difference Between Number of Child Care-Related Work Disruptions (T2-T1)
Control Variables		
Maternal Work During Non-Traditional Hours (Fragile Families only)	0= No Work 6 p.m. to 7 a.m. Weekdays or Any Hours on Weekends 1= At Least Some Work During Evenings/Nights (6 p.m. to 7 a.m.)/Weekends	
Child's Age	Wait List: Continous (in Years) Fragile Families: 0=About 1 Year Old 1=About 3 Years Old	
Maternal Education (Fragile Families only)	Dummy Variables: Less than high school (Omitted), High School/GED/Vocational School, Associates/Bachelors	
Maternal Race (Fragile Families only)	Dummy Variables: (non-Hispanic, non-Black as Omitted), African American, Hispanic	
Number of Children Aged 13 or Under in Care (Wait List only)	Continuous	
Household Income (Fragile Families only)	Continuous Measure of Income Per Month (Logged)	
Number of Adults in the Household (Fragile Families only)	Continuous	
Maternal Depressive Symptoms (Fragile Families only)	0= Did Not Meet Criteria for Major Depressive Episode and Is Not Currently on Medication for Depression 1= Did Meet Criteria for Major Depressive Episode or Is Currently on Medication for Depression	
Multiple Child Care Arrangements	0= No Multiple Child Care Arrangements Used for	

(Fragile Families only)	Child 1= Multiple Child Care Arrangements Used for Child	
Maternal Work Hours (Fragile Families only)	Continuous Hours Per Week	
Mother in School (Fragile Families only)	0= Not Currently in School 1= Currently in School	
Other Help in Paying for Child Care (Fragile Families only)	0= Not Receiving Other Help in Paying for Child Care 1= Receiving Other Help in Paying for Child Care	

[a] Formal arrangements included: child care centers, family day care providers, pre-kindergarten programs, Head Start, before and after school programs. Informal care included care provided by friends or family members.
[b] Each of these variables were coded "2" for the attrition analysis if the parent attrited over the course of the study. [c] The only child care-related work disturbance examined in analyses for the Fragile Families sample is absenteeism from work.

Tests of Research Questions

Research question 1: Are families who are currently receiving a child care subsidy less likely to experience child care problems, child care-related work disruptions and a desire to switch child care arrangements compared to families who are not currently receiving a subsidy? Additionally, are the relationships between child care subsidies and child care problems, child care-related work disruptions, and a desire to switch care mediated by parents' perceived affordability of formal care, the financial burden of care, the type of care used, or a combination of these variables?

The first hypothesis of this research question (hypothesis 1a) states that parents with a child care subsidy will be less likely to report child care problems, child care-related work disruptions, and a desire to switch child care arrangements than parents who do not have a subsidy. Before engaging in comparative statistics and running regression models, a correlation matrix was reviewed (see Appendices B and C). This hypothesis was then tested with bivariate statistics, comparing families receiving and not receiving child care subsidies on measures of child care problems, child care-related work disruptions, and parents' desire to switch child care arrangements. Next, ordinary least

squares, ordinal logit, and logistic regressions[30] in which each of the dependent variables was regressed on child care subsidy status and the control variables were used.

The second and third hypotheses (hypothesis 1b/c), which state the relationships between child care subsidy receipt and child care problems/child care-related work disruptions/parents' desire to switch care arrangements are mediated by the financial burden/perceived affordability of formal care/type of care used and the combined effects of the financial burden/perceived affordability of formal care and type of care used were tested using bivariate comparisons and multivariate analyses. T-tests were conducted in which each of the proposed mediating variables (financial burden/perceived affordability of formal care and type of care) was separated into two groups (based on median scores and dummy variable categories) and used as independent variables to test differences in child care problems, child care-related work disruptions, and parents' desire to switch care arrangements. Ordinary least square, ordinal logit, and logistic regressions[31] of the dependent variables on each/all of the mediating variables were then run. Next, hierarchical models were analyzed in the following stages: 1) dependent variables regressed on child care subsidy status and control variables and 2) dependent variables regressed on proposed mediating variables (one at a time, then together), child care subsidy status, and control variables. The hierarchial models were conducted to examine

[30] In the statistical analysis of Wait List data, ordinary least squares regressions were used for all multivariate analyses, even with dichotomous dependent variables. This action was taken because, due to the small sample size for this study, some of the coefficients using logistic regression were unstable. The choice to use ordinary least squares regressions is acceptable due to the distribution of the dependent variables (see Tabachnick & Fidell, 2001). Fragile Families data was analyzed using ordinal logit regression (due to the non-normal distribution of data) logistic regressions. See Appendix E for Wait List results using logistic regressions.

[31] With the Fragile Families data, ordinal logit regressions and logistic regressions were used, with the Wait List data, ordinary least squares regressions were used (see previous note).

whether a decline in the effect of child care subsidy on the dependent variables occurred when the proposed mediator was added as a predictor.

Finally, path models (See Figures 2 and 3), including control variables determined to have an effect on each path, were analyzed to test direct effects between child care subsidy status and the dependent variables and indirect effects between child care subsidy status and the dependent variables through the proposed mediators. In this path model, the dependent variables (child care problems, child care-related work disruptions, and desire to switch care arrangements) were regressed on child care subsidy status and, separately, on the proposed mediators (financial burden, perceived affordability of formal care, and type of care); the proposed mediators (financial burden, perceived affordability of formal care, and type of care) were regressed on child care subsidy status; type of care was regressed on financial burden/perceived affordability of formal care; and child care problems was correlated with child care-related work disruptions. In each regression listed above, variables hypothesized to affect the path were controlled.

Research Question 2: Does a change from not receiving a child care subsidy to receiving a child care subsidy for the same family over time lessen the number of child care problems and child care-related work disruptions a parent experiences and reduce that parent's desire to switch child care arrangements? Additionally, are these relationships between change in child care subsidy status and changes in child care problems, child care-related work disruptions, and desire to switch care mediated by changes in parents' perceived affordability of formal care, financial burden of care, type of care used, or a combination of these variables?[32]

The first hypothesis of this research question (hypothesis 2a) states that parents who were not receiving a child care subsidy at Time 1 and who were receiving a child

[32] The second research question was tested solely using the Wait List data. Due to sample selection criteria necessary for use with the Fragile Families sample, the sample size for change analyses using this sample would have been 118, with 24 parents changing subsidy status and 94 parents not making this change. Due to the small sample size, the Fragile Families sample was dropped from analyses of this research question.

care subsidy at Time 2 will report a decrease in child care problems, child care-related work disruptions, and a desire to switch care from Time 1 to Time 2. Before testing this hypothesis a correlation matrix with change scores (i.e. categorical variables signifying the presence of a change between time points and continuous values reflecting the difference in scores between time points) was reviewed (see Appendix D). Bivariate analyses using dependent t-tests and chi-square statistics comparing parents at each time point on the variables of child care problems, child care-related work disruptions, and desire to switch child care arrangements were then analyzed. Finally, multivariate analyses using logistic and ordinal logit regressions were analyzed using change in child care subsidy status as the predictor and categorical change/difference scores for each of the dependent variables (for variable coding, see Table 4).

The second and third hypotheses (hypotheses 2b/c) state the relationship between a change in child care subsidy status and the decline of child care problems, child care-related work disruptions, and desire to switch child care arrangements between time points is mediated by a change in financial burden/perceived affordability of formal care/type of care and the combined effects of a change in financial burden/perceived affordability of formal care and type of care between time points. These hypotheses were tested through multivariate analyses. Ordinal logits and logistic regressions were used to regress the change scores (see Table 4) of each of the dependent variables on the change scores of proposed mediating variables. Following this analysis, hierarchical regression models using variables' difference and categorical change scores between two time points were run as: 1) change in dependent variables regressed on the change in child

care subsidy status variable and 2) change in dependent variables regressed on change in proposed mediating variables and the change in child care subsidy status variable.

Unit of Analysis

The unit of analysis for this study was the family. For the Wait List study, though the family was the unit of analysis, separate analyses were run using 1) the youngest child in the family as the focal child and 2) the oldest child eligible to receive a child care subsidy (up to age 13) as the focal child. These separate analyses allowed for examination of how the relationships between variables differ when children of various ages are considered. In the Fragile Families study, the family was the unit of analysis with the sole child in the household serving as the focal child.

Variations from the Base Model with Wait List Data Only

Compared to the Fragile Families data, the Wait List data offer more variables of interest. For this reason, variations on the basic path model using only the Wait List data were analyzed. These variations included substituting perceived affordability of formal care for the financial burden of care variable and adding the dependent variable of parents' desire to switch care arrangements.

First, the basic path model was tested substituting perceived affordability of formal care for the financial burden of care. In this analysis, the perceived affordability of formal care variable was coded as a binary variable in the static and change models (See Table 4 for coding). Second, the dependent variable of desire to switch care arrangements was included as a dependent variable (See Figure 1 for path depiction). The desire to switch care arrangements variable was coded as a binary variable for both the static and change models (See Table 4 for coding).

Strengths and Limitations of Analyses

The study's analysis plan has a number of unique strengths and limitations. The first strength of the analysis plan results from using two demographically similar samples. Having similar samples allows for a reliable replication of the research models, greater power in analyses (because of the larger sample size of the Fragile Families data), and more generalizable results. The second strength of the analysis plan results from the use of a pre-/post-research design. Because of the Wait List study's collection of data both before and after families received a child care subsidy, the temporal condition necessary for establishing causality was met. As was previously mentioned, this research design is unprecedented in research studies on the impact of CCDF child care subsidies on parents' ability to maintain employment. The third strength of the analysis plan is the accuracy of subsidy information in the Wait List study, which was gathered through administrative data.

The limitations of the analysis plan result from a few restrictions in the data. First, both datasets in the current study have short time periods for the survey questions addressing child care problems and child care-related work disturbances. Second, the time frames for these survey questions differ. The Fragile Families study asks about the prevalence of child care problems and child care-related work disturbances for the previous month and the Wait List study asks for the last three months. Though providing parents a short and recent time period may maximize the reliability of information, it is likely that parents will not have experienced as many problems/disturbances as they would have if the time period were longer. Additionally, ideal comparison of each dataset would use the same time frame in measuring the dependent variable. Third, a

limited supply of questions in the Fragile Families survey constrains the researchers' ability to conduct ideal analyses. For example, the question on child care-related work disturbances in the Fragile Families data does not reflect the full scope of the variable from the Wait List data. Additionally, because the out-of-pocket cost and child care subsidy questions in the Fragile Families study were worded to include all children in the family and the type of care and use of multiple arrangements questions asked about one focal child only, analyses including families with more than one child in the household were not possible. Finally, neither dataset offers indicators of child care quality or job tenure. Child care quality would have been helpful because it is a key variable that affects parental choice of child care providers. Additionally, job tenure would have allowed for an analysis of the effect of child care problems, child care-related work disruptions, and parents' desire to switch child care arrangements on a relevant employment outcome.

Chapter 4: Results of Wait List Study Cross-Sectional Analyses

Demographic Characteristics

Family Characteristics

The majority of study participants in the Wait List sample were single (90%). Their mean annual household income was $27,853 for the non-subsidy group and $27,822 for the subsidy group. These incomes translated into an average percent poverty of 167% FPL and 174% FPL, respectively. No families were above 311% of the poverty threshold. Families in each group had an average of about two children aged thirteen or younger in the household. These children ranged in age from five months to thirteen years. Few participants lived with other adults, with the number of other adults in the household ranging from 0 to 2 (M=.44).

Multivariate analyses of the Wait List data were broken into two groups, one using the youngest child in the family as the focal child and the other using the oldest child eligible to receive a subsidy (i.e. 13 years of age or younger) as the focal child. The choice to disaggregate in this way is justified by an interest of the researcher to a) compare the results from the Wait List data to results involving young children (aged approximately 1 and 3 years) in the Fragile Families data, and b) disaggregate the findings by age to the degree possible using data from multiple children in the family. Differences in results between the youngest and oldest focal children and explanations for those differences are provided in the discussion chapter (Chapter 8). The average age of the youngest and oldest focal children in both the subsidy and non-subsidy groups for this study were four and six, respectively.

Creation of the Data File

For the static model of the Wait List study, a pooled analysis sample was created from four subgroups. In the first wave of data, all families (N=40) were asked about their current experiences, either on the wait list or while receiving a subsidy. Retrospective data were also collected from those families in the first wave who were currently receiving a subsidy (N=22) to explore their experiences immediately before receiving a subsidy (i.e. while on the wait list for a subsidy). In the second wave, all interviewed families (N=28) were asked about their current experiences. Additionally, families (N=8) who reported having a subsidy and losing it in the time between the first and second round of interviews were asked to provide data on the time in which they were receiving a subsidy. The subsamples described above were combined into one data file yielding 98 observations. In this pooled dataset, families may have between one and four observations depending upon whether they participated in both waves and whether they provided retrospective data. Among the 98 observations, 54 were about a time in which the participant did not have a child care subsidy and 44 were about a time in which the participant did have a child care subsidy. For ease of interpretation, observations are referred to as parents/families from this point onward[33].

Characteristics of the Sample

Table 5 provides means and results of t-tests comparing the subsidy and no subsidy groups of this pooled sample on a number of characteristics including: marital status, living arrangements, maternal education, maternal work and school participation, children in the household, and assistance with child care. The subsidy and no subsidy

[33] All multivariate analyses were run with a clustering variable to account for the fact that some had multiple observations.

groups were similar. Household composition, maternal schooling, employment, and child care assistance were the only areas in which significant differences between these groups were found. Parents not receiving a child care subsidy had more adults living in the household than parents receiving a child care subsidy. Parents receiving a subsidy were more likely to be in school and to be going to school part-time compared to parents not receiving a subsidy. Additionally, there was a trend ($p < .10$) in which parents receiving a subsidy were more likely to have more than one job than parents not receiving a subsidy. Finally, parents not receiving a subsidy were more likely to be receiving help from sources not listed in this study compared to parents receiving a subsidy. Among parents who received a child care subsidy, the average amount of subsidy was $466 per month. The range in amount of child care subsidy was from $33 to $1,593 per month.

Table 5. Wait List Group Differences on Demographics and Other Characteristics

Variable	No Subsidy (N=54)	Subsidy (N=44)	t-value	sig.
	Mean	Mean		
Household Income	27853	27822	0.01	
Percent Poverty	166.54	173.83	-0.55	
Single	0.889	0.955	-1.23	
Number of Other Adults in the Household	0.353	0.127	1.980	*
Living Arrangements				
Rents	0.796	0.886	-1.2	
Owns	0.074	0.068	0.11	
Lives with friends/family	0.111	0.046	1.23	
Temporary Housing	0.019	0.000	1	
Length of Time in Residence	2.580	2.240	0.63	
Race				
Hispanic	0.130	0.136	-0.100	
Black	0.519	0.500	0.180	
Non-Hispanic, Non-Black	0.278	0.273	0.060	
Mother's Education				
H.S./GED	0.370	0.318	0.54	
Some college/vocational	0.500	0.568	-0.67	
Bachelors degree/more	0.130	0.114	0.24	
Employment/Student Status				
Mother in School	0.111	0.364	-2.97	***
Mother's School Schedule				
Part-time	0.056	0.250	-2.66	**
Full-time	0.056	0.114	-1.01	
Degree Studying For				
GED	0.000	0.000	NA	
Associates/Vocational Training	0.204	0.318	-1.29	
Bachelors	0.093	0.046	0.9	
Mother's Employment Status	0.944	0.955	-0.22	
Length of Time in Current Job (in months)	2.635	4.845	-1.16	
Non-Traditional Work Hours	0.426	0.409	0.17	
Number of Jobs				
No jobs	0.074	0.068	0.11	
One job	0.870	0.750	1.53	
More than one job	0.056	0.182	-1.89	†
Work Hours	35.972	35.125	0.34	
Work and School Hours[b]	37.639	39.898	-0.87	
Children				
Number of Children	2.093	2.068	0.1	
Number of Children under 13	1.963	1.886	0.38	
Number of Children in Care aged 13/Under	1.500	1.705	-1.17	
Youngest Child's Age	3.664	3.924	-0.72	
Oldest[a] Child's Age	6.645	6.849	-0.31	
Child Care				
Has Help Paying for Child Care	0.648	1.000	-5.36	***
Sources of Help				
Child and Dependent Care Tax Credit	0.444	0.605	-1.57	
Child care provider	0.222	0.186	0.43	
Foundation	0.019	0.047	-0.75	
Relative	0.130	0.070	0.96	
Non-custodial parent[c]	0.019	0.000	1	
Other help	0.056	0.000	1.77	†

Note. As this sample was pooled over time points, the same parents may be counted more than once. [a] Oldest child eligible for a subsidy (13 or under). [b] 10 hours were added for part-time school enrollment, 20 hours for full-time school enrollment. [c] Non-custodial parent assistance does not include child support.

† $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$, two-tailed t-tests

Table 6 provides means and t-test results comparing parents receiving and not receiving a child care subsidy on the dependent variables. Areas of interest in this table include child care choices, perceptions of availability and affordability of care, out-of-pocket costs of care, parents' desire to change care, and the use of unreliable or low quality care. A number of significant differences among the groups were found through these comparisons.

First, with regard to type of care, families without a subsidy reported using more relative care and less formal care for their youngest children than those with a subsidy. Perceptions of availability and affordability among families with and without subsidies were the same in comparisons of the youngest and oldest focal children.[34] In both comparisons, families receiving a subsidy were more likely to perceive formal care as available (able to be found and accessed) and affordable than families not receiving a subsidy. Unsurprisingly, parents not receiving a subsidy had higher out-of-pocket costs of care and a higher financial burden of child care (both per child and for all children in the family) compared to parents who had a subsidy.

[34] Seventy-six percent of family day care providers and 81% of child care centers accepted child care subsidies in the state in which the Wait List data were collected (Maryland Child Care Resource Network, 2007). No rates for the county in which the study was conducted were available.

Table 6. Wait List Group Differences on Child Care Variables

Variable	No Subsidy (N=54) Mean	Subsidy (N=44) Mean	t-value	sig.
Child Care				
Child Care Youngest Child				
Type of Care				
Center	0.444	0.568	-1.22	
FDCP	0.315	0.341	-0.27	
Relative	0.111	0.023	1.7	*
Parent/sibling/self[a]	0.130	0.068	1.02	
Formal care	0.759	0.909	-2.04	*
Multiple Arrangements	0.222	0.318	-1.07	
Perceived Availability				
Formal care	0.889	0.977	-1.81	*
Informal care	0.352	0.250	1.08	
Perceived Affordability				
Formal care	0.685	0.955	-3.78	***
Informal care	0.482	0.568	-0.85	
Child Care Oldest[b] Child				
Type of Care				
Center	0.463	0.614	-1.49	
FDCP	0.278	0.250	0.31	
Relative	0.111	0.046	1.18	
Parent/sibling/self[a]	0.148	0.091	0.85	
Formal care	0.741	0.864	-1.500	
Multiple Arrangements	0.222	0.318	-1.07	
Perceived Availability				
Formal care	0.889	1.000	-2.57	**
Informal care	0.333	0.227	1.15	
Perceived Affordability				
Formal care	0.667	0.955	-3.99	***
Informal care	0.482	0.568	-0.85	
Child Care All Children				
Out of Pocket Cost	535.43	379.72	1.91	*
Out of Pocket Cost/Child (Average)	351.14	253.14	1.87	*
Financial Burden of Child Care For All Children[c]	0.257	0.162	2.6	**
Financial Burden of Care Per Child[c]	0.184	0.114	2.38	*
At Least One Child in Arrangement Didn't Like	0.167	0.146	0.27	
At Least One Child in Unreliable Care Arrangement	0.111	0.073	0.62	
At Least One Child in Low-Quality Arrangement	0.185	0.098	1.19	

Note. As this sample was pooled over time points, the same parents may be counted more than once. [a] Because child care subsidy status was a family-level variable, it is possible for a focal child in the subsidy group to use parent/sibling/self-care. This focal child was not the child whose care was paid for by the subsidy. [b] Oldest child eligible for a subsidy (13 or under).

[c] Financial Burden of Child Care=Monthly Out of Pocket Cost/Monthly Household Income

† p ≤ .10, * p ≤ .05, ** p ≤ .01, *** p ≤ .001, one-tailed t-tests.

Control Variables

Two control variables were selected for inclusion in multivariate analyses of the Wait List cross-sectional data. These variables are the focal child's age and the number children aged thirteen or under living in the household and in child care (non-parent/sibling/self-care). The focal child's age was selected because of its potential impact on the type of child care chosen. It is established in the literature that parents tend to use informal care for infants and toddlers and formal care for older children (Huston et al., 2002; Mulligan et al., 2005; Sonenstein et al., 2002). Number of children aged thirteen or under in care was selected as a control because of its potential effect on parents' experiences of child care problems and child care-related work disruptions (having more children in care increases the parents' risk of exposure to these outcomes), and the amount of resources available to the family (more children in care can cause more financial drain), which can in turn affect type of care chosen. These two control variables were significantly correlated with the proposed mediators and at least one dependent variable (see Appendix B). Due to the small sample size in this study, other controls were tested in regression models and omitted because they had no significant association with the dependent variables. These control variables included: maternal education, household income, whether mothers worked during non-traditional hours, and type of child care subsidy (CCDF/county administered).

Hypothesis 1a: Impact of Child Care Subsidies

Bivariate Results

Hypothesis 1a of this study examines whether families receiving a child care subsidy are less likely to experience child care problems, child-care related work

disruptions, and a desire to switch care compared to families without a child care subsidy. The first test of this hypothesis uses t-tests to compare parents receiving and not receiving a child care subsidy on each of the dependent variables. As shown in Table 7, parents not receiving a subsidy had a greater probability of experiencing at least one child care problem and child care-related work disruption over the last three months compared to parents receiving a subsidy. Additionally, there was a tendency ($p < .10$) for parents not receiving a subsidy to report a greater number of child care problems than parents receiving a subsidy. Finally, with regards to the type of child care-related work disruptions experienced, parents not receiving a subsidy were significantly more likely than those with a subsidy to report leaving work early, changing their work hours, leaving their child with friends or family, or leaving their child home alone.

There was no difference among parents receiving or not receiving a subsidy in desire to switch child care arrangements for their youngest child. However, among those parents who did desire to change their child care arrangements for their youngest child, a difference in reason for wanting to switch care by subsidy status was found. Specifically, parents receiving a subsidy wanted more convenience compared to those not receiving a subsidy. No difference was found among parents receiving or not receiving a subsidy in desire to switch child care arrangements for their oldest child. However, reasons for wanting to switch care for oldest focal children varied by subsidy status. Parents who were receiving a subsidy wanted more convenience and parents who were not receiving a subsidy wanted better learning opportunities and a less expensive provider.

Table 7. Wait List Group Differences on Measures of Child Care Problems, Child Care-Related Work Disruptions, and Desire to Switch Care

Variable	No Subsidy (N=54)	Subsidy (N=44)	t-value	sig.
	Mean	Mean		
Proportion that Experienced Child Care Problems	0.296	0.114	2.31	**
Number of Child Care Problems	0.519	0.227	1.47	†
Proportion that Experienced Child Care-Related Employment Disruptions	0.407	0.182	2.46	**
Type of Child Care-Related Work Disruptions				
Arrived at work late	0.148	0.068	1.29	
Left work early	0.130	0.023	2.08	*
Missed work	0.074	0.046	0.58	
Changed work hours	0.185	0.046	2.25	*
Took child with work	0.056	0.046	0.22	
Had to leave child with friends/family	0.148	0.023	2.33	*
Had to leave child home alone	0.037	0.000	1.43	†
Youngest Child				
Desire to Change Care	0.500	0.463	0.35	
Reason for Desiring Change				
Safety	0.000	0.000	NA	
Preference	0.056	0.023	0.85	
Quality	0.037	0.023	0.41	
Convenience	0.074	0.205	-1.83	*
Culture	0.000	0.000	NA	
Learning opportunities	0.167	0.091	1.1	
Dissatisfied but unable to afford other care	0.019	0.023	-0.15	
Provider too expensive	0.167	0.091	1.1	
Oldest[a] Child				
Desire to Change Care	0.463	0.366	0.94	
Reason for Desiring Change				
Safety	0.000	0.000	NA	
Preference	0.056	0.023	0.85	
Quality	0.037	0.023	0.41	
Convenience	0.056	0.159	-1.62	†
Culture	0.000	0.000	NA	
Learning opportunities	0.148	0.068	1.29	†
Dissatisfied but unable to afford other care	0.000	0.000	NA	
Provider too expensive	0.148	0.068	1.29	†

Note. As this sample was pooled over time points, the same parents may be counted more than once. Time frame for child care problems and child care-related work disruptions is three months. [a] Oldest child eligible for a subsidy (13 or under).

† $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$, one-tailed t-tests.

Multivariate Results- Regressing Dependent Variables on Child Care Subsidy

The next test of this hypothesis takes control variables into account through the use of linear regression models.[35] Each regression model was executed two ways: 1) with subsidy as the predictor and the youngest focal child's age as well as the number of children aged thirteen or under in care as controls (i.e. youngest child as focal child), and 2) with subsidy as the predictor and the oldest focal child's age as well as the number of children aged thirteen or under in care as controls (i.e. oldest child as focal child).

Child care problems and child care-related work disruptions. The first regression models (see Table 8) were fit to dichotomous measures of child care problems and child care-related work disruptions (whether or not one experienced a child care problem/child care-related work disruption over the last three months).[36] The receipt of a subsidy was found to be predictive of whether one experienced a child care problem or child care-related work disruption. Families who received a subsidy were 19-20% less likely to experience a child care problem compared to families without a subsidy depending upon which focal child was analyzed. With regards to child care-related work disruptions, parents receiving a subsidy were 24% less likely to experience a child care-related work disruption regardless of which focal child was analyzed.

[35] Though most of the dependent variables in regression analyses within this chapter were measured dichotomously, results from ordinary least squares regressions were reported here. This is because, due to the small sample size, logistic regressions sometimes resulted in unstable coefficients. Logistic regressions provided similar results for most of the regressions in this chapter and the distribution of all dependent variables in this chapter are sufficient for use with ordinary least squares regression (see Tabachnick & Fidell, 2001). See Appendix E for results from logistic regressions.

[36] Due to the small sample size and non-normal distribution of the continuous measures of child care problems and child care-related work disruptions, only dichotomous measures of these variables are included in multivariate analyses within this chapter.

Table 8. Wait List Regressions of Child Care Problems and Child Care-Related Work Disruptions on Child Care Subsidy

	Child Care Problems (Yes/No)				Child Care-Related Work Disruptions (Yes/No)			
	Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]	
	B	sig.	B	sig.	B	sig.	B	sig.
Subsidy	-0.191	**	-0.195	**	-0.236	**	-0.236	**
	(0.074)		(0.074)		(0.086)		(0.084)	
Child's Age (Youngest)	-0.007				0.004			
	(0.029)				(0.028)			
Child's Age (Oldest)[a]			-0.011				-0.003	
			(0.017)				(0.016)	
Children Aged 13 or Under In Care	0.049		0.069		0.048		0.053	
	(0.044)		(0.056)		(0.049)		(0.059)	
Constant	0.25		0.263	*	0.322	*	0.347	**
	(0.176)		(0.134)		(0.160)		(0.116)	
R^2	0.06		0.06		0.07		0.07	
N	98		98		98		98	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$

To get an idea of the type of child care-related work disruptions parents experienced, a model in which missing a full or part day of work was predicted as compared to parents' use of alternative child care arrangements (see Table 9). Only parents who reported experiencing child care-related work disruptions were included in this analysis so the sample size was very small (N=30). According to these regression models, receiving a child care subsidy was not a significant predictor of whether one missed a part/full day of work as compared to making alternative child care arrangements. Due to the small sample size and lack of statistically significant relationships between type of child care-related work disruptions and either the child care subsidy variable or the proposed mediating variables (See Appendix B for correlation

matrix), additional analyses on type of child care-related work disruptions are not reported.

