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The Relationship Between Parental Employment Stability and Child Outcome Measures

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THE RELATIONSHIP BETWEEN PARENTAL EMPLOYMENT STABILITY AND CHILD OUTCOME MEASURES

by

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ABSTRACT

The Relationship Between Parental Employment Stability

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The present study investigated the relationship between mothers', fathers', and parents' employment stability and five child cognitive and social outcome measures. A total of 179 children who attended Head Start between 1991 and 1995 participated in the study with their parents. Child outcomes were examined to determine if they varied as a function of employment stability categories. Children of parents possessing stable employment histories had significantly higher Woodcock-Johnson broad knowledge cluster scores than children of parents possessing unstable employment histories. Child outcomes generally did not vary as a function of employment stability categories. Number of employment changes was used to predict child outcomes after controlling moderating variables. Number of changes in mothers' and parents' employment accounted for statistically significant amounts of Woodcock-Johnson broad knowledge cluster score variance. Number of employment changes was generally a poor predictor of child outcomes.

(195 pages)

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CONTENTS

Page

LIST OF TABLES

Table Page

LIST OF FIGURES

CHAPTER I

PROBLEM STATEMENT

Numerous studies investigating the effects that mothers' employment has on children have been conducted during the past 30 years. Mothers' employment has been found to have multiple effects on children, particularly on their academic performance, as described by such measures as grades and scores on standardized tests (Goldberg & Easterbrooks, 1988; Gottfried, Gottfried, & Bathurst, 1988; Greenberger & O'Neil, 1992; Moorehouse, 1991). Such measures will be referred to as child outcomes. However, research findings related to the impact of mothers' employment on child outcomes varied from study to study and often times were contradictory and counterintuitive. The most common theme existing across the mother employment child outcome research literature from the 1960s and 70s was that when employed mothers were satisfied with their employment experience, their children experienced beneficial consequences. Conversely, when employed mothers were dissatisfied with their employment experience, their children experienced detrimental consequences (Beyer, 1995; Hoffman, 1974).

In the 1960s and 1970s, mother employment child outcome research typically conceptualized mother employment status in a dichotomous fashion (i.e., employed or not employed; Hoffman, 1974; Moorehouse, 1991). During the 1980s, research design evolved to match research questions that addressed new aspects of employment. This resulted in investigators classifying mothers' employment status via the use of three categories: employed full-time, employed part-time, and not employed (Beyer, 1995; Goldberg & Easterbrooks, 1988; Greenberger & O'Neil, 1992; Moorehouse, 1991). From this evolution emerged a few studies that conceptualized

mothers' employment in terms of stability (Beyer, 1995; Goldberg & Easterbrooks, 1988; Greenberger & O'Neil, 1992; Moorehouse, 1991). As used in research literature, employment stability does not relate to number of hours employed per week, but rather with the changes in number of employment hours worked per week. For example, a homemaker who remains a homemaker and a part-time employee who remains a part-time employee may be considered as stable because their employment status is unchanged. However, someone who is employed full-time but then changes to part-time employment would be considered unstable. By conceptualizing employment in this way, a new dimension of the relationship between maternal employment and child outcomes began to be investigated.

Research on the relationship between mothers' employment stability and child outcomes is currently in the early stages, as only a handful of studies have been conducted. Research literature generally indicates that changes in mothers' employment may have an equivocal impact on child outcomes (Beyer, 1995; Goldberg & Easterbrooks, 1988; Greenberger & O'Neil, 1992; Moorehouse, 1991). However, existing studies have shared several shortcomings, thus making results interpretation difficult. The most notable shortcoming includes using samples of families taken from a restricted range of the population (i.e., Caucasian, two-parent households, middle to upper middle class, consistent full-time paternal employment, relatively high levels of parental education, and incomes well above poverty level; Goldberg & Easterbrooks, 1988; Gottfried et al., 1988; Greenberger & O'Neil, 1992; Moorehouse, 1991). These families can be characterized as relatively stable. Because of the stable family environments, changes in mothers' employment may have had minimal impact on the children because the home surroundings continued to provide a relatively stable environment. Thus, the samples' restriction of range may have masked potentially

important findings as well as posed a threat to the studies' population validity. For example, findings from previous employment stability child outcome measure studies may not be pertinent to families possessing less overall stability, such as families possessing relatively low levels of income. Systematic replication on a broader sample is needed in order for more meaningful conclusions to be drawn.

A second significant shortcoming within the employment stability child outcome research literature is the absence of father employment stability measures (Beyer, 1995; Goldberg & Easterbrooks, 1988; Gottfried et al., 1988; Greenberger & O'Neil, 1992; Moorehouse, 1991). That is, research to date has not investigated the impact that changes in father's employment may have on child cognitive, behavioral, or social development. Research that investigates the relationship between fathers' employment stability and child outcome measure performance is urgently needed (Beyer, 1995).

Three additional concerns exist within the employment stability child outcome research literature. First, few studies have examined how mothers' employment stability relates to child outcomes in conjunction with moderating variables (Beyer, 1995; Goldberg & Easterbrooks, 1988; Gottfried et al., 1988; Greenberger & O'Neil, 1992; Moorehouse, 1991). Moderating variables may be defined as anything that influences the relationship of parental employment and child outcomes, with the exception of parenting style, which is considered to act as a mediating variable (Baron & Kenny, 1986, as cited in Beyer, 1995, p. 214). Second, existing mother employment stability child outcome literature indicates that researchers have not been consistent in the type of child outcome measures used across studies. In addition, these studies have frequently produced disparate findings. The combination of disparate measures and findings makes it difficult to compare results across studies meaningfully. Last, all

employment stability child outcome literature has examined employment stability by comparing mothers' employment status across two points in time. Comparing differences in mothers' employment across two points in time is less sensitive than measuring employment continuously. For example, two-point measurement of employment does not detect changes in employment that may have occurred between the two observation points and can result in inaccurate study findings. Thus, excluding moderating variables, using disparate child outcomes, and assessing stability via two-point in time employment measures are significant limitations within the employment stability child outcome research literature.

A need to broaden the employment stability child outcome research literature base exists. Studies of father employment stability in relation to child outcomes using samples possessing low levels of family income and overall stability are major areas of need. In an effort to satisfy this need, the present study investigated the relationship between mother, father, and parental (combined mother and father) employment stability and measures of child outcomes with families who were involved with Head Start in the Salt Lake City, Utah, area during the past 5 years.

Head Start is a federally funded program that serves children of low-income families. Since the effects of mother and father employment stability have never been studied among families possessing low levels of income, Salt Lake City area families who were involved with Head Start provided an excellent sample for studying the effects of mother and father employment stability on child outcomes. In addition, approximately 65% of the Salt Lake City area Head Start families possess two-parent households (Innocenti & Taylor, 1995), which enabled the study of father employment stability as it relates to child outcomes.

Continuous measures of mothers' and fathers' employment were obtained to provide a more sensitive measure of employment stability than has been used in previous studies. General areas investigated include the effect of mothers', fathers', and parents' changes in employment status on children's cognitive and social outcomes, and the relationship that mother, father, and parents employment stability have with child cognitive and social outcomes.

CHAPTER II

LITERATURE REVIEW

Literature related to mother, father, and parental (mother and father combined) employment stability and child outcome measure performance was reviewed. A predetermined set of selection criteria was used to glean research literature. A description of the selection criteria is presented next.

Criteria for Selecting Materials

A literature search was conducted in an attempt to find research articles to include in a meta-analysis (Glass, 1976) investigating the effect(s) that mother, father, and parental employment stability may have on child outcome measure performance. A meta-analysis is a literature review approach that converts the outcomes of different studies into a common metric so that the relative magnitude of each study's outcomes can be understood. The meta-analytic literature review approach will be described in greater detail in the meta-analytic review section. Search methods used for this literature review included the following.

1. The on-line computer searches of PsycLIT, ERIC, and Dissertation Abstract Services were used. Various combinations of the key words child, Head Start, preschool, employment, work, patterns, interruption, stability, discontinuity, continuity, and job were used, which produced numerous abstracts with publication dates ranging from January 1974 through May 1998.

2. Consultations occurred with five early childhood/preschool mental health care professionals to obtain guidance regarding the whereabouts of childhood literature distributed via less widespread means relative to professional journals.

3. Two compendiums containing 650 Head Start research abstracts dating from 1985 to present were used.

4. Ancestry and descendency approaches to consulting reference lists of identified articles and Social Science Citation Indexes were used in an attempt to locate relevant literature.

The literature search was conducted using two phases. In Phase 1, inclusion criteria were applied to the research literature in an effort to obtain a broad literature base containing variables pertinent to the study. For a study to have been considered pertinent for inclusion in the review of literature, it had to contain the variables "mother employment" or "father employment" and "child outcome measure" as part of the investigation. Mothers' and fathers' employment was defined as any variable that described aspects of mothers' or fathers' employment. Child outcome measure was defined broadly to include any academic, intellectual, achievement, behavioral, or personality related metric. The term "child" was defined as all ages below 7 years. Last, articles published prior to 1972 were not considered because the findings may not have relevance to findings of more recent research due to the changes that have taken place within the employment and familial cultures of the United States since that time.

In Phase 2, exclusion criteria were subsequently applied to the articles within the inclusion pool so that articles not possessing requisite variables for the meta-analysis could be excluded. Criteria used for excluding articles included: (a) not possessing a measure of mother or father employment stability, where mother and father employment stability was defined as any obtained data concerning fluctuations or changes in mother and father employment that occurred over a given time; (b) not examining the relationship between the measures of mother or father employment

stability and child outcome; and (c) not using children under 7 years of age in the study. Exclusion criteria "a" and "b" resulted in all of the article exclusions except for one article.

Results of Literature Search

Following Phase 1 of the literature search, 35 potentially relevant pieces were identified for the meta-analysis including 16 primary research articles, 15 secondary research articles, 2 comprehensive traditional literature reviews, 1 government report, and 1 newsletter. Phase 2 of the literature review entailed employing exclusion criteria to the 35 articles. Applying exclusion criteria resulted in excluding all but four of the articles from the meta-analysis. It should be noted that of the 35 pieces of literature, none included any data concerning father employment stability. The studies selected for incorporation in the meta-analysis were thought to be exhaustive based on the application of the inclusion and exclusion procedures to the literature sources searched.

Because the 31 articles that were excluded from the meta-analysis were germane to the topic of maternal employment stability and child outcome measures, they were summarized. Thus, the literature review consists of three sections: summary of available literature reviews, traditional literature review, and meta-analytic review. The following section describes the findings of two comprehensive literature reviews that summarize what is known about the effects of maternal employment on child development.

Summary of Literature Reviews

A summary of two published literature reviews examining the relationship between mother employment factors and child outcome measures has been provided.

The reviews do not focus on father employment variables as they relate to child outcomes because no such articles were found during the literature search. The purpose of the summary was to determine which aspects of parent employment and child variables have been examined, which aspects of employment and child variables appear important, and which variables warrant further research.

One may note that these two reviews cover different time periods. The first review (Hoffman, 1974) summarizes research literature from the mid 1960s to the early 1970s. The second article (Beyer, 1995) reviews research literature from the early 1980s to the mid 1990s. It may be argued that consideration of Hoffman's article in relation to the present study is not necessary because Hoffman's article is irrelevant as a result of changing social climate and related factors that have taken place since this body of research was established. This criticism is acknowledged. However, it may also be argued that considering the early era of mother employment child outcome research literature may help future researchers become cognizant of relevant cultural trends, methodological issues, and possible misconceptions found in subsequent literature. Thus, Hoffman's article was considered relevant and has been reviewed in the following section.

Children studied and included within the two reviews ranged from newborn to late childhood in age, with reports most commonly focusing on preschool-aged children.

Hoffman (1974). Hoffman conducted a review of the literature regarding the effects of mother employment on children. Key findings are shown in Table 1. She reported that mother employment may affect children in five possible ways. First, working mothers, and possibly their husbands, may model different types of behavior to their children relative to households with nonemployed mothers. The "different"

Table 1

Summary of Review of Hoffman's (1974) Literature Review

Article information	Important variables	Author's findings
Author: Hoffman Year: 1974 Number of Studies: 122	Parental modeling	Working mothers, and possibly fathers, model behavior to their children that may affect their development differently than that of conventionally employed families. Findings: Children of working mothers had less traditional gender role concepts, were more approving of maternal employment, and had higher conceptions of female competence.
	Emotional states	Employment affects mothers' emotional states in three ways. Employed mothers may experience morale changes, role strain, and guilt, which influences mother-child interactions. Findings: When employed mothers were happy, there were positive effects on children, and visa versa.
	Child rearing	Employed mothers were found to foster child independence training, issue more responsibilities to their children, and have differences in parental control relative to nonemployed mothers. Findings: With the exception of responsibility, which was reported to have positive effects, child outcomes were mixed.
	Supervision	Employed mothers were found to provide less supervision to their children relative to nonemployed mothers. Findings: Inadequate supervision was positively related to child delinquency.
	Cognitive domain	Findings: Children of working mothers generally scored higher on achievement and academic measures than did children of nonemployed mothers. Children of employed mothers were also more likely to report intending to go to college. The relationship between child IQ scores and mother employment status was unclear.
	Future research	No recommendations for future research were given.

modeling appeared to influence the children's interpretation of what constitutes a female and male role. Hoffman reported that children of working mothers generally had less traditional gender-role concepts, were more approving of mother employment, and had a higher perception of female competence.