Table 9. Wait List Regression of Type of Child Care-Related Work Disruption on Child Care Subsidy

Missed Part/Full Day Modeled, Alternative Arrangements as Omitted

	Youngest Child		Oldest Child[a]	
	B	sig.	B	sig.
Subsidy	-0.052		-0.031	
	(0.198)		(0.228)	
Child's Age (Youngest)	-0.101	**		
	(0.038)*			
Child's Age (Oldest)[a]			-0.033	
			(0.036)	
Children Aged 13 or Under In Care	-0.128		-0.111	
	(0.108)		(0.124)	
Constant	1.273	***	1.087	***
	(0.183)		(0.220)	
R^2	0.25		0.15	
N	30		30	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Desire to switch care. The final set of regression models for this hypothesis (see Table 10) tested the effect of having a child care subsidy on parents' desire to switch their child care arrangements. Receiving a subsidy was not found to be a significant predictor of parents' desire to switch care according to these models for either the youngest or oldest focal child.

Table 10. Wait List Regression of Desire to Switch Care on Child Care Subsidy

Desire to Switch Care (Yes/No)				
	Youngest Child		Oldest Child[a]	
	B	sig.	B	sig.
Subsidy	-0.053		-0.121	
	(0.127)		(0.132)	
Child's Age (Youngest)	-0.047			
	(0.037)			
Child's Age (Oldest)[a]			-0.018	
			(0.020)	
Children Aged 13 or Under In Care	0.126	**	0.108	*
	(0.049)		(0.064)	
Constant	0.485	**	0.42	**
	(0.183)		(0.148)	
R^2	0.08		0.04	
N	95		95	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Hypothesis 1b/c: Role of Perceived Affordability of Formal Care, Financial Burden[37] *and Type of Care as Mediators*

Bivariate Results

Hypotheses 1b/c of this study examines whether parents' perceived affordability of formal care, the financial burden of care (out-of-pocket cost of care per child/household income), and type of care used (formal vs. informal) mediate the relationship between having a child care subsidy and parents' experience of child care problems, child-care related work disruptions, and a desire to switch care. Before using multivariate methods to test this hypothesis, families were split into two levels for each of the proposed mediating variables and compared on the dependent variables of child care

[37] Financial burden refers to the financial burden per child in all analyses of hypotheses 1b/c.

problems, child care-related work disruptions, and a desire to switch care through t-tests. These t-tests results were consistent with the multivariate analyses of hypothesis 1b/c, which are reported next.

Multivariate Results- Regressing Proposed Mediators on Child Care Subsidy

To further explore the relationships between the proposed mediators (perceived affordability of formal care, financial burden, and type of care), the independent variable (child care subsidy status), and the dependent variables (child care problems, child care-related work disruptions, and desire to switch care), a series of multivariate analyses were run in accordance with criteria for mediation set forth by Baron and Kenny (1986). According to Baron and Kenny (1986), in order for mediation to occur, four conditions must be true. First, the independent variable must be a significant predictor of the dependent variable. Second, the independent variable must be a significant predictor of the proposed mediator. Third, the proposed mediator must be a significant predictor of the dependent variable. Fourth, in a regression of the dependent variable on the independent variable, when the proposed mediator is added as a predictor the regression coefficient of the independent variable must decrease in magnitude.

As child care subsidy status was shown to be a significant predictor of child care problems and child care-related work disruptions in the last section, the next test of mediation was to regress each of the proposed mediators on the child care subsidy variable. Receiving a child care subsidy was found to be a significant predictor of all three proposed mediators (financial burden, perceived affordability of formal care, and type of care) (see Table 11). Using either child as the focal child, parents without a subsidy were predicted to have a financial burden 7% higher than that of parents with a

child care subsidy. Receiving a subsidy was also a strong predictor of perceived affordability of formal care. Depending upon which focal child was used, parents with a subsidy were 26-28% more likely to perceive formal care as affordable compared to parents without a subsidy. Finally, receiving a subsidy was a significant predictor of using formal care for the youngest focal child only. Parents who were receiving a subsidy were 14% more likely to use formal care for their youngest child compared to parents who were not currently receiving a subsidy.

Table 11. Wait List Regressions of Proposed Mediators on Child Care Subsidy

	Financial Burden Youngest		Financial Burden Oldest[a]		Perceived Affordability Youngest		Perceived Affordability Oldest[a]		Formal vs. Informal Care Youngest		Formal vs. Informal Care Oldest[a]	
	B	sig.	B	sig.	B	sig.	B	sig.	B	sig.	B	sig.
Subsidy	-0.066	*	-0.065	**	0.255	***	0.278	***	0.139	**	0.106	
	(0.030)		(0.026)		(0.070)		(0.070)		(0.056)		(0.070)	
Child's Age (Youngest)	0.012				0.022				0.036			
	(0.011)				(0.023)				(0.032)			
Child's Age (Oldest)[a]			-0.016	***			-0.001				-0.074	***
			(0.005)				(0.014)				(0.015)	
Children Aged 13 or Under In Care	-0.035	*	-0.007		0.043		0.05		0.008		0.155	*
	(0.018)		(0.019)		(0.035)		(0.042)		(0.098)		(0.083)	
Constant	0.194	***	0.301	***	0.538	***	0.598	***	0.614	**	1.002	***
	(0.056)		(0.037)		(0.130)		(0.109)		(0.256)		(0.149)	
R^2	0.11		0.18		0.13		0.14		0.07		0.29	
N	98		98		98		98		98		98	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Multivariate Results- Regressing Dependent Variables on Proposed Mediators

The next set of tests for mediation regressed each of the dependent variables on each of the proposed mediators and then on two combinations of the proposed mediators.

Financial burden. Using the youngest focal child, financial burden was a significant predictor of desire to switch care (see Table 12). Regressions predicted if a family had gone from paying none of their income on child care to paying 100% of their income on child care, they would have been 44% less likely to desire to switch their child care arrangement for their youngest child once their financial burden was increased. Financial burden was not a significant predictor of any of the other dependent variables in analyses of the youngest focal child. Additionally, in analyses of the oldest focal child financial burden was not a significant predictor of any of the dependent variables.

Table 12. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions and Desire to Switch Care on Financial Burden

	Child Care Problems (Yes/No)				Child Care-Related Work Disruptions (Yes/No)				Desire to Switch Care (Yes/No)			
	Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]	
	B	sig.	B	sig.	B	sig.	B	sig.	B	sig.	B	sig.
Financial Burden	0.318		0.269		0.091		0.086		-0.443	*	-0.326	
	(0.323)		(0.339)		(0.372)		(0.378)		(0.258)		(0.262)	
Child's Age (Youngest)	-0.015				-0.003				-0.045			
	(0.029)				(0.029)				(0.040)			
Child's Age (Oldest)[a]			-0.005				0				-0.022	
			(0.017)				(0.016)				(0.022)	
Children Aged 13 or Under In Care	0.048		0.057		0.035		0.035		0.103	*	0.092	
	(0.049)		(0.057)		(0.057)		(0.062)		(0.048)		(0.064)	
Constant	0.145		0.119				0.247		0.557	**	0.472	**
	(0.193)		(0.155)				(0.180)		(0.179)		(0.179)	
R^2	0.02		0.02		0		0		0.1		0.03	
N	98		98		98		98		95		95	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$

Perceived affordability of formal care. In analyses with both focal children, perceived affordability of formal care was a significant predictor of parents' desire to switch care (see Table 13). Depending upon which focal child was analyzed, parents who perceived formal care as affordable were 32-34% less likely to want to switch care arrangements for that child compared to parents who did not perceive formal care as affordable. Perceived affordability of formal care was not a significant predictor of any other dependent variables for either focal child.

Table 13. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions, and Desire to Switch Care on Perceived Affordability of Formal Care

	Child Care Problems (Yes/No)				Child Care-Related Work Disruptions (Yes/No)				Desire to Switch Care (Yes/No)			
	Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]	
	B	sig.	B	sig.	B	sig.	B	sig.	B	sig.	B	sig.
Perceived Affordability Formal Care	0.001		0.006		0.047		0.062		-0.337	**	-0.322	**
	(0.116)		(0.113)		(0.110)		(0.105)		(0.136)		(0.137)	
Child's Age (Youngest)	-0.011				-0.003				-0.039			
	(0.029)				(0.029)				(0.035)			
Child's Age (Oldest)[a]			-0.01				-0.001				-0.018	
			(0.017)				(0.016)				(0.018)	
Children Aged 13 or Under In Care	0.035		0.053		0.028		0.03		0.144	**	0.122	*
	(0.046)		(0.056)		(0.052)		(0.060)		(0.050)		(0.060)	
Constant	0.201		0.189		0.234		0.219	*	0.669	***	0.601	***
	(0.200)		(0.159)		(0.170)		(0.128)		(0.166)		(0.162)	
R^2	0.01		0.01		0		0.01		0.15		0.09	
N	98		98		98		98		98		98	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Type of care (formal vs. informal). Parents' use of formal care was a significant predictor of both child care problems and child care-related work disruptions (see Table 14). The effect between type of care and child care problems was detected in analyses of the oldest focal children only. Parents who used formal care for their oldest child (up to age 13) were 29% less likely to experience a child care problem than parents who used informal care for their oldest child (up to age 13). Whether parents used formal care was a significant predictor of child care-related work disruptions regardless of which focal child was used. Depending on which focal

child was used, parents who used formal care were 21-26% less likely to experience a child care-related work disruption compared to parents using informal care.

Table 14. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions, and Desire to Switch Care on Type of Care

	Child Care Problems (Yes/No)				Child Care-Related Work Disruptions (Yes/No)				Desire to Switch Care (Yes/No)			
	Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]	
	B	sig.	B	sig.	B	sig.	B	sig.	B	sig.	B	sig.
Formal Care	-0.093		-0.29	*	-0.207	*	-0.263	*	-0.218		-0.184	
	(0.135)		(0.147)		(0.120)		(0.134)		(0.139)		(0.160)	
Child's Age (Youngest)	-0.008				0.007				-0.041			
	(0.028)				(0.028)				(0.039)			
Child's Age (Oldest)[a]			-0.031				-0.021				-0.03	
			(0.019)				(0.018)				(0.027)	
Children Aged 13 or Under In Care	0.037		0.101	*	0.035		0.077		0.124	*	0.125	*
	(0.042)		(0.053)		(0.050)		(0.060)		(0.056)		(0.070)	
Constant	0.262		0.495	**	0.397	**	0.536	**	0.621	***	0.572	**
	(0.208)		(0.214)		(0.170)		(0.188)		(0.178)		(0.246)	
R^2	0.02		0.07		0.03		0.04		0.10		0.04	
N	98		98		98		98		95		95	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13). * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Combinations of proposed mediators. A final set of regression models was run in which the dependent variables were regressed on two combinations of the proposed mediators. In order to split the effects of financial burden of care and perceived affordability of formal care, which are in separate path models, financial burden and type of care were analyzed together and perceived affordability of formal care and type of care were analyzed together (See Table 15). With type of care controlled, financial burden was not a significant predictor of any of the dependent variables and perceived affordability was a significant predictor of parents' desire to switch care only. The effect of perceived affordability of formal care on parents' desire to switch care was slightly weaker with type of care controlled compared to without this control.

With type of care controlled, parents who perceived formal care to be affordable were 30-32%[38] less likely (depending upon which focal child was analyzed) to desire to switch care than parents who perceived formal care to be unaffordable. Type of care was a significant predictor of child care-related work disruptions for both focal children when either financial burden or perceived affordability of formal care was controlled. Additionally, type of care was a significant predictor of child care problems for the oldest focal children when financial burden/perceived affordability of formal care was controlled. The coefficients for the type of care variable were stronger with financial burden/perceived affordability of formal care controlled compared to when they were not controlled.

[38] compared to 32-34% less likely when type of care was not controlled

Table 15. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions, and Desire to Switch Care on Combinations of Mediators

	Financial Burden											
	Child Care Problems (Yes/No)		Child Care-Related Work Disruptions (Yes/No)		Desire to Switch Care (Yes/No)		Child Care Problems (Yes/No)		Child Care-Related Work Disruptions (Yes/No)		Desire to Switch Care (Yes/No)	
	Youngest Child	Oldest Child[a]	Youngest Child	Oldest Child[a]	Youngest Child	Oldest Child[a]	Youngest Child	Oldest Child[a]	Youngest Child	Oldest Child[a]	Youngest Child	Oldest Child[a]
	B sig.	B sig	B sig.	B sig.	B sig.	B sig.	B sig.	B sig.	B sig.	B sig.	B sig.	B sig.
Financial Burden	0.429	0.386	0.274	0.189	-0.312	-0.264						
	(0.337)	(0.349)	(0.348)	(0.379)	(0.281)	(0.267)						
Perceived Affordability							0.009	0.057	0.066	0.111	-0.32 **	-0.303 *
							(0.108)	(0.087)	(0.104)	(0.103)	(0.138)	(0.138)
Formal Care	-0.146	-0.316 *	-0.241 *	-0.276 *	-0.18	-0.166	-0.094	-0.303 *	-0.213 *	-0.289 *	-0.183	-0.111
	(0.145)	(0.141)	(0.121)	(0.135)	(0.149)	(0.169)	(0.134)	(0.147)	(0.120)	(0.136)	(0.130)	(0.154)
Child's Age (Youngest)	-0.01		0.005		-0.039		-0.008		0.005		-0.032	
	(0.027)		(0.028)		(0.040)		(0.028)		(0.028)		(0.037)	
Child's Age (Oldest)[a]		-0.027		-0.019		-0.033		-0.032		-0.023		-0.026
		(0.019)		(0.018)		(0.027)		(0.020)		(0.018)		(0.024)
Children Aged 13 or Under In Care	0.055	0.109 *	0.046	0.081	0.111 *	0.119 *	0.036	0.099 *	0.031	0.073	0.146 **	0.138 *
	(0.043)	(0.054)	(0.054)	(0.061)	(0.056)	(0.071)	(0.043)	(0.055)	(0.049)	(0.061)	(0.055)	(0.063)
Constant	0.22	0.414 *	0.371 *	0.496 **	0.653 ***	0.627 **	0.257	0.469 *	0.362 *	0.485 **	0.781 ***	0.702 **
	(0.206)	(0.225)	(0.180)	(0.212)	(0.181)	(0.258)	(0.231)	(0.230)	(0.179)	(0.188)	(0.169)	(0.235)
R^2	0.04	0.09	0.04	0.05	0.11	0.04	0.02	0.07	0.03	0.05	0.17	0.1
N	98	98	98	98	95	95	98	98	98	98	95	95

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Multivariate Results- Regressing Dependent Variables on Child Care Subsidy and Proposed Mediators

A third set of regressions testing for mediation effects among the financial burden, perceived affordability of formal care, and type of care variables were run in steps. In the first step, the dependent variable was regressed on child care subsidy. In the second step, the proposed mediator was added to the model as a predictor so that changes in the child care subsidy coefficient with the additional predictor could be examined.

The first three conditions of mediation require a) the independent variable to significantly predict the dependent variable, b) the proposed mediator to significantly predict the dependent variable, and c) the proposed mediator be predicted to a statistically significant level by the independent variable (Baron & Kenny, 1986). Since these conditions were only met in the relationships among child care subsidy status, type of care, and child care-related work disruptions in analyses of the youngest focal children, mediation effects through type of care and combinations of proposed mediators including type of care among youngest focal children are the only proposed mediation effects evaluated in this section.

A table of regressions testing type of care as a mediator and two models including combinations of proposed mediators[39] are reported below. In these regressions, the presence of mediation is evaluated by reviewing whether the child care subsidy coefficient decreases with the addition of the proposed mediator(s). Standardized beta coefficients, in addition to unstandardized coefficients are reported in the tables of combined mediation effects.

[39] 1) financial burden with type of care and 2) perceived affordability of formal care with type of care

Type of care. As shown in Table 16, the magnitude of the child care subsidy coefficient decreased in each model in which type of care was introduced as a predictor (i.e. each model 2). This suggests type of care had some mediation effects (accounted for some of the predictive effect of child care subsidy status) on each of the dependent variables. As the first, second, and third criteria of Baron and Kenny's (1986) tests for mediation were only satisfied in the relationships between child care subsidy status and child care-related work disruptions through type of care among the youngest focal child, the model including these variables is the only model in which significant mediation occurs[40]. Among youngest focal children, the amount of variation in child care-related work disruptions explained by the child care subsidy variable decreased 9% when type of care was added.

[40] According to Baron and Kenny (1986), when a study has a small sample size, a decrease in the magnitude of the independent variable's regression coefficient when the proposed mediators are added to the model, along with meeting the other criteria for mediation, is sufficient for concluding that mediation occurred.

Table 16. Wait List Regressions of the Dependent Variables on Child Care Subsidy and Type of Care

	Child Care Problems (Yes/No)				Child Care-Related Employment Problems (Yes/No)				Desire to Switch Care (Yes/No)			
	Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	B	B	B	B	B	B	B	B	B	B	B	B
Subsidy	-0.191 **	-0.184 **	-0.195 **	-0.168 *	-0.236 **	-0.215 **	-0.236 **	-0.213 **	-0.053	-0.02	-0.121	-0.102
	(0.074)	(0.069)	(0.074)	(0.075)	(0.086)	(0.086)	(0.084)	(0.086)	(0.127)	(0.134)	(0.132)	(0.133)
Child's Age (Youngest)	-0.007	-0.005			0.004	0.009			-0.047	-0.041		
	(0.029)	(0.029)			(0.028)	(0.028)			(0.037)	(0.039)		
Child's Age (Oldest)[a]			-0.011	-0.029			-0.003	-0.019			-0.018	-0.029
			(0.017)	(0.019)			(0.016)	(0.018)			(0.020)	(0.026)
Children Aged 13 or Under In Care	0.049	0.049	0.069	0.108 *	0.048	0.049	0.053	0.086	0.126 **	0.126 *	0.108 *	0.132 *
	(0.044)	(0.043)	(0.056)	(0.053)	(0.049)	(0.048)	(0.059)	(0.057)	(0.049)	(0.057)	(0.064)	(0.071)
Formal Care		-0.048		-0.253 *		-0.155		-0.216		-0.213		-0.16
		(0.132)		(0.145)		(0.116)		(0.132)		(0.145)		(0.154)
Constant	0.25	0.279	0.263 *	0.517 **	0.322 *	0.417 **	0.347 **	0.563 **	0.485 **	0.621 ***	0.42 **	0.579 **
	(0.176)	(0.213)	(0.134)	(0.208)	(0.160)	(0.173)	(0.116)	(0.186)	(0.183)	(0.178)	(0.148)	(0.240)
R^2	0.06	0.06	0.06	0.11	0.07	0.08	0.07	0.09	0.08	0.1	0.04	0.05
N	98	98	98	98	98	98	98	98	95	95	95	95

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$

Combinations of proposed mediators. As was done with the regressions of the dependent variables on the proposed mediators, regressions of the dependent variables on child care subsidy status and combinations of the proposed mediators were broken down into two sets of regressions with: 1) financial burden and type of care, and 2) perceived affordability of formal care and type of care. Table 17, which features the regressions including financial burden and type of care as controls, displays a decrease in the magnitude of the child care subsidy coefficient when the proposed mediators were added for every model (except desire to switch care among oldest focal children).

As a reminder, the only significant mediation effect found thus far was in the analysis of youngest focal children in the relationship between child care subsidy and child care-related work disruption through type of care. Though financial burden does not meet Baron and Kenny's (1986) criteria for being a mediator, it does magnify this significant mediation effect. Among youngest focal children, the variance in child care-related work disruptions explained by child care subsidy status decreased 12% when both type of care and financial burden were added to the regression (compared to 9% when type of care alone was added). With child care problems and parents' desire to switch care (youngest focal child), there was a decrease in the variance explained by child care subsidy status when type of care and financial burden were added, but it could not be attributed to any significant mediation effect because a) child care subsidy status was not a significant predictor of type of care among oldest focal children, and b) child care subsidy status was not a significant predictor of parents' desire to switch care.

Table 18 displays results from regressions of the dependent variables on child care subsidy status and both perceived affordability of formal care and type of care. In

this series of regressions, when perceived affordability of formal care and type of care were added to the regressions of child care problems and child care-related work disruptions, the child care subsidy status coefficient increased, suggesting a suppression effect between child care subsidy status and both child care problems and child care-related work disruptions through perceived affordability of formal care and type of care. Given the finding that type of care had mediation effects on each of the dependent variables (significant only in the case of child care-related work disruptions with the youngest focal child), it is likely that the suppressive effects of perceived affordability of formal care[41] combined with the mediation effects of type of care on child care problems and child care-related work disruptions resulted in a net suppressive effect.

The addition of the perceived affordability of formal care and type of care variables to the regression of child care subsidy status on parents' desire to switch care resulted in a reduction of the child care subsidy status coefficient. Because child care subsidy status was not a significant predictor of desire to switch care, this effect can not be considered a significant mediation effect. Reasons for differences in the effects of financial burden and perceived affordability of formal care on the dependent variables are discussed in Chapter 8.

[41] The assumption that perceived affordability of formal care had a suppressive effect on these relationships is based on regression results not reported in this chapter, in which perceived affordability was shown to be a suppressor.

Table 17. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions and Desire to Switch Care on Child Care Subsidy, Financial Burden, and Type of Care

	Child Care Problems (Yes/No)							
	Youngest Child				Oldest Child[a]			
	(1)		(2)		(1)		(2)	
	B	β	B	β	B	β	B	β
Subsidy	-0.191**	-0.231**	-0.161*	-0.195*	-0.195**	-0.236**	-0.149*	-0.18*
	(0.074)		(0.074)		(0.074)		(0.084)	
Child's Age (Youngest)	-0.007	-0.031	-0.007	-0.031				
	(0.029)		(0.028)					
Child's Age (Oldest)[a]					-0.011	-0.083	-0.027	-0.21
					(0.017)		(0.019)	
Children Aged 13 or Under In Care	0.049	0.101	0.059	0.123	0.069	0.143	0.113*	0.235*
	(0.044)		(0.043)		(0.056)		(0.052)	
Financial Burden of Care			0.271	0.103			0.258	0.098
			(0.362)				(0.375)	
Formal Care			-0.087	-0.081			-0.274*	-0.269*
			(0.145)				(0.142)	
Constant	0.25		0.251		0.263*		0.46*	
	(0.176)		(0.214)		(0.134)		(0.225)	
R^2	0.06		0.07		0.06		0.12	
N	98		98		98		98	
	Child Care-Related Work Disruptions (Yes/No)							
	Youngest Child				Oldest Child[a]			
	(1)		(2)		(1)		(2)	
	B	β	B	β	B	β	B	β
Subsidy	-0.236**	-0.255**	-0.209*	-0.225*	-0.236**	-0.255**	-0.212**	-0.229**
	(0.086)		(0.095)		(0.084)		(0.093)	
Child's Age (Youngest)	0.004	0.014	0.009	0.034				
	(0.028)		(0.028)					
Child's Age (Oldest)[a]					-0.003	-0.02	-0.019	-0.132
					(0.016)		(0.018)	
Children Aged 13 or Under In Care	0.048	0.089	0.052	0.096	0.053	0.098	0.086	0.16
	(0.049)		(0.052)		(0.059)		(0.058)	
Financial Burden of Care			0.069	0.023			0.006	0.002
			(0.378)				(0.394)	
Formal Care			-0.165	-0.135			-0.217	-0.189
			(0.118)				(0.132)	
Constant	0.322*		0.41*		0.347**		0.562**	
	(0.160)		(0.185)		(0.116)		(0.211)	
R^2	0.07		0.08		0.07		0.09	
N	98		98		98		98	
	Desire to Switch Care (Yes/No)							
	Youngest Child				Oldest Child[a]			
	(1)		(2)		(1)		(2)	
	B	β	B	β	B	β	B	β
Subsidy	-0.053	-0.053	-0.051	-0.051	-0.121	-0.121	-0.129	-0.13
	(0.127)		(0.138)		(0.132)		(0.137)	
Child's Age (Youngest)	-0.047	-0.169	-0.038	-0.136				
	(0.037)		(0.041)					
Child's Age (Oldest)[a]					-0.018	-0.119	-0.033	-0.218
					(0.020)		(0.026)	
Children Aged 13 or Under In Care	0.126**	0.217**	0.113*	0.195*	0.108*	0.189*	0.124*	0.217*
	(0.049)		(0.055)		(0.064)		(0.072)	
Financial Burden of Care			-0.361	-0.113			-0.372	-0.118
			(0.295)				(0.284)	
Formal Care			-0.16	-0.12			-0.128	-0.103
			(0.158)				(0.163)	
Constant	0.485**		0.658***		0.42**		0.659**	
	(0.183)		(0.180)		(0.148)		(0.259)	
R^2	0.08		0.11		0.04		0.06	
N	95		95		95		95	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$

Table 18. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions, and Desire to Switch Care on Child Care Subsidy, Perceived Affordability of Formal Care, and Type of Care

	Child Care Problems (Yes/No)							
	Youngest Child				Oldest Child[a]			
	(1)		(2)		(1)		(2)	
	B	β	B	β	B	β	B	β
Subsidy	-0.191**	-0.231**	-0.206**	-0.250**	-0.195**	-0.236**	-0.204*	-0.247*
	(0.074)		(0.080)		(0.074)		(0.087)	
Child's Age (Youngest)	-0.007	-0.031	-0.007	-.031				
	(0.029)		(0.029)					
Child's Age (Oldest)[a]					-0.011	-0.083	-0.031	-0.244
					(0.017)		(0.020)	
Children Aged 13 or Under In Care	0.049	0.101	0.045	0.094	0.069	0.143	0.105*	0.218*
	(0.044)		(0.043)		(0.056)		(0.055)	
Perceived Affordability of Formal Care			0.09	0.087			0.14	0.137
			(0.123)				(0.101)	
Formal Care			-0.051	-0.047			-0.277*	-0.272*
			(0.134)				(0.148)	
Constant	0.25		0.233		0.263*		0.457*	
	(0.176)		(0.233)		(0.134)		(0.227)	
R^2	0.06		0.07		0.06		0.12	
N	98		98		98		98	
	Child Care-Related Work Disruptions (Yes/No)							
	Youngest Child				Oldest Child[a]			
	(1)		(2)		(1)		(2)	
	B	β	B	β	B	β	B	β
Subsidy	-0.236**	-0.255**	-0.256**	-0.277**	-0.236**	-0.255**	-0.270**	-0.291**
	(0.086)		(0.097)		(0.084)		(0.096)	
Child's Age (Youngest)	0.004	0.014	0.006	0.022				
	(0.028)		(0.028)					
Child's Age (Oldest)[a]					-0.003	-0.02	-0.021	-0.15
					(0.016)		(0.017)	
Children Aged 13 or Under In Care	0.048	0.089	0.042	0.078	0.053	0.098	0.081	0.15
	(0.049)		(0.048)		(0.059)		(0.059)	
Perceived Affordability of Formal Care			0.166	0.142			0.22*	0.192*
			(0.110)				(0.106)	
Formal Care			-0.161	-0.132			-0.254*	-0.222*
			(0.115)				(0.129)	
Constant	0.322*		0.332*		0.347**		0.47**	
	(0.160)		(0.174)		(0.116)		(0.179)	
R^2	0.07		0.1		0.07		0.12	
N	98		98		98		98	
	Desire to Switch Care (Yes/No)							
	Youngest Child				Oldest Child[a]			
	(1)		(2)		(1)		(2)	
	B	β	B	β	B	β	B	β
Subsidy	-0.053	-0.053	0.062	0.062	-0.121	-0.121	-0.029	-0.029
	(0.127)		(0.127)		(0.132)		(0.132)	
Child's Age (Youngest)	-0.047	-0.169	-0.033	-0.117				
	(0.037)		(0.037)					
Child's Age (Oldest)[a]					-0.018	-0.119	-0.026	-0.172
					(0.020)		(0.024)	
Children Aged 13 or Under In Care	0.126**	0.217**	0.142**	0.245**	0.108*	0.189*	0.139*	.243*
	(0.049)		(0.057)		(0.064)		(0.064)	
Perceived Affordability of Formal Care			-0.342**	-.274**			-0.292*	-.241*
			(0.133)				(0.140)	
Formal Care			-0.198	-0.148			-0.107	-.086
			(0.135)				(0.153)	
Constant	0.485**		0.792***		0.42**		0.7**	
	(0.183)		(0.170)		(0.148)		(0.233)	
R^2	0.08		0.17		0.04		0.1	
N	95		95		95		95	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$

Path Models

As a final examination of the relationships between the independent, proposed mediating, and dependent variables, path models were analyzed. All paths in the path models included the focal child's age and number of children aged thirteen or under in care as controls. Path models are a pictorial display of the direct effects of the independent variable and proposed mediating variables on the dependent variables[42]. These direct effects control for all variables in the model thought to influence them. From direct effects, indirect effects through the proposed mediators were calculated by multiplying the path coefficients of the paths involved in each indirect effect. Separate path models were run to assess path values with 1) financial burden and type of care as intervening variables, and 2) perceived affordability of formal care and type of care as intervening variables. Path models were also run separately for the youngest and oldest focal child. Depictions of the path models with standardized path values are shown in Figures 4-7.