A second way that mother employment was reported to affect children was through its effect on mothers' emotional states (i.e., morale, role strain, and guilt). Working mothers appeared to have higher morale than nonemployed mothers. The higher morale was said to have positive results on children. However, Hoffman also

indicated that trying to meet the demands of being both a parent and a worker (role strain) may cause some working mothers to feel stress. Mother stress was reported to have a negative effect on children. Finally, it was reported that mothers who felt guilt may interact with their children in ways that result in child overcompensation, causing peer relationship ineffectiveness, low academic performance, and passivity. In general, it appeared that when working mothers were happy with their employment status, their children experienced positive effects. Conversely, when working mothers were experiencing emotional turmoil, their children experienced negative effects.

A third way that mother employment was indicated to affect children was through its influence on maternal child-rearing practices. In general, working mothers appeared to stress independence training to their children more than nonemployed mothers. Working mothers also assigned more household responsibilities to their children relative to nonemployed mothers, which reportedly resulted in positive effects on children. Working mothers appeared to demand more child conformity to household rules but used milder forms of discipline than nonemployed mothers.

Fourth, Hoffman reported that working mothers provided their children with less supervision relative to nonemployed mothers. Thus, a relationship may exist between mother employment and child delinquency. However, it appeared that delinquency was more related to lack of supervision and not maternal employment status per se.

Finally, Hoffman reported that children's cognitive development may be affected by mother employment. For example, maternal employment was found to have a positive relationship with children's plans to attend college. Children of working mothers tended to score higher on achievement tests than did children of nonemployed mothers. The relationship between mother employment and child IQ scores was found to be a complicated one. Children of happily employed mothers

generally obtained higher IQ scores than children of nonemployed mothers. However, the inverse was true for children of unhappily employed mothers.

Beyer (1995). Beyer conducted a more recent review of literature addressing the effects of mother employment on child outcome measure performance. Of particular interest to Beyer was the impact of moderating and mediating variables on the relationship of maternal employment and child outcomes. Key findings can be seen in Table 2. In her review, Beyer reported that mother employment has no direct effect on such child outcome measures as academic achievement, IQ, and achievement test scores. According to Beyer, the effect maternal employment has on children is altered by moderating variables, which is altered again by the mediating variable parenting styles, which ultimately affects child outcomes. Stated again for clarity, the affect that employment has on child outcomes is influenced by moderating variables. The influence that moderating variables has on child outcomes is not direct but is mediated by parenting styles. Parenting styles affects child outcomes. An adaptation of Beyer's model is shown in Figure 1.

Beyer reported that moderating variables existing within mother employment child outcome measure research literature may be grouped into three broad categories: work-related, family-related, and demographic-related moderators--each possessing various moderator subcategories. Beyer reported that seven mother employment child outcome measure-related mediating variables exist. These include child involvement (amount of time parents are engaged in activities with their children), support for autonomy (fostering child independence), punitiveness (child disciplinary measures), monitoring (parental supervision of children), expectancies (parents' expectations of their children's academic performance), encouragement (parental support provided to

Table 2

Summary of Review of Beyer's (1995) Literature Review

Article information	Important variables	Author's findings
Author: Beyer Year: 1995 Number of studies: 206	Work-related moderators	Maternal work related moderators consist of employment pattern, child care, and role satisfaction. Findings: Employment instability negatively impact parenting style, which has detrimental affects on child outcomes. Child care quality is positively related to child academic success, especially for boys. Employed mothers appear more satisfied with their roles, which positively affects parenting style and consequently child outcome measure performance.
	Family-related moderators	Family-related moderators consist of child gender and father's behavior. Findings: Age 4 preadolescent boys are more likely to experience less healthy parenting style from mothers than do same-aged girls, resulting in outcome measure deterioration for boys. Husbands of employed mothers display less warmth and involvement with their children than do husbands of nonemployed mothers, negatively affecting child outcome measure performance.
	Demographic moderators	Demographic moderators consist of SES, family size, and maternal education. Findings: SES is a powerful predictor of child outcome performance but associated parenting style mediators are unknown. Working mothers typically have higher levels of education, are more likely to be employed, and possess fewer children who generally perform relatively well on child outcome measures. Such variables confound each other and inhibit interpretation.
	Future research	(**1**) Due to change in social climate and norms across time, the effects of parental variables on child outcomes need to be updated, (**2**) Moderating variables such as employment stability, family size, maternal education level, number of hours worked, child care quality, role satisfaction, child gender, and SES needs to be further investigated in relation to their affects on child outcome measure performance, (**3**) Paternal employment child outcome research is urgently needed, and (**4**) The effects that parenting style mediating variables have on child outcome performance needs to be further investigated.

children), and maternal warmth (touch). Beyer stated that children exposed to the beneficial aspects of these seven parenting style mediating variables have generally been found to possess relatively high levels of outcome measure performance. An example of Beyer's model may help to clarify it. A mother who has experienced changes in the number of hours that she works per week may consequently be less involved in her child's life and may engage in more punitive interactions with her child when she does interact with him, the combination of which results in decrements in the

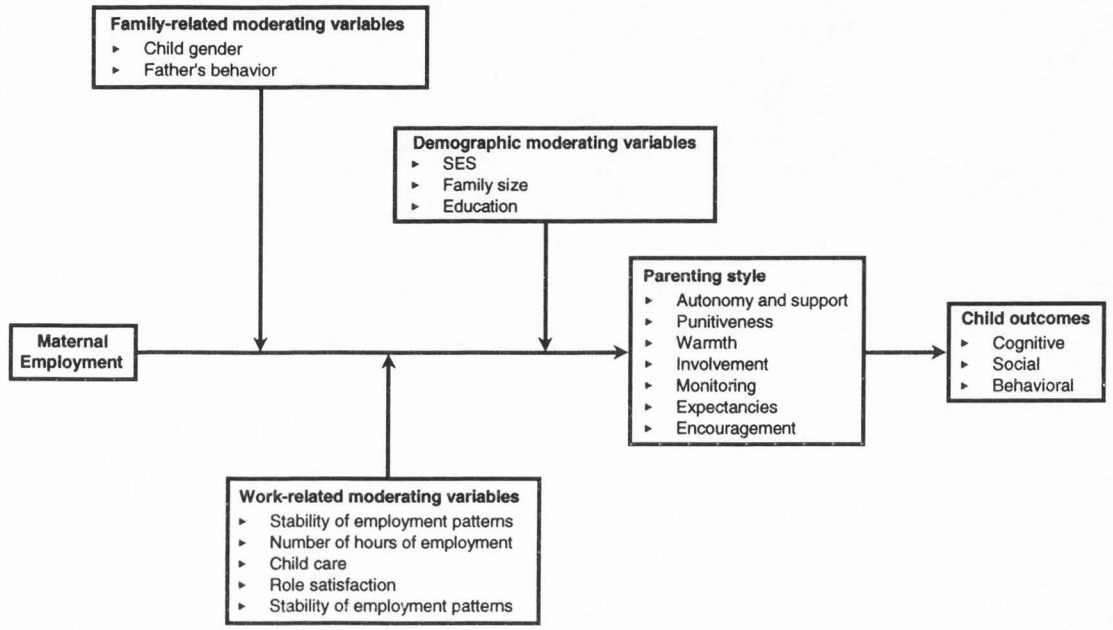

Figure 1. Adaptation of Beyer's (1995) maternal employment moderator mediator model.

child's social performance. Findings of Beyer's literature review have been summarized below.

Work-related moderating variables possess employment pattern, child care, and role satisfaction subcategories. Patterns of unstable mother employment were found by Beyer to greatly reduce the amount of time that mothers spent engaged in touching activities with their children (maternal warmth mediator). In addition, Beyer found a positive relationship between child care quality and academic success. This finding appeared especially strong for boys. Beyer provided no account of the influence that childcare may have on parenting style. Last, Beyer discovered that employed mothers were generally more satisfied with their roles than nonemployed mothers. Role satisfaction was found to have a strong influence on the mediators of maternal punitiveness and warmth.

The subcategories "child gender" and "father's behavior" comprised family-related moderating variables. Beyer found that mother employment within middle-class families generally appears to have a negative impact on sons (age 4 to preadolescent), and a neutral to positive effect on same-aged daughters. According to Beyer, outcome performance differences across genders may have resulted from employed mothers using healthier parenting styles when interacting with their daughters than with their sons. Last, Beyer reported that husbands of employed mothers displayed less warmth and were less involved in their children's lives as compared to fathers with nonemployed spouses.

Demographic-related moderating variables consist of socioeconomic status (SES), family size, and maternal education. Beyer reported that SES is one of the best predictors of children's outcome measure performance. However, specific SES parenting style mediators are unknown. Beyer found that employed mothers had fewer children on average than nonemployed mothers. Beyer stated that due to the negative relationship between family size and child achievement, family size must be controlled when conducting parental employment child outcome research to avoid interpretation confounds. Beyer reported that mother education level and child outcome measures generally share a positive but confounded relationship (i.e., highly educated mothers are more likely to be employed), making it difficult to separate the impact of maternal employment and education level on child outcomes. Thus, Beyer was unable to determine mother education level and child outcome mediators.

Beyer (1995) recommended that future mother employment child outcome research examine the effects of cultural and normative changes across time because cultural dynamics may render past research conclusions invalid. Second, it was recommended that such moderating variables as employment stability, family size,

mother education level, number of hours worked, daycare quality, role satisfaction, child gender, and SES be explored in future maternal employment child outcome studies. However, Beyer warned that only one or two such moderators be investigated per study. Third, Beyer stated that employment child outcome research that includes fathers has been virtually nonexistent and is urgently needed. Last, it was recommended that mediating variables related to parenting style be explored in an effort to better understand the types of parent-child interactional patterns that most influence children's outcome measure performance.

A Comparison of Hoffman and Beyer

The research conducted by Hoffman (1974) and Beyer (1995) is clearly different in regards to depth and complexity of research questions asked and analyses conducted. However, both authors appear to agree on the following points. First, children of working mothers, particularly daughters, are more likely to possess nontraditional gender role concepts than children of nonemployed mothers. Second, when employed mothers are satisfied with their working situations, their children tend to experience social and cognitive benefits. Conversely, when employed mothers are dissatisfied with their working situations their children may experience negative social and cognitive consequences. Third, mother employment may affect parent-child interactions, which influences child social and cognitive development. Last, children of employed mothers generally perform better academically and on measures of aptitude than children of nonemployed mothers.

Substantive differences appear to exist between Beyer (1995) and Hoffman's (1974) literature reviews. The general purpose of Hoffman's article centered on examining evidence so that a judgment could be made concerning whether or not

maternal employment did have an impact on child social and cognitive development. By the time Beyer was researching her article in the early 1990s, it was generally accepted that mother employment does influence child social and cognitive development. Thus, Beyer had no compelling reason to investigate whether or not mother employment impacts child development. Instead, Beyer attempted to clarify the mechanisms by which mother employment affects child development through the analysis of mediating and moderating variables. This reflects the point to which the mother employment child outcome literature base had progressed.

In the next section, a literature review has been provided delineating disparate research found while searching for mother, father, and parental (combined mother and father) employment stability child outcome measure performance research articles. The composition of the following section follows a more traditional literature review format.

Traditional Maternal Employment Literature Review

The present review section was not intended to be based upon an exhaustive review of the literature, as was the case with the employment stability child outcome meta-analysis review section. The purpose of the present section is to supplement the meta-analytic review with related articles found while looking for mother, father, and parental employment stability child outcome literature. Articles in this section were not included in the meta-analysis because they did not contain any maternal, paternal, or parental employment stability child outcome measure research in their content. The 29 articles included in this review cover numerous topics in various degrees of depth. A synopsis of these findings can be seen in Appendix A, Table A1. Negative and

positive effects of maternal employment on child development are presented in the following section.

Infant and Child Development

Mother employment and negative consequences. A relatively small body of research literature indicates that mother employment during the first 3 to 5 years of a child's life negatively affects infant and child intellectual development (Burchinal, Ramey, Reid, & Jaccard, 1995; Parcel & Menaghan, 1994). This finding appears particularly true for daughters. The negative impact that mother employment seems to have on infant and child development has been found to occur as a result of employed mothers and their spouses spending less time engaged in stimulating activities with their children than that of nonemployed mothers and their spouses (Zaslow, Pedersen, Suwalsky, & Rabinovich, 1989).

Mother employment and positive consequences. A comparatively large body of research literature indicates that children of employed mothers do not experience negative cognitive or behavioral consequences as a result of their mothers working outside of the home (Greenstein, 1995; Parcel & Menaghan 1994; Vandell & Ramanan 1992). In fact, it appears that both sons and daughters experience numerous benefits in response to having their mothers employed. Children of employed mothers have been found to possess higher levels of self-esteem, self-worth, and self-confidence than children of nonemployed mothers (Alessandri, 1992; Kurtz & Derevensky, 1994). It appears that part-time maternal employment during infants' first years of life has the most favorable impact on children's behavior, verbal development, and social performance (Alvarez, 1985; Bronfenbrenner, Alvarez, & Henderson, 1984; Hoffman, 1989; Parcel & Menaghan, 1994).

Mother employment, satisfaction, and parenting. Employed mothers have generally been found to engage in healthier parenting practices than nonemployed mothers. Parenting practices utilized at higher rates by employed mothers have included child guidance, responsive parenting techniques, and avoiding practices utilizing power assertion (Crockenberg & Litman, 1991). In addition, employed mothers have been found to be more accepting of their toddler's behavior than nonemployed mothers (Poehlmann & Fiese, 1994).

Since life-role satisfaction has been found to possess a positive relationship with children's academic performance and a negative relationship with children's inappropriate behavior, mother employment satisfaction may be a key factor influencing parenting behavior (Aurbach, Lerner, Barasch, & Palti, 1992; Hoffman, 1989; Kurtz & Derevensky, 1994; Poehlmann & Fiese, 1994). Indeed, employed mothers reporting dissatisfaction with their work roles have been found to engage in higher rates of negative and controlling parenting behaviors than mothers who reported being satisfied with their employment (Crockenberg & Litman, 1991). In addition, part-time mother employment has been found to increase life-role satisfaction more than other employment statuses, and is consequently the most desirable employment status for mothers to have in terms of benefitting their children (Alvarez, 1985).

Home Environment Stimulation

Children raised in homes providing relatively stimulating environments appear to do better academically and on aptitude tests than children raised in less stimulating home environments (Aurbach et al., 1992; Greenstein, 1995). Financially impoverished households have been found to possess less stimulating child

environments than nonimpoverished households (Garrett, Ng'andu, & Ferron, 1994). Households of employed mothers are generally less financially impoverished and provide more stimulating environments for their children than households of nonemployed mothers (Harold-Goldsmith, 1989; Vandell & Ramanan, 1992).

Parenting and Child Gender Differences

Mother employment has been found to have different consequences for sons and daughters. Motivation to work, role conflict, and perceived gains in autonomy as a result of employment appears to influence mothers', and in some cases fathers', perceptions of and interactions with their children (Alvarez, 1985; Bronfenbrenner et al., 1984). Employed mothers have been found to spend more time with their daughters than their sons engaged in such activities as play, stimulation, and expressing affection (Zaslow et al., 1989). The opposite pattern has been found to occur for nonemployed mothers (Zaslow et al., 1989).

Mothers employed full-time have been found to generally describe their sons' behavior in less favorable terms than their daughters (Alvarez, 1985). Further, mothers employed full-time have been found to generally describe their sons' behavior less favorably than that of nonemployed mothers (Hoffman, 1989). Mothers possessing lower levels of education who are employed full-time appear to be at the greatest risk of perceiving their sons negatively (Bronfenbrenner et al., 1984). Conversely, mothers employed part-time appear better able to perceive their sons in a positive manner (Bronfenbrenner et al., 1984).

Daughters of mothers employed full-time have been found to receive more emphasis from their mothers on personal independence and achievement than have sons (Alessandri, 1992; Aurbach et al., 1992; Hoffman, 1989). This finding appears to

be especially true for children reared in female-headed, single-parent households. However, maternal employment in two-parent families may be negatively related to child independence training within the home (Kurtz & Derensky, 1994).

Single-Mother Households

Children raised by a single mother appear to experience numerous negative consequences relative to the benefits of being reared in such an environment. It appears that most problems associated with being raised by a single mother arise during the first 5 to 7 years of a child's life. Divorced mothers, irrespective of work status, have been found to provide their toddlers with relatively low levels of social and cognitive stimulation in the home, as compared to married mothers (Poehlmann & Fiese, 1994). Sons of single mothers have been found to generally obtain lower IQ scores and have more physical illness than sons of dual caretaker families (Aurbach et al., 1992). Children of single-mother households also appear to engage in higher rates of problematic behaviors and possess poorer mental health than children of two-parent households (Duncan, Brooks-Gunn, & Klebanov, 1994).

Evidence does exist indicating that children living within households headed by single mothers do experience a limited number of benefits (high self-esteem and recreational activity) as a result of their mothers' single-parent and employed status (Kurtz & Derensky, 1994). However, such benefits do not usually appear before late childhood/early adolescence.

Fathers with Employed Wives

The effects of mother employment on father-child interaction are unclear. Findings by Hoffman (1989) and Bailey (1994) indicate that fathers with employed wives generally spend more time engaged in care and play activities with their children

from birth onward than fathers with nonemployed wives. However, Zaslow, Pedersen, Suwalsky, Cain, and Fivel (1985) reported that fathers engaged in significantly more child caregiving, touching, holding, playing, and stimulation when their wives were not employed. Last, Zaslow et al. (1985) found that fathers with employed wives generally spend more time holding and smiling at their infants than did their wives. It is worth noting that this study did not compare the amount of time that fathers with and without employed wives spend interacting with their children, so the relative impact of employment on father-child interaction is unknown.

Father Employment and Parenting

Father-child interactions may be heavily influenced by father employment factors. Fathers appear to be at heightened risk of perpetrating child abuse and engaging in less effective parenting practices when they are experiencing work-related stress or dissatisfaction or both (Jones, 1990; Kinnunen, Gerris, & Vermulst, 1996). Fathers who have experienced employment or income loss or both have been found to subsequently engage in decreased rates of nurturing parenting behaviors and increased rates of punitive and capricious disciplinary practices with their children (McLoyd, 1989). Increases in unhealthy father parenting practices appear to lead to increases in childhood socioemotional problems, externalizing behavior problems, and life aspiration/expectation decrements (McLoyd, 1989). Finally, when fathers are employed full-time during the first 3 years of their children's development, their children have generally been found to possess fewer mental health-related problems than children of fathers working fewer weekly hours (Baydar & Brooks-Gunn, 1991; Parcel & Menaghan, 1994).

Additional Topics

Additional topics pertaining to child development and family income, daycare/ preschool attendance, and breast feeding were identified within the traditional literature review articles. However, as previously mentioned, the purpose of the traditional literature review is to summarize articles that were discovered while conducting the maternal employment stability child outcome literature review but that did not qualify for inclusion in the meta-analytic review. As such, the traditional literature review is not exhaustive and cannot be used to adequately describe these three topics here. However, a delineation of these topics will be presented. A more comprehensive summary is found in Appendix A, Table A1.

Six of the 31 traditional literature review articles addressed issues concerning family income and child development (Duncan et al., 1994; Elder, Nguyen, & Caspi, 1985; Greenstein, 1995; Harold-Goldsmith, 1989; McLoyd, 1989). Three themes appeared salient. First, the articles indicated that a strong positive relationship exists between family income level and infant/child socioemotional and cognitive development. Second, income loss appears to have a much larger negative effect on fathers' than on mothers' parenting behavior. Last, poverty appears to negatively impact parents' mental health, which in turn adversely influences their parenting practices (e.g., high rates of punitive and/or coercive parenting behaviors). Declining parenting practices in turn appear to erode children's emotional and behavioral well-being.

Four of the 31 articles addressed issues concerning daycare and preschool attendance in relation to child development (Baydar & Brooks-Gunn, 1991; Burchinal et al., 1995; Clarke-Stewart, 1989; Crockenberg & Litman, 1991). A central theme within this literature was that daycare and preschool appears to affect boys' and girls'

cognitive and behavioral development differently. Specifically, early infant care seems to have positive effects on the behavioral development of boys but not girls. However, during later development, boys appear more prone than girls to develop negative social behaviors in response to attending daycare. Quality of daycare setting appears to be positively related to children's socioemotional and cognitive development. Last, girls appear to receive less cognitive benefit from attending preschool than do boys.

Literature Confound

A number of confounds exist within the above literature. However, a preeminent confound is that of mother education/intelligence and child aptitude/intelligence. In spite of strong evidence indicating that maternal employment results in numerous benefits to parents and their children, it is worth noting that mother employment is not definitively "better" than mother nonemployment. This is because mothers possessing higher levels of educational attainment and/or intelligence are more likely to be employed than mothers with less education and/or intelligence. Thus, one is not able to determine whether apparent mother employment benefits observed across parenting and child development domains are indeed due to factors related to mother employment, per se, or due to mothers' education and/or intelligence level (Alessandri, 1992; Vandell & Ramanan, 1992).

Summary of Traditional Literature Review

Approximately 33% of the studies in the traditional literature review utilized samples characterized as "middle" to "upper-middle class." About 33% of the articles indicated having samples that were nationally representative of the American population. The remainder of the articles possessed samples characterized as "low income."

Children of employed mothers appear to commonly experience social and cognitive benefits as a result of their mothers' employment (Alessandri, 1992; Kurtz & Derensky, 1994; Greenstein, 1995; Parcel & Menaghan 1994; Vandell & Ramanan 1992), particularly if mothers are employed part-time (Alvarez, 1985; Bronfenbrenner et al., 1984; Hoffman, 1989; Parcel & Menaghan 1994). Employed mothers may use healthy parenting practices at higher rates than nonemployed mothers, possibly as a result of possessing greater life role-satisfaction (Crockenberg & Litman, 1991). This appears particularly true of mothers possessing part-time employment (Alvarez, 1985).

Children raised in homes possessing higher levels of stimulation have been found to experience numerous cognitive benefits (Aurbach et al., 1992; Greenstein, 1995) as a function of their living environments. Household environments of employed mothers have been found to provide more child stimulation than that of nonemployed mothers' household environments (Harold-Goldsmith, 1989; Vandell & Ramanan, 1992).

Maternal employment may have more positive effects on mother-daughter interactions and relationships than it does for mother-son dyads (Alvarez, 1985; Bronfenbrenner et al., 1984; Zaslow et al., 1989), especially when the mothers are single. Further, single mothers have been found to provide relatively little home environment stimulation for their children (Poehlmann & Fiese, 1994), having a particularly detrimental effect on cognitive and physical development of sons (Aurbach et al., 1992). Children of single mothers also appear to engage in more problematic behaviors than children of two-parent households (Duncan et al., 1994).

The effects of mother employment on father-child care, play, and stimulation activities are unclear (Bailey, 1994; Hoffman, 1989; Zaslow et al., 1989). However, father employment may have a large effect on father-child interactions. Fathers experiencing work-related stress, dissatisfaction, or economic loss may be at

increased risk of engaging in child abuse, utilizing less effective parenting techniques, and using punitive and capricious disciplinary practices with their children (Jones, 1990; Kinnunen et al., 1989).

Daycare and preschool appears to have different effects on boys' and girls' cognitive and behavioral development (Baydar & Brooks-Gunn, 1991; Burchinal et al., 1995; Clarke-Stewart, 1989; Crockenberg & Litman, 1991). In general, boys appear more prone than girls to developing negative social behaviors in response to attending daycare. However, quality of daycare setting appears to be positively related to children's socioemotional and cognitive development. Last, girls appear to receive less cognitive benefits from attending preschool than do boys.

It should be noted that although a number of confounds exist within the above literature, the relationship that mother education and intelligence has with child aptitude and intelligence appears to be the most salient. That is, mothers possessing higher levels of educational attainment or intelligence or both are more likely to be employed than mothers with less education or intelligence or both. Thus, this relationship makes it difficult for one to isolate factors affecting facets of parenting or maternal employment and child development (Alessandri, 1992; Vandell & Ramanan, 1992).

Meta-Analytic Review

In 1976, Glass published an article explaining the properties and practical uses of a meta-analytic approach to conducting primary and secondary research. This research approach has come to be known as a "Glassian meta-analysis" (Bangert-Drowns, 1986). For simplification, the phrase "Glassian meta-analysis" has been referred to as "meta-analysis" or "meta-analytic review" throughout this dissertation.