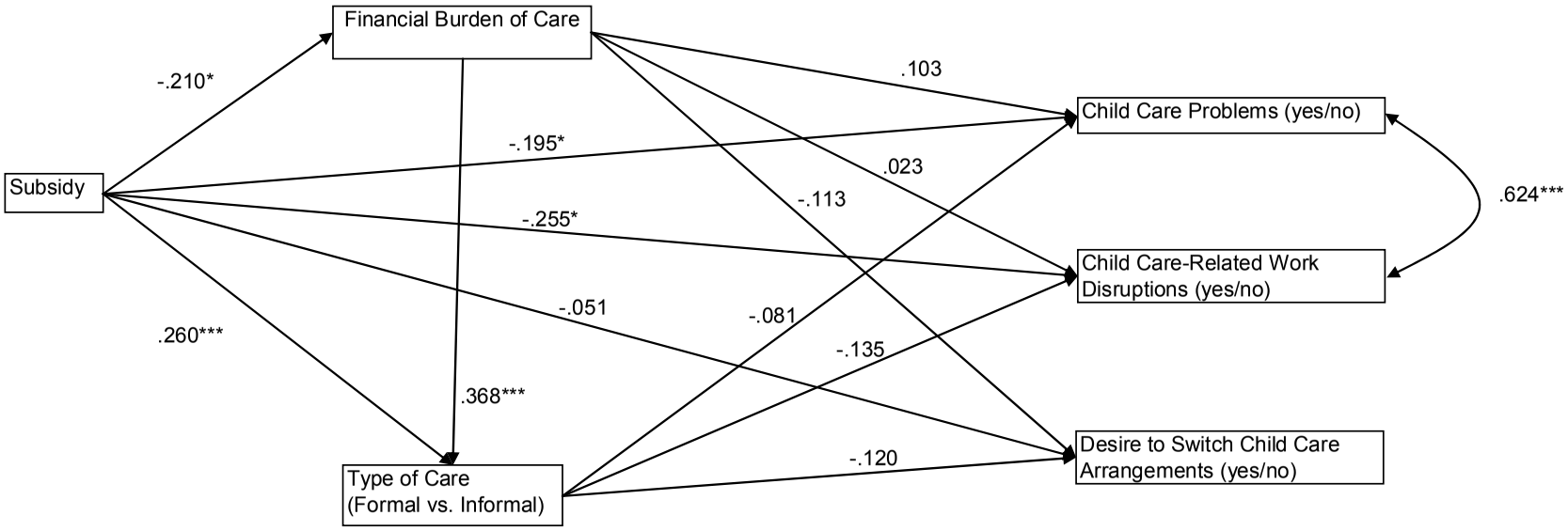
Path model with financial burden. As shown in Figures 4 and 5, the relationship between child care subsidy status and financial burden was statistically significant. Among both focal children, receiving a child care subsidy was predictive of having a lower financial burden. Receipt of a child care subsidy was also a significant predictor of whether parents experienced child care problems or child care-related work disruptions. For both focal children, not receiving a subsidy was predictive of experiencing at least one child care problem and child care-related work disruption. Child care subsidy status was not found to significantly predict parents' desire to switch care. Finally, for both

[42] Direct paths were calculated through ordinary least squares regressions.

focal children, child care subsidy status was a significant predictor of type of care. Parents with a child care subsidy were significantly more likely to use formal care for both youngest and oldest focal children than parents without a child care subsidy.

For both focal children, financial burden was a significant predictor of parents' use of formal care with parents who spent a greater proportion of their income on child care being more likely to use formal care. In neither model was financial burden a significant predictor of any of the dependent variables. Among oldest focal children only, type of care was a significant predictor of experiencing at least one child care problem. Parents who used formal care for their oldest child (up to age 13) were significantly less likely to experience a child care problem compared to parents who used informal care for their oldest child (up to age 13). In neither model did type of care significantly predict child care-related work disruptions or parents' desire to switch care. Finally, as would be expected since one could not have child care-related work disruptions without having child care problems (due to the survey design), child care problems and child care-related work disruptions were significantly correlated.

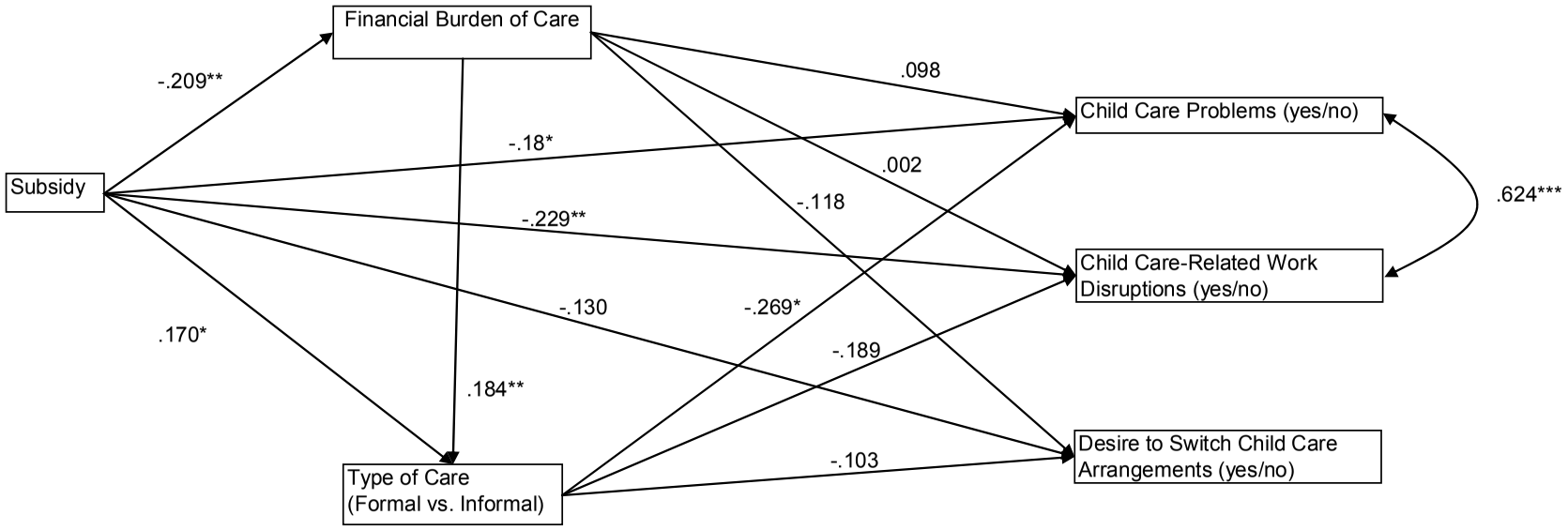
Figure 4. Wait List Path Model for Youngest Focal Child with Financial Burden as an Intervening Variable



Note. All paths are standardized. Focal child's age and number of children thirteen or under in care are controlled for in each path. Path significance based on one-tailed tests.

* p ≤ .05, ** p ≤ .01, *** p ≤ .001

Figure 5. Wait List Path Model for Oldest Focal Child with Financial Burden as an Intervening Variable



Note. All paths are standardized. Focal child's age and number of children thirteen or under in care are controlled for in each path. Path significance based on one-tailed tests.
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

Indirect effects in the financial burden models. There were no significant indirect effects between child care subsidy status and the dependent variables in the financial burden model with youngest focal children. This is clear because there were no significant direct effects between the proposed mediators and the dependent variables. In the financial burden model with oldest focal children, two significant indirect effects were found: 1) between child care subsidy status and child care problems through type of care and 2) between child care subsidy status and child care problems through the combined indirect paths of financial burden and type of care. Both of these indirect paths were small (-.046 and .010, respectively).

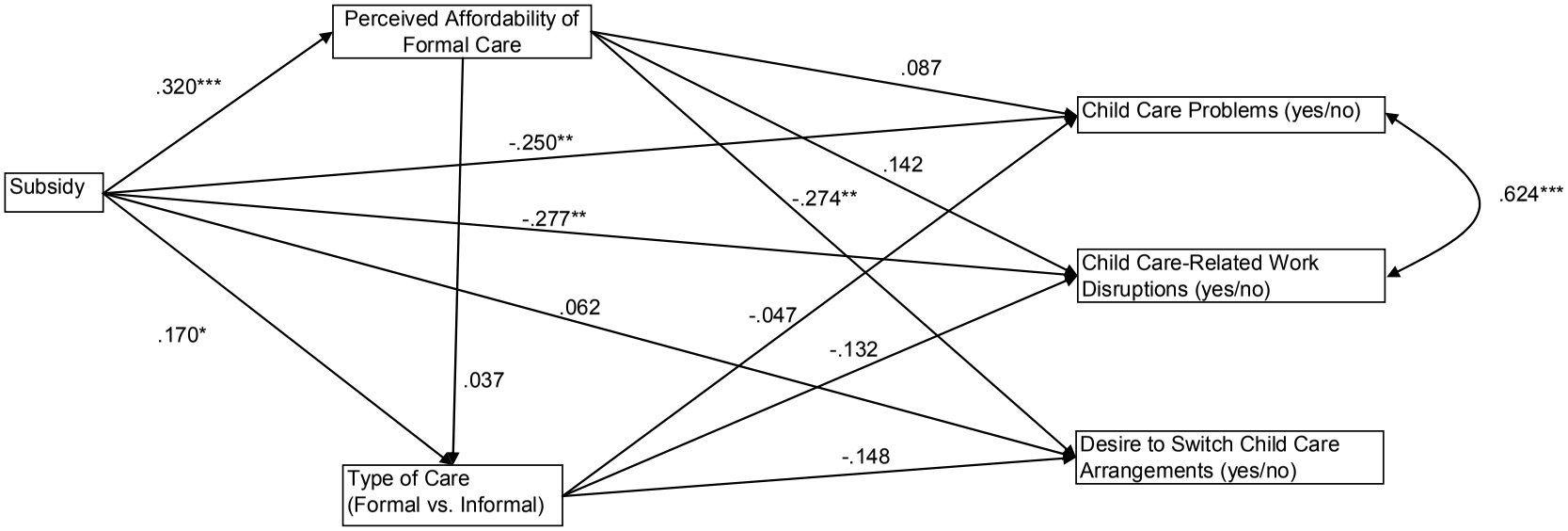
Path model with perceived affordability of formal care. As shown in Figures 6 and 7, the relationship between child care subsidies and perceived affordability of formal care was highly significant. In analyses with both focal children, receiving a child care subsidy was predictive of perceiving formal care for that child as affordable. Receiving a child care subsidy was also a significant predictor of whether parents experienced child care problems and child care-related work disruptions. In models for both focal children, parents who did not have a subsidy were more likely to experience at least one child care problem and child care-related work disruption than parents who did have a subsidy. Child care subsidy status was not found to be a significant predictor of parents' desire to switch care in either model. Use of formal care was not a significant predictor of parents' desire to switch care arrangements in either model. Finally, child care subsidy status was a significant predictor of type of care for the youngest focal child only with parents who had a subsidy being more likely to use formal care than parents without a subsidy.

For both focal children, there was a significant relationship between perceived affordability of formal care and parents' desire to switch care with parents who perceived formal care as affordable being less likely to desire switching their child care arrangement. Perceived affordability of formal care was also a significant predictor of child care-related work disruptions among oldest focal children only. Opposite to what was expected, parents who perceived formal care as affordable for their oldest child (up to age 13) were more likely to experience a child care-related work disruption.[43] Perceived affordability of formal care was not found to be a significant predictor of child care problems in either model.

Among oldest focal children only, type of care was a significant predictor of both child care problems and child care-related work disruptions. Parents who used formal care for their oldest child were less likely to experience at least one child care problem and child care-related work disruption compared to parents who used informal care. Type of care was not a significant predictor of parents' desire to switch care in either model. Finally, as mentioned above, child care-related work disruptions and child care problems were significantly correlated.

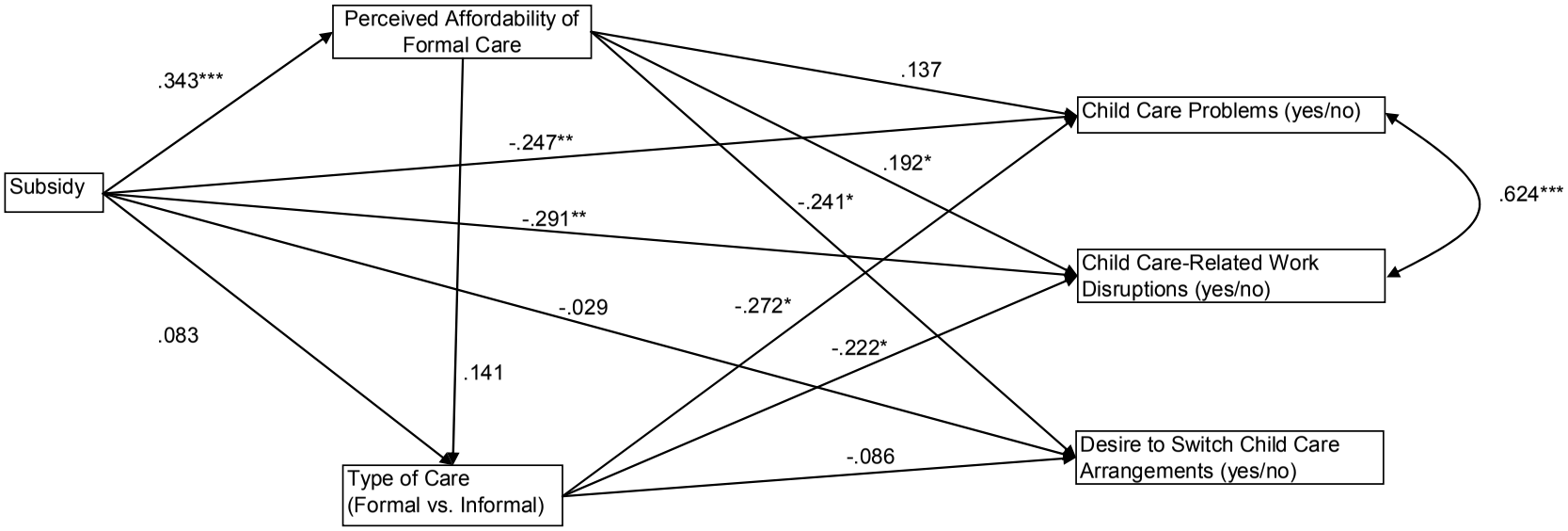
[43] Limitations in the perceived affordability of formal care variable that may have affected this relationship are discussed in Chapter 8.

Figure 6. Wait List Path Model for Youngest Focal Child with Perceived Affordability of Formal Care as an Intervening Variable



Note. All paths are standardized. Focal child's age and number of children thirteen or under in care are controlled for in each path. Path significance based on one-tailed tests.
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

Figure 7. Wait List Path Model for Oldest Focal Child with Perceived Affordability of Formal Care as an Intervening Variable



Note. All paths are standardized. Focal child's age and number of children thirteen or under in care are controlled for in each path. Path significance based on one-tailed tests.
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

Indirect effects in the perceived affordability of formal care models. Despite the lack of any mediation effects in the perceived affordability of formal care/type of care models (see Table 18), a few indirect effects through perceived affordability of formal care were found. In both figures 6 and 7, a significant indirect effect between child care subsidy status and parents' desire to switch care through perceived affordability of formal care is evident. With both youngest and oldest focal children, this indirect effect is small (-.088 and -.083 respectively). In Figure 7 (oldest focal child), a small but significant indirect effect (.066) between child care subsidy and child care-related work disruptions through perceived affordability is shown.

Conclusion

In conclusion, hypotheses 1a and 1b were partially supported and evidence to support hypothesis 1c was found in this analysis of Wait List data. In accordance with hypothesis 1a, parents who received a child care subsidy were less likely to experience child care problems and child care-related work disruptions compared to parents without a child care subsidy. These relationships were found in analyses of both the youngest and oldest focal children and held when the child's age and number of children aged thirteen or under in care were controlled.

In addition to the significant direct effects of child care subsidy status on child care problems and child care-related work disruptions, one mediation effect was found using Baron and Kenny's (1986) mediation criteria. In support of hypothesis 1b, type of care was found to be a mediator of the relationship between child care subsidy status and child care-related work disruptions among analyses of the youngest focal children. In addition to this mediation effect, a significant indirect effect between child care subsidy

status and child care problems through type of care was found among oldest focal children.

Though financial burden did not meet Baron and Kenny's (1986) mediation criteria, the combined effects of financial burden and type of care accounted for more of the variation in child care-related work disruptions explained by child care subsidy status than was accounted for by type of care alone. Thus, evidence to support hypothesis 1c was found. It is also notable that an indirect effect between child care subsidy status and child care problems through the combined effects of financial burden and type of care was found in the path model among oldest focal children.

No mediation effects were found in the model including perceived affordability of formal care and type of care. Instead, perceived affordability of formal care appeared to have a suppressive effect on the relationships between child care subsidy status and both child care problems and child care-related work disruptions. This suppression effect held when type of care was added as a control. Significant indirect effects were found between child care subsidy status and both child care-related work disruptions (oldest focal child only) and desire to switch care (both focal children) through perceived affordability.

Chapter 5: Results of Fragile Families Cross-Sectional Analyses

Demographic Characteristics

Creation of the Data File

For the static model using Fragile Families data, a pooled sample of 658 participants was created from the first two follow-up waves[44] of the study. Participants were selected for the sample if they were: single mothers, aged 18 or older, engaged in work or school, living with only one child in the household, using non-parent/sibling/self-care for child care, and at or below 300% FPL. Some characteristics (marital status, age, work participation, child care type[45], and percent poverty level) of this selection criterion were chosen in order to keep the sample as similar as possible to the Wait List study. Other characteristics (school participation and having only one child in the household) were necessary in order to analyze the data reliably.[46] Finally, pooled data from follow-up waves one and two of the Fragile Families study were used in order to capture, to the degree possible, the range of children's ages included in the Wait List study[47]. Among

[44] 1 year and 3 year follow-up

[45] A very small proportion of parents in the Wait List study used parent/sibling/self-care (10% for youngest focal child, 12% for oldest focal child). In contrast, one-third of the original Fragile Families sample used parent/sibling/self care. This is likely due to the younger ages of the children in the Fragile Families study (~ 1 and 3 years of age). No children in either study were subsidized in using parent/sibling/self-care. Due to regulations in states that prohibit the use of government child care subsidies to pay for most parent/sibling/self-care, the decision was made to drop families using this type of care from the Fragile Families sample.

[46] The dependent variable of child care-related work disruptions asked whether parents missed work/school. Thus, parents in work or school were included in the sample. The choice to include only families with one child in the household was made because the questions in Fragile Families varied between asking about the focal child in the family and all children in the household. Thus, in order to get an accurate picture of the effect of a child care subsidy on child-level variables, inclusion of parents with only one child in the household was necessary.

[47] The average age of the youngest focal child in the Wait List study was 4 years of age, the range of ages for the youngest child in the family was from 5 months to 8 years. Fragile Families data are currently collected only up to age three (Wave 3 follow-up). In order to include children younger than three in the

participants in the Fragile Families sample, 22% were receiving a child care subsidy from the government. Among parents who received a child care subsidy, the average amount of subsidy was $459/month. The range in amount of child care subsidy was from $34 to $882 per month.[48]

Characteristics of the Sample

The mean annual household income of the Fragile Families sample (inflated to 2005 dollars) was $21,927 for the non-subsidy group and $16,255 for the subsidy group. These incomes translated into an average percent poverty of 163% FPL and 121% FPL, respectively. No families in this sample were above 300% of the poverty threshold. Children in this sample (one per household) ranged in age from ten months to 3 1/2 years. All participants in the sample were single. The average number of other adults in the household was 3.19.

Table 19 provides means and results of t-tests comparing the subsidy and no subsidy groups of this pooled sample on a number of characteristics including: household income, household composition and living arrangements, characteristics of the mother, maternal work and school participation, focal child's age, and types of assistance received for paying for child care. Parents receiving and not receiving a subsidy were similar on most characteristics. Mothers with a subsidy did have a lower income than mothers without a subsidy. Mothers with a subsidy also had fewer adults living with them, were more likely to have a high school/vocational degree, and worked fewer hours than mothers without a subsidy. Additionally, mothers with a subsidy were slightly more likely than mothers without a subsidy to rent, be black/Hispanic, and have a three year

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analyses, children from the one year follow-up were included in addition to children from the three year follow-up.

[48] Amount of child care subsidy was inflated to 2005 dollars.

old child (as opposed to a one year old). Finally, mothers with a subsidy were less likely to receive help in paying for child care expenses from the non-custodial parent and more likely to receive help from other sources than mothers without a subsidy.

Table 19. Fragile Families Group Differences on Demographics and Other Characteristics

Variable	No Subsidy (N= 514)	Subsidy (N= 144)	p-value	Sig.
Demographics				
Household Income[a]	21,927	16,255	5.70	***
% FPL	163.010	120.750	5.71	***
Number of Adults in the Household	3.304	3.042	2.25	*
Relationship to Other Adults in the Household				
Partner	0.296	0.306	-0.23	
Parent/Parent-in-law	0.294	0.236	1.36	
Grandparent	0.053	0.069	-0.72	
Other adult	0.304	0.250	1.25	
Living Arrangements				
Rents	0.691	0.764	-1.71	†
Owns	0.055	0.035	1.08	
Lives with friends/family	0.247	0.188	1.49	
Temporary housing	0.006	0.007	-0.15	
Controlled housing	0.002	0.007	-0.69	
Homeless	0.000	0.000	NA	
Other living arrangements	0.000	0.000	NA	
Race				
Hispanic	0.409	0.444	-0.77	
Black	0.401	0.424	-0.49	
Non-Hispanic, Non-Black	0.191	0.132	1.77	†
Mother's Age	24.420	23.972	0.95	
Maternal Depression	0.165	0.222	-1.58	
Mother's Education				
Less than high school	0.323	0.285	0.87	
High school/GED/Vocational	0.389	0.486	-2.10	*
Some college/Bachelor's degree	0.265	0.222	1.03	
Employment/Student Status				
Mother in School	0.319	0.354	-0.79	
Degree Studying For				
Not in school	0.681	0.646	0.79	
School for h.s. diploma/GED	0.049	0.035	0.77	
School for Associates' degree/training/technical	0.162	0.208	-1.32	
School for Bachelors' degree	0.084	0.069	0.55	
Other degree	0.025	0.042	-0.91	
Mother's Employment Status	0.887	0.882	0.17	
Non-Traditional Work Hours	0.465	0.479	-0.30	
Work Hours	36.278	34.431	1.94	*
Children				
Proportion of Sample Approx. Age 3	0.488	0.569	0.09	†
Help Paying for Child Care				
Received Help Paying for Care	0.056	1.000	-92.63	***
Sources of Help				
Non-custodial parent	0.020	0.000	3.19	**
Relative	0.004	0.000	1.42	
Government	0.000	1.000	inf.	***
Employer/Foundation	0.000	0.000	NA	NA
Child care provider	0.002	0.014	-1.20	
Other	0.029	0.132	-3.51	***

Note. As this sample was pooled over time points, the same parents may be counted more than once. Results are unweighted. [a] Inflated to 2005 dollars.

†≤.10, *≤.05, **≤.01, ***≤.001, two-tailed t-tests.

Table 20 provides means and t-test results comparing parents receiving and not receiving a child care subsidy on child care variables. Areas of interest in this table include child care choices and out-of-pocket costs of care. Three significant differences among the subsidy and non-subsidy groups were found through these comparisons. First, mothers receiving a child care subsidy were significantly more likely to use center-based care and less likely to use a family day care provider, relative, or other type of care compared to mothers not receiving a child care subsidy. Second, parents receiving a child care subsidy had their children in care more hours than parents without a child care subsidy. Third, mothers receiving a child care subsidy paid less in out-of-pocket costs for child care and had a lower financial burden of care compared to mothers not receiving a child care subsidy.

Table 20. Fragile Families Group Differences on Child Care Variables

Variable	No Subsidy (N= 514)	Subsidy (N= 144)	p-value	Sig.
Child Care Choices				
Type of Care				
Center	0.307	0.701	-9.06	***
FDCP	0.109	0.056	2.26	**
Relative	0.535	0.229	7.37	***
Formal Care	0.416	0.757	-8.12	***
Multiple Arrangements	0.181	0.139	1.18	
Hours in Care Non-Parental, Non-Sibling, Non-Self Care	32.976	35.146	-2.22	**
Amount of government child care subsidy (in months)[a]	0.00	459.52	-17.86	***
Out-of-Pocket Cost of Care Per Child (Per month)[a]	248.01	85.86	12.21	***
Financial Burden of Care[b]	0.167	0.085	5.98	***

Note. As this sample was pooled over time points, the same parents may be counted more than once.Results are unweighted. [a] Inflated to 2005 dollars. [b] Financial Burden of Care=Monthly Out-of-Pocket Cost of Care/Monthly Household Income

* ≤. 05, ** ≤ .01, *** ≤ .001, one-tailed t-tests.

Control Variables

Thirteen[49,50] control variables were used in this cross-sectional analysis of Fragile Families data. These variables were chosen due to their potential impact on the relationship between the independent and dependent variables in these analyses (see Appendix C). A brief explanation why each of the control variables was selected follows. Household income and maternal education were selected as controls, as they are in many studies, due to their potential impact on parents' access to resources and decision making. Numbers of adults in the household and maternal race were included as controls to account for selection issues as the weighting variables were not available. Focal child's age was included due to the documented tendency of parents to move from informal to formal care as a child ages (Sonenstein et al., 2002). Maternal work hours were included because work hours proxies hours in care (a variable that should be controlled for because children who are in care more hours have more exposure to the risk of experiencing child care problems than children who are in care fewer hours). An indicator for whether the mother was in school was included due to a lack of information on school hours. Due to this lack of data, no adjustment on the work hours variable to give credit for time spent in school was possible. Thus, including a dummy variable for school participation was the most valid way to control for time in school. Working during non-traditional hours was included as a control because studies suggest parents who work non-traditional hours have different child care choices than parents who work

[49] One additional control, out-of-pocket imputed, was used in all analyses that included the financial burden variable. This control accounted for the researcher's use of imputed out-of-pocket amounts (based on the family's child care subsidy status and percent poverty). Imputed out-of-pocket amounts were only used when the reported out-of-pocket amount paid by the recipient exceeded the household income.