Taylor and White (1992) later clarified the meta-analytic research approach, stating that it possesses four critical attributes. The first attribute entails studies included in the review being exhaustive of all existing studies that are relevant to the question of interest. Also, an explicit rationale must be given for the inclusion of studies within a meta-analysis. Second, the outcome of each study must be reported in the form of a common metric. By converting different study outcomes into a common metric, one may obtain a better estimate of the relative magnitude of each study's outcomes. It is important to note that every outcome within each study is converted into a common metric. Thus, a single study may yield numerous outcomes. One must be careful when interpreting the results of a Glassian meta-analysis because it may indeed possess numerous outcomes, giving the less-than-observant reader the impression that the meta-analysis is comprised of numerous independent studies when it may actually be comprised of only a few independent studies, each possessing multiple outcomes. Third, characteristics of the study and participants must be quantified so that covariation of these attributes with outcomes may be examined. Last, the procedures used to select the studies, code and analyze the data, and interpret the results must be clear and replicable.

A meta-analysis of the research literature pertinent to mother and father employment stability in relation to child outcome measures was conducted. Of particular interest was literature concerning the relationship between fathers' employment stability and child outcome measures since research in this area is urgently needed (Bailey, 1994; Beyer, 1995). However, no literature examining child outcomes and father employment stability was found. Therefore, the review was limited to child outcome measures as they relate to mother employment stability.

Meta-Analytic Process

As noted earlier, four articles were identified for inclusion into the meta-analysis. The purpose of the present section is to describe how study outcomes were converted into common metrics.

The standardized mean difference effect size (Glass, 1976) is one of the most popular common metrics used within meta-analyses. However, outcomes could not be reported using the standardized mean difference effect size because the individual studies that met the inclusion criteria did not include information (standard deviations and means) needed for its computation. Instead, the outcomes of the meta-analysis were reported via a common metric using the symbols "++," "+," "0," "- -." This method of converting data into a common metric is known as the voting method (Glass, 1977; Light & Smith, 1971) and was reported by Glass (1977) as a frequently used method of converting research findings into a common metric. All results reported represent findings of a target group's performance on an outcome measure relative to a comparison group. The "++" signifies that a statistically significant positive relationship was reported to exist. Positive relationships indicate that the stably employed group did "better" than its comparison group(s). The "+" indicates that a positive relationship approaching statistical significance existed (i.e., probability value less than .09). The "0" indicates that no statistically significant relationship was found, nor was statistical significance approached. Last, the "- -" signifies that a statistically significant negative relationship was reported to exist. A negative relationship indicates that the stably employed group did "worse" than its comparison group(s).

Two broad categories of subject classification were used in the meta-analysis. The first category included children whose mothers were unemployed but became

employed or were employed and experienced a change in the number of hours worked per week. The second broad category of subject classification entailed children whose mothers were homemakers and remained so or were employed and experienced no change in the number of hours worked per week.

Meta-Analytic Review Results

The results of the meta-analysis are shown in Table 3. Sample characteristics are shown in Table A2 in Appendix A. No relationship was found to exist between outcomes and sample characteristics within any given study. It is important to note that although only four articles were included in the meta-analysis, 20 analyses were coded into the common metric. Eight of the common metrics indicated that a statistically significant relationship existed between mother employment stability and child outcome measures (i.e., a code of ++ or - -). In addition, three of the common metrics examining mother employment and child outcomes approached statistical significance (i.e., a code of +). The remaining nine common metrics indicated no relationship between child outcome and mother employment stability (i.e., a code of 0). A summary of each article in the integrative review is presented below.

Goldberg and Easterbrooks (1988). Goldberg and Easterbrooks conducted research that compared outcomes on the California Q-Sort (Block, 1965) across two groups of children. This study had statistical findings from two analyses, both of which were coded into the common metric. The California Q-Sort yielded two scores, one for ego resiliency (the flexibility, problem solving ability, and/or adaptability of the child) and another for ego control (the ability to modulate impulses, delay gratification, and express affect appropriately). Children in group 1, the stable group, consisted of children whose mothers had not experienced significant fluctuation in their number of

Table 3

Summary of Meta-Analysis Findings

Author(s)/Year	Important Groups	Measures	CM[a]	Results
Goldberg & Easterbrooks, 1988	Stable Employment:[b] Employment Change [c]	Ego resiliency	0	Children whose mothers were stably employed obtained higher ego resiliency scores than children whose mothers' employment status changed.
Gottfried, Gottfried, & Bathurst, 1988	Stable Employment:[b] Employment Change[c]	Achievement IQ	_ _ _ _	Children with stably employed or nonemployed mothers obtained lower IQ and achievement scores relative to children whose mothers' employment status changed.
	Stable Employment:[b] Employment Change[c]	Ego control	0	Children whose mothers were stably employed obtained ego control scores that did not differ from children whose mothers' employment status changed.
Greenberger & O'Neil, 1992	[B]Stable homemaker:[b] Changed to employed[c]	Problem behavior	++	Children were rated by their mothers on two occasions, both prior to and after employment began for one group of mothers. Children whose mothers were never employed were rated on both occasions as having fewer behavior problems than were children whose mothers became employed.
	Stable part-time[b] Increase in hours[c]	Problem behavior	+	Children were rated by their mothers on two occasions, prior to and after hour increases occurred for a group of mothers. Children whose mothers were stably employed part-time were rated on both occasions as having fewer behavior problems than were children whose mothers experienced hour increases. Differences were large but not statistically significant.
Moorehouse, 1991	Stable Homemaker:[b] Employment Change[c]	Cognitive Social	++ ++	Children with stably nonemployed mothers had higher cognitive and social scores than children whose mothers changed employment status.
	Stable Employment:[b] Employment Change[c]	Cognitive Social	+ +	Children with stably employed mothers had higher cognitive and social scores than children whose mothers changed employment status. Differences were large but not statistically significant.
	Stable Homemaker:[b] Increase to Part-time[c] Increase to Full-time[c]	Cognitive Social Cognitive Social	0 0 ++ ++	Children in stable situations with mothers at home, had higher cognitive and social scores than children whose mothers increased to full-time, but not part-time employment.
	Stable Part-time[b] Increase to full-time[c] Decrease in hours[c]	Cognitive Social Cognitive Social	0 0 0 0	Children of mothers stably employed part-time did not obtain cognitive or social scores that differed from children whose mothers' employment hours increased to full-time or decreased.
	Stable full-time[b] Decrease in hours[c]	Cognitive Social	0 0	Children whose mothers were stably employed full-time did not obtain cognitive or social scores that differed from children whose mothers had a decrease in their hours of employment.

[a]CM means common metric.
[b]Children whose mothers experienced no change in their employment or nonemployment status.
[c]Children whose mothers experienced change in their employment or nonemployment status.

employment hours during the past 4 years. Group 2, the unstable group, was comprised of children whose mothers had experienced fluctuation in the number of employment hours worked during the past 4 four years or switched from stable nonemployment to being employed, or vice versa.

Children whose mothers were stably employment generally obtained ego resiliency scores indicating a higher ability to exercise flexibility, problem solving, or adaptability in novel or dynamic situations than children whose mothers experienced changes in their employment status. The two groups showed no significant ego-control score differences. Goldberg and Easterbrooks' study shares concerns noted for the other studies. The sample appeared to be homogeneous and stable (i.e., Caucasian, middle class, low divorce rates, college educated parents, stable father employment). Given this, population validity is a potential threat to the generalization of the study. Last, employment stability was determined by comparing mothers' employment status across two points in time (a 2-year interval). Comparing differences in mother employment across two points in time is less sensitive than if employment was measured continuously across time. For example, two-point measurements of employment do not detect changes in employment that may have occurred between the two observation points and may not accurately reflect mothers' employment histories. Thus, two-point measurements may result in inaccurate study findings.

Gottfried et al. (1988). Gottfried et al. conducted research that compared scores on the Achievement Scale of the Kaufman Assessment Battery for Children (Kaufman, & Kaufman, 1983) and scores on the Weschler Intelligence Scale for Children (Wechsler, 1981) across two groups of 6-year-old children. Group 1, the stable group, consisted of children whose mothers had not experienced any fluctuation during the

recent past (the time interval was not specified) in the number of weekly employment hours worked. Group 2, the unstable group, was comprised of children whose mothers had experienced fluctuation in the number of employment hours worked during the recent past. As seen in Table 3, this study yielded two findings, each of which was coded into the common metric. Children in the stable group obtained lower scores on the Kaufman Assessment Battery for Children and the Weschler Intelligence Scale for Children, a finding that indicated that mother employment stability may be negatively related to child cognitive outcomes.

The Gottfried et al. (1988) study was not without shortcomings. No information was given regarding subject selection. Families were primarily Caucasian, relatively well educated, and stable (i.e., two-parent households, stable father employment, middle class). Thus, restriction of range and population validity (the extent to which research findings may be generalized from the sample studied to a population) appeared to be a potential problem. Last, employment stability was determined by comparing mothers' employment status across two points in time, with time one and time two being separated by a 5-year period. Using point-in-time data is a concern.

Greenberger and O'Neil (1992). Greenberger and O'Neil studied the relationship between child problem behavior scores and mother employment stability across four groups of children. Two statistical findings were obtained from this study and converted into the common metric. Children in group 1 had mothers who had been homemakers during the 2-year study (i.e., the stable homemaker group). Children in group 2, the change to employed group, had mothers who changed their status from homemaker to employed during the course of the 2-year study. The third group consisted of children whose mothers held stable part-time jobs for the duration of the study (i.e., the stable part-time group). The fourth group, the increase in hour group,

consisted of children whose mothers were employed when the study began and then experienced a subsequent increase in the number of hours that they worked per week. The metric, problem behavior, was a composite of scores obtained from the Child Behavior Checklist (Achenbach & Edelbrock, 1983), the How My Child Acts Scale (National Longitudinal Survey of Labor Force Behavior, 1986), and the California Q-Sort (Block, 1965). Information regarding how the composite scores were calculated was not presented.

Children in the stable homemaker group received lower problem behavior scores (lower scores indicate fewer problem behaviors) from their mothers than did children belonging to the change to employed group, as rated both prior to and after the change group began employment. Similarly, children in the stable part-time group tended to receive lower problem behavior scores from their mothers than did children belonging to the increase in hours group, as rated both prior to and after the change group experienced hour increases.

Greenberger and O'Neil's study has several limitations, most of them pertaining to restriction of range and threats to population validity. Approximately 35% (82 families) of the participants quit the study prematurely. People who dropped out of the study had lower levels of education and were more likely to be employed full-time during the initial data collection phase. Attrition may have biased the outcomes. The subjects comprising the sample were relatively homogenous and stable (i.e., primarily Caucasian, two-parent households, college educated parents, stable father employment, and high household income). Last, employment stability determinations were made by comparing mothers' employment status on two points in time across a 2-year interval, which is a limitation.

Moorehouse (1991). Moorehouse obtained results that contradicted Gottfried et al. (1988) when she examined the relationship between mother employment stability and two child outcome measures (i.e., cognitive and social competence). Fourteen statistical findings were obtained from this study, each of which were converted into the common metric. Cognitive competence was comprised of a composite of children's school grades and their scores on the Teachers' Ratings Questionnaire (Wright & Wyman, 1974). The Teachers' Ratings Questionnaire was designed to be completed by teachers to glean information regarding a child's academic achievement, motivation, and creativity. No further information was given regarding how child grades and the Teachers' Ratings Questionnaire scores were combined. Social competence was measured via the Social Adjustment Scales of the Teachers' Ratings Questionnaire. The social adjustment scales provided information regarding a child's ability to interact and cooperate with classmates, behave responsibly, and to engage in appropriate behavior. Mother employment information was obtained from mothers via two interviews conducted approximately 3 years apart.

Children of stable homemakers generally scored higher on the social adjustment and cognitive competence scales relative to children whose mothers experienced changes in employment status. However, several caveats must be made about the quality of the Moorehouse (1991) study. The sample appeared to be homogeneous and stable (i.e., middle class, white, parents educated past high school, stable paternal employment). Attrition from divorce and family relocation added to the overall familial stability of the remaining sample composition. The sample appeared to be obtained from a restricted range of the population. Hence, population validity is a potential threat to the study. Last, employment stability was determined by comparing mothers' employment status on two points in time separated by a 3-year interval. As

mentioned, two-point measurements of employment may not accurately reflect mothers' employment history and may result in inaccurate study findings. A continuous measurement of employment may have produced more valid mother employment stability data.

Summary of Meta-Analytic Review Findings

Studies investigating the relationship of mother employment stability with child cognitive, social, ego, and problem behavior outcome measures converted into a common metric were described and critiqued. Several limitations were pervasive. Child cognitive, social, ego, and problem behavior outcome measure research findings and issues will be respectively summarized and presented.

The effects of maternal employment on child cognitive outcome measures were investigated in two studies. Scores obtained on general child cognitive measures (i.e., Weschler Intelligence Scale for Children, Kaufman Assessment Battery for Children, and composites of children's grades and the Teacher's Ratings Questionnaire scores) did not indicate a clear relationship with mother employment stability. Some common metrics indicated that a positive relationship existed between mother employment stability and child cognitive outcome measures (i.e., two common metrics of "++," and one common metric of "+"). Others indicated that a negative relationship existed (i.e., two common metrics of "- -"). Still others indicated that no relationship existed between mother employment stability and child cognitive outcome measures (i.e., four common metrics of "0").

Regarding the relationship between children's social competence and the status of their mothers' employment stability, when marked changes occurred in the mothers' employment, children were perceived as being less socially competent by their

teachers relative to children whose mothers were stably nonemployed or stably employed (i.e., two common metrics of "++" and one common metric of "+"). When relatively minor changes occurred in the mothers' employment, children were not perceived as being less socially competent by their teachers (i.e., four common metrics of "0"). However, it is worth noting that social competence was only investigated in one study via one measure. This finding needs to be replicated using a broader sample and different measures.

Child ego resiliency, as measured by the California Q-Sort, was positively related to stability in mother employment. That is, children whose mothers' employment status did not change obtained higher ego resiliency scores relative to children of mothers who experienced employment change (i.e., one common metric of " + +"). No such relationship was found for child ego control scores (i.e., one common metric of "0"). One must take caution when interpreting these results because domains of child ego were investigated via one study using only one measure.

Last, children whose mothers' employment status did not change were rated by their mothers as exhibiting fewer problem behaviors than were children of mothers who rated their children both prior to and after experiencing increases in work hours (i.e., one common metric of "+" and "+ +"). Employment fluctuations included changes from nonemployed to employed and from part-time to full-time. These findings must be interpreted cautiously because they reflect the findings of only one study using one metric on an apparently restricted sample. Replications using a broader sample and other metrics are needed.

In sum, cognitive findings were equivocal. Child social, ego resiliency, and problem behavior outcomes appear to have a relationship with mother employment stability. However, these findings must be interpreted with caution because they were

specific to single studies, the samples utilized were obtained from a restricted range of the population, and individual studies used different measures regarding quality (e.g., sampling inadequacies for the types of information trying to obtain, absence of data, and so forth.).

It is important to note that all four employment stability studies measured changes in mother employment through the use of two-point observations, with the interval separating data collection at points one and two ranging from two to five years across studies. Two-point measurements of employment cannot detect employment changes that occurred during the time between the two observation points. Thus, employment stability data based upon two-point observations may not accurately reflect mothers' true employment histories and could result in inaccurate study findings. Obtaining a continuous measurement of mother employment across time may result in more valid mother employment stability data and study findings.

However, one thing is clear. Both of the studies examining the relationship between child cognitive outcomes and maternal employment stability utilized samples obtained from restricted ranges of the population that limited the generalization of the findings and may not have provided a large enough range in household stability to differentially impact children whose mothers experienced changes in employment relative to children whose mothers did not.

General Summary and Future Research Direction

Information in the review of literature reviews, the traditional literature review, and the meta-analytic review share several commonalities and build upon each other. First, children of working mothers, particularly daughters, may experience cognitive, behavioral, and social benefits as a result of their mothers' employment (Alessandri,

1992; Beyer, 1995; Greenstein, 1995; Hoffman, 1974; Kurtz & Derensky, 1994; Parcel & Menaghan 1994; Vandell & Ramanan 1992), especially if mothers are employed part-time (Alvarez, 1985; Bronfenbrenner et al., 1984; Hoffman, 1989; Parcel & Menaghan 1994). However, when parents are unsatisfied with their employment situations, their children may experience detrimental cognitive, behavioral, and social effects (Aurbach et al., 1992; Beyer, 1995; Crockenberg & Litman, 1991; Hoffman, 1974, 1989; Jones, 1990; Kinnunen et al., 1996; Kurtz & Derensky, 1994; McLoyd, 1989; Poehlmann & Fiese, 1994)

Second, when exploring the relationship between parental employment and child cognitive, behavioral, and social development via outcome measure performance, it is important to focus on the role that specific moderating and mediating variables play (Beyer, 1995). Beyer reported a host of moderating and mediating variables worthy of study. One notable moderator is parental employment stability. However, little research examining the effect of parental employment stability on child cognitive, behavioral, and social development was found to exist. The relationship between maternal employment stability and child outcome measure performance has been investigated in four studies (Goldberg & Easterbrooks, 1988; Gottfried et al., 1988; Greenberger & O'Neil, 1992; Moorehouse, 1991). These studies indicate that fluctuations in mother employment may detrimentally affect child cognitive, behavioral, and social development. These findings must be interpreted cautiously due to methodological limitations that existed across studies, including: (a) samples obtained from a restricted range of the population; (b) employment fluctuation was measured using two-point measurements of employment; and (c) single measures of cognitive, behavioral, personality, and social development were used. Individual studies employed different instruments to measure child development domains as well as

mother employment stability, making it relatively difficult to meaningfully interpret results across studies.

Measures of father employment need to be included in employment stability child outcome research because studies indicate that paternal employment may have a significant effect on child cognitive, behavioral, and social development (Jones, 1990; Kinnunen et al., 1996; McLoyd, 1989). No research was found that investigated the impact father employment stability may have on child cognitive, behavioral, and social development. Such research was reported by Beyer (1995) to be urgently needed, which coincides with findings from the present literature search.

In aggregate, the literature reviews provide strong guidance for conducting future research. Five areas of consideration were found. First, the effect that changes in mothers' employment has on children is unclear. Further study is needed to clarify issues surrounding this relationship. Second, the importance of paternal involvement on child development has recently been recognized (Beyer, 1995). However, virtually nothing is known about the impact that changes in father's employment has on child development; such research is needed. Third, future research methodologies should avoid using two-point employment stability measurements and should rely on more sensitive measurement techniques. An example of one such technique is measuring changes in employment continuously. Fourth, existing employment stability child outcome research methodology has done little to control moderating variables which may obscure and confound research findings. Future research should move beyond past studies by controlling moderating variables. Last, previous research utilized samples from a restricted range of the population; thus, little is known about the effect that changes in mothers' (as well as fathers' and parents') employment may have on

children belonging to low income families. Future research should utilize samples possessing lower annual income levels than samples used in previous studies.

Families of Head Start comprise a low income population that is uniquely suited to study the effects of parent employment stability on child development. Head Start is a nationwide preschool program for economically disadvantaged children. It was founded in 1965 by the Federal Government in an effort to help children of economically disadvantaged families prepare for first grade so that they would be on par academically with children from noneconomically disadvantaged families upon beginning elementary school (Kassebaum, 1994; Zigler & Muenchow, 1992). Piotrkowski, Collins, Knitzer, and Robinson (1994) noted that when Head Start directors were asked to describe what they believed to be among the major factors related to cognitive and social development of Head Start children and families, poverty, unemployment, and family instability were listed. Piotrkowski et al. did not elaborate on the relationship existing between these mental health factors. However, themes of low family income and instability cut across these endorsements.

The purpose of the present study was to expand the maternal employment stability research literature base in at least five ways. First, the present study was the first known to measure fathers' and parents' employment stability in addition to measuring changes in maternal employment. The current study was also the first known to measure employment stability continuously. Third, the present study is thought to be the first to replicate methodology of past employment stability research by replicating methodology used by Moorehouse (1991). Replication is important because it, in essence, tests findings of past studies. Fourth, the current study was also the first known to use child outcomes similar to those of previous studies. This allowed a comparison to be made of current and previous study findings across like

outcome measures. Last, moderating variables were controlled during analyses to limit confounds and obtain information regarding the impact that identified moderators may have on child cognitive and social development.

CHAPTER III

METHODS

Study Overview

The present study investigated the relationship between parents employment stability and child cognitive and social outcome measures utilizing families of Head Start. This study was the first to collect measures of mother, father, and parental (combined mother and father) employment stability. Employment stability was examined in relation to the moderating variables of mother intelligence, mother education level, parent-related stress level, and family size. Past studies have only examined employment stability over two points in time (Goldberg & Easterbrooks, 1988; Gottfried et al., 1988; Greenberger & O'Neil, 1992; Moorehouse, 1991). However, the present study collected continuous employment stability information making it the first research project to do so.

Two levels of questions were investigated. Level 1 questions related to the effects of various patterns of parents' employment on child outcome measures and consisted of the following.

1. Are there significant differences on child cognitive and social outcome measure scores as a result of classification into different categories of mother employment stability, and if significant differences exist, what is the pattern of findings by group for mother employment categories?

2. Are there statistically significant differences on child outcome measure scores as a result of classification into different categories of father employment stability, and if significant differences exist, what is the pattern of findings by group for father employment categories?

3. Do children with stably employed parents perform better on child cognitive and social outcome measures than children whose parents have unstable work histories?

4. Does mother or father employment stability have a larger affect on child outcome measure performance?

Analyses conducted to investigate Level 1 research questions are henceforth referred to as categorical analyses, reflecting that categorical employment stability data were used in Level 1 analyses.

Level 2 research questions focused on the relationship that number of changes in maternal, paternal, and parental employment has with child outcomes. The following four questions were investigated in Level 2 analyses.

1. To what extent does mother employment stability predict child cognitive and social outcome measure scores after controlling for the moderating variables?

2. To what extent does father employment stability predict child outcome measure scores after controlling for the moderating variables?

3. To what extent does parental employment stability predict child outcome measure scores after controlling for the moderating variables?

4. Does mother employment stability account for more child outcome measure variance than father employment stability?

Level 2 analyses are subsequently called continuous analyses, reflecting that continuous employment stability data have been used in Level 2 analyses.

Background Information

The present study extended and utilized an extant database collected as part of a 5-year, nonexperimental, longitudinal study entitled the Head Start Success Study, or Success Study (Innocenti & Taylor, 1995). The Success Study was funded by the

U.S. Department of Health and Human Services, Administration for Children, Youth, and Families, from 1991 through 1996 and was conducted in collaboration with the Salt Lake City, Utah, Head Start grantees. The Success Study tracked 248 Head Start children and their families for three successive years. Participants were enrolled at 1-year intervals from each other for 3 years, comprising three respective cohorts. Study participation began when each cohort started in Head Start and ended when each cohort completed the first grade, with the exception of cohort one which was tracked through third grade. Thus, the Success Study's sample is comprised of three cohorts of participant families.

Participants were selected for participation in the Success Study from three Head Start programs within the Salt Lake City area. Head Start programs in this area deliver services to approximately 1,200 children per year. Children were eligible to participate in the Success Study if they were 4 years of age upon study entrance and eligible for kindergarten entry in the upcoming fall. Letters of agreement to participate were sent to the parents of eligible children. Respondents were stratified by gender, ethnicity, and Head Start program, and then randomly chosen for participation. Cohort 1 was enrolled during the 1991-92 academic year and consisted of 61 participants. Cohort 2 was enrolled during the 1992-93 academic year and consisted of 72 participants. Cohort 3 was enrolled during the 1993-94 academic year and consisted of 115 participants. The sample closely approximated the Head Start population in the Salt Lake City area (Innocenti & Taylor, 1995). Demographics of families enrolled in the study are found in Appendix A, Table A3.

The purpose of the Success Study was to examine how Head Start intervention could be strengthened to best meet the needs of the children and families served by the program. Extensive child and family data were collected during the Success

Study, including child, mother, parenting style, familial, contextual, and school environment domains. A detailed list of the data collection measures used in the Success Study may be found in Appendix A, Table A4.

Present Study

The Human Subjects Committee at Utah State University reviewed and approved the present study (see Appendix B). Permission was obtained from the Salt Lake City, Utah Head Start Policy Council to conduct the study. This allowed contact with the sample of parents who participated in the Success Study to request participation in the present study. In essence, a partnership with the Salt Lake City Head Start program was established. A copy of a letter from the executive director of the Salt Lake Community Action Head Start Program approving the present study is found in Appendix C. As part of the collaborative relationship with Head Start, the Head Start Parent Council reviewed and approved the parent employment stability study explanation/data collection measure (see Appendix D) and the informed consent form (see Appendix E) prior to each form's administration.

The original 248 families who participated in the Head Start Success Study were divided into mother/father cohorts for the present study. When the Success Study began, 147 fathers and 237 mothers participated. At the time the present study was conducted, Success Study attrition included 24 fathers and 56 mothers, resulting in 123 fathers and 181 mothers for potential participation. The number of participants who actually participated in the present study consisted of 66 fathers and 113 mothers. The sample is described in greater detail in the participant description section.

Permission to participate in the present study was obtained by mailing prospective participants packets consisting of a participant consent form (see Appendix E), a study

explanation/employment stability measure (see Appendix D), and a return envelope. Participants were offered $10 for participating in the present study and three chances at winning a $50 lottery. Participant packets and payment procedures are described in greater detail in procedures and participant payment sections.