[50] Child characteristics, such as behavior problems, physical issues, and disabilities, were not included as controls in this study. Future studies should control for these variables as they may constrain/affect parents' choices of child care providers.

during traditional hours (Riley & Glass, 2002). The use of multiple child care arrangements was included due to findings from studies that more child care problems occur when parents are piecing together multiple care providers (Scott et al., 2005). Maternal depression was included as a control for parents' mental health, which could affect parents' perception of and ability to cope with child care problems (Huston et al., 2002). Finally, financial help in paying for child care from sources other than the child care subsidy was included because financial help received from a source other than the child care subsidy would potentially have similar impacts on the dependent variables and proposed mediators as the subsidy itself.

Hypothesis 1a: Impact of Child Care Subsidies

Bivariate Results

Hypothesis 1a of this study examines whether families receiving a child care subsidy differ from families not receiving a child care subsidy on experiences of child care problems and child care-related work disruptions. The first test of this hypothesis uses t-tests to compare parents receiving and not receiving a child care subsidy on each of the dependent variables. As shown in Table 23, mothers without a child care subsidy were more likely to experience a child care problem and child care-related work disruption in the last month compared to mothers with a child care subsidy.

Table 21. Fragile Families Group Differences on Child Care Problems and Child Care-Related Work Disruptions

Variable	No Subsidy (N= 514)	Subsidy (N= 144)	p-value	Sig.
Proportion That Experienced Child Care Problems in Last Month	0.318	0.222	2.22	**
Number of Child Care Problems in Last Month	0.663	0.563	0.73	
Proportion That Experienced Child Care-Related Work Disruptions in Last Month	0.160	0.105	1.81	*
Number of Child Care-Related Work Disruptions in Last Month	0.367	0.287	0.73	

Note. As this sample was pooled over time points, the same parents may be counted more than once. Results are unweighted.
* ≤. 05, ** ≤ .01, *** ≤ .001, one-tailed t-tests.

Multivariate Results- Regressing Dependent Variables on Child Care Subsidy

The next test of this hypothesis takes control variables into account through the use of logistic and ordinal logit regression models (see Table 22). For this analysis, a number of control variables were included: household income, focal child's age, mother's race and education, maternal depression, number of people in the household, mother's work hours, whether the mother was in school, whether the mother worked non-traditional hours, whether multiple child care arrangements were used for the child, and whether the mother received financial assistance in paying for child care (from a source other than the government-provided child care subsidy).

Child care problems. As shown in Table 22, receiving a child care subsidy reduced the odds of experiencing a child care problem in the last month by 36%. Receipt of a child care subsidy was also a significant negative predictor of the number of child care problems experienced.

Child care-related work disruptions. Having a child care subsidy was a significant predictor of whether parents experienced a child care-related work disruption (See Table 22). Receiving a child care subsidy reduced the odds of experiencing a child care-related work disruption in the last month by 44%. Receipt of a child care subsidy

was also a significant negative predictor of the number of times a parent experienced child care-related work disruptions. Parents who had a child care subsidy had fewer child care-related work disruptions than parents who did not have a subsidy.

Table 22. Fragile Families Regressions of Child Care Problems and Child Care-Related Work Disruptions on Child Care Subsidy

	Child Care Problems (Yes/No)		Number of Child Care Problems		Child Care-Related Work Disruptions (Yes/No)		Number of Child Care-Related Work Disruptions	
	B	e^B	B	e^B	B	e^B	B	e^B
Subsidy	-0.446	0.64 *	-0.43	0.650 *	-0.579	0.56 *	-0.582	0.559 *
	(0.243)		(0.246)		(0.311)		(0.313)	
Income/Month (log)	0.098	1.103	0.037	1.038	-0.067	0.935	-0.077	0.925
	(0.104)		(0.105)		(0.114)		(0.115)	
Focal Child's Age	0.143	1.154	0.205	1.227	0.268	1.307	0.253	1.288
	(0.182)		(0.173)		(0.243)		(0.237)	
Hispanic	0.291	1.337	0.386	1.471	0.613	1.847 *	0.695	2.004 *
	(0.261)		(0.253)		(0.371)		(0.366)	
Black	0.2	1.222	0.237	1.267	0.554	1.74	0.602	1.826 *
	(0.247)		(0.237)		(0.361)		(0.357)	
Maternal Depression	0.48	1.616 **	0.517	1.678 **	0.518	1.679 *	0.54	1.715 *
	(0.213)		(0.216)		(0.282)		(0.283)	
Number of Adults in Household	0.032	1.033	0.055	1.057	0.196	1.216 **	0.212	1.237 **
	(0.066)		(0.068)		(0.078)		(0.082)	
Work Hours	0.001	1.001	-0.002	0.998	-0.009	0.991	-0.011	0.989
	(0.009)		(0.009)		(0.011)		(0.011)	
Mother in School	0.026	1.027	0.075	1.078	0.353	1.423	0.339	1.404
	(0.197)		(0.194)		(0.248)		(0.249)	
Non-Traditional Hours	0.199	1.22	0.228	1.256	0.276	1.318	0.281	1.324
	(0.186)		(0.181)		(0.242)		(0.244)	
Multiple Child Care Arrangements	0.782	2.185 ***	0.725	2.065 ***	0.324	1.382	0.338	1.402
	(0.227)		(0.219)		(0.296)		(0.296)	
Other Help Received	-0.561	0.571	-0.496	0.609	0.019	1.019	-0.013	0.987
	(0.395)		(0.397)		(0.458)		(0.434)	
High School/GED/Voc	0.045	1.046	0.05	1.051	0.093	1.097	0.05	1.051
	(0.215)		(0.211)		(0.270)		(0.267)	
Associates/College	0.213	1.237	0.176	1.192	-0.059	0.943	-0.065	0.937
	(0.246)		(0.240)		(0.328)	*	(0.333)	
Constant	-0.276	**			-2.584	**		
	(0.844)				(0.983)			
R^2/Pseudo R^2	0.04		0.02		0.04		0.03	
Observations	657	657	657		656	656	656	

Note. Robust standard errors in parentheses. Number of child care problems/child care-related work disruptions results based on ordinal logit regressions. Tests of significance for regression coefficients are one-tailed. Unweighted results reported.
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Hypothesis 1b/c: Role of Financial Burden and Type of Care as Mediators

Bivariate Results

Hypotheses 1b/c of this study examines whether parents' perceived financial burden of care (out-of-pocket cost of care per child/household income) and type of care used (formal vs. informal) mediate the relationship between having a child care subsidy and experiencing child care problems and/or child care-related work disruptions. Before using multivariate methods to test this hypothesis, families were split into two levels for each of the proposed mediating variables and compared on the dependent variables of child care problems and child care-related work disruptions through t-tests. These t-tests results were consistent with the multivariate analyses of hypothesis 1b/c, which are reported next.

Multivariate Results- Regressing Proposed Mediators on Child Care Subsidy

To further explore the relationships between the proposed mediators (financial burden and type of care), the independent variable (child care subsidy status), and the dependent variables (child care problems and child care-related work disruptions) a series of multivariate analyses were run in accordance with the mediation criteria set forth by Baron and Kenny (1986).

First, each of the dependent variables was regressed on child care subsidy status. (Results from these regressions are reported above.) Next, each of the proposed mediators was regressed on the child care subsidy variable (See Table 23). Having a child care subsidy was a strong predictor of both financial burden and use of formal care. The financial burden of parents with a child care subsidy was .09 units lower than the

financial burden of parents without a child care subsidy. Additionally, parents with a child care subsidy were four times more likely to use formal care than parents without a child care subsidy.

Table 23. Fragile Families Regressions of Proposed Mediators on Child Care Subsidy

	Financial Burden		Formal Care		
	B		B	e^B	
Subsidy	-0.09	***	1.459	4.303	***
	(0.016)		(0.237)		
Income/Month (log)	-0.054	***	0.11	1.116	
	(0.018)		(0.104)		
Focal Child's Age	-0.039	**	0.838	2.311	***
	(0.014)		(0.183)		
Hispanic	0.052	**	0.119	1.126	
	(0.018)		(0.251)		
Black	0.02		0.316	1.372	
	(0.016)		(0.249)		
Maternal Depression	0.012		-0.389	0.678	
	(0.018)		(0.249)		
Number of Adults in Household	-0.004		-0.236	0.79	**
	(0.005)		(0.075)		
Work Hours	0.002	**	0.012	1.012	
	(0.008)		(0.009)		
Mother in School	-0.021		0.273	1.313	
	(0.015)		(0.192)		
Non-Traditional Hours	-0.009		-0.62	0.538	***
	(0.012)		(0.180)		
Multiple Child Care Arrangements	-0.015		-0.013	0.987	
	(0.018)		(0.231)		
Other Help Received	-0.065	***	1.342	3.827	***
	(0.019)		(0.392)		
High School/GED/Voc	0.002		0.246	1.279	
	(0.016)		(0.208)		
Associates/College	0.013		0.401	1.494	*
	(0.017)		(0.242)		
Out-of-Pocket Imputed	0.09	*			
	(0.054)				
Constant	0.479	***	-1.409		*
	(0.122)		(0.848)		
Observations	658		658		
R^2/Pseudo-R^2	0.16		0.15		

Note. Robust standard errors in parentheses. Results based on ordinal logit/logistic regressions. Tests of significance for regression coefficients are one-tailed. Unweighted results reported.

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Multivariate Results- Regressing Dependent Variables on Proposed Mediators

Next, each of the dependent variables was regressed on each of the proposed mediators and then on both of the proposed mediators. Neither proposed mediator was found to be a significant predictor of either dependent variable in any of the models (see Tables 24 and 25). This lack of significance was found using both the dichotomous and ordinal measures of the dependent variables.

Since Baron and Kenny (1986) require both significant relationships between the independent variable and the mediator and between the mediator and the dependent variable in order for mediation to occur, it can be concluded that financial burden of care and type of care do not mediate the relationships between child care subsidy status and child care problems/child care-related work disruptions in this sample. Thus, further analyses testing mediation on the Fragile Families sample are not reported.

Table 24. Fragile Families Regressions of Child Care Problems and Child Care-Related Work Disruptions on Proposed Mediators (Dichotomous Measures)

	Child Care Problems (Yes/No)			Child Care-Related Work Disruptions (Yes/No)			Child Care Problems (Yes/No)			Child Care-Related Work Disruptions (Yes/No)			Child Care Problems (Yes/No)			Child Care-Related Work Disruptions (Yes/No)		
	B	e^B		B	e^B		B	e^B		B	e^B		B	e^B		B	e^B	
Financial Burden	-0.012	0.988		0.781	2.185								0.066	1.068		0.786	2.194	
	(0.532)			(0.619)									(0.546)			(0.626)		
Out-of-Pocket Imputed	0.536	1.709		0.428	1.534								0.554	1.74		0.429	1.535	
	(0.559)			(0.600)									(0.565)			(0.600)		
Formal Care							-0.158	0.854		0.033	1.034		-0.17	0.844		-0.012	0.988	
							(0.188)			(0.233)			(0.193)			(0.236)		
Income/Month (log)	0.165	1.18		0.047	1.048		0.128	1.136		-0.038	0.963		0.172	1.187		0.048	1.049	
	(0.114)			(0.132)			(0.106)			(0.116)			(0.117)			(0.133)		
Focal Child's Age	0.098	1.103		0.258	1.295		0.14	1.151		0.223	1.25		0.136	1.145		0.261	1.298	
	(0.185)			(0.248)			(0.186)			(0.249)			(0.188)			(0.248)		
Hispanic	0.268	1.308		0.539	1.714		0.269	1.309		0.573	1.774		0.271	1.311		0.539	1.714	
	(0.260)			(0.368)			(0.260)			(0.367)			(0.261)			(0.368)		
Black	0.176	1.191		0.5	1.649		0.185	1.203		0.507	1.66		0.189	1.208		0.501	1.651	
	(0.245)			(0.355)			(0.246)			(0.353)			(0.247)			(0.356)		
Maternal Depression	0.432	1.541	*	0.46	1.585	*	0.436	1.547	*	0.48	1.616	*	0.422	1.525	*	0.46	1.584	*
	(0.212)			(0.278)			(0.213)			(0.276)			(0.213)			(0.277)		
Number of Adults in Household	0.041	1.042		0.208	1.231	**	0.031	1.031		0.206	1.229	**	0.032	1.032		0.207	1.231	**
	(0.067)			(0.078)**			(0.067)			(0.079)			(0.067)			(0.079)		
Work Hours	0.002	1.002		-0.01	0.99		0.002	1.002		-0.008	0.992		0.002	1.002		-0.01	0.989	
	(0.009)			(0.011)			(0.008)			(0.011)			(0.009)			(0.011)		
Mother in School	0.007	1.01		0.346	1.414		0.021	1.021		0.33	1.392		0.017	1.017		0.347	1.415	
	(0.198)			(0.247)			(0.198)			(0.248)			(0.198)			(0.247)		
Non-Traditional Hours	0.177	1.194		0.261	1.298		0.166	1.181		0.265	1.304		0.156	1.169		0.259	1.296	
	(0.186)			(0.241)			(0.187)			(0.243)			(0.188)			(0.243)		
Multiple Child Care Arrangements	0.819	2.269	***	0.377	1.457		0.805	2.236	***	0.359	1.433		0.819	2.267	***	0.376	1.457	
	(0.227)			(0.293)			(0.225)			(0.293)			(0.226)			(0.292)		
Other Help Received	-0.647	0.524	*	-0.024	0.977		-0.588	0.555		-0.094	0.911		-0.586	0.557		-0.019	0.981	
	(0.392)			(0.456)			(0.397)			(0.460)			(0.399)			(0.462)		
High School/GED/Voc	0.02	1.02		0.058	1.06		0.026	1.026		0.054	1.055		0.032	1.033		0.059	1.061	
	(0.213)			(0.268)			(0.213)			(0.269)			(0.213)			(0.268)		
Associates/College	0.218	1.243		-0.061	0.941		0.216	1.241		-0.076	0.927		0.234	1.263		-0.06	0.942	
	(0.248)			(0.332)			(0.248)			(0.326)			(0.248)			(0.330)		
Constant	-2.845		***	-3.553		***	-2.503		**	-2.906		**	-2.82		**	-3.551		***
	(0.922)			(1.151)**			-0.851			(1.005)			-0.93			-1.151		
Pseudo R^2	0.040			0.04			0.04			0.04			0.04			0.04		
Observations	657			656			657			656			657			656		

Note. Robust standard errors in parentheses. Tests of significance for regression coefficients are one-tailed. Unweighted results reported.
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

Table 25. Fragile Families Regressions of Child Care Problems and Child Care-Related Work Disruptions on Proposed Mediators (Ordinal Measures)

	Number of Child Care Problems			Number of Child Care-Related Work Disruptions			Number of Child Care Problems			Number of Child Care-Related Work Disruptions			Number of Child Care Problems			Number of Child Care-Related Work Disruptions		
	B	e^B		B	e^B		B	e^B		B	e^B		B	e^B		B	e^B	
Financial Burden	-0.138	0.871		0.825	2.281								-0.077	0.926		0.842	2.32	
	(0.538)			(0.635)									(0.556)			(0.641)		
Out-of-Pocket Imputed	0.543	1.721		0.31	1.363								0.555	1.743		0.314	1.369	
	(0.585)			(0.550)									(0.589)			(0.552)		
Formal Care							-0.123	0.885		-0.003	0.997		-0.126	0.882		-0.048	0.953	
							(0.188)			(0.232)			(0.194)			(0.236)		
Income/Month (log)	0.09	1.095		0.027	1.027		0.063	1.065		-0.051	0.95		0.096	1.1		0.028	1.029	
	(0.115)			(0.133)			(0.107)			(0.117)			(0.118)			(0.134)		
Focal Child's Age	0.157	1.169		0.245	1.278		0.195	1.216		0.217	1.242		0.184	1.202		0.255	1.291	
	(0.178)			(0.241)			(0.175)			(0.241)			(0.180)			(0.239)		
Hispanic	0.371	1.45		0.614	1.848	*	0.37	1.448		0.653	1.922	*	0.374	1.453		0.616	1.851	*
	(0.255)			(0.361)			(0.252)			(0.362)			(0.255)			(0.361)		
Black	0.208	1.231		0.541	1.718		0.217	1.243		0.554	1.74		0.219	1.245		0.546	1.726	
	(0.234)			(0.348)			(0.236)			(0.348)			(0.236)			(0.349)		
Maternal Depression	0.47	1.601	**	0.483	1.621	*	0.474	1.606	**	0.496	1.643	*	0.463	1.589	*	0.48	1.616	*
	(0.214)			(0.278)			(0.214)			(0.276)			(0.214)			(0.278)		
Number of Adults in Household	0.063	1.065		0.225	1.252	**	0.055	1.056		0.222	1.248	**	0.056	1.057		0.223	1.249	**
	(0.069)			(0.081)			(0.069)			(0.082)**			(0.070)			(0.081)		
Work Hours	-0.001	0.999		-0.012	0.988		0	1		-0.009	0.991		-0.001	0.999		-0.012	0.988	
	(0.009)			(0.011)			(0.009)			(0.011)			(0.009)			(0.011)		
Mother in School	0.054	1.055		0.332	1.393		0.069	1.072		0.319	1.376		0.061	1.063		0.335	1.398	
	(0.195)			(0.249)			(0.195)			(0.251)			(0.196)			(0.250)		
Non-Traditional Hours	0.208	1.231		0.266	1.305		0.2	1.221		0.261	1.299		0.189	1.208		0.261	1.298	
	(0.182)			(0.241)			(0.187)			(0.246)			(0.187)			(0.245)		
Multiple Child Care Arrangements	0.77	2.16	***	0.389	1.475		0.755	2.127	***	0.375	1.456		0.766	2.151	***	0.386	1.471	
	(0.218)			(0.293)			(0.217)			(0.294)			(0.218)			(0.293)		
Other Help Received	-0.603	0.547		-0.051	0.951		-0.544	0.581		-0.106	0.899		-0.557	0.573		-0.032	0.969	
	(0.389)			(0.439)			(0.393)			(0.446)			(0.394)			(0.449)		
High School/GED/Voc	0.03	1.031		0.021	1.022		0.036	1.036		0.014	1.014		0.038	1.038		0.024	1.025	
	(0.210)			(0.266)			(0.210)			(0.267)			(0.210)			(0.266)		
Associates/College	0.188	1.207		-0.07	0.933		0.184	1.202		-0.078	0.925		0.2	1.221		-0.064	0.938	
	(0.242)			(0.336)			(0.241)			(0.332)			(0.241)			(0.335)		
R^2	0.02			0.03			0.02			0.03			0.02			0.03		
Observations	657			656			657			656			657			656		

Note. Robust standard errors in parentheses. Regressions are from ordinal logit models.
Tests of significance for regression coefficients are one-tailed. Unweighted results reported.
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Path Models

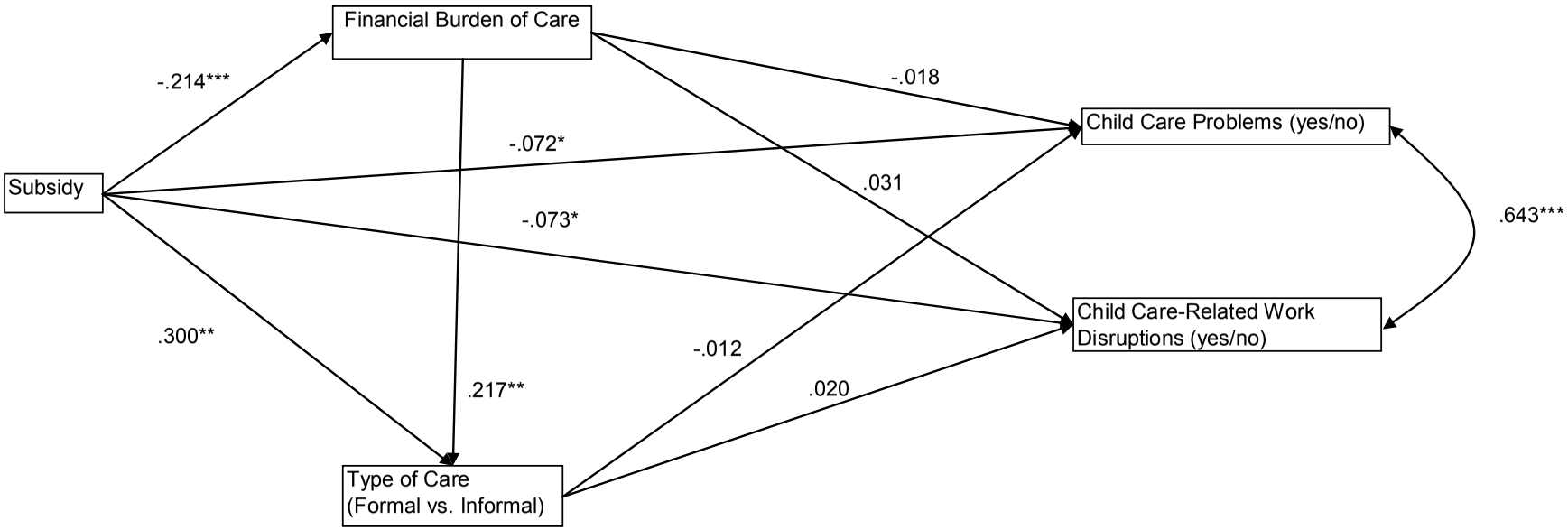
To further clarify the relationships between child care subsidy, financial burden, type of care, and the dependent variables using the Fragile Families data, path models were analyzed. All paths in the path models included the control variables used throughout this chapter[51]. Depictions of the path models with standardized path values are shown in Figure 8.

As shown in Figure 8, child care subsidy status had a direct negative effect on each of the dependent variables (child care problems and child care-related work disruptions). Thus, parents with a child care subsidy were less likely to experience a child care problem or child care-related work disruption than parents without a child care subsidy. Child care subsidy status was also a significant predictor of each of the proposed mediators. Parents with a child care subsidy had a lower financial burden of care and were more likely to use a formal child care provider than parents without a child care subsidy. Financial burden was a significant predictor of type of care used with families who had a higher financial burden being more likely to use formal care than families with a lower financial burden. Neither of the proposed mediators had a significant direct effect on either dependent variable. Due to the lack of direct effects between either of the proposed mediators and the dependent variables, it is clear that there are also no indirect effects between child care subsidy status and either child care problems or child care-related work disruptions through either of the proposed mediators. Finally, there was a strong correlation between child care problems and child care-related

[51] These control variables are: household income, focal child's age, maternal race, maternal depression, number of adults in the household, maternal education, whether mothers were in school, maternal work hours, whether mother's worked non-traditional hours, use of multiple arrangements for child care, and financial assistance for child care from sources other than the government subsidy.

work disruptions. This correlation is expected because parents were not asked the survey question about child care-related work disruptions unless they stated they had experienced at least one child care problem in the last month.

Figure 8. Fragile Families Path Model



Note. All paths are standardized. Control variables are controlled for in each path. Path significance based on one-tailed tests. Unweighted results reported.
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

Conclusion

In conclusion, parents from the Fragile Families sample who were receiving a child care subsidy were less likely to experience and experienced fewer child care problems and child care-related work disruptions than parents without a subsidy. This finding supports hypothesis 1a of this study. Financial burden of care and type of care were tested as mediators of the relationships between child care subsidy status and the dependent variables. Neither variable was found to be a mediator, nor were there any significant indirect effects between child care subsidy status and the dependent variables through financial burden, type of care, or the combination of these variables. These findings do not support hypotheses 1b/c of this study.

Chapter 6: Results of Attrition and Wait List Study Change Analyses

Creation of Data File

A more stringent test of the effect of child care subsidies on parents' experiences of child care problems, child care-related work disruptions, and a desire to switch care analyzes the same families over time. In order to conduct change analyses, a new dataset was created from the Wait List study using every combination of data collection time points including current and retrospective data. These data collection time points were: 1) retrospective data prior to Wave I, 2) Wave I data, 3) retrospective data prior to Wave II, and 4) Wave II data. The change dataset included one case for each pair of data collection time points completed by the respondent.[52] Sample sizes for each pair of data collection time points used as subsamples in creating the final change data file are provided in Table 26. Because families may have had more than one record (if they answered both current and retrospective data in either wave of data collection), all multivariate analyses were run clustered on a family identification variable, thus the standard errors were adjusted appropriately. In the new change data file, among families that changed subsidy status at some point in the study, the time point in which they were not receiving a subsidy was considered Time 1 and the time point in which they were receiving a subsidy was considered Time 2. For families that did not change subsidy status, Time 1 and Time 2 were based on which data were collected first/second.

[52] The intervals between time points varied ranging from one month to three months depending on whether the data was collected retrospectively and how long the family had/had not received a child care subsidy.

Table 26. Description of Wait List Change Dataset

No Change in Child Care Subsidy Status Samples (N=30)						
T1_1 (ns)	T1ns	T1s	T2_1(s)	T2ns	T2s	N
-	-					0
X				X		5
			-		-	0
	X			X		9
		X	X			5
		X			X	11
			-		-	0
Change in Child Care Subsidy Status Samples (N=56)						
T1_1 (ns)	T1ns	T1s	T2_1(s)	T2ns	T2s	N
X		X				22
X			X			5
X					X	11
	-	-				0
	X		X			3
	X				X	3
		X		X		5
			X	X		7
Attrited Sample (Not in Wave II, N=12)						
T1_1 (ns)	T1ns	T1s	T2_1(s)	T2ns	T2s	N
-	X	X				12
Total Sample: 98						

Note. "ns" signifies the family was not receiving a child care subsidy at this time point. "s" signifies the family was receiving a child care subsidy at this time point.

Once the change data file was created, variables were recoded. A complete description of variable recoding is available in Chapter 3. As a brief reminder, the subsidy variable was coded "1" if a change occurred in which the family went from not receiving a subsidy to receiving a subsidy. The omitted group included all families who did not change their subsidy status. Each of the dependent variables were coded "1" if the desired outcome (decrease in child care problems, child care-related work disruptions,

or desire to switch care) occurred at Time 2. Each of the dependent variables was coded "2" if the parent attrited (data were only available at one time point). Finally, the omitted group for the dependent variables included all parents who had scores at both time periods and whose score on the dependent variable did not change in the desired direction from Time 1 to Time 2.

Descriptive Results from the Change Sample

Table 27 provides means and results of dependent t-tests comparing parents across Time 1 and Time 2 on variables of interest.[53] As shown, there was a significant difference in the proportion of the sample that received a child care subsidy, perceived formal care as affordable for their youngest and oldest children, and experienced child care problems across time points. There was also a significant difference in parents' financial burden of care per child between Time 1 and Time 2. As would be expected given that a greater proportion of the sample received a child care subsidy at Time 2, at Time 2 parents were more likely to perceive formal care as affordable for both their youngest and oldest children, less likely to experience child care problems, and had a lower financial burden of care per child compared to Time 1.

It is worthy of note that among parents who changed subsidy status across time periods in the Wait List study, switching from no subsidy to receiving a subsidy resulted in an average reduction of out-of-pocket child care costs (for all children) of $251.56 per month. Thirty percent of the 56 parents who changed child care subsidy status across

[53] Missing data due to attrition was counted as omitted in this analysis.

waves had no change in cost of care or had an increased cost of care with the addition of a child care subsidy.[54]

Table 27. Wait List Change Dependent T-Tests on Change Variables

Variable	Time 1 (N=98) Mean	Time 2 (N=86) Mean	t-value	sig.
Child Care Subsidy	0.224	0.837	-12.60	***
Family Income	28321.81	28428.56	-0.30	
Financial Burden of Care Per Child[a]	0.178	0.121	3.20	**
Perceived Affordability of Formal Care (Youngest Child)	0.724	0.884	-3.06	**
Perceived Affordability of Formal Care (Oldest Child)	0.724	0.872	-2.80	**
Use of Formal Care (Youngest Child)	0.480	0.520	-1.65	†
Use of Formal Care (Oldest Child)	0.459	0.500	-1.16	
Desire to Change Child Care (Youngest Child)	0.449	0.463	-0.54	
Desire to Change Child Care (Oldest Child)	0.388	0.413	-0.17	
Proportion that Experienced Child Care Problems	0.224	0.151	2.00	*
How Often Had Child Care Problems	0.347	0.349	0.35	
Proportion that Experienced Employment Problems	0.296	0.256	0.68	
How Often Had Employment Problems	0.408	0.360	0.69	

Note. [a] Financial Burden of Care Per Child=Monthly Out of Pocket Cost Per Child/Monthly Household

† p < .10, * p < .05, ** p < .01, *** p < .001, two-tailed t-tests

Attrition Analysis

Bivariate Analyses

As all original participants of the Wait List study did not participate in both waves of data collection, an analysis of participants who attrited (N=12) was necessary to determine whether the act of attrition was random. First, characteristics of persons who did and did not complete both waves of data (see Tables 28 and 29) showed that attriters differed from non-attriters in terms of work/school participation and receipt of help from child care providers. Study participants who attrited were more likely to work one job than those who did not attrite. Participants who attrited also worked more hours than non-attriters and when school hours were taken into account, attriters worked/were in

[54] This occurred because these parents were using free/low cost informal care and switched to formal care when they received a subsidy, were subsidized through other means (i.e. provider discount) before receiving the subsidy, or changed to a more expensive formal provider when they received the subsidy.

school more hours than non-attriters. Finally, attriters were less likely to receive help in paying for care from their child care providers than non-attriters.

Table 28. Group Differences Between Attriters and Non-Attriters from Wait List Sample on Demographics

Variable	Non- Attriters (N=28)	Attriters (N=12)	t-value	sig.
	Mean	Mean		
Demographics				
Household Income	27510	28366	-0.230	
Percent Poverty	164.11	172.28	-0.370	
Single	0.929	0.833	0.910	
Living Arrangements				
Rents	0.786	0.833	-0.340	
Owns	0.107	0.000	1.800	†
Lives with friends/family	0.071	0.167	-0.910	
Temporary Housing	0.036	0.000	1.000	
Length of Time in Residence	2.796	1.694	1.450	
Mother's Education				
H.S./GED	0.429	0.417	0.070	
Some college/vocational	0.429	0.500	-0.410	
Bachelors degree/more	0.143	0.083	0.510	
Employment/Student Status				
Mother in School	0.286	0.333	-0.290	
Mother's School Schedule				
Not in school	0.714	0.667	-0.290	
Part-time	0.143	0.250	-0.800	
Full-time	0.143	0.083	0.510	
Degree Studying For				
GED	0.000	0.000	NA	
Associates/Vocational Training	0.214	0.250	-0.240	
Bachelors	0.071	0.083	-0.130	
Mother's Employment Status	0.929	1.000	-1.440	
Length of Time in Current Job	2.415	3.519	-1.240	
Non-Traditional Work Hours	0.429	0.417	0.070	
Number of Jobs				
No jobs	0.071	0.000	1.440	
One job	0.857	1.000	-2.120	*
More than one job	0.071	0.000	1.440	
Work Hours	32.411	41.250	-3.160	**
Work and School Hours[b]	36.696	45.417	-2.780	**
Children				
Number of Children 13 or Under	2.000	1.917	0.230	
Number of Children 13 or Under in Care	1.336	1.354	0.200	
Youngest Child's Age	3.691	3.667	0.040	
Oldest[a] Child's Age	6.476	7.000	-0.440	

Note. [a] Oldest child eligible for a subsidy (13 or under). [b] 10 hours were added for part-time school enrollment, 20 hours for full-time school enrollment.
† p ≤ .10, * p ≤ .05, ** p ≤ .01, *** p ≤ .001, two-tailed t-tests.

Table 29. Group Differences Between Attriters and Non-Attriters on Child Care Variables

Variable	Non- Attriters (N=28)	Attriters (N=12)	t-value	sig.
	Mean	Mean		
Child Care Youngest Child				
Type of Care				
Center	0.500	0.500	0.000	
FDCP	0.321	0.333	-0.070	
Relative	0.107	0.083	0.220	
Multiple Arrangements	0.214	0.333	-0.780	
Child Care Oldest[a] Child				
Type of Care				
Center	0.571	0.667	-0.550	
FDCP	0.321	0.167	0.990	
Relative	0.071	0.083	-0.130	
Multiple Arrangements	0.179	0.417	-1.610	
Child Care All Children				
Out of Pocket Cost	418.350	355.290	1.090	
Out of Pocket Cost/Child (Average)	262.860	241.350	0.890	
Financial Burden of Child Care[b]	0.193	0.143	0.490	
Financial Burden of Care Per Child[b]	0.133	0.102	0.270	
Has Help Paying for Child Care	0.929	0.667	1.740	†
Sources of Help				
Government				
Child and Dependent Care Tax Credit	0.607	0.333	1.600	
Child care provider	0.250	0.000	3.000	**
Foundation	0.036	0.000	1.000	
Relative	0.071	0.000	1.440	
Non-custodial parent[c]	0.000	0.000	NA	
Other help	0.071	0.000	1.440	

Note. [a] Oldest child eligible for a subsidy (13 or under). [b] Financial Burden of Child Care=Monthly Out of Pocket Cost/Monthly Household Income [c] Non-custodial parent assistance does not include child support.
† p ≤ .10, * p ≤ .05, ** p ≤ .01, *** p ≤ .001, two-tailed tests

Multivariate Analyses

Due to the availability of administrative data on child care subsidy status for all participants, whether they attrited or not, a multinomial logit regression analysis predicting attrition was possible. Child care subsidy status was used as the sole predictor for these regressions and each of the dependent variables was coded in three levels (0=no change, 1=outcome improved at time two, 2=attrited). Whether one attrited from the

study was significantly predicted by whether or not they changed child care subsidy status over the course of the study (see Table 30). In fact, none of the participants who had a change in child care subsidy status attrited over the course of the study.[55] As household income was also available through administrative data for each participant at both time points, this variable was added as a second predictor, with child care subsidy status, in a second set of multinomial logistic regressions. Household income was not found to be a significant predictor of attrition in this analysis.

Table 30. Multivariate Attrition Analysis

	Child Care Problems		Child Care-Related Work Disruptions		Desire to Switch Care Youngest Child		Desire to Switch Care Oldest Child	
	DV=1	Attrite	DV=1	Attrite	DV=1	Attrite	DV=1	Attrite
Subsidy	1.443*	-37.083***	1.809**	-37.997***	20.634	-37.114***	20.714	-36.057***
	(0.803)	(0.352)	(0.804)	(0.360)	(0.000)	(0.353)	(0.000)	(0.344)
Constant	-2.639***	-0.847**	-2.639***	-0.847**	-22.287***	-0.916**	-22.013***	-0.916**
	(0.750)	(0.368)	(0.750)	(0.368)	(0.492)	(0.362)	(0.425)	(0.362)
Log Likelihood	-62.82		-66.851		-49.815		-54.224	
Observations	98		98		98		98	

Note. * p ≤ .05, ** p ≤ .01, *** p ≤ .001, one-tailed tests using robust standard errors

Hypothesis 2a: Impact of Child Care Subsidies among the Same Families over Time

Participants who attrited were then removed from the data and logistic regressions were used to test hypothesis 2a (parents who change child care subsidy status from no subsidy to receiving a subsidy will be less likely to experience/experience fewer child care problems, child care-related work disruptions, and a desire to switch care while receiving a child care subsidy). As evident in Table 31, logistic regressions using change in child care subsidy as the sole predictor found changing child care subsidy status from not receiving a subsidy to receiving a subsidy, was associated with the following outcomes:

[55] The majority of people (75%) who attrited from the study were not receiving a child care subsidy at either wave of data collection.

- Decreased likelihood of experiencing a child care problem and experiencing fewer child care problems when receiving a subsidy[56]
- Decreased likelihood of experiencing a child care-related work disruption and experiencing fewer child care-related work disruptions when receiving a subsidy[57]
- Decreased likelihood of desiring to switch child care arrangements for both the youngest (χ^2= 5.385, p=.020) and oldest (χ^2= 7.471, p= 0.006)[58] focal children when receiving a subsidy.

Table 31. Change in Dependent Variables Regressed on Change in Child Care Subsidy

	Dichotomous Measures				Difference Measures (T2-T1)			
	Child Care Problems		Child Care-Related Work Disruptions		Child Care Problems		Child Care-Related Work Disruptions	
	B	e^B	B	e^B	B	e^B	B	e^B
Subsidy	1.443*	4.233	1.809**	6.103	-1.544**	0.213	-1.523***	0.218
	(0.805)		(0.806)		(0.627)		(0.483)	
Constant	-2.639***		-2.639***					
	(0.752)		(0.752)					
Observations	86		86		86		86	

Note. One-tailed t-tests using robust standard errors. Difference measures tested with ordinal logistic models.
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

Hypothesis 2b/c: Role of Perceived Affordability of Formal Care, Financial Burden and Type of Care as Mediators among the Same Families over Time

In order to better understand the relationships between a change in child care subsidy status and the dependent variables (child care problems, child care-related work

[56] No child-specific variables are included in this analysis. Thus, this analysis uses a family level of measurement and focal child is not specified.

[57] No child-specific variables are included in this analysis. Thus, this analysis uses a family level of measurement and focal child is not specified.

[58] The change in desire to switch care is not included in the regression table because the change in child care subsidy status variable perfectly predicted a change in parents' desire to switch care. As such, using logistic regression was not possible. In lieu of a regression, chi-square statistics were used to analyze this relationship.

disruptions, and desire to switch care) among the same families over time, three variables were tested as mediators (financial burden, perceived affordability of formal care, and type of care). The proposed mediators were coded similarly to the dependent variables, with "1" indicating a change in the desirable direction (decrease in financial burden at Time 2 only, perception of formal care as affordable at Time 2 only, and use of formal care at Time 2 only) and a "0" indicating the lack of such a change.

Multivariate Results- Regressing Proposed Mediators on Child Care Subsidy

In the first set of tests used to detect mediation effects, each of the dependent variables was regressed on child care subsidy status (see above for results). Next, each of the proposed mediators was regressed on child care subsidy status. As shown in Table 32, the only proposed mediator that was significantly predicted by a change in child care subsidy status was type of care for oldest children.[59] A change in type of care for oldest focal children (from informal to formal care) was perfectly predicted by a change in child care subsidy status. In other words, parents who changed child care subsidy status from not receiving a subsidy at Time 1 to receiving a subsidy at Time 2 were the only parents who changed their oldest[60] child's care from informal care at Time 1 to formal care at Time 2 (χ^2= 4.725, p= 0.030).

[59] Because the change in child care subsidy status variable perfectly predicted a change in use of formal care for oldest children, a logistic regression was not possible. Thus, a chi-square statistic was used to analyze this relationship.

[60] Oldest child up to age 13.

Table 32. Wait List Change in Mediators Regressed on Change in Child Care Subsidy

	Financial Burden	Formal Care Affordable (Youngest)		Formal Care Affordable (Oldest)		Uses Formal Care (Youngest)	
	B	B	e^B	B	e^B	B	e^B
Subsidy	-0.065	1.205	3.338	1.205	3.338	1.045	2.843
	(0.048)	(0.757)		(0.757)		(1.209)	
Constant	-0.025	-1.872**		-1.872**		-3.367***	
	(0.031)	(0.644)		(0.644)		(1.038)	
Observations	86	86		86		86	86
R-squared	0.03						

Note. Robust standard errors in parentheses.
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

Multivariate Results- Regressing Dependent Variables on Proposed Mediators

The second test of mediation used a set of regressions to predict each of the dependent variables from each of the proposed mediators. As shown in Table 33[61], the only significant relationship between proposed mediators and dependent variables in the expected direction was that between financial burden and child care problems. A decrease in financial burden significantly predicted a decrease in child care problems from Time 1 to Time 2.

Since none of the proposed mediators (financial burden, perceived affordability, or use of formal care) was significantly predicted from the child care subsidy variable and significantly predicted a dependent variable, the conditions necessary for mediation in this change model were not met. Thus, no further analyses are reported for the mediation hypotheses of this model.

[61] Because the change in perceived affordability of formal care for both youngest and oldest focal children and the change in use of formal care for the youngest focal child perfectly predicted a change in parents' experience of at least one child care problem (each perfectly predicting a lack of decrease in child care problems from Time 1 to Time 2), logistic regressions were not possible. Cross-tabulations and chi-squares were used to analyze these relationships.

Table 33. Wait List Change in Dependent Variables Regressed on Change in Proposed Mediators

	Child Care Problems		Child Care-Related Employment Problems		Child Care-Related Employment Problems		Child Care-Related Employment Problems		Child Care-Related Employment Problems		Child Care Problems		Child Care-Related Employment Problems	
	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B
Financial Burden	-2.826*	0.059	0.073	1.076										
	(1.509)		(2.492)											
Perceived Affordability (Youngest)					-0.028	0.972								
					(0.767)									
Perceived Affordability (Oldest)[a]							-0.028	0.972						
							(0.767)							
Formal Care (Youngest)									0.617	1.853				
									(1.262)					
Formal Care (Oldest)[a]											0.511	1.667	1.435	4.2
											(1.034)		(1.228)	
Constant	-1.834***		-1.255***		-1.253***		-1.253***		-1.31***		-1.609***		-1.435***	
	(0.416)		(0.339)		(0.376)		(0.376)		(0.334)		(0.359)		(0.342)	
Observations	86		86		86		86		86		86		86	

Note. Robust standard errors in parentheses. [a] Oldest child eligible for a subsidy (up to age 13)
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

Conclusion

In conclusion, an attrition analysis revealed parents who attrited from the Wait List study were busier in terms of work and school than parents who did not attrite. Additionally, a lack of change in child care subsidy status over the course of the study significantly predicted attrition. For parents who completed both interviews a change in child care subsidy status was predictive of child care problems, child care-related work disruptions, and a desire to switch child care arrangements. Each of these dependent variables was less likely to happen while parents were receiving a subsidy compared to when they were not receiving a subsidy. This finding is consistent with hypothesis 2a and provides a stronger test of the association between child care subsidy status and the dependent variables (child care problems, child care-related work disruptions, and a desire to switch care) than was provided in the cross-sectional results previously reported. The relationships between child care subsidy status and the dependent variables for the same families over time were not mediated by experiencing a decrease in financial burden, change in one's perception about the affordability of formal care[62], or change in the type of care used for the focal child[63]. The lack of mediation found in this analysis is not consistent with hypotheses 2b/c of this study.

[62] Change in perception of affordability refers to perceiving formal care as unaffordable at Time 1 and affordable at Time 2.

[63] Change in type of care refers to using informal care at Time 1 and formal care at Time 2.

Chapter 7: Comparing the Wait List and Fragile Families Samples and Findings

In this chapter, the Wait List and Fragile Families samples are compared on characteristics and path models. Differences in the samples and explanations for variant findings across samples are presented. Finally, conclusions are shared.

Comparison of Sample Characteristics

Demographics

As can be seen in Table 34, the Wait List and Fragile Families samples were similar on many characteristics. Some differences among the samples warrant recognition. First, the Fragile Families sample appeared to be less independent in housing arrangements compared to the Wait List sample. Members of the Fragile Families sample were more likely to live with friends/family, have more adults living with them in the household, and be living with their own parents/grandparents compared to members of the Wait List sample. These differences in living arrangements are important because they could have an effect on parents' child care choices and experiences of child care problems/child care-related work disruptions. For example, the difference in living arrangement may be an indicator of social capital with participants who live with more adults having access to more resources through the people they live with. Alternatively, living with few/no other adults may be an indicator of human capital with study participants who live with few/no other adults demonstrating human capital through their ability to maintain an independent household.

Table 34. Comparison of the Wait List and Fragile Families Samples on Demographics and Other Characteristics

	Fragile Families				Wait List Study			
Variable	**No Subsidy (N= 514)**	**Subsidy (N= 144)**	**t-value**	**Sig.**	**No Subsidy (N= 54)**	**Subsidy (N= 44)**	**t-value**	**Sig.**
Demographics								
Household Income[a]	21,927	16,255	5.70	***	27,853	27,822	0.01	
% FPL	163.01	120.75	5.71	***	166.54	173.83	-0.55	
Number of Adults in the Household	3.304	3.042	2.25	*	0.353	0.127	1.980	*
Relation to Adults in the Household								
Partner	0.296	0.306	-0.23		0.167	0.114	0.740	
Parent/Parent-in-law	0.294	0.236	1.36		0.093	0.046	0.930	
Grandparent	0.053	0.069	-0.72					
Other adult	0.304	0.250	1.25		0.204	0.091	1.600	
Living Arrangements								
Rents	0.691	0.764	-1.71	†	0.796	0.886	-1.2	
Owns	0.055	0.035	1.08		0.074	0.068	0.11	
Lives with friends/family	0.247	0.188	1.49		0.111	0.046	1.23	
Temporary housing	0.006	0.007	-0.15		0.019	0.000	1	
Controlled housing	0.002	0.007	-0.69					
Race								
Hispanic	0.409	0.444	-0.77		0.130	0.136	-0.100	
Black	0.401	0.424	-0.49		0.519	0.500	0.180	
Non-Hispanic, Non-Black	0.191	0.132	1.77	†	0.241	0.250	-0.100	
Unknown Race					0.111	0.114	-0.040	
Mother's Age	24.420	23.972	0.95		30.630	30.114	0.380	
Mother's Education								
Less than high school	0.323	0.285	0.87					
High school/GED/Vocational	0.389	0.486	-2.10	*	0.407	0.341	0.670	
Some college/Bachelor's degree	0.265	0.222	1.03		0.593	0.659	-0.670	
Employment/Student Status								
Mother in School	0.319	0.354	-0.79		0.111	0.364	-2.97	***
Degree Studying For								
School for h.s. diploma/GED	0.049	0.035	0.77		0.000	0.000	NA	
School for Associates' degree/training/technical	0.162	0.208	-1.32		0.204	0.318	-1.29	
School for Bachelors' degree	0.084	0.069	0.55		0.093	0.046	0.9	
Other degree	0.025	0.042	-0.91					
Mother's Employment Status	0.887	0.882	0.17		0.944	0.955	-0.22	
Non-Traditional Work Hours	0.465	0.479	-0.30		0.426	0.409	0.17	
Work Hours	36.278	34.431	1.94	*	35.972	35.125	0.34	
Children								
Number of Children	1.000	1.000	NA		2.093	2.068	0.1	
Proportion of Sample Approx. Age 3	0.488	0.569	0.09	†				
Age of Youngest Focal Child					3.664	3.924	-0.72	
Age of Oldest Focal Child					6.645	6.849	-0.31	
Help Paying for Child Care								
Received Help Paying for Care	0.056	1.000	-92.63	***	0.648	1.000	-5.36	***
Sources of Help								
Non-custodial parent	0.020	0.000	3.19	**	0.019	0.000	1	
Relative	0.004	0.000	1.42		0.130	0.070	0.96	
Employer/Foundation	0.000	0.000	NA	NA	0.019	0.047	-0.75	
Child care provider	0.002	0.014	-1.20		0.222	0.186	0.43	
Other	0.029	0.132	-3.51	***	0.056	0.000	1.77	†

Note. Fragile Families results are unweighted. [a] Inflated to 2005 dollars.
†≤.10, *≤.05, **≤.01, ***≤.001, two-tailed t-tests

In the Wait List study, participants were older, better educated, had older children, were more likely to be working than in school, and were more likely to get assistance in paying for child care compared to participants from the Fragile Families sample. These characteristics taken as a whole lend support to the idea that the Wait List study participants had more human capital and resources than the Fragile Families sample.

Due to the selection of the sample for this study, participants in the Fragile Families sample had no more than one child in the household. Consequently, the Wait List sample had more children in the household than the Fragile Families sample. Additionally, the range of ages of children in the Wait List sample was broad (5 months to 13 years) compared to the Fragile Families sample (10 months to 3.5 years). Having more children in the household could be an asset, especially if the older children are able to contribute resources (such as child care services). More likely, having more children would put additional financial strain on the family and provide more opportunities for parents to experience child care problems/child care-related work disruptions as parents' risks for these outcomes increase with the number of children in care.

Finally, there was less representation by Hispanics in the Wait List sample compared to the Fragile Families sample. Though the Hispanic control indicator was significant in a number of regressions, the literature is inconsistent in interpreting how ethnicity affects child care choices and experiences of child care problems/child care-related work disruptions (see Fuller et al., 1996; Huston et al.,2002).

Outcomes

Perhaps as a result of these variations in characteristics, the Wait List and Fragile Families samples differed somewhat on the proposed mediators and dependent variables

(See Tables 35 and 37). The Wait List sample was more likely to use formal care (center/family day care provider) than the Fragile Families sample. (For a detailed breakdown of child care type by age, see Table 36). Additionally, the Wait List sample was more likely to use multiple child care arrangements than the Fragile Families sample. Type of care and the choice/necessity of using multiple providers have both been established in the literature as variables that affect parents' propensity towards experiencing child care problems and child care-related work disruptions (Knox et al., 2003; Scott et al., 2005). Additionally, because the Wait List sample was more likely to use formal care, it comes as no surprise that their financial burden of child care per child was higher than that of the Fragile Families sample.

Table 35. Comparison of the Wait List and Fragile Families Samples on Child Care Variables

	Fragile Families				Wait List Study							
					Youngest Focal Child				Oldest Focal Child			
	No Subsidy (N= 514)	Subsidy (N= 144)	t-value	Sig.	No Subsidy (N= 54)	Subsidy (N= 44)	t-value	Sig.	No Subsidy (N= 54)	Subsidy (N= 44)	t-value	Sig.
Type of Care												
Center	0.307	0.701	-9.06	***	0.444	0.568	-1.22		0.463	0.614	-1.49	
FDCP	0.109	0.056	2.26	**	0.315	0.341	-0.27		0.278	0.250	0.31	
Relative	0.535	0.229	7.37	***	0.111	0.023	1.7	*	0.111	0.046	1.18	
Formal Care	0.416	0.757	-8.12	***	0.759	0.909	-2.04	*	0.741	0.864	-1.500	
Multiple Arrangements	0.181	0.139	1.18		0.222	0.318	-1.07		0.222	0.318	-1.07	
Child Care Subsidy Per Child	0.000	459.520	NA	NA	0.00	466.27	NA	NA	0.00	466.27	NA	NA
Out-of-Pocket Cost of Care (Per month)[a]	248.01	85.86	12.21	***	351.14	253.14	1.87	*	351.14	253.14	1.87	*
Financial Burden of Care Per Child[b]	0.167	0.085	5.98	***	0.184	0.114	2.38	*	0.184	0.114	2.38	*

Note. Fragile Families results are unweighted. [a]Fragile Families figures inflated to 2005 dollars. [b] Financial Burden of Care=Monthly Out-of-Pocket Cost of Care Per Child/Monthly Household Income

†≤.10, *≤.05, **≤.01, ***≤.001, one-tailed t-tests

Table 36. Comparison of Type of Care By Focal Child's Age

Child's Age	N	Center	Family Day Care Provider	Relative	Parent/Sibling/ Self-Care	Other
Wait List (Youngest Focal Child)						
< 1 year	2	0%	0%	0%	100%	0%
1-2.99 years	32	31%	44%	9%	16%	0%
3-5.99 years	50	58%	30%	6%	6%	0%
6+ years	14	71%	22%	7%	0%	0%
Wait List (Oldest Focal Child[a])						
< 1 year	0	31%	54%	15%	0%	0%
1-2.99 years	13	57%	39%	4%	0%	0%
3-5.99 years	23	57%	39%	4%	0%	0%
6+ years	62	57%	16%	8%	19%	0%
Fragile Families						
~ 1 year	283	28%	11%	53%	0%	8%
~ 3 year	300	49%	10%	40%	0%	1%

Note. Fragile Families results are unweighted. [a] Oldest child eligible for a subsidy (up to age 13).

Finally, though the Fragile Families participants were more likely to experience child care problems, Wait List study participants were more likely to experience child care-related work disruptions. Two data issues are notable with regard to these dependent variables. First, the measures of child care problems and child care-related work disruptions ask about the last month for the Fragile Families study and the last three months for the Wait List study. Thus, the difference in experience of child care problems between the Wait List and Fragile Families samples may be understated. Second, the survey questions for the child care-related work disruptions variable differed by study. In Fragile Families, this question queried parents about missing work/school only. In the Wait List study, this variable was created based on a number of potential child care-related work disruptions (missing work, being tardy/leaving work early, having to change work hours due to child care, and having to make alternative arrangements for child care due to child care problems). Thus, the difference between the Wait List and Fragile Families sample on the child care-related work disruption variable may be overstated.

Table 37. Comparison of the Wait List and Fragile Families Samples on Child Care Problems and Child Care-Related Work Disruptions Variables

Variable	Fragile Families				Wait List Study			
	No Subsidy (N= 514)	Subsidy (N= 144)	p-value	Sig.	No Subsidy (N= 54)	Subsidy (N= 44)	t-value	Sig.
Proportion That Experienced Child Care Problems	0.318	0.222	2.22	**	0.296	0.114	2.31	**
Number of Child Care Problems	0.663	0.563	0.73		0.519	0.227	1.47	†
Proportion That Experienced Child Care-Related Work/School Disruptions	0.160	0.105	1.81	*	0.407	0.182	2.46	**
How Often Missed Work/School Due to Child Care Problems	0.367	0.287	0.73		0.778	0.250	2.72	**

Note. Fragile Famlies results are unweighted.
†≤.10, *≤.05, **≤.01, ***≤.001, one-tailed t-tests

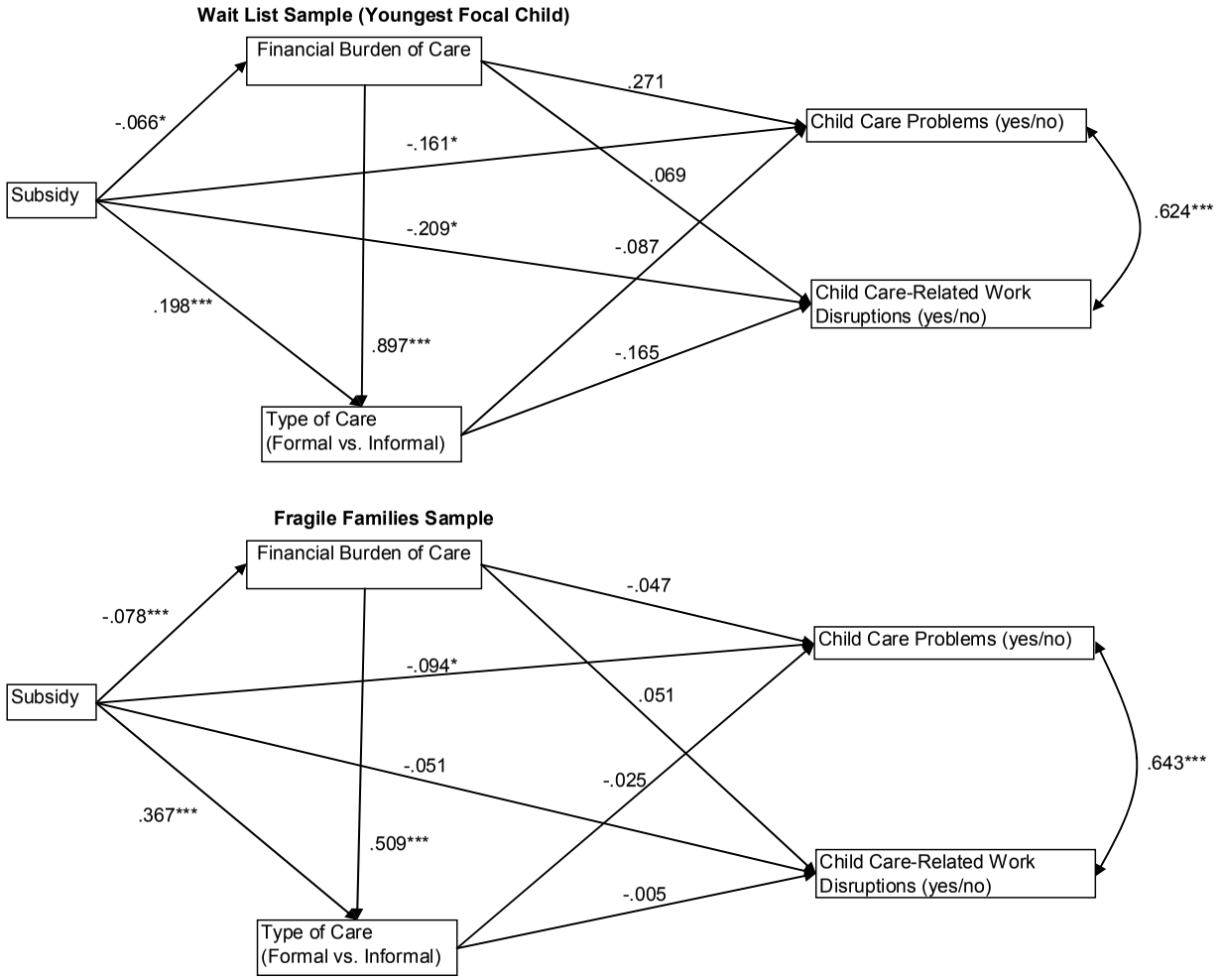
Comparison of Path Models

As seen in Figure 9 and Table 38, the unstandardized paths between child care subsidy status, financial burden, type of care, child care problems, and child care-related work disruptions vary somewhat between the Wait List and Fragile Families samples. For ease of comparison, path models for the youngest focal child from the Wait List sample and the only focal child in the Fragile Families sample are featured in Figure 9. To supplement the comparison of the path models, effect sizes for each direct effect in the model was computed. Effect sizes are calculated by dividing each unstandardized path coefficient[64] by the standard deviation of the dependent variable in that path. Effect sizes provide a means for comparing models across samples. Table 38 includes effect sizes for both the youngest and oldest focal child from the Wait List sample and the sole focal child of the Fragile Families sample. The following path models and effect size table include as controls focal child's age and numbers of children aged thirteen or under in non-parent/self/sibling care[65] as these were the only controls that were available and significant for both studies.