Measures

The present study utilized five measures. The first was a measure of parents' employment stability developed specifically for use in the present study. The rest of the measures used were obtained from the Success Study's extant database and included the Woodcock-Johnson Psycho-Educational Battery--Revised (Woodcock & Johnson, 1989), the Social Skills Rating System (Gresham & Elliot, 1990), the Otis-Lennon Mental Ability Test (Otis & Lennon, 1969), and the Parenting Stress Index--Short Form (Abidin, 1990a). A rationale for the use of these measures within the Success Study can be found in Innocenti and Taylor (1995). A detailed description of these instruments is presented in the following sections.

Employment Stability Measure

All children involved in the Head Start Success Study were tested both prior to and after attending Head Start for 1 year. The Employment Stability Measure was designed to obtain Information about parents' employment history for the 2-year period preceding each child's graduation from Head Start. Two years was selected as the interval to collect parental employment stability information because it was the most common time span used in the employment stability literature (see Appendix A, Table A2). Further, since memory decay and forgetting are known to be positively correlated with time passage (Ebbinghaus, 1885; as cited by Meyers, 1998), it was thought that

participants would be able to produce more valid employment stability information across a period of time going back 2 years than they would over greater periods. Two versions of the employment stability measure were developed (i.e., a prototype and a revised version). Both versions shall be described in the following sections.

Prototype employment stability measure. A prototype employment stability measure was developed (see Appendix G). The prototype consisted of: (a) a three-page instruction set, (b) a six-page calendar (covering 24 months) to record employment information on, and (c) a three-page example calendar (covering 12 months). The instruction set provided information regarding (a) how the subjects were chosen for the study, (b) the purpose of the study, (c) what kinds of employment information to provide, (d) how to record the information on the six-page calendar, and (e) participant payment procedures.

A pilot study was conducted with six volunteer participants possessing characteristics similar to those in the present study to obtain information concerning the prototype employment stability measure's ability to facilitate data collection. Participants were told that all information they needed for study participation was included within the packet. Participants were not provided any verbal instructions in regards to the specific purpose of the measure or how to complete it. Each participant was interviewed after completing the prototype. During the interview, participants were to describe: (a) how easy the instructions were to understand, (b) if the prototype facilitated or hindered recording employment history, (c) how long the prototype took to complete, and (d) possible changes that could be made to improve the instrument. Several themes emerged from the pilot study. First, participants indicated that the prototype contained too much literature to read. Second, respondents reported that the instrument's instructions were confusing. Third, the size of the prototype was

found to intimidate those who completed it, appearing as if it would be extremely time-consuming to complete. Last, the prototype was found to take about half an hour to complete. Participants who completed the prototype indicated that the calendar format did facilitate thorough employment history recall. However, based on the pilot study it was determined that implementing the prototype in the present study would result in extremely low participant response rates. It was determined that no further pilot testing would be conducted using the prototype and that a new employment stability measure needed to be developed. A copy of the prototype employment stability measure is located in Appendix I.

Employment stability measure--revised. The revised employment stability measure was developed in response to the prototype's shortcomings and included three major improvements over the prototype. First, a new format was developed for recording employment history information. Instead of utilizing a lengthy set of calendars, the revised measure simply provided participants with a single sheet of paper to record their employment history. The employment history recording form possessed cues that aided participants in completing the measure. Second, the instructions were simplified, shortened by 57%, and written in larger font to facilitate ease of reading. The instructions provided information regarding: (a) how the subjects were chosen for the study, (b) the purpose of the study, (c) what kinds of employment information to provide, (d) how to record the information on the recording sheet, and (e) participant payment procedures. The last improvement included providing an example of a completed employment stability protocol that was easier for participants to understand than that of the prototype example.

To obtain information concerning the revised employment stability measure's performance, a second pilot study was conducted with six more volunteer participants

whose characteristics resembled those in the present study. As in the initial pilot study, participants were given the instrument without any verbal instructions. Following the instrument's administration, participants were interviewed to obtain information concerning: (a) how easy the new instructions were to understand, (b) if the revised measure facilitated or hindered recording employment history, (c) how long the prototype took to complete, and (d) possible changes that could be made to improve the instrument. Several themes emerged from the second pilot study. First, participants reported that the employment history recording form did not appear intimidating but instead seemed intuitive and easy to complete. Second, the revised measure was generally found easy to read and understand. Third, the completed employment history recording form example that was provided was found to be extremely useful in assisting participants to understand how to complete the actual employment history recording form. Last, participants were generally able to complete the revised measure in about 15 minutes, a 50% improvement over the prototype. Following the revised employment stability measure pilot study, the only modification made to the instrument was to adjust some of the font sizes. Thus, the revised employment stability measure appeared well suited for use in the present study and was used to collect parental employment stability data. The revised employment stability measure was designed to obtain the following information: the title of each job held, employment start and stop dates, the number of hours worked per week, changes in the number of hours work per week that occurred, if the change was viewed as positive or negative at the time that it occurred, and if the child of interest lived with the parent during the employment history period described. A copy of the revised employment stability measure is located in Appendix D.

Child Measures

Woodcock-Johnson Psycho-Educational Battery--Revised. The Woodcock-Johnson--Revised (WJ-R; Woodcock & Johnson, 1989) is an individually administered test that measures various aspects of cognitive and achievement constructs. The early development scale is a test battery that is part of the WJ-R and is designed for use with preschool-age children. The early development scale is comprised of two subscales--the early development cognitive scale and the early development achievement scale. The early development cognitive scale possesses five subscales. Subscale scores are combined to produce a broad cognitive ability cluster score providing a broad base measure of intellectual ability similar to that of an IQ score (Woodcock & Johnson, 1989). Examples of broad cognitive ability tasks include testing children's memory for names and sentences, having children attempt to correctly pronounce words intentionally mispronounced by the examiner, having children try to name objects in pictures that are distorted in some way, and naming pictures of common things (e.g., a fork, dog, and baby). The early development achievement scale consists of six subscales and produces broad knowledge and skills cluster scores. The broad knowledge cluster score provides a measure of general world knowledge through having children identify and name items found in the world, for example a dog, plants, a television, an airplane, and a newspaper. The broad skills cluster score provides a measure of skills important for elementary school readiness, for example, identifying letters and words, counting items, and writing letters. Raw scores from the WJ-R can be converted into age equivalent (years and months), grade equivalent, and standard (mean = 100, SD = 15) scores. The WJ-R early development batteries were administered to Success Study participants when they began and when they graduated from Head Start. Broad cognitive ability, broad

knowledge, and broad skills cluster scores were used as outcome measures in the present study.

Success Study psychometricians consisted of graduate students in psychology and education, as well as mental health professionals. All psychometricians were trained to administer the early development scales in accord with standardized procedures (Woodcock & Johnson, 1989). As part of their training, psychometricians achieved interrater reliability of .90 or higher prior to administering the WJ-R to Success Study participants. Early development scale administrations occurred at Head Start Centers at scheduled times. Interrater reliability data was collected across 10% of the early development scale administrations. Interrater reliability coefficients were found to average over .91 (Innocenti & Taylor, 1995).

The WJ-R was normed on a sample of 6,359 people (ages 2 years through 90+ years) representative of the United States' population. The early development scale's reliability was reported to generally be high (Woodcock & Johnson, 1989). The following early development reliability coefficients were reported in the WJ-R's technical and examiner manuals: (a) broad cognitive ability cluster score reliability coefficient (mean = .92), (b) broad knowledge cluster score reliability coefficient (mean = .94), and (c) skills cluster score reliability coefficient (mean = .96; Woodcock & Johnson, 1989). Types of reliability techniques and the range of obtained coefficients were not specified.

Evidence of validity for the early development scales appears moderate to high. Item development was guided by an extensive empirical foundation and intelligence theory (the Horn-Catell model). The item development appears to adequately represent content domains of interest. Correlation coefficients with similar tests for preschool-aged children (e.g., Kaufman Assessment Battery for Children [Kaufman &

Kaufman, 1983], McCarthy Scales of Children's Abilities [McCarthy, 1972], Peabody Picture Vocabulary Test--Revised [Dunn & Dunn, 1989], and the Stanford-Binet Intelligence Scale--Fourth Edition [Thorndike, Hagen, & Sattler, 1986]), are generally between .614 and .847 (Woodcock & Johnson, 1989). The WJ-R has been reported to be theoretically sound and psychometrically outstanding (Cummings, 1994; Lee & Stefany, 1994).

Social Skills Rating System. The Social Skills Rating System (SSRS; Gresham & Elliot, 1990) is a paper-and-pencil assessment instrument designed to assess a broad spectrum of child behaviors through three subscales: social skills, problem behaviors, and academic competence. Each subscale possesses a series of statements regarding behaviors. The respondent must indicate how the statement relates to the child based on the 3-point scale of: never, sometimes, or very often. Raw scores can be converted into standard (mean = 100; SD = 15) and percentile scores. The SSRS offers a teacher, parent, and student form so that a child's behavior may be evaluated numerous ways. The SSRS parent form was administered to mothers during the time their children were administered the WJ-R early development scale (after graduating from Head Start). Social skills and problem behaviors subscale scores were used as outcome measures in the present study. The higher the score on the social skills subscale, the higher is the reported level of social skills. The lower the score on the problem behavior subscale, the lower is the presence of problematic behaviors.

The SSRS parent form was normed on a sample of 1,027 parents from a representative sample of the Unites States' population. Internal consistency coefficient alpha reliability on the SSRS parent form range from .57 to .90 (mean .76) for preschool-aged children (Gresham & Elliot, 1990). Test-retest was conducted across a 4-week period resulting in reliability coefficients ranging from .48 to .87 (mean = .72)

for preschool-aged children. Item development was guided by extensive empirical research. Items appear to represent content domains of interest. Evidence of criterion-related validity was assessed through correlating the SSRS parent form subscales with subscales of the Child behavior Checklist--Parent Form (Achenbach & Edelbrock, 1983). Coefficients ranged from -.61 to +.73. It should be noted that negative correlations describe the simultaneous occurrence of desirable and undesirable behaviors, for example, a report of a high rate of child cooperation and a low rate of aggression. Reviewers of the SSRS have indicated that its psychometric properties range from very good (Benes, 1994) to moderate (Furlong & Karno, 1994).

Parent Measures

Variables were selected for examination within the present study in response to guidance from the employment stability child outcomes literature review. Mother and father measures used in the present study were generally obtained as part of the Success Study's data collection at the time target children graduated from Head Start. These measures are described next.

Family size. Information concerning the participants' family size was obtained using a demographic form during Head Start Success Study data collection. Family size was used as an employment stability child outcome moderating variable in the present study.

Mother and father education level. Information concerning parents' level of education at the time of their child's graduation from Head Start was obtained using a demographic form during Head Start Success Study data collection. Test-retest results across one year were found to correlate at .81, indicating a moderate level of

reliability across a 1-year period. Mother education level was used as a moderating variable in the present study.

Otis-Lennon Mental Ability Test. The Otis-Lennon Mental Ability Test (OLMAT; Otis & Lennon, 1969) is an 80-item norm-referenced paper-and-pencil instrument developed to measure verbal, numerical, and abstract reasoning abilities in individuals kindergarten through 12th grades. Each item consists of a question that is followed by five choices for the respondent to try to select the correct answer from. Raw scores may be converted to norm-based IQ, stanine, mental age equivalency, and percentile scores. Since the OLMAT was normed in 1966, the normative scores may not be currently valid. Thus, a decision was made by Success Study researchers to use raw scores as indicators of mothers' relative intelligence rankings instead of using norm-referenced scores. The OLMAT was used in the current study as an employment stability child outcome moderating variable. For the present study, relative rankings of mothers' intelligence were needed. Although it may have been useful, it was not necessary to have mothers' norm-referenced IQ scores.

Alternate-forms reliability and Kuder-Richardson coefficients for Grades K through 12, respectively, range from .83 to .96. and .88 to .95 (Otis & Lennon, 1969). Stability coefficients for Grades K through 12 using the test-retest method over a 1-year period was found to range from .80 to .94 (Otis & Lennon, 1969). When the OLMAT was correlated with the Stanford Achievement Test (SAT; Kelley, Madden, Gardner, & Rudman, 1964) and California Achievement Tests (CAT; Tiegs & Willis, 1963) at Grade 11 and 12, respectively, concurrent validity coefficients across SAT subtests ranged from .53 to .82 and from .60 to .86 across CAT subtests (Otis & Lennon, 1969). The OLMAT and Culture-Fair Test (Institute for Personality and Ability Testing, 1973) correlate at .67.

The OLMAT was selected for use within the Success Study for several reasons. First, it may be given in a group format and consequently could be administered to the participants with considerable less expense and time than individually administered tests of intelligence such as the Wechsler Adult Intelligence Scale (Wechsler, 1981). Second, it was determined that Success Study research goals could be attained through the use of a relative measure of maternal intelligence and that obtaining a norm-referenced measure of maternal intelligence would not only be costly but also unnecessary. Last, the OLMAT has generally been found to possess good to excellent psychometric characteristics (Grotelueschen, 1969; Otis & Lennon, 1969; Smith, 1970), indicating that it is a valid, reliable, and sensitive measure of intelligence.