[64] Unstandardized coefficients are used because standardized coefficients are standardized based on characteristics of the sample and thus are not comparable across samples.

[65] Number of children aged thirteen or under in non-parent/self/sibling care is automatically controlled in the Fragile Families sample because there is only one child (who is not in parent/self/sibling care) between the ages of 10 months and 3.5 years per household in the sample.

Figure 9. Comparison of Wait List (Youngest Focal Child) and Fragile Families Path Models



Note. All paths are unstandardized. Fragile Families results are unweighted. Focal child's age and number of children aged thirteen or under in care are only control variables. Path significance based on one-tailed tests.
* p ≤ .05, ** p ≤ .01, *** p ≤ .001

Table 38. Comparison of Effect Sizes Between Wait List and Fragile Families Path Models

	Effect Size Wait List (Youngest)	Effect Size Wait List (Oldest)	Effect Size Fragile Families
Subsidy-DV			
Sbsidy-CCprb	-0.391	-0.362	-0.206
Sbsidy-Empprb	-0.451	-0.458	-0.144
Subsidy-Mediators			
Sbsidy-Fburden	-0.423	-0.417	-0.523
Sbsidy-Type Care	0.520	0.338	0.734
Mediators-Mediators			
Fburden-Type Care	2.354	1.178	1.018
Mediators-Dependent Variables			
Fburden-Ccprob	0.658	0.626	-0.103
Fburden- Empprob	0.149	0.013	0.144
Type Care-Ccprob	-0.211	-0.665	-0.055
Type Care- Empprob	-0.356	-0.469	-0.014

Note. Effect Size=Unstandardized Path/Standard Deviation of Dependent Variable. Fragile Families results are unweighted. Focal child's age and number of children aged thirteen or under in care are the only control variables.

As shown in Figure 9 and Table 38, parents who received a child care subsidy were less likely to experience a child care problem than parents who were not receiving a child care subsidy in both samples. Parents who received a child care subsidy were less likely to experience a child care-related work disruption in the Wait List sample only. The magnitudes of these relationships were larger with the Wait List sample compared to the Fragile Families sample. In both samples, having a subsidy was associated with a lower financial burden of care and a greater likelihood of using a formal child care provider. Both of these relationships were stronger in the Fragile Families data compared to the Wait List data. Having a higher financial burden of care was associated with greater likelihood of using formal care for both samples, though this relationship was stronger with the Wait List data. Financial burden was not predictive of parents'

likelihood of experiencing a child care problem or child care-related work disruption in either sample and the magnitude of effect sizes differed by sample with financial burden having a positive association with child care problems with the Wait List sample and a weak negative association with child care problems with the Fragile Families sample. The weak positive effect of financial burden on child care-related work disruptions was similar in both samples. Use of formal care was not predictive of parents' likelihood of experiencing child care problems or child care-related work disruptions in either model shown in Figure 9[66], though the effect sizes between these variables were larger with the Wait List sample. Finally, the correlation between child care problems and child care-related work disruptions was nearly identical in the Wait List and Fragile Families data.

In conclusion, the unstandardized path models using the Wait List (youngest focal child) and Fragile Families data show similar effects. In both models, negative direct effects were found between child care subsidy status and the dependent variables and no indirect effects were found. The effect sizes of paths tended to be stronger with the Wait List data, though the impact of child care subsidy status on the proposed mediators was stronger with the Fragile Families data. In the next section, explanations for the slight variations in the models are explained.

Explanations for Varying Effect Sizes between Samples

Variations in the findings of the Wait List and Fragile Families data may occur for a number of reasons. First, children in the Fragile Families study were younger and there was less variation in their age compared to the Wait List sample. Probably due mostly to this distinction in age, children in the Fragile Families study were also less likely to use

[66] In the analysis of the oldest focal child from the Wait List sample, use of formal care was predictive of being less likely to experience child care problems.

formal care (M=.490, SD=.500) compared to children in the Wait List study ($M_{youngest}$=.827, SD=.381; M_{oldest}=.796, SD=.405). The variation in type of care used across samples could have affected the magnitude of relationships involving both type of care and financial burden (since formal care tends to be more expensive than informal care). Variation in type of care across studies may also explain why the effect size of the subsidy/type of care relationship is so strong, as most parents using relative care do not obtain child care subsidies, thus leaving subsidy as a strong predictor of parents who use formal providers.

Second, the measure of child care subsidy status comes from administrative data in the Wait List study and self-report data in the Fragile Families study. As some parents likely did not know the source of their financial assistance in paying for child care, measurement error in the Fragile Families study may account for some variation in effect sizes involving the subsidy variable. For example, this difference may explain, in part, why the effect sizes of direct effects between child care subsidy status and the dependent variables were smaller in the Fragile Families data.

Third, the time frame for the child care problems and child care-related work disruption variables was longer in the Wait List study (three months) compared to the Fragile Families study (one month). Additionally, the child care-related work disruption variable in the Wait List study incorporated a broader measure of disturbance compared to the Fragile Families study. Each of these issues may have also contributed to smaller effect sizes involving the direct and indirect effects between the child care subsidy variable and the dependent variables in the Fragile Families sample.

Conclusion

In conclusion, though the Wait List and Fragile Families samples were not perfectly comparable, these samples were similar on many characteristics. Additionally, the path models in this chapter showed the relationships among variables to be similar across samples when the same controls were used. Differences in relationships within the path models were largely attributable to differences in characteristics of the samples and/or differences in the Fragile Families and Wait List surveys.

Chapter 8: Discussion

In this chapter, the results are reviewed and potential explanations for unexpected findings offered. The degree to which the findings are consistent with the literature and rational choice theory are then evaluated. Differences between the focal children in the Wait List study are reviewed and a note on the choice of two of the dependent variables for this study is provided. Next, limitations of the study are detailed and implications of the study on policies, programs, and future research discussed. Finally, conclusions from this study are presented.

Summary of Key Findings

There were six hypotheses for this study. Three of the hypotheses tested the direct and mediated impact of child care subsidies on child care problems, child care-related work disruptions, and parents' desire to switch care using a static model and three tested these relationships using a change model. As can be seen in Table 39, four of the six hypotheses in this study were supported.

Table 39. Review of Hypotheses and Findings

Hypothesis	Results
Static Model	
1a. Parents with a child care subsidy will be less likely to report child care problems, child care-related work disruptions, and a desire to switch care than parents who do not have a subsidy.	**Partially supported.** Parents with a child care subsidy were significantly less likely to experience child care problems and child care-related work disruptions than parents without a subsidy. This relationship was found in both the Fragile Families and Wait List data. Additionally, in the Fragile Families data, parents who had a child care subsidy experienced fewer child care problems and child care-related work disruptions than parents who did not have a child care subsidy.
1b. The relationships between child care subsidy receipt and child care problems/child care-related work disruptions/desire to switch care are mediated by at least one of the following variables: financial burden of care, perceived affordability of formal care, or type of care.	**Partially supported.** Type of care mediated the relationship between child care subsidy status and child care-related work disruptions (youngest focal child) in the Wait List sample. No mediation effects were found in the Fragile Families sample, nor were financial burden/perceived affordability of formal care found to be mediators with either sample.

Hypothesis	
1c. The relationships between child care subsidy receipt and child care problems/child care-related work disruptions/desire to switch care are mediated by the combined effects of type of care and financial burden/perceived affordability of child care.	**Partially supported.** Though financial burden was not established as a mediator, the mediation effect between child care subsidy status and child care-related work disruptions (among youngest focal children) through type of care was magnified when financial burden was added as an intervening variable in the Wait List analyses. A combined mediation effect was not found with the Fragile Families sample, nor was a combined mediation effect through perceived affordability of formal care and type of care found with the Wait List sample.
Change Model (Wait List Sample Only)	
2a. Parents who were not receiving a child care subsidy at Time 1 and were receiving a child care subsidy at Time 2 will report a decrease in child care problems/child care-related work disruptions/desire to switch care between time points.	**Supported.** When parents began receiving a child care subsidy, they were significantly less likely to experience a child care problem, child care-related work disruption, or desire to switch care compared to when they were not receiving a child care subsidy. Additionally, when they began receiving a child care subsidy, parents experienced fewer child care problems and child care-related work disruptions compared to when not receiving a subsidy.
2b. The relationships between changes in child care subsidy receipt and child care problems/child care-related work disruptions/desire to switch care are mediated by at least one of the following variables: change in financial burden of care, change in perceived affordability of formal care, or change in type of care across time periods.	Not supported. No mediation effects were found through the change in financial burden, perceived affordability, or type of care.
2c. The relationships between changes in child care subsidy receipt and child care problems/child care-related work disruptions/desire to switch care are mediated by the combined effects of change in type of care and the change in financial burden/perceived affordability of child care across time periods.	Not supported. No mediation effects were detected through the combined effects of financial burden or perceived affordability and type of care.

Note. As a reminder, type of care was broken into two categories: formal care (including: child care centers, family day care providers, pre-kindergarten programs, Head Start, before and afterschool extracurricular programs) and informal care (including care provided by relatives, family, or friends).

Impact of Child Care Subsidy on the Dependent Variables

As mentioned above, child care subsidy status was a negative predictor of two of the three dependent variables in cross-sectional analyses of both samples in this study: child care problems and child care-related work disruptions. These relationships were

also found in a more conservative analysis among the same people over time using the Wait List data. Thus, in the Wait List analyses, child care subsidies were found to decrease the likelihood and number of episodes of child care unreliability and, perhaps more importantly, decrease the likelihood and number of unreliable child care episodes that affect parents' work.

Though the preponderance of evidence from this study suggests there is an effect of child care subsidies on child care problems and child care-related work disruptions, an alternative explanation for this finding is that selection effects are responsible for the differences in child care problems/child care-related work disruptions between those receiving and not receiving a child care subsidy. In other words, it could be that parents who receive a child care subsidy are more likely to use reliable child care than those who do not receive a subsidy because of differences in their desire to use reliable care or other untested characteristics. Results of the change analyses from the Wait List data, which found both the likelihood and frequency of child care problems/child care-related work disruptions decreased when parents changed child care subsidy status, lend support to the hypothesis that child care subsidy status affects child care reliability. However, doubts about causal versus selection effects may remain.

In the change model, a change in child care subsidy status was predictive of a change in parents' desire to switch care. When parents in this analysis began receiving a child care subsidy, they were significantly less likely to desire switching their child care arrangements compared to when they were not receiving a child care subsidy. Additionally, an indirect association between child care subsidy status and parents' desire to switch care through perceived affordability was found in the expected direction in the

static model using Wait List data. Thus, some support for the hypothesis that child care subsidies allow parents to use care with which they are more satisfied was provided in this study.

Indirect Effects of Child Care Subsidy Status on the Dependent Variables

Though the direct relationships between child care subsidy status and parents' experiences with child care problems and child care-related work disruptions are interesting, the mechanisms through which subsidies affected the dependent variables in this study are, perhaps, even more valuable in terms of developing policy and program implications. Two mechanisms were identified as having mediating or indirect effects on the relationships between child care subsidy status and the dependent variables. The first involved the cost of care (financial burden of care/perceived affordability of formal care) and the second was related to the type of care chosen. Each of these mechanisms is explored further below.

Cost of care (financial burden/perceived affordability). The first mechanism thought to influence the relationship between child care subsidies and the dependent variables is the cost of care. Two interesting findings involved the cost of care. First, in the analysis of Wait List parents over time, a decrease in financial burden for the same family over time was predictive of a decrease in child care problems.[67] Second, significant indirect paths in the Wait List cross-sectional analysis were found between child care subsidy status and both child care-related work disruptions and parents' desire to switch care through perceived affordability of formal care.[68] Though a decrease in the

[67] This relationship was slightly smaller but still significant when child care subsidy status was controlled.

[68] These paths were not tested in the Fragile Families data because the perceived affordability of formal care and desire to switch care variables were not in this dataset.

percentage of income a parent devoted to child care did have an independent effect on child care reliability (predicting a lower probability of experiencing a child care problem), neither measure of the cost of care (financial burden/perceived affordability of formal care) mediated the impact of child care subsidies on child care problems/child care-related work disruptions. Thus, some evidence was found to suggest that cost of care affected child care reliability, but no evidence was found that the relationship between child care subsidy status and child care reliability/the effect of child care unreliability on parent's work was due to the subjective or objective cost of care. Parents' choice to switch child care providers in order to obtain more desirable care was affected by both the amount of money parents spent on child care and their perception of the affordability of formal care.

One explanation for the lack of a mediation effect between child care subsidy status and child care problems/child care-related work disruptions through financial burden involves the substitution of formal care for informal care with the addition of a subsidy. The theory behind the conceptual model in this study assumed that families' cost of care (financial burden) would decrease when a child care subsidy was obtained. However, some parents (12% of those in the Wait List sample) in the study used informal providers, who cost little or nothing, when a child care subsidy was not available and switched to formal care when the subsidy became available. Upon receiving a child care subsidy, of those who switched from informal to formal care, a significant proportion (56% in the Wait List sample) actually had an increase in their financial burden of care (due to the co-pay associated with the subsidy). The relationship between financial burden and child care problems/child care-related work disruptions becomes complicated

when this dynamic of substituting formal for informal care is introduced, because both receiving a subsidy and using informal care (two phenomenon that are negatively associated and assumed to have opposing associations with the dependent variables) can be associated with having a low financial burden. Additionally, because data on the quality of child care were not available, the impact of substitution from low-quality to higher-quality care on financial burden was not accounted for.

The second explanation involves the theory underlying the relationships among child care subsidies, financial burden, and child care problems/child care-related work disruptions. In developing this study, it was assumed that parents who are spending a high proportion of their income on child care are likely constrained by cost in their choice of providers. In other words, those with a low income are likely to have a high financial burden even with unreliable providers. An alternate and competing explanation is that some parents are willing to pay a high proportion of their income on child care if it means they will obtain reliable care.[69] Thus, it could be that a high financial burden of care is associated with having fewer child care problems/child care-related work disruptions. If both of these explanations were applicable to different members within a sample, a mediation effect may have been cancelled out in the analysis of the whole sample.

The lack of mediation effects through perceived affordability of formal care in this study may be due to limitations of this variable. Surveying parental perception can be challenging because subjective words such as "affordable" can be defined differently. The lack of a significant correlation between financial burden and perceived affordability

[69] The financial burden of care *per child* in the Wait List study ranged from 0 to .73, with 20% spending more than one-third their income and 9% spending more than 50% of their income on child care. Similarly, in the Fragile Families sample, 13% spent more than one-third their income, and 6% spent more than 50% of their income on child care.

of formal care (see Appendix B) was one indication that the perceived affordability of formal care variable was inconsistently defined by participants in this study. This lack of consistency may have contributed to the variation in results found with financial burden and perceived affordability of formal care.

An alternative explanation for why perceived affordability of formal care might not mediate the relationships between child care subsidies and child care problems/child care-related work disruptions is that whether one perceives care as affordable may have little bearing on his/her child care choices. Perceiving that one is not constrained fiscally from accessing the most expensive type of child care provider does not necessarily lead to purchasing expensive (which may be reliable/satisfactory) child care. Using concepts from rational choice theory, parents will spend their money on things they perceive to be most useful to them. Child care may rank lower than other priorities. In this case, parents may choose not to use expensive providers despite being able to afford such care. Alternatively, parents who are not fiscally constrained in child care choice may select care that offers benefits other than reliability (i.e. quality, convenience, etc.). Finally, when selecting a child care provider, parents may not be able to predict whether the provider will be reliable or not.

Type of care. As a brief review, the use of formal care differed across samples. More informal (relative) care was used for children in the Fragile Families sample compared to the Wait List sample. This was likely due to differences in the ages of children across samples and the well-documented association between child's age and

child care choices[70] (i.e. Burchinal & Nelson, 2000; Hofferth & Wissoker, 1991; Huston, Chang, & Gennetian, 2002; Mulligan, Brimall, West, & Chapman., 2005; Uttal, 2002).

Type of care was found to have both direct and indirect effects on measures of child care reliability and episodes of child care reliability that affected parents' work. The use of formal care was a significant negative predictor of both child care-related work disruptions among both focal children and child care problems among oldest focal children in the Wait List data. Type of care was also a mediator in the relationship between child care subsidy status and child care-related work disruptions among youngest focal children in the Wait List cross-sectional analysis. Additionally, significant indirect effects between child care subsidy status and child care problems through type of care were found in analyses of the oldest focal child in the Wait List cross-sectional analyses. Thus, this study does provide some evidence that a) formal care is more reliable than informal care, b) formal care providers are less likely than informal providers to cause an episode of child care unreliability that affects parents' work, and c) part of the relationship between child care subsidy and child care reliability is explained by the type of care parents choose. No significant mediation or indirect effects involving type of care were found in the Fragile Families analyses. The difference in distribution of type of care across samples and measurement differences in the child care problems and child care-related work disruptions variables across studies may help explain these differences in findings.

[70] An alternative explanation for this difference in usage of formal care may have to do with the availability of formal providers who accept child care subsidies. State-level data are available on the provider acceptance rate of subsidies for the Wait List data (this acceptance rate was between 76%-81%), but no such data are available for the public use Fragile Families data.

Type of care was not found to have direct or indirect relationships on parents' desire to switch care arrangements. This finding can probably be attributed to the wide amount of variation within formal and informal care. In other words, although some parents desired to switch child care arrangements from informal to formal care, most parents who expressed a desire to switch care desired to pick a different provider within the same type of care.

The use of formal versus informal care is a crude measure of all the dynamics that can change when one receives a child care subsidy. For example, with the receipt of a child care subsidy, parents may be able to discontinue their use of multiple providers,[71] use higher quality care, or establish a more reliable payment plan with their provider (which could lend itself to more tenure with that provider). This study was limited in its ability to study these concepts because they were not measured and the sample size was small. However, future studies should look at more nuanced effects of child care subsidies on child care choices as these choices may have policy and program implications.

Variation in the reliability and quality of child care arrangements are likely key factors in the explanation of why mediation effects, other than the effect detected among youngest focal children in the Wait List study, were not found through type of care. Variation in quality and reliability even among formal providers is supported in the child care literature (Doherty, Forer, Lero, Goelman, & LaGrange, 2006) and is a key concern for policymakers and administrators who are in charge of licensing and accrediting child care providers.

[71] In the Wait List study, no significant change in use of multiple child care arrangements across time periods was found. However, there were very few participants in the study who used multiple arrangements at either time period.

Cost-of-care/type of care combination. Evidence of combined mediation/indirect effects through financial burden and type of care on measures of child care unreliability and parental work disruptions resulting from child care unreliability were found in the Wait List data only. These effects came in the form of a) a significant mediation effect involving financial burden and type of care between child care subsidy status and child care-related work disruptions among youngest focal children, and b) an indirect effect between child care subsidy status and child care problems through the combined effects of financial burden and type of care.

Neither mediation nor indirect effects were found through the combined effects of financial burden and type of care in the Fragile Families data. As mentioned, the lack of such effects in the Fragile Families data is likely due, at least in part, to parents' child care choices and measurement issues with the child care problem and child care-related work disruption variables. As mentioned, in the Fragile Families dataset, more of the sample used informal care as the primary provider compared to the Wait List sample. This difference in the distribution of the child care type variable may explain why this effect was found in one dataset and not the other. Additionally, as mentioned, the child care problems and child care-related work disruption variables were asked only for the last month. Thus, some parents may have experienced child care problems/child care-related work disruptions in the last three months without being captured by this measure. Finally, due to the small sample size of the Wait List study, it may be that the parents in this sample are unique and no indirect relationship between child care subsidy status and child care problems through financial burden and type of care exists for most parents.

Other undetected mechanisms. In conclusion, receipt of a child care subsidy did result in parents having fewer episodes in which child care unreliability affected their work. Though part of this effect was attributed to the combined effects of financial burden and type of care, this mediation effect was small. A full mediation effect was not detected in any of the models with either dataset and it is safe to say that the conceptual model was not fully specified (i.e. not all variables that explain the relationships between child care subsidy status and the dependent variables were included in the model). Other variables that might have a moderating effect on the relationship between child care subsidy status and the dependent variables include child-specific variables (i.e. disability), family-specific issues (i.e. access to transportation), variables specific to child care services (i.e. quality, availability), national/state-level influences (i.e. policies affecting the generosity of child care subsidies), etc. Inclusion of additional contextual variables in future studies is warranted.

Consistency of Findings with the Literature and Rational Choice Theory

Impact of Child Care Subsidies

The first main finding of this study is that parents with a child care subsidy were significantly less likely to experience and experienced fewer child care problems and child care-related work disruptions compared to parents without a child care subsidy. This finding is consistent with some of the literature on this relationship and the assumptions of rational choice theory.

As was reviewed in Chapter 2, findings regarding the impact of child care subsidies on child care problems and child care-related work disruptions are consistent with two of the four cross-sectional studies in the literature: Press et al. (2006), who

analyzed parents who had applied, received, or been signed up for a child care subsidy in the last month, and Weinraub et al. (2005), who compared African American parents in Philadelphia who were and were not receiving a child care subsidy. The findings from the change analysis of Wait List data (when parents were receiving a child care subsidy they were less likely to experience/experienced fewer child care problems and child care-related work disruptions compared to when they were not receiving a child care subsidy) further supports the findings of Press et al. and Weinraub et al. because using the same parents over time is a more conservative analysis than a cross-sectional design.

The finding that child care subsidy receipt was a significant negative predictor of parents' experiences of child care problems and child care-related work disruptions also supports the assumptions of rational choice theory. In accordance with the assumptions of this theory, parents who received a child care subsidy were provided resources that allowed them to choose more expensive child care, which is assumed to be more reliable.

Findings from this study on the impact of child care subsidies on parents' desire to switch care were not consistent across cross-sectional and change analyses. No significant negative relationship was found between child care subsidy status and parents' desire to switch care arrangements in the cross-sectional analysis of Wait List data. This finding is consistent with both Weinraub et al. (2005) and Press et al. (2006), each of whom used cross-sectional designs and did not find a significant relationship between child care subsidy status and parents' dissatisfaction with care/desire to switch care arrangements. The change analysis of the Wait List data found that a change in child care subsidy status (from no subsidy to receiving a subsidy) perfectly predicted parents being less likely to desire to switch their care arrangement for their oldest focal child.

This finding is consistent with the findings of Berger and Black (1992), Wolfe and Scrivner (2004), and Brooks et al. (2002), each of whom found child care subsidies to be associated with greater satisfaction with child care.

The findings described above suggest that financial constraints keep some parents from accessing their ideal provider. The lack of a significant relationship between child care subsidy status and desire to switch care in the cross-sectional analysis of Wait List data may be due in part to the complexity of defining this dependent variable. Parents' desire to switch care may be a complex variable because parents may be dissatisfied with some aspects of their care and satisfied with other aspects. Thus, parents in this study may have reported a desire to switch providers and yet not have been willing to switch because they did not want to lose whatever source of utility their provider was offering. This idea highlights the complexities involved in predicting a decision when the decision itself is complex. Rational choice theory provides a basic framework for thinking about how parents make decisions, but it cannot accurately predict complex decisions without insight into parents' evaluations of alternative choices. For example, in predicting parents' choices around switching child care arrangements, information on the characteristics of alternative child care options (i.e. location, trust, accessibility, and reliability) and parental preferences would be helpful (see Hofferth & Wissoker, 1992).

Mediating Effects of Financial Burden, Perceived Affordability, and Type of Care

Using the Wait List data, a significant mediation effect on the relationship between child care subsidy status and child care-related work disruptions through type of care was found. This finding was not surprising given the strong relationships in the literature between a) child care subsidy status and type of care (Huston et al., 2002; Lowe

& Weisner, 2004; Tekin, 2005; Weinraub et al., 2005; Wolfe & Scrivner, 2004), and b) type of care and child care-related work disruptions (Hofferth et al., 1991; Knox et al., 2003). It was surprising, given the literature, that no independent mediation effects were detected through financial burden/perceived affordability of formal care.

The mediation effect found between child care subsidy status and child care-related work disruptions through type of care is supported by the assumptions of rational choice theory (for details, see Chapter 2). The lack of other mediation effects in this study, especially between child care subsidy status and the dependent variables through financial burden/perceived affordability of formal care, is not consistent with the assumptions based on rational choice theory put forth in Chapter 2. According to these assumptions, obtaining a utility-enhancing resource, such as a child care subsidy, would minimize/alleviate financial constraints on parents' choice of child care providers and would thus free them to choose a provider who is reliable and satisfactory.

Due to the complexities involved in choosing a child care provider and evaluating satisfaction, the lack of mediation effects through financial burden/perceived affordability of formal care could be explained by rational choice theory if types of utility considered went beyond financial constraints. For example, parents may prioritize unreliable providers who offer other sources of utility over reliable providers or parents may choose to stay with a provider despite a general desire to switch care due to some aspect of utility that provider offers (for example, convenience or high quality care, especially if the parent perceives this particular level of utility is unique to the provider).

Combined Mediating Effects of Financial Burden, Perceived Affordability, and Type of Care

The final major finding of the study, found only using the Wait List cross-sectional analyses, was evidence of a mediation effect through the combined effects of financial burden and type of care. This finding is consistent with findings in the literature that a) child care subsidy status is a significant predictor of child care-related work disruptions (Press et al., 2006; Weinraub et al., 2005), b) receipt of a child care subsidy affects families' financial burden of care (Danzinger et al., 2001; Weinraub et al., 2005), and c) financial burden of care is associated with the type of care families select (Chin & Phillips, 2004; Fuller et al., 2002; Hofferth & Wissoker, 1991), and d) formal care is associated with fewer child care-related work disruptions than informal care (Hofferth et al., 1991; Knox et al., 2003). Additionally, this finding is supported by the tenets of rational choice theory as financial burden was hypothesized to be a constraint affecting parents' choice of care and ability to use reliable care (for details, see Chapter 2).