Parenting Stress Index--Short Form. The Parenting Stress Inde--Short Form (PSI-SF; Abidin, 1990a) is a paper-and-pencil instrument designed to be completed by parents to measure the amount of stress that they report having as a result of being a parent. The PSI-SF consists of thirty-six 5-point Likert scale items that range from "strongly agree" to strongly disagree." The PSI-SF has parental distress, parent-child dysfunctional interaction, and difficult child subscales, each consisting of 12 items. The parental distress subscale is designed to measure the amount of stress that a parent is experiencing as a result of engaging in her/his role as a parent. The parent-child dysfunctional interaction subscale measures parents' satisfaction with the interactions that they have with their children and the extent to which the children meet parental expectations. Last, the difficult child subscale measures parents reports of child characteristics thought to contribute to children's manageability. A PSI-SF total stress score may be obtained by summing the scores of the three subscales. The total score represents the general stress level that one may be experiencing within his/her role as a parent. The higher one scores, the more stress one is indicated to

have. PSI-SF raw scores can be converted to percentile scores. The PSI-SF was administered to mothers during the post-Head Start testing. The total stress score and all three subscales were included in the present study as employment stability child outcome moderating variables.

The PSI-SF was normed on a sample of 800 people possessing broad characteristics. Information concerning how closely the sample approximates the United States population was not provided. The PSI-SF has been found to possess subscale and total score alpha coefficients ranging from .80 to .91 (Abidin, 1990a). Test-retest over a 6-month interval ranged from .68 to .85 across total and subscale scores (Abidin, 1990a). The PSI-SF test manual (Abidin, 1990a) presents evidence of the instrument's validity by comparing it with the Parent Stress Index (Abidin, 1990b), the test from which the PSI-SF was developed. No independent literature examining the PSI-SF's validity yet exists. PSI-SF item selection was made in response to a series of PSI factor analyses that examined item loadings. Coefficients obtained from correlating PSI-SF total and subscale scores with PSI total and subscale scores ranged from .50 to .94 (mean = .81). PSI-SF validity evidence is lacking. Barnes and Oehler-Stinnett (1998) reported that the PSI-F is a promising instrument possessing a well-defined factor structure. However, more research on the PSI-SF is needed. Since the PSI-SF's validity is based upon its affinity with the PSI, a delineation of the PSI has been provided next.

The PSI consists of consists of 120 items and possesses subscales that correspond to the PSI-SF. Raw scores can be converted to percentiles. The PSI was normed on 2,633 mothers and 200 fathers, most of whom resided on the East Coast of the United States. The normative sample possesses diverse ethnicity. Total test and subscale score coefficient alphas reported in the test manul (Abidin, 1990b) range

from .70 to .95. Correlation coefficients obtained from several test-retest studies were reported by Abidin to range from .71 to .82 for shorter time periods (3 weeks to 3 months) and .55 to .70 across 1 year. Sixteen pages of research abstracts are provided in the PSI test manual attesting to the instrument's validity. In general, the PSI has evidence of moderate to strong reliability and moderate to strong validity. Barnes and Oehler-Stinnett (1998) indicated that the PSI generally possesses adequate psychometric properties but that it may provide a measure of overall parent and/or child maladjustment instead of stress, per se.

Procedures

Data collection was conducted in five phases, which are described next. In Phase 1, participant packets were mailed to all prospective participants. During Phases 2 and 3, participant packets were mailed to prospective participants who had not responded to previous mailings. In Phase 4, an attempt was made to contact by telephone prospective participants who had not elected to participate. During Phase 5, reliability data collection was conducted. A summary of the results from each of the data collection phases can be seen in Tables 4-6, followed by a detailed description of data collection procedures and results.

Phase 1

In Phase 1, 123 fathers and 181 mothers were mailed participant packets. Participant packets consisted of a return envelope, a participant consent form (see Appendix E) and a study explanation/employment stability measure (see Appendix D). During Phase 1, the following approximate data collection participant packets mailed to

Table 4

Fathers' Data Collection Summary: Phases 1 Through 4

Variable	Data collection Phase 1	Data collection Phase 2	Data collection Phase 3	Data collection Phase 4	Total father mailings and responses by cohort
Cohort 1					68 Mailed 17 Responded
Cohort 2					71 Mailed 18 Responded
Cohort 3					144 Mailed 31 Responded
Total father mailings and responses by data collection phase	123 Mailed 44 Responded	79 Mailed 15 Responded	64 Mailed 5 Responded	17 Mailed 2 Responded	283 Mailed 66 Responded

Table 5

Mothers' Data Collection Summary: Phases 1 Through 4

Variable	Data collection Phase 1	Data collection Phase 2	Data collection Phase 3	Data collection Phase 4	Total mother mailings and responses by cohort
Cohort 1					92 Mailed 31 Responded
Cohort 2					98 Mailed 31 Responded
Cohort 3					180 Mailed 51 Responded
Total mother mailings and responses by data collection phase	181 Mailed 85 Responded	96 Mailed 20 Responded	76 Mailed 6 Responded	17 Mailed 2 Responded	370 Mailed 113 Responded

Table 6

Reliability Data Collection Summary: Phase 5

	Cohort 1		Cohort 2		Cohort 3		Cumulative Data	
Variable	Father	Mother	Father	Mother	Father	Mother	Father	Mother
Number mailed	6	8	6	9	12	21	24	38
Number responded	1	5	3	6	5	13	9	24
Total mailings and responses across cohorts and parents	14 mailed 6 returned		15 mailed 9 returned		33 mailed 18 returned		62 mailed 33 returned	

response rate ratios were obtained. Fathers: Cohort 1, mailed 29 with 9 returned (31%); Cohort 2, mailed 31 with 10 returned (32%); and Cohort 3, mailed 63 with 25 returned (40%). Overall, 123 packets were mailed to fathers during Phase 1. Forty-four packets were returned completed, resulting in a 36% response rate. Mothers: Cohort 1, mailed 48 with 24 returned (50%); Cohort 2, mailed 47 with 21 returned (45%); Cohort 3, mailed 86 with 40 returned (47%). Overall, 181 packets were mailed to mothers during Phase 1 and 85 were returned completed, resulting in a 47% response rate. Participants responded to the initial mailing across a period of approximately 5 weeks at which time the next study phase was implemented.

Phase 2

During Phase 2, packets were mailed to potential participants who did not respond to the first mailing. The following approximate data collection participant packets mailed to response rate ratios were obtained--Fathers: Cohort 1, mailed 20 with 5 returned (25%); Cohort 2, mailed 21 with 5 returned (24%); and Cohort 3, mailed 38 with 5 returned (13%). During the second mailing, 79 packets were mailed to fathers and 15 were returned completed, resulting in a 19% response rate. Overall,

59 packets had been completed and returned by fathers, resulting in a 48% cumulative response rate. Mothers: Cohort 1, mailed 24 with 6 returned (25%); Cohort 2, mailed 26 with 7 returned (23%); Cohort 3, mailed 46 with 7 returned (15%). During Phase 2, 96 packets were mailed to mothers and 20 were returned completed, resulting in a 21% response rate. Overall, 105 packets had been returned completed by mothers, resulting in a 58% cumulative response rate. Participants responded to the second mailing across a period of approximately 5 weeks, at which time the next study phase was started.

Phase 3

During Phase 3, the following approximate data collection participant packets mailed to response rate ratios were obtained. Fathers: Cohort 1, mailed 15 with 2 returned (13%); Cohort 2, mailed 16 with 3 returned (19%); and Cohort 3, mailed 33 with 0 returned (0%). During the third mailing, 64 packets were mailed to fathers and 5 were returned completed, resulting in a 8% response rate. Overall, 64 father packets had been returned completed, resulting in a 52% cumulative response rate. Mothers: Cohort 1, mailed 18 with 1 response (6%); Cohort 2, mailed 19 with 1 response (5%); and Cohort 3, mailed 39 with 4 returned (10%). During Phase 3, 76 packets were mailed to mothers and 6 were completed and, returned resulting in a 8% response rate. Overall, 121 packets had been returned by mothers resulting in a 61% cumulative response rate. A period of approximately 6 weeks was allowed to pass before Phase 4 was initiated.

It is important to note that some parents responded to earlier phases at the same time that data collection participant packets were being mailed to them during subsequent data collection phases. As a result, several participants received

participant packets on several of the first three data collection phases and subsequently returned more than one completed employment stability measure. Only the first employment stability measure returned by participants was retained. The mail-return rate summary previously described has been adjusted by subtracting the number of participants who returned more than one employment stability measure from the total number of data collection participant packets mailed by the researcher. It was also adjusted by subtracting the number of participants who returned more than one employment stability measure from the total number of employment stability measures returned. Redundant employment stability measure data were not used within the study in the form of reliability data because the interval between completing employment stability measures may have been very close together, resulting in artificially inflated test-retest reliability.

Phase 4

During Phase 4 of data collection, an attempt was made to contact via telephone mothers and fathers who had not responded to data collection mailings. Three attempts were made to contact each of the participants. Telephone calls were made at various times of the day and week to maximize the chance of reaching potential participants. Telephone calls were made by a baccalaureate-level research assistant. The research assistant was trained in the use of the protocol and on appropriate interview techniques. She was instructed to answer project-related questions that she felt confident answering. The assistant used a telephone script (see Appendix F) to guide her conversation with potential participants. The script served four purposes: (a) to identify the telephone interviewer, (b) to ask if employment stability data collection measure had been received in the mail, (c) to ask potential participants to participate

in the study, and (d) to offer assistance. The research assistant was instructed to provide each potential participant with the researcher's toll free number in case additional help was needed.

After Phase 3, 63 fathers remained in the potential participant pool but had not partaken in the present study. Up to three attempts were made to contact each of the fathers during Phase 4, resulting in 132 telephone calls being made. The results are as follows: (a) 11 fathers said they would participate and it was agreed to send them new participant packets; (b) 6 fathers said that they would participate, already had a participant packet, and would complete and return it (as a precaution new packets were sent to these fathers); (c) 3 fathers said that they did not wish to participate in the study; (d) 7 fathers were found to have no telephones and were dropped from the study; and (e) 36 fathers were unable to be contacted during the three attempts.

During Phase 4, the following approximate father telephone call participation agreement to response rate ratios were obtained: Cohort 1 4 agreed to participate, 1 response (25%); Cohort 2, 3 agreed to participate, 0 returned (0%); Cohort 3, 10 agreed to participate, 1 response (10%).

Following Phase 3, 73 mothers remained in the potential participant pool but had not partaken in the present study. Up to three attempts were made to contact each of the mothers in Phase 4, resulting in 146 telephone calls being made. The results are as follows: (a) 10 mothers said they would participate and it was agreed to send them new participant packets, (b) 7 mothers said that they would participate, already had a participant packet, and would complete and return it (as a precaution new packets were sent to these mothers), (c) 7 mothers said that they did not wish to participate in the study, (d) 8 mothers were found to have no telephones and were dropped from the study, and (e) 41 mothers were unable to be contacted during the three attempts.

During Phase 4, the following approximate mother telephone call participation agreement to response rate ratios were obtained: Cohort 1, two agreed to participate, zero responses (0%); Cohort 2, six agreed to participate, two responses (33%); Cohort 3, nine agreed to participate, zero responses (0%).

In summary, during the four data collection phases, 66 father employment stability measures had been completed and returned, resulting in a 53.7% cumulative response rate. Further, 113 employment stability measures were returned by mothers, resulting in a 62.4% cumulative response rate. Last, the overall combined father and mother response rate was 179 employment stability measures, resulting in a 59% cumulative response rate. A summary of data collection for Phases 1 through 4 is provided in Tables 4 and 5.

Phase 5

During Phase 5, reliability data collection was conducted (see Table 6 for a reliability data collection summary). The employment stability measure was once again used as the instrument for participants to record reliability information on. However, a new instruction sheet was developed in an effort to help participants understand why they were being asked to complete the employment stability measure a second time. The instruction sheet was presented to the six participants who were used to pilot test the revised employment stability measure. After reading the reliability measure instruction sheet participants were interviewed in an effort to obtain information concerning their perceptions of the instructions. In general, participants indicated that the instruction sheet was easy to read and understand. They also reported that the purpose of having to complete the employment stability measure a second time was adequately explained. Participants indicated that the instruction

sheet needed no changes. Following the reliability instruction sheet pilot study, reliability data collection was initiated.