Conclusion

In conclusion, for the most part, the findings in this study are consistent with findings in the literature. However, in some cases, such as in the direct relationships among child care subsidy status and child care problems, child care-related work disruptions, and parents' desire to switch care, findings in the literature are inconsistent. Thus, through findings that support theorized effects of subsidies, this study adds to the literature in an important way.

With regard to rational choice theory, the current study benefited from the framework that rational choice theory provides in thinking about how families make

decisions through an economic model. A key limitation of rational choice theory that affected its usefulness in this study was the ability of this theory to explain complexities. Parents' choices around child care, the multiplicity of constraints parents face in making child care choices, and parents' definitions of concepts that can involve multiple and competing dimensions (i.e. parents' desire to switch care) are not well explained by the hypotheses developed from rational choice theory without information on parents' perceptions of alternatives and parents' access to information that is not easily predictable (i.e. how reliable a child care provider will be). That being said, the strengths of rational choice theory outweighed its limitations in framing this study.

Differences between the Youngest and Oldest Focal Children

Before proceeding to the limitations of this study, two issues deserve explanation. The first of these is a review of differences in findings between the youngest and oldest focal children in the Wait List study. Two focal children were included in the analysis of Wait List data. In these analyses, a few differences in findings between these focal children emerged.

With regards to multivariate cross-sectional results, the impact of child care subsidy status on each of the dependent variables was similar for the youngest and oldest focal children. In terms of differences in the impact of child care subsidy status on the proposed mediating variables, child care subsidy status was a significant predictor of type of care for the youngest focal child in cross-sectional analyses. This finding is not surprising given that the modal age of the youngest focal child was five years and findings in the literature report that parents tend to prefer formal care for preschoolers (Sonenstein et al., 2002). In the change analysis, a change in child care subsidy status

(from no subsidy to subsidy) was a significant predictor of change in type of care among oldest focal children (from informal to formal care). This finding is also not surprising given that 65% of Wait List participants who received a child care subsidy received the county-provided subsidy that first went to pay for the oldest child's (up to age 13) care and required the subsidized child be in formal care.

Some of the relationships between proposed mediators and the dependent variables in the cross-sectional analyses differed by focal child. First, the impact of financial burden on desire to switch care was found only for the youngest focal child. Since both financial burden and child care problems are family-level variables, this difference can be attributed to the age of the child. Thus, this difference may reflect the higher cost of child care for younger children. The effect of perceived affordability of formal care on the dependent variables did not differ by focal child except when type of care was controlled. With this control added, perceived affordability of formal care became a significant predictor of child care-related work disruptions for the oldest focal child only. This effect may be due to data issues involving the perceived affordability of formal care variable. Finally, the relationship between type of care and the dependent variables differed by focal child. Type of care was a significant predictor of child care problems for the oldest focal child only. This may be due to differences in the unreliability of informal care used for the youngest and oldest focal children. For example, it may be that parents are more cautious and thus select more reliable informal providers for their youngest children compared to their oldest children (up to age 13) because they perceive their youngest children to be more dependent on the provider.

Child Care Problems and Child Care-Related Work Disruptions

The second issue that deserves mention before proceeding to the limitations of this study involves the choice of child care unreliability measures in this study. The dependent variables of child care problems and child care-related work disruptions were similar measures designed to obtain information on two unique concepts related to child care unreliability. The child care problems variable was a measure of episodes of child care unreliability. It was used in this study as a measure of whether and how often unreliable child care episodes happened, regardless of the outcome of these episodes. The child care-related work disruptions variable was a measure of the effects of episodes of child care reliability on parents' work/school. As these two dependent variables measure distinct concepts, both were included in this study and no index was created from these variables.

Study Limitations

This study has a few key limitations that could be addressed in future studies. First, the study lacks measures of job tenure (how long participants remain at each job) and upward mobility within and across positions. Inclusion of each of these dependent variables would allow a researcher to test the relationship between variables believed to affect parents' ability to maintain work (i.e. child care problems, child care-related work disruptions, and a desire to switch care) and relevant employment outcomes. It should be noted that because participants had to be employed in order to receive a subsidy, the effect of a subsidy on employment status could not be tested.

Second, the two data sets used in this study are not comparable in terms of children's ages. This study analyzes data from a small sample of low-income mothers on

whom there is rich data, and replicates the analyses with a national sample. Although the samples were comparable on many demographic features, the average age of children and variation in child's age differed significantly between samples.[72] Because child's age is so central to many child care choices, this is a real limitation in comparing results from the two samples.

Third, some of the variables from the Wait List and Fragile Families samples are not perfectly comparable. For example, the dependent variables of child care problems and child care-related work disruptions were measured across different time frames in the two datasets. Also, the scope of the child care-related work disruption variable differed across samples. In addition to using variables with the same scope and measured across the same time frame, consistency in the reliability of measures across samples would have been preferred. In the current study, the Wait List data had more reliable measures of child care subsidy status and household income, based on administrative data, than the self-reported Fragile Families data.

Fourth, selection criteria imposed on data in this study limits the generalizability of the study. In the Wait List study, only English-speaking parents were interviewed. Thus, results from this dataset should be generalized to Spanish-speaking parents with caution as the Latino culture may affect parents' child care and employment choices. Additionally, the selection criteria that restricted members of the Fragile Families sample to those with one child in the household limits the generalizability of results using these data to families with multiple children.

[72] The Wait List focal children varied in age from .42 to 13 years, whereas the Fragile Families focal children were approximately 1 or 3 years old.

Finally, in this study, sample size was an issue with both samples. In the Wait List study, the small sample size due to the limited number of parents who had consented with the county to be approached for research projects precluded the researcher from using certain more appropriate statistical techniques and from including additional control variables. Likewise, issues with the survey questionnaire that required the researcher to limit the Fragile Families sample to families with one child in the household resulted in a sample size that was insufficient for analyses of a change model.[73] These sample size limitations along with limitations in the availability of relevant variables with the Wait List data restricted the number of control variables in the analyses. As a consequence, child characteristics, such as behavior problems, disabilities, and health issues were not included.

Study Implications

In this section, the implications of this study for future policies, administration of current programs, and future research are detailed.

Future Policies

Impact of child care subsidies. With the passage of welfare reform, which requires parents to work, policies that effectively support low-income parents' ability to maintain employment are necessary. Findings from this study suggest that receiving a child care subsidy decreases the likelihood/frequency of experiencing child care problems, child care-related work disruptions, and a desire to switch care; three variables

[73] Analyses testing bias in the samples revealed the Wait List sample to be similar in demographics to the Fragile Families sample. No data were available to compare the Wait List sample to the population of persons eligible to receive a child care subsidy in the study county. Additionally, analyses of demographics of the Fragile Families sample before and after the "one child per household" selection criterion revealed similar characteristics in both samples.

found by researchers to interfere with parents' ability to maintain a job (see Chaudry, 2004; Dodson, 2006; Holzer, 1999; and Holzer et al., 2001).

As the efficacy of child care subsidies for maintaining employment was supported in this study using multiple datasets and methods, policies that fiscally support the continuation or growth of the child care subsidy program are justified. Additional funds for the child care subsidy program combined with more generous income eligibility requirements for the child care subsidy program would assist families who are establishing economic self-sufficiency (in terms of both welfare independence and freedom from debt) by maintaining steady employment. Policies that increase the funding for child care subsidies, either through traditional allocations or more creative means (such as through bonuses to states whose subsidy recipients do not return or commence receiving welfare within two years of receiving a child care subsidy) would also support states in making the child care subsidy policy changes described below.

In addition to policies that affect child care subsidy funding, changes to the Family and Medical Leave Act (FMLA) could be adopted by states in order to expand the allowable activities for taking leave to cover child care problems. Six states (DC, IL, MA, MN, NC, VT) currently have expanded FMLA policies that allow parents time off to participate in their children's school activities (National Conference of State Legislatures, 2006).[74]

Finally, new policies that address emergency child care (child care for parents who have experienced a child care problem) are justified as they might minimize the effect of child care problems on parents' work. These policies would likely be most

[74] It deserves mention that unless the FMLA offered paid leave and some of the eligibility criteria for receiving FMLA leave changed, it might not be an effective intervention for many low-income parents.

successful if developed on the state level. Perhaps a tax credit could be given to providers who participate in an emergency care program in which they would leave one or two slots in their center/home open for children who need emergency care. This policy might be most successful if targeted to large centers or child care chains that are more likely to be able to afford leaving a slot or two open (as compared to family day care providers).

Mediation findings. Parents' use of formal care mediated the relationship between child care subsidy status and child care-related work disruptions with the Wait List data. This finding lends support to the need to maximize parental access to formal providers through child care subsidies by a) ensuring each state complies with CCDF regulations that provider reimbursement rates are maintained at or above 75% of the state market rate and that the assessment of market rates are conducted every two years (US DHHS, 2007), and b) providing bonuses to states who are successful in ensuring the accessibility of formal providers in both rural and urban areas of the state through quality set-aside activities.[75]

Administration of Current Programs

Impact of child care subsidies. Because this study found child care subsidies to be effective in intervening with variables assumed to affect parents' ability to maintain work, one program administration implication is to ensure the accessibility and attractiveness of child care subsidies to parents. As mentioned in the previous section, increasing funding for child care subsidy programs is one way in which access to the child care subsidy program can be improved. However, many parents who are eligible to receive a child care subsidy do not do so. In fact, recent estimates of the program uptake

[75] These quality set-aside activities are community-level interventions and affect both subsidy recipients and non-subsidy recipients.

rate for child care subsidies range from 25-40% depending on the study (Goerge, 2006; Witte & Queralt, 2002). Researchers have identified various reasons for low uptake rates. These reasons include: a desire not to accept assistance from the government, a lack of knowledge/erroneous beliefs about eligibility for and services offered by the subsidy program, administrative policies that are burdensome to families (i.e. application/ recertification procedures and a mandatory requirement to establish a child support agreement), limited utility of the program due to high co-pays, and parents' perception that children's care will be compromised if a subsidy is received (Adams, Weinraub, & Shlay, 2006).[76] Thus, in addition to making the child care subsidy program available, efforts at making it attractive and accessible are necessary in order for it to be an effective program. Such efforts may include changing policies about wait lists so that when a family is temporarily bumped off the child care subsidy program or wait list (due to a lump sum child support payment, bonus at work, etc.) they do not lose their place on the wait list. Currently fourteen states have a wait list (AL, AR, FL, GA, IN, LA, MD, ME, MN, MS, NJ, PA, TX, VA); most of these states reevaluate the eligibility of parents on the wait list about every six months (US DHHS, 2007). Also, adhering to the federal guideline that parents receiving a child care subsidy pay no more than 10% of their income on child care (Blau, 2001; Greenberg, Lombardi, & Schumacher, 2000) might make the child care subsidy amount seem more attractive to parents as they engage in the application/recertification process.[77] Currently, among states who report co-payment

[76] Qualitative studies on eligible parents' choices not to access child care subsidies would deepen understanding regarding this phenomenon.

[77] In both the Wait List and Fragile Families samples, among parents receiving a subsidy, over 25% of parents had financial burdens that exceeded this 10% cap. This recommendation is also important given the finding from the Wait List study that a decrease in financial burden for the same family over time was predictive of being less likely to experience a child care problem.

amounts in terms of percent income, the range of family income spent on child care is 0% to 17% (US DHHS, 2007). Third, administrative policies that are flexible and family-friendly, such as two-tiered income eligibility policies that allow families who are receiving a child care subsidy to remain on the subsidy program if their income increases slightly and application/recertification procedures that minimize parents' need to take off work by allowing for online applications and phone interviews would be helpful. States have engaged in innovative efforts to make the CCDF program more accessible. Twelve states (AL, DC, FL, KY, MA, MN, MT, NJ, PA, VA, WI, WV) currently offer two-tier eligibility (US DHHS, 2007). Additionally, seven states (CO, DE, KS, ME, MN, MT, VT) offer sliding scale co-pays that increase gradually as parents make more money (US DHHS, 2007). In terms of worker-friendly application and recertification processes, states are increasingly using the internet to provide access to information on program eligibility and application materials. Although most states still require parents to complete an in-person interview when applying, eight states (DE, MD, MS, MT, ND, OH, OK, TX) allow parents to apply for subsidies by mail and five states (DE, KE, OH, SD, VT) allow families to complete applications online (US DHHS, 2007).

Mediation findings. In terms of the role of type of care in mediating the relationships between child care subsidy status and child care-related work disruptions, a few program implications are warranted. First, a rating for reliability could be added to the state rating systems implemented by states and child care resource and referral agencies. These rating systems serve as an incentive/reward system to child care providers and a valuable source of information for parents selecting a child care provider. Second, child care resource and referral agencies could be commissioned to assist parents

and child care providers (particularly informal providers) in identifying options for emergency care before child care problems occur. Through the resource and referral agencies, providers could be encouraged to build networks with other providers so they could refer parents to another provider should they be unable to provide care unexpectedly. Additionally, resource and referral agencies could develop a list of providers who are willing to take children whose usual provider is temporarily unable to provide care. Finally, parents, particularly low-income parents, could be encouraged to have emergency child care plans should their provider be unexpectedly unavailable. A program encouraging parents to develop emergency child care plans could be administered through child care providers in the form of flyers or during the parents' orientations with providers. If the other program suggestions listed above were implemented, parents could be given either the phone number of a resource and referral agency that knew of providers willing to offer emergency care or the name and phone number of a provider with whom their current provider had an agreement for providing emergency care.

Future Studies

Future research on the impact of child care subsidies on parents' ability to maintain work should be more inclusive of variables that may mediate and moderate the relationships between child care subsidy status and dependent variables of interest. Studies should include more nuanced measures of child care choices. In particular, these measures should include indicators of child care quality. Such measures would be helpful for two reasons: 1) child care quality is a potential point of intervention via provider education and other quality set-aside activities, and 2) measures of child care

choices that include only the type of care accessed are likely to miss aspects of care that could affect the relationships between child care choices and the dependent variables of interest. Additionally, inclusion of contextual variables, such as characteristics of the child, family, and community, as well as state policies that affect the generosity of child care subsidies and regulation of provider quality that may moderate the effects found in this study, is warranted.

Inclusion of additional and more nuanced dependent variables would also be an asset in future studies. Inclusion of a job tenure variable would be an asset to future studies as such a variable would assist in validating the link between variables thought to affect parents' ability to maintain work (i.e. child care problems, child care-related work disruptions, and parents' desire to switch care) and parents' actual employment outcomes. Additionally, including more nuanced measures of child care-related work disruptions (see Press et al., 2006) would be helpful in clarifying the role of different child care-related work disruptions on parental employment outcomes and offering insight into entrees for interventions.

In addition to each of the measures detailed above, future studies should do more work on two issues. First, the causal direction underlying the relationship between child care subsidy status and child care choices should be explored. For example, more complex modeling involving selection effects would shed light on the effect of selectivity on the impact of child care subsidies. Second, the relationship between child care problems and child care-related work disruptions should be studied. This is important because the inconsistency in effects of subsidies on these variables suggests that some families have protective factors that allow them to experience child care problems

without affecting their employment. Identifying these protective factors could be the first step in developing programs and policies that could intervene when parents experience a child care problem.

Finally, additional studies on the impact of child care subsidies could add to the knowledge of the field if a few research design issues were addressed. First, researchers should use datasets that allow one to disaggregate by the age of the child as child's age affects parental preferences for child care and employment. Second, whenever possible, researchers should use administrative data for the child care subsidy variable. Third, more qualitative inquiries of phenomenon, such as child care problems and child care-related work disruptions would provide a deeper understanding of parents' experiences and choices. Finally, whenever possible, researchers should use a pre/post-test design when studying the impact of the child care subsidy program on dependent variables so causality may be established.

Conclusions

Through its unique design, this study offers benefits to local and state administrators, policymakers, and researchers in the field of child care. Its strengths include the use of administrative data and a pre-/post-test research design with the Wait List data and the use of a demographically similar national sample through the Fragile Families data. Using these methods, this study addressed two critical issues in the field of child care: 1) the effectiveness of child care subsidies in intervening with variables assumed to facilitate parents' ability to maintain employment and 2) the mechanisms through which child care subsidies have their effects. This study found that parents who received a child care subsidy were less likely to experience and experienced fewer child

care problems and child care-related work disruptions than parents without a child care subsidy. It also found that among parents who changed child care subsidy status over the course of the study, experiencing child care problems, child care-related work disruptions, and a desire to switch care were less likely and less frequent when parents were receiving a child care subsidy compared to when they were not receiving a child care subsidy. Finally, this study found that the relationships between child care subsidy status and child care-related work disruptions were mediated through type of care and that the addition of financial burden as an intervening variable magnified this mediation effect. Though this study has limitations, it adds to the body of literature on child care subsidies and provides useful direction for future research.

Appendix A: Wait List Study Consent Form and IRB Approval for Wait List Study

Initials ____ Date ___

RESEARCH PARTICIPANT CONSENT FORM
Child Care Subsidy Impact Study

I am over 18 years of age and wish to participate in a program of research being conducted by the Department of Family Studies at the University of Maryland, College Park.

The purposes of this research are to 1) understand the impact of child care subsidies on families' financial resources, and choices about employment and child care and 2) provide a general description of families on the waiting list/receiving child care subsidies in Montgomery County, Maryland.
I understand that

- For the study, I will be asked to participate in two interview sessions. The first interview will last about twenty minutes and will be conducted either by phone , at an office within the Montgomery County Department of Health and Human Services, or at another location that is convenient to myself and the interviewer. A second twenty-five minute interview will be conducted approximately six months later, again either by phone, in an office at the Montgomery County Department of Health and Human Services, or at another location that is convenient to myself and the interviewer.

- In addition to the two interviews, with my permission, the principal investigator will use my child care subsidy records at the Department of Health and Human Services for information relevant to the research study.

- Each time I complete an interview I will receive $10 in the form of cash.

- Information from completed interviews is confidential. I understand that the information I provide will be grouped with information gathered from others in the study and that my name will not be used for reporting and presentation of the study results. I also understand that the information I provide will not affect my status on the child care subsidy waiting list or as a child care subsidy recipient. Though staff at the Department of Health and Human Services may be involved in recruiting me and setting interview appointments for me, they will not have access to my completed interview.

I may experience some discomfort responding to personal questions regarding demographic information, my child care choices, employment choices, and my financial resources. I may choose not to answer interview questions that cause me discomfort and I can withdraw from the study or stop the interview without penalty

If I have any questions about this research project, I can contact Ms. Nikki Forry, Department of Family Studies, 1204 Marie Mount Hall, University of Maryland, College Park, MD 20742, 202-641-7389 or Dr. Sandra Hofferth, Department of Family Studies, 1204 Marie Mount Hall, University of Maryland, College Park, MD 20742, 301-405-8501. If I have questions about my rights as a research subject or wish to report a research-related injury, I can contact the Institutional Review Board Office, University of Maryland, College Park, MD 20742; (e-mail) irb@deans.umd.edu; (telephone) 301-405-4212.

_____ _____
Participant's Name Date

_____
Participant's Signature

IRB APPROVED
VALID UNTIL
MAR 01 2006
UNIVERSITY OF MARYLAND
COLLEGE PARK

Revised on Monday, April 4, 2005

Initials ____ Date ___

PERMISSION TO ACCESS CHILD CARE SUBSIDY ADMINISTRATIVE RECORDS
Child Care Subsidy Impact Study

I give permission for the principal investigator of this study, Nikki Forry, under the direction of Dr. Sandra Hofferth, to access my child care subsidy administrative records at the Montgomery County Department of Health and Human Services.

_____ _____
Participant's Name Date

_____
Participant's Signature

Initials ____ Date ___

EMERGENCY CONTACT INFORMATION
Child Care Subsidy Impact Study

Please provide the names, phone numbers, and addresses of three people that would know where you are should the researcher be unable to contact you. By providing this information, you are giving the researcher permission to contact these people in order to locate you for interviews.

Name: _____

Relation to me: _____

Phone number: _____

Address: _____

_____

Name: _____

Relation to me: _____

Phone number: _____

Address: _____

_____

Name: _____

Relation to me: _____

Phone number: _____

Address: _____

_____

IRB APPROVED
VALID UNTIL
MAR 0 1 2006
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COLLEGE PARK

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MARYLAND
INSTITUTIONAL REVIEW BOARD

2100 Lee Building
College Park, Maryland 20742-5121
301.405.4212 TEL 301.314.1475 FAX

To: Sandra Hofferth
Nikki Forry
Family Studies

From: Roslyn Edson, M.S., CIP RoE
IRB Manager
University of Maryland, College Park

Re: IRB Application # 05-0051
Title: Impact of Child Care Subsidies on Impoverished Families' Financial Resources, Employment and Child Care Choices

Approval Date: March 1, 2005

Expiration Date: March 1, 2006

Type of Application: Initial

Type of Research: Nonexempt

Type of Review: Expedited

The University of Maryland, College Park Institutional Review Board (IRB) approved your IRB application. The research was approved in accordance with the University's IRB policies and procedures and 45 CFR 46, the Federal Policy for the Protection of Human Subjects. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

Recruitment/Consent: For research requiring written informed consent, the IRB-approved and stamped informed consent document is enclosed. The IRB approval expiration date has been stamped on the informed consent document. Please keep copies of the consent forms used for this research for three years after the completion of the research.

Continuing Review: If you want to continue to collect data from human subjects or analyze data from human subjects after the expiration date for this approval, you must submit a renewal application to the IRB Office at least 30 days before the approval expiration date.

Modifications: Any changes to the approved protocol must be approved by the IRB before the change is implemented except when a change is necessary to eliminate apparent immediate hazards to the subjects. If you want to modify the approved protocol, please submit an IRB addendum application to the IRB Office.

Unanticipated Problems Involving Risks: You must promptly report any unanticipated problems involving risks to subjects or others to the IRB Manager at 301-405-0678 or redson@umresearch.umd.edu.

Student Researchers: Unless otherwise requested, this IRB approval document was sent to the Principal Investigator (PI). The PI should pass on the approval document or a copy to the student researchers. This IRB approval document may be a requirement for student researchers applying for graduation. The IRB may not be able to provide copies of the approval documents if several years have passed since the date of the original approval.

Additional Information: Please contact the IRB Office at 301-405-4212 if you have any IRB-related questions or concerns.

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To: Dr. Sandra Hofferth
Nikki Forry
Department of Family Studies

From: Roslyn Edson, M.S., CIP
IRB Manager
University of Maryland, College Park

Re: IRB Application # 05-0051
Title: Impact of Child Care Subsidies on Impoverished Families' Financial Resources, Employment and Child Care Choices

Approval Date: February 20, 2006

Expiration Date: March 1, 2007

Type of Application: Renewal

Type of Research: Nonexempt

Type of Review: Expedited

The University of Maryland, College Park Institutional Review Board (IRB) approved your IRB application. The research was approved in accordance with the University's IRB policies and procedures and 45 CFR 46, the Federal Policy for the Protection of Human Subjects. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

Recruitment/Consent: For research requiring written informed consent, the IRB-approved and stamped informed consent document is enclosed. The IRB approval expiration date has been stamped on the informed consent document. Please keep copies of the consent forms used for this research for three years after the completion of the research.

Continuing Review: If you want to continue to collect data from human subjects or analyze data from human subjects after the expiration date for this approval, you must submit a renewal application to the IRB Office at least 30 days before the approval expiration date.

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January 30, 2007

MEMORANDUM

Renewal Application Approval Notification

To: Dr. Sandra Hofferth
Nikki D. Forry
Department of Family Studies

From: Roslyn Edson, M.S., CIP, for
IRB Manager
University of Maryland, College Park

Re: **IRB Application Number:** 05-0051
Project Title: "Impact of Child Care Subsidies on Impoverished Families' Financial Resources, Employment and Child Care Choices"

Approval Date: January 29, 2007

Expiration Date: January 29, 2008

Type of Application: Renewal

Type of Research: Non-exempt

Type of Review For Application: Expedited

The University of Maryland, College Park Institutional Review Board (IRB) approved your IRB application. The research was approved in accordance with 45 CFR 46, the Federal Policy for the Protection of Human Subjects, and the University's IRB policies and procedures. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

Recruitment/Consent: For research requiring written informed consent, the IRB-approved and stamped informed consent document is enclosed. The IRB approval expiration date has been stamped on the informed consent document. Please keep copies of the consent forms used for this research for three years after the completion of the research.

Continuing Review: If you want to continue to collect data from human subjects or to analyze private, identifiable data collected from human subjects after the approval expiration date indicated above, you must submit a renewal application to the IRB Office at least 30 days before the approval expiration date.

Modifications: Any changes to the approved protocol must be approved by the IRB before the change is implemented, except when a change is necessary to eliminate apparent immediate hazards to the subjects. If you would like to modify the approved protocol, please submit an addendum request to the IRB Office. The instructions for submitting an addendum request are posted on the IRB website at: **http://www.umresearch.umd.edu/IRB/irb_Addendum%20Protocol.htm.**

(Continued)

Unanticipated Problems Involving Risks: You must promptly report any unanticipated problems involving risks to subjects or others to the IRB Manager at 301-405-0678 or **redson@umresearch.umd.edu.**

Student Researchers: Unless otherwise requested, this IRB approval document was sent to the Principal Investigator (PI). The PI should pass on the approval document or a copy to the student researchers. This IRB approval document may be a requirement for student researchers applying for graduation. The IRB may not be able to provide copies of the approval documents if several years have passed since the date of the original approval.

Additional Information: Please contact the IRB Office at 301-405-4212 if you have any IRB-related questions or concerns.

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Notice: IRB Review Is Not Required Because Research Does Not Involve Human Subjects

Date: September 28, 2006

To: Dr. Sandra Hofferth
Ms. Nikki Forry
Department of Family Studies

From: Roslyn Edson, M.S.
IRB Manager
University of Maryland, College Park

Re: IRB Application #06-0472
Title of Research Project: *Impact of Child Care Subsidies on Child Care Problems Using Fragile Families*

Type of Application: Initial

The above-referenced Institutional Review Board (IRB) initial application does not include any activities that meet the Federal definition of research involving human subjects. Specifically, the analysis of data that does not contain individually identifiable information is not research involving human subjects. Individually identifiable data are data for which the identity of the subject is or may readily be ascertained by the investigator or associated with the information. Examples of individually identifiable data include information with a subject's name and information with a code that links data to a subject's identity. Since the data do not contain individually identifiable information, the application does not need to be reviewed by the IRB under the requirements of the U. S. Department of Health and Human Services (HHS) regulations at 45 CRR Part 46 and the University's Federal Wide Assurance. Therefore, the application was not reviewed under exempt, expedited or full Board review procedures. However, if you plan to modify your research to include any of the following activities, you are required to submit an IRB application and obtain prior IRB approval: obtaining data through intervention or interaction with human subjects; obtaining identifiable private information about living individuals; or analyzing identifiable private information about living individuals.

Please contact the IRB Office at 301-405-0678 if you have any IRB-related questions or concerns. Please refer to the above-cited IRB application number in any future communications with our office regarding this research.

Appendix B: Wait List Sample Correlation Matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Child care subsidy	1.000													
2. Youngest focal child age	0.074	1.000												
3. Oldest focal child age	0.031	0.304**	1.000											
4. Children 13/under in care	0.119	-0.039	0.486***	1.000										
5. Financial burden per child	-0.224*	0.126	-0.361***	-0.225*	1.000									
6. Affordability (Youngest)	0.339***	0.120	0.105	0.128	0.034	1.000								
7. Affordability (Oldest)	0.355***	0.100	0.054	0.143	0.053	0.969***	1.000							
8. Formal care (Youngest)	0.197*	0.182†	-0.177†	0.033	0.305**	0.116	0.102	1.000						
9. Formal care (Oldest)	0.152	0.002	-0.431***	0.054	0.263**	0.136	0.183†	0.570***	1.000					
10. Switch care (Youngest)	-0.036	-0.184†	0.083	0.218*	-0.199*	-0.253**	-0.223*	-0.183†	-0.042	1.000				
11.Switch care (Oldest)	-0.097	-0.112	-0.030	0.113	-0.089	-0.267**	-0.240*	-0.129	-0.053	0.880***	1.000			
12. Child care problem (Yes/No)	-0.221*	-0.052	-0.021	0.075	0.090	0.005	0.018	-0.089	-0.168†	0.016	-0.022	1.000		
13. Work disruption[a] (Yes/No)	-0.244*	-0.008	0.020	0.058	0.015	0.046	0.062	-0.164	-0.158	0.067	0.057	0.624***	1.000	
14. Type of work disruption[b]	-0.053	-0.431*	-0.343†	-0.338†	-0.170	0.063	0.063	0.053	-0.154	0.203	0.246	-0.144	1.000***	1.000

Note. [a]Refers to child care-related work disruptions. [b]Sample size for this line only is 30 (includes only people who reported having a child care-related work disruption).N=95 unless otherwise specified. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Appendix C: Fragile Families Sample Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Subsidy	1																				
2. Income (log)	-0.168***	1																			
3. Focal child's age	0.067†	0.064†	1																		
4. Hispanic	0.030	0.003	0.347***	1																	
5. Black	0.019	-0.012	-0.304***	-0.698***	1																
6. Maternal Depression	0.062	-0.007	0.054	-0.006	0.004	1															
7. Number Adults in HH	-0.080*	0.093*	-0.096**	0.001	-0.027	-0.020	1														
8. Work Hours	-0.075*	0.178***	0.020	0.055	-0.029	0.039	-0.104**	1													
9. Mother in School	0.031	-0.056	-0.012	-0.023	-0.002	-0.010	-0.019	-0.175***	1												
10. Non-Traditional Hours	0.012	-0.054	-0.103**	-0.033	0.013	0.010	0.061	0.054	-0.147***	1											
11. Multiple Arrangements	-0.046	0.030	-0.026	-0.050	0.059	0.136***	-0.050	-0.018	0.164***	-0.040	1										
12. Help from Other Sources	0.134***	-0.051	-0.109**	-0.071†	0.078*	-0.039	-0.021	0.036	-0.021	-0.041	0.043	1									
13. H.S./GED/Vocational	0.082*	0.007	-0.023	-0.003	0.047	-0.057	0.026	-0.025	-0.021	0.029	-0.036	0.027	1								
14. Associate/Bachelor	-0.040	0.115**	-0.077*	-0.070†	0.020	0.065†	-0.145***	0.147***	-0.014	-0.025	0.020	0.064†	-0.489***	1							
15. Imputed Out-of-Pocket	-0.021	-0.307***	0.035	0.028	-0.025	0.068†	-0.051	-0.015	0.022	0.067†	-0.052	0.025	0.012	-0.098**	1						
16. Financial Burden	-0.194***	-0.228***	-0.088*	0.079*	-0.026	0.022	-0.052	0.126***	-0.073†	0.018	-0.045	-0.096**	-0.032	0.022	0.164***	1					
17. Formal Care	0.282***	0.008	0.192***	0.040	0.012	-0.035	-0.189***	0.045	0.061	-0.166***	0.004	0.169***	0.034	0.060	0.040	0.104**	1				
18. Child care problem (Y/N)	-0.087*	0.059	0.034	0.034	-0.009	0.107**	0.012	0.024	0.016	0.033	0.154***	-0.067†	-0.026	0.039	0.013	-0.006	-0.044	1			
19. Child care problem (Cont.)	-0.031	0.000	0.099**	0.088*	-0.042	0.089*	0.014	-0.017	0.051	0.037	0.143***	-0.034	0.006	-0.004	0.017	-0.002	-0.005	0.735***	1		
20. Work disruption[a] (Y/N)	-0.064†	-0.008	0.034	0.040	0.005	0.075*	0.102**	-0.044	0.057	0.031	0.060	-0.018	0.012	-0.038	0.035	0.037	-0.013	0.643***	0.569***	1	
21. Work disruption[a] (Cont.)	-0.0285	-0.0515	0.0187	0.066†	-0.022	0.0556	0.115**	-0.078*	0.064†	0.018	0.0403	-0.0342	-0.0283	-0.0352	0.0058	0.0263	-0.0476	0.466***	0.517***	0.725***	1

Note. [a]Refers to child care-related work disruptions. N=656. † p ≤ .10, * p ≤ .05, ** p ≤ .01, *** p ≤ .001

Appendix D: Wait List Change Correlation Matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Child care subsidy	1.000											
2. Financial burden per child	-0.160	1.000										
3. Affordability (Youngest)	0.222*	0.183†	1.000									
4. Affordability (Oldest)	0.222*	0.183†	1.000***	1.000								
5. Formal care (Youngest)	0.105	0.253*	0.041	0.041	1.000							
6. Formal care (Oldest)	0.234*	0.199†	0.168	0.168	0.541***	1.000						
7. Switch care (Youngest)	0.250*	0.111	0.394***	0.394***	-0.094	0.152	1.000					
8.Switch care (Oldest)	0.295**	0.104	0.363***	0.363***	0.021	0.218*	0.849***	1.000				
9. Child care problem (Cont.)	-0.226*	0.075	0.044	0.044	0.085	-0.281**	-0.018	-0.067	1.000			
10. Child care problem (Yes/No)	0.208†	-0.240*	-0.278**	-0.278**	-0.126	0.064	-0.057	-0.008	-0.556***	1.000		
11. Work disruption[a] (Cont.)	-0.341***	0.011	0.017	0.017	-0.077	-0.232*	-0.218*	-0.256*	0.462***	-0.652***	1.000	
12. Work disruption[a] (Yes/No)	0.272**	0.006	-0.005	-0.005	0.074	0.215*	0.184†	0.190†	-0.482***	0.789***	-0.738***	1.000

Note. [a]Refers to child care-related work disruptions. N=86. † p ≤ .10, * p ≤ .05, ** p ≤ .01, *** p ≤ .001

Appendix E: Wait List Cross-Sectional Analyses Logistic Regressions

Table 8. Wait List Regression of Child Care Problems and Child Care-Related Work Disruptions on Child Care Subsidy

	Child Care Problems (Yes/No)				Child Care-Related Work Disruptions (Yes/No)			
	Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]	
	B	e^B	B	e^B	B	e^B	B	e^B
Subsidy	-1.254	0.285 **	-1.269	0.281 **	-1.191	0.304 **	-1.188	0.305 **
	(0.517)		(0.515)		(0.477)		(0.468)	
Child's Age (Youngest)	-0.053	0.948			0.016	1.017		
	(0.189)				(0.144)			
Child's Age (Oldest)[a]			-0.064	0.938			-0.012	0.988
			(0.109)				(0.077)	
Children Aged 13 or Under In Care	0.296	1.344	0.42	1.521	0.233	1.263	0.255	1.29
	(0.265)		(0.379)		(0.231)		(0.279)	
Constant	-1.127		-1.091		-0.788		-0.679	
	(1.011)		(0.728)		(0.766)		(0.533)	
Pseudo R^2	0.061		0.065		0.056		0.057	
Observations	98		98		98		98	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$

Table 9. Wait List Regression of Type of Child Care-Related Work Disruption on Child Care Subsidy

	Missed Part/Full Day Modeled, Alternative Arrangements as Omitted			
	Youngest Child		Oldest Child[a]	
	B	e^B	B	e^B
Subsidy	-0.289	0.749	-0.171	0.843
	(1.008)		(1.052)	
Child's Age (Youngest)	-0.563	0.57 **		
	(0.241)			
Child's Age (Oldest)[a]			-0.158	0.854
			(0.183)	
Children Aged 13 or Under In Care	-0.782	0.457	-0.518	0.595
	(0.708)		(0.674)	
Constant	4.347	*	2.775	*
	(1.910)		(1.290)	
Pseudo R^2	0.213		0.119	
Observations	30		30	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$

Table 10. Wait List Regression of Desire to Switch Care on Child Care Subsidy

	Desire to Switch Care (Yes/No)					
	Youngest Child			Oldest Child[a]		
	B	e^B		B	e^B	
Subsidy	-0.228	0.796		-0.502	0.605	
	(0.543)			(0.558)		
Child's Age (Youngest)	-0.204	0.816				
	(0.165)					
Child's Age (Oldest)[a]				-0.078	0.925	
				(0.088)		
Children Aged 13 or Under In Care	0.54	1.716	**	0.462	1.587	*
	(0.229)			(0.286)		
Constant	-0.067			-0.333		
	(0.775)			(0.599)		
Pseudo R^2	0.060			0.028		
Observations	95			95		

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$

Table 11. Wait List Regression of Proposed Mediators on Child Care Subsidy

	Financial Burden Youngest		Financial Burden Oldest[a]		Perceived Affordability Youngest			Perceived Affordability Oldest[a]			Formal vs. Informal Care Youngest			Formal vs. Informal Care Oldest[a]		
	B	sig.	B	sig.	B	e^B		B	e^B		B	e^B		B	e^B	
Subsidy	-0.066	*	-0.065	**	2.191	8.948	**	2.3	9.978	***	1.118	3.059	**	0.744	2.105	
	(0.030)		(0.026)		(0.780)			(0.756)			(0.430)			(0.584)		
Child's Age (Youngest)	0.012				0.186	1.204					0.302	1.353				
	(0.011)				(0.192)						(0.289)					
Child's Age (Oldest)[a]			-0.016	**				0.004	1.004					-0.607	0.545	**
			(0.005)					(0.081)						(0.245)		
Children Aged 13 or Under In Care	-0.035	*	-0.007		0.366	1.442		0.372	1.45		0.06	1.062		1.124	3.078	
	(0.018)		(0.019)		(0.316)			(0.307)			(0.848)			(0.737)		
Constant	0.194	***	0.301	***	-0.416			0.129			0.016			3.919		*
	(0.056)		(0.037)		(0.909)			(0.675)			(2.055)			(1.975)		
R^2/Pseudo R^2	0.108		0.176		0.165			0.155			0.080			0.310		
N	98		98		98			98			98			98		

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 12. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions, and Desire to Switch Care on Financial Burden

	Child Care Problems (Yes/No)				Child Care-Related Work Disruptions (Yes/No)				Desire to Switch Care (Yes/No)				
	Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]		Youngest Child			Oldest Child[a]	
	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B		B	e^B
Financial Burden	1.923	6.844	1.56	4.76	0.441	1.554	0.412	1.51	-2.333	0.097		-1.5	0.223
	(1.744)		(1.768)		(1.732)		(1.729)		(1.577)			(1.339)	
Child's Age (Youngest)	-0.1	0.905			-0.013	0.987			-0.203	0.816			
	(0.172)				(0.135)				(0.178)				
Child's Age (Oldest)[a]			-0.042	0.959			-0.002	0.998				-0.098	0.907
			(0.114)				(0.075)					(0.094)	
Children Aged 13 or Under In Care	0.308	1.361	0.375	1.455	0.163	1.178	0.166	1.18	0.434	1.544	*	0.395	1.485
	(0.315)		(0.420)		(0.264)		(0.297)		(0.221)			(0.286)	
Constant	-1.746		-1.885	*	-1.1		-1.138		0.349			-0.078	
	(1.159)		(0.949)		(0.846)		(0.735)		(0.802)			(0.748)	
Pseudo R^2	0.022		0.019		0.004		0.003		0.074			0.024	
N	98		98		98		98		95			95	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$

Table 13. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions, and Desire to Switch Care on Perceived Affordability of Formal Care

	Child Care Problems (Yes/No)				Child Care-Related Work Disruptions (Yes/No)				Desire to Switch Care (Yes/No)				
	Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]		Youngest Child			Oldest Child[a]	
	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B		B	e^B
Perceived Affordability Formal Care	0.013	1.013	0.043	1.044	0.231	1.26	0.308	1.361	-1.582	0.206	*	-1.394	0.248 **
	(0.692)		(0.694)		(0.548)		(0.531)		(0.689)			(0.636)*	
Child's Age (Youngest)	-0.072	0.931			-0.015	0.985			-0.185	0.831			
	(0.175)				(0.136)				(0.161)				
Child's Age (Oldest)[a]			0.328	1.389			0.139	1.149				0.57	1.769 *
			(0.377)				(0.282)					(0.306)	
Children Aged 13 or Under In Care	0.203	1.225	-0.063	0.939	0.131	1.14	-0.007	0.993	0.666	1.947	**	-0.089	0.915
	(0.260)		(0.112)		(0.232)		(0.076)		(0.254)			(0.087)	
Constant	-1.375		-1.451		-1.161		-1.241	*	0.845			0.447	
	(1.141)		(0.925)		(0.805)		(0.627)		(0.866)			(0.728)	
Pseudo R^2	0.008		0.01		0.004		0.005		0.115			0.07	
N	98		98		98		98		95			95	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$

Table 14. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions, and Desire to Switch Care on Type of Care

	Child Care Problems (Yes/No)						Child Care-Related Work Disruptions (Yes/No)						Desire to Switch Care (Yes/No)					
	Youngest Child			Oldest Child[a]			Youngest Child			Oldest Child[a]			Youngest Child			Oldest Child[a]		
	B	e^B		B	e^B		B	e^B		B	e^B		B	e^B		B	e^B	
Formal Care	-0.493	0.611		-1.559	0.21	*	-0.908	0.403	*	-1.179	0.308	*	-1.035	0.355		-0.772	0.462	
	(0.689)			(0.758)			(0.512)			(0.597)			(0.703)			(0.684)		
Child's Age (Youngest)	-0.052	0.95					0.029	1.03					-0.173	0.841				
	(0.168)						(0.135)						(0.183)					
Child's Age (Oldest)[a]	0.202	1.223		0.547	1.728		0.156	1.168		0.348	1.416					0.54	1.715	
	(0.230)			(0.329)			(0.223)			(0.280)						(0.325)		
Children Aged 13 or Under In Care				-0.18	0.835	*				-0.098	0.906		0.575	1.776	*	-0.13	0.878	*
				(0.114)						(0.084)			(0.297)			(0.114)		
Constant	-1.039			0.195			-0.446			0.2			0.542			0.298		
	(1.089)			(1.091)			(0.732)			(0.845)			(0.820)			(1.013)		
Pseudo R^2	0.014			0.061			0.024			0.032			0.080			0.029		
N	98			98			98			98			95			95		

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$

Table 15. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions, and Desire to Switch Care Regressed on Combinations of Mediators

	Financial Burden												Perceived Affordability											
	Child Care Problems					Child Care-Related				Desire to Switch Care			Child Care Problems				Child Care-Related				Desire to Switch Care			
	Youngest Child		Oldest Child[a]			Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]	Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]		Youngest Child		Oldest Child[a]	
	B	e^B	B	e^B		B	e^B	B	e^B	B	e^B	B	e^B	B	e^B		B	e^B	B	e^B	B	e^B	B	e^B
Financial Burden	2.465	11.761	2.359	10.577		1.277	3.585	0.921	2.512	-1.592	0.204	-1.265	0.282											
	(1.703)		(1.889)			(1.559)		(1.781)		(1.603)		(1.366)												
Perceived Affordability													0.06	1.062	0.381	1.463	0.329	1.39	0.573	1.774	-1.502	0.223	*	-1.311	0.27	*
													(0.651)		(0.572)		(0.534)		(0.555)		(0.703)			(0.631)		
Formal Care	-0.792	0.453	-1.745	0.175	**	-1.07	0.343	* -1.243	0.289	* -0.823	0.439	-0.698	0.498	-0.499	0.607	-1.652	0.192	*	-0.941	0.39	*	-1.321	0.267	*	-0.915	0.401	-0.477	0.62
	(0.767)		(0.755)			(0.529)		(0.608)		(0.739)		(0.710)		(0.679)		(0.764)*			(0.514)			(0.614)			(0.724)		(0.707)	
Child's Age (Youngest)	-0.079	0.924				0.02	1.02			-0.175	0.839			-0.054	0.948				0.021	1.021					-0.155	0.856		
	(0.160)					(0.133)				(0.190)				(0.167)					(0.135)						(0.178)			
Child's Age (Oldest)[a]			-0.159	0.853				-0.088	0.915			-0.144	0.866			-0.187	0.829	*				-0.108	0.898				-0.122	0.885
			(0.112)					(0.084)				(0.116)				(0.116)						(0.084)					(0.113)	
Children Aged 13 or Under In Care	0.322	1.379	0.621	1.861	*	0.21	1.233	0.37	1.447	0.503	1.654	* 0.512	1.669	0.198	1.219	0.535	1.707		0.136	1.146		0.331	1.393		0.694	2.001	** 0.634	1.885	*
	(0.261)		(0.367)			(0.248)		(0.292)		(0.286)		(0.326)		(0.231)		(0.338)			(0.221)			(0.287)			(0.304)		(0.324)		
Constant	-1.291		-0.305			-0.564		0.008		0.721		0.567		-1.07		0.029			-0.624			-0.059			1.403		0.887		
	(1.118)		(1.201)			(0.774)		(0.962)		(0.859)		(1.076)		(1.218)		(1.182)			(0.794)			(0.857)			(0.979)		(1.092)		
Pseudo-R^2	0.035		0.079			0.030		0.035		0.087		0.034		0.014		0.064			0.027			0.040			0.130		0.074		
N	98		98			98		98		95		95		98		98			98			98			95		95		

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 16. Wait List Regressions of the Dependent Variables on Child Care Subsidy and Type of Care

	Child Care Problems (Yes/No)								Child Care-Related Employment Problems (Yes/No)								Desire to Switch Care (Yes/No)							
	Youngest Child				Oldest Child[a]				Youngest Child				Oldest Child[a]				Youngest Child				Oldest Child[a]			
	(1)		(2)		(1)		(2)		(1)		(2)		(1)		(2)		(1)		(2)		(1)		(2)	
	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B	B	e^B
Subsidy	-1.254	0.285 **	-1.223	0.294 **	-1.269	0.281 **	-1.191	0.304 *	-1.191	0.304 **	-1.112	0.329 **	-1.188	0.305 **	-1.117	0.327 **	-0.228	0.796	-0.068	0.935	-0.502	0.605	-0.432	0.649
	(0.517)		(0.493)		(0.515)		(0.553)		(0.477)		(0.482)		(0.468)		(0.487)		(0.543)		(0.593)		(0.558)		(0.566)	
Child's Age (Youngest)	-0.053	0.948	-0.045	0.956					0.016	1.017	0.043	1.044					-0.204	0.816	-0.172	0.842				
	(0.189)		(0.183)						(0.144)		(0.147)						(0.165)		(0.184)					
Child's Age (Oldest)[a]					-0.064	0.938	-0.17	0.843					-0.012	0.988	-0.09	0.914					-0.078	0.925	-0.126	0.882
					(0.109)		(0.109)						(0.077)		(0.086)						(0.088)		(0.112)	
Children Aged 13 or Under In Care	0.296	1.344	0.296	1.344	0.42	1.521	0.634	1.885 *	0.233	1.263	0.244	1.276	0.255	1.29	0.422	1.525	0.54	1.716 **	0.579	1.784 *	0.462	1.587 *	0.565	1.76 *
	(0.265)		(0.248)		(0.379)		(0.325)		(0.231)		(0.222)		(0.279)		(0.265)		(0.229)		(0.295)		(0.286)		(0.326)	
Formal Care			-0.273	0.761			-1.418	0.242 *			-0.701	0.496			-1.022	0.36 *			-1.014	0.363			-0.679	0.507
			(0.683)				(0.738)				(0.506)				(0.603)				(0.735)				(0.660)	
Constant	-1.127		-0.952		-1.091		0.315		-0.788		-0.373		-0.679		0.342		-0.067		0.541		-0.333		0.338	
	(1.011)		(1.165)		(0.728)		(1.048)		(0.766)		(0.784)		(0.533)		(0.861)		(0.775)		(0.819)		(0.599)		(0.996)	
Pseudo-R^2	0.061		0.063		0.065		0.105		0.056		0.069		0.057		0.077		0.060		0.080		0.028		0.036	
N	98		98		98		98		98		98		98		98		95		95		95		95	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).
* p ≤ .05, ** p ≤ .01

Table 17. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions and Desire to Switch Care on Child Care Subsidy, Financial Burden, and Type of Care

	Child Care Problems (Yes/No)											
	Youngest Child						Oldest Child[a]					
	(1)			(2)			(1)			(2)		
	B	e^B		B	e^B		B	e^B		B	e^B	
Subsidy	-1.254	0.285	**	-1.097	0.334	*	-1.269	0.281	**	-1.087	0.337	*
	(0.517)			(0.515)			(0.515)			(0.601)		
Child's Age (Youngest)	-0.053	0.948		-0.066	0.936							
	(0.189)			(0.174)								
Child's Age (Oldest)[a]							-0.064	0.938		-0.157	0.855	
							(0.109)			(0.109)		
Children Aged 13 or Under In Care	0.296	1.344		0.366	1.442		0.42	1.521		0.675	1.965	*
	(0.265)			(0.262)			(0.379)			(0.343)		
Financial Burden of Care				1.595	4.929					1.595	4.927	
				(1.842)						(2.035)		
Formal Care				-0.501	0.606					-1.564	0.209	*
				(0.760)						(0.738)		
Constant	-1.127			-1.109			-1.091			-0.031		
	(1.011)			(1.174)			(0.728)			(1.185)		
Pseudo-R^2	0.061			0.071			0.065			0.113		
N	98			98			98			98		

	Child Care-Related Work Disruptions (Yes/No)											
	Youngest Child						Oldest Child[a]					
	(1)			(2)			(1)			(2)		
	B	e^B		B	e^B		B	e^B		B	e^B	
Subsidy	-1.191	0.304	**	-1.084	0.338	*	-1.188	0.305	**	-1.113	0.329	
	(0.477)			(0.509)			(0.468)			(0.509)		
Child's Age (Youngest)	0.016	1.017		0.04	1.041							
	(0.144)			(0.148)								
Child's Age (Oldest)[a]							-0.012	0.988		-0.09	0.914	
							(0.077)			(0.087)		
Children Aged 13 or Under In Care	0.233	1.263		0.256	1.292		0.255	1.29		0.423	1.527	
	(0.231)			(0.237)			(0.279)			(0.268)		
Financial Burden of Care				0.337	1.4					0.063	1.065	
				(1.698)						(1.891)		
Formal Care				-0.75	0.473					-1.027	0.358	
				(0.516)						(0.605)		
Constant	-0.788			-0.403			-0.679			0.328		
	(0.766)			(0.817)			(0.533)			(0.973)		
Pseudo-R^2	0.056			0.069			0.057			0.077		
N	98			98			98			98		

	Desire to Switch Care (Yes/No)											
	Youngest Child						Oldest Child[a]					
	(1)			(2)			(1)			(2)		
	B	e^B		B	e^B		B	e^B		B	e^B	
Subsidy	-0.228	0.796		-0.21	0.81		-0.502	0.605		-0.555	0.574	
	(0.543)			(0.608)			(0.558)			(0.587)		
Child's Age (Youngest)	-0.204	0.816		-0.172	0.842							
	(0.165)			(0.193)								
Child's Age (Oldest)[a]							-0.078	0.925		-0.145	0.865	
							(0.088)			(0.114)		
Children Aged 13 or Under In Care	0.54	1.716	**	0.508	1.662	*	0.462	1.587	*	0.535	1.708	*
	(0.229)			(0.281)			(0.286)			(0.325)		
Financial Burden of Care				-1.807	0.164					-1.759	0.172	
				(1.641)						(1.464)		
Formal Care				-0.729	0.482					-0.547	0.578	
				(0.784)						(0.686)		
Constant	-0.067			0.741			-0.333			0.722		
	(0.775)			(0.849)			(0.599)			(1.097)		
Pseudo-R^2	0.060			0.088			0.028			0.045		
N	95			95			95			95		

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).

* $p \leq .05$, ** $p \leq .01$

Table 18. Wait List Regressions of Child Care Problems, Child Care-Related Work Disruptions, and Desire to Switch Care on Child Care Subsidy, Perceived Affordability of Formal Care, and Type of Care

	Child Care Problems (Yes/No)							
	Youngest Child				Oldest Child[a]			
	(1)		(2)		(1)		(2)	
	B	e^B	B	e^B	B	e^B	B	e^B
Subsidy	-1.254	0.285 **	-1.344	0.261 **	-1.269	0.281 **	-1.409	0.244 **
	(0.517)		(0.545)		(0.515)		(0.603)*	
Child's Age (Youngest)	-0.053	0.948	-0.065	0.937				
	(0.189)		(0.185)					
Child's Age (Oldest)[a]					-0.064	0.938	-0.185	0.831 *
					(0.109)		(0.115)	
Children Aged 13 or Under In Care	0.296	1.344	0.275	1.316	0.42	1.521	0.619	1.856 *
	(0.265)		(0.244)		(0.379)		(0.336)	
Perceived Affordability of Formal Care			0.52	1.682			0.88	2.411
			(0.728)				(0.623)	
Formal Care			-0.298	0.742			-1.624	0.197 *
			(0.690)				(0.765)*	
Constant	-1.127		-1.196		-1.091		-0.031	
	(1.011)		(1.286)		(0.728)		(1.173)	
Pseudo-R^2	0.061		0.069		0.065		0.121	
N	98		98		98		98	
	Child Care-Related Work Disruptions (Yes/No)							
	Youngest Child				Oldest Child[a]			
	(1)		(2)		(1)		(2)	
	B	e^B	B	e^B	B	e^B	B	e^B
Subsidy	-1.191	0.304 **	-1.301	0.272 **	-1.188	0.305 **	-1.405	0.245 **
	(0.477)		(0.523)		(0.468)		(0.543)	
Child's Age (Youngest)	0.016	1.017	0.02	1.02				
	(0.144)		(0.149)					
Child's Age (Oldest)[a]					-0.012	0.988	-0.108	0.897
					(0.077)		(0.085)	
Children Aged 13 or Under In Care	0.233	1.263	0.211	1.235	0.255	1.29	0.411	1.508
	(0.231)		(0.222)		(0.279)		(0.281)	
Perceived Affordability of Formal Care			0.798	2.221			1.12	3.064 *
			(0.571)				(0.581)	
Formal Care			-0.746	0.474			-1.28	0.278 *
			(0.508)				(0.605)	
Constant	-0.788		-0.765		-0.679		-0.105	
	(0.766)		(0.811)		(0.533)		(0.844)	
Pseudo-R^2	0.056		0.083		0.057		0.104	
N	98		98		98		98	
	Desire to Switch Care (Yes/No)							
	Youngest Child				Oldest Child[a]			
	(1)		(2)		(1)		(2)	
	B	e^B	B	e^B	B	e^B	B	e^B
Subsidy	-0.228	0.796	0.314	1.369	-0.502	0.605	-0.115	0.892
	(0.543)		(0.598)		(0.558)		(0.583)	
Child's Age (Youngest)	-0.204	0.816	-0.16	0.852				
	(0.165)		(0.179)					
Child's Age (Oldest)[a]					-0.078	0.925	-0.121	0.886
					(0.088)		(0.112)	
Children Aged 13 or Under In Care	0.54	1.716 **	0.682	1.978 **	0.462	1.587 *	0.636	1.889 *
	(0.229)		(0.311)		(0.286)		(0.323)	
Perceived Affordability of Formal Care			-1.618	0.198 **			-1.267	0.282 *
			(0.675)				(0.631)	
Formal Care			-1.007	0.365			-0.461	0.631
			(0.770)				(0.696)	
Constant	-0.067		1.474		-0.333		0.877	
	(0.775)		(0.994)		(0.599)		(1.078)	
Pseudo-R^2	0.060		0.133		0.028		0.074	
N	95		95		95		95	

Note. Tests of significance for regression coefficients are one-tailed. [a] Oldest child eligible to receive a subsidy (up to age 13).

* $p \leq .05$, ** $p \leq .01$

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