Keeping in accord with common research practice, a reliability sample of at least 10% of the size of the sample involved in the present study (n = 179) was desired (i.e., at least 18 participants). In order to obtain a reliability sample of this size, a decision was made to send reliability measures to 35% of the participant sample. A stratified random selection process was used to obtain 62 participants (i.e., approximately 35%) from the overall study sample for inclusion in the reliability study. Participant packets included a return envelope, a participant consent form (see Appendix E), and a reliability study explanation/employment stability measure (see Appendix G). During Phase 5, the following approximate reliability data collection participant packets mailed to response rate ratios were obtained. Fathers: Cohort 1, mailed 6 with 1 returned (17%); Cohort 2, mailed 6 with 3 returned (50%); and Cohort 3, mailed 12 with 5 returned (42%). Mothers: Cohort 1, mailed 8 with 5 returned (63%); Cohort 2, mailed 9 with 6 returned (68%); and Cohort 3, mailed 21 with 13 returned (62%).

In summary, the reliability sample included 33 participants, which is approximately 18% as large as the present study's total sample of 179 mother and father participants. Nine fathers (14% of the father participant sample) and 24 mothers (21% of the mother participant sample) returned employment stability data collection instruments, resulting in a 53% overall reliability data collection response rate. Reliability data collection results are provided in Table 6.

Participant Payment

Two payment opportunities were offered to potential participants as incentives to participate in the present study. All participants were paid $10 for their participation.

In addition, participants were entered into a lottery. Following the completion of data collection activities, three participant names were randomly selected from the total participant sample. Each of the three selected participants was awarded a $50 prize for participating in the study. Participant payments were made following Phases 1, 2, 3, and 5.

Participants were informed via the employment stability measure instruction sheet that they would have to provide their social security numbers in order to obtain payment for their participation. A place for participants to record their social security numbers was provided on the employment stability measure (see Appendix D). Prior to the last payment, 10 participants (six fathers and four mothers) had not recorded their social security numbers on the employment stability measure, making it impossible for them to receive payment. A document entitled the Social Security Number Reminder Form was sent to each of the 10 participants. The document instructed participants to record their social security numbers in a specified location on the form and to then return the form to the researcher in the enclosed preaddressed and postage paid envelope so that they could obtain payment. A copy of the letter may be seen in Appendix H. Seven participants (three fathers and four mothers) completed and returned the Social Security Number Reminder Form to the researcher and were subsequently paid. An overview of data analysis procedures is presented next.

Statistical Analyses

Descriptive statistics were used to describe mother, father, child, and family participant characteristics. Cross tabulations and Pearson product-moment correlations were used to analyze participant response bias and data reliability.

Moderating variables were identified in the literature review and through the use of Pearson product-moment correlation procedures. Analysis of variance (ANOVA) and analysis of covariance (ANCOVA) procedures were used in Level 1 analyses to answer research questions relating to the effect of mother, father, and parental employment changes on child outcomes after controlling moderating variables. Last, multiple regression procedures were used in Level 2 analyses to describe the extent that mother, father, and parental employment stability predict child outcomes after controlling moderating variables.

CHAPTER IV

RESULTS

Results are presented in the following sequence. Mother, father, child, and family participants are described. Descriptions are followed by results from a participant response bias analysis and a measurement reliability analysis. Next, analysis findings pertaining to the effect that mother, father, and parental employment changes, when viewed categorically (categorical employment stability analyses), have on child outcomes after controlling moderating variables are presented. Last, the results of analyses examining the extent that number of changes in mother, father, and parental employment predict child outcomes after controlling moderating variables are described (continuous employment stability analyses). All statistical analyses were conducted using SPSS for Windows version 8.0.

Participant Descriptions

Mother Characteristics

Information concerning characteristics of the 113 mothers participating in the present study was gathered at the time their children graduated from Head Start. A detailed summary of mother characteristics is provided in Table 7. An overview of mother characteristics is presented here. Mothers' mean age was 30.45 years. Mothers' ethnicity was comprised of Caucasian (60%), Hispanic (18%) African American (7%), American Asian (4%), and other (11%) groups. Most mothers reported being married (70%). Eighteen percent were single and 12% divorced. Mothers generally possessed 12 years of education, but little formal training past high school. The mean maternal OLMAT raw score was 44.75. The mean mother family

Table 7

Mother and Father Sample Characteristics

Variable	Mother characteristics	Father characteristics
Sample size	113	66
Mean family size	4.94 (SD =1.54)	5.36 (SD =1.42)
Child gender	50% male	48% male
Mean education	12.71 years (SD = 1.75, range 7 to 19 years)	13.28 years (SD = 2.04, range 7 to 19 years)
Mean age	30.45 years (SD = 5.39)	34.05 years (SD = 2.04)
Ethnicity		
Caucasian	60%	70%
Hispanic	18%	13%
African American	7%	2%
Asian American	4%	3%
Other ethnicity	11%	12%
Marital status		
Married	70%	99%
Single	18%	1%
Divorced	12%	0%
Employment status		
Unemployed	59%	6%
Unskilled employment	24%	48%
Technical or managerial	15%	41%
Professional	2%	5%
Mean number employment changes during 2-year period of interest	1.09 (SD = 1.55, range 0 to 8)	.73 (SD = 1.19, range 0 to 4)
Mean annual household income	$13,987 (SD = $8,190, range $2,500 to $37,500)	$16,884 (SD = $8,015 range $2,500 to $37,500)
Mean mother OLMAT raw score[a]	44.75 (SD = 16.79, range 15 to 76)	48.09 (SD = 16.55, range 15 to 76)
Mean PSI standardized total score[b]	80.08 (SD =20.64 range 39 to 137)	77.32 (SD =20.53 range 39 to 137)

[a]OLMAT possible raw score test range is 0 to 80.
[b] PSI standardized total test score range is 131 to 320.

size was found to be about five people, including mothers, children, and in some instances fathers. Child gender was evenly distributed across mothers' families. About 59% of mothers' reported being unemployed. Mothers who were employed typically held unskilled (e.g., laborer, factory jobs, waitress, etc) or technical/

managerial (e.g., restaurant manager, clerk, etc.) positions. Mothers' mean annual household income was found to be $13,987. Mothers typically experienced about one change in their employment status during the 2 years preceding their children's graduation from Head Start. Mothers' mean PSI-SF total score was 80.08 (SD = 20.64), as compared to the PSI-SF mean normative score of 71 (SD = 15.4), which places mothers' scores in the top 25% of the normative sample. It is recommended that PSI total stress scores above 90 (corresponding to the top 10% of the normative sample) be considered clinically significant (Abidin, 1990a).

Father Characteristics

Information regarding the characteristics of the 66 fathers in the study was also gathered at the time their children graduated from Head Start. A detailed summary of father characteristics is provided in Table 7. The term "father" was defined as fathers or male significant others residing in the same house as the target child for the duration of the employment time interval of interest. Sixty-five of the fathers in the present study reported being married. Fifty-nine fathers had wives participating in the present study. Fathers' mean age was 34.05 years. Fathers' ethnic groups were predominantly Caucasian (70%) and Hispanic (13%). Fathers typically possessed a little over 1 year of education past high school. Fathers were not administered the OLMAT, consequently paternal OLMAT scores cannot be provided. However, wives of participant fathers (59 in all) did take the OLMAT and possessed a mean raw score of 48.09. Fathers' mean household size was about five people, with approximately 50% of the target children being male. All fathers reported being employed. Most fathers reported working in unskilled (48%) or technical-managerial (41%) positions. Fathers' mean annual household income was approximately $16,884. Fathers reported

experiencing a mean of .73 changes in employment in the 2 years preceding their children's graduation from Head Start. Fathers were not administered the PSI-SF; consequently no PSI-SF paternal scores can be provided. However, fathers' wives participating in the study did take the PSI-SF and obtained a mean score of 77.32.

Child Characteristics

A summary of child characteristics as a function of the potential participant sample, total participant sample, and family participant sample is presented in Table 8. Information regarding the characteristics of the children in the present study was gathered at the time the children graduated from Head Start. Half of the children in the present study were female. Of the 113 mothers participating in the present study, child outcomes were obtained for 111 children. Of the 59 families participating in the

Table 8

Child Sample Characteristics

Variable	Potential participant child sample (N = 181)	Total participant child sample (N = 111)	Family participant child sample (N = 55)
Mean age	5.15 (SD = .31 yrs)	5.15 (SD = .30 yrs)	5.17 (SD = .30 yrs)
Mean WJ-R broad knowledge subscale standard score[b]	99.68 (SD = 13.25, range 61 to 117)	101.41 (SD = 13.21, range 70 to 133)	102.77 (SD = 12.80, range 70 to 133)
Mean WJ-R broad cognitive ability subscale standard score[b]	97.12 (SD = 13.48, range 54 to 133)	97.55 (SD = 13.27, range 61 to 133)	98.28 (SD = 14.33, range 61 to 133)
Mean WJ-R broad skills subscale standard score[b]	88.26 (SD = 12.05, range 48 to 117)	90.19 (SD = 12.44, range 48 to 117)	89.95 (SD = 11.97, range 60 to 117)
Mean SSRS-SF social skills subscale standard score[c]	74 (SD = [a], range 48 to 107)	75 (SD = [a], range 51 to 107)	75 (SD = [a], range 55 to 107)
Mean SSRS-SF problem behaviors subscale standard score[c]	101 (SD = [a], range <85 to 140)	100 (SD = [a], range <85 to 140)	97 (SD = [a], range <85 to 140)

[a] Not available
[b] WJ-R subscales have mean of 100 and standard deviation of 15.
[c] SSRS have a mean of 100 and standard deviation of 15.

present study, child outcomes were obtained for 55 children. The mean age of child participants was about 5 years across participant groups. The mean standard scores obtained on WJ-R early development scales approximated 100 across child groups. The modal score obtained on the SSRS-SF social skills subscale was 75, indicating that approximately 95% of the normative sample were reported to exhibit more social skills than children described here. The median score obtained for the SSRS-SF problem behaviors subscale was 100, which indicates functioning within average normative parameters.

Family Characteristics

Information pertaining to characteristics of the 59 families (households in which a child, mother, and father reside) participating in the present study was gathered at the time target children (i.e., children participating in the Success Study) graduated from Head Start. A detailed summary of family characteristics is presented in Table 9. The mean family size was 5.33. Child gender was evenly distributed across families. Mothers and fathers were typically about 31 and 34 years of age, respectively. Fathers generally possessed a little more and mothers typically possessed little less than one year of post highschool education. The mean maternal OLMAT raw score for family mothers was 48.42. The annual family income was $17,500. Combined number of mothers' and fathers' changes in employment averaged about 1.75 changes per household during the two year period of interest, with mothers experiencing about a third more changes biannually than fathers. The mean PSI-SF total score for mothers living in families was 76.05 (SD = 20.46), placing the average participant maternal score in the top 30% of the normative sample. Children in the family group were found

Table 9

Family Sample Characteristics for Two-Parent Households

Variable	Family characteristics	Characteristics of mothers living in families	Characteristics of fathers living in families	Characteristics of children living in families
Sample size	59	59	59	59
Mean family size	5.33 (SD = 5.81)	[a]	[a]	[a]
Child gender	50% male	[a]	[a]	[a]
Mean age	[a]	30.72 years (SD = 5.22)	34.05 years (SD = 2.04)	5.16 years (SD = .30)
Mean education	[a]	12.93 years (SD = 1.98, range 7 to 19 years)	13.28 years (SD = 2.04, range 7 to 19 years)	[a]
Mean OLMAT raw score	[a]	48.41 (SD = 16.55, range 15 to 76)	[a]	[a]
Mean annual household income	$17,500 (SD = $7,892)	[a]	[a]	[a]
Mean number employment changes during 2 year period	1.75 (SD = 2, range 0 to 8)	1.03 (SD = 1.55, range 0 to 7)	.73 (SD = 1.19, range 0 to 4)	[a]
Mean PSI total score	[a]	76.05 (SD =20.45, range 39 to 137)	[a]	[a]

[a]Not applicable

to possess outcome measure scores very similar to those of the overall child sample. A detailed summary of child characteristics can be seen in Table 8.

Employment Stability

Employment stability was measured both categorically and continuously during the present study. A summary of categorical and continuous mother, father, and parental employment stability data is provided in Tables 10-12.

Over half of the mothers in the present study reported experiencing no changes in employment during the 2-year period of interest. About one third of the mothers were stably nonemployed and one fifth possessed stable employment (part-time or full-

Table 10

Frequency of Employment Stability Categories Across Mothers and Fathers

	Mother (N = 113)		Father (N = 66)	
Employment stability category	Number of participants	Percent of total	Number of participants	Percent of total
Stable full-time employed	14	12	37	57
Stable part-time employed	8	7	1	1.5
Stable nonemployed	39	35	3	4.5
Unstable	52	46	25	37

Table 11

Frequency of Employment Stability Categories by Parents

	Family (N = 59)	
Employment stability category	Number of participants	Percent of total
Stably employed	24	41
Unstable	34	59

Table 12

Frequency of Employment Changes Across Mothers, Fathers, and Parents

	Mother (N = 113)		Father (N = 66)		Family (N = 59)	
Number of changes	Number of participants	Percent of total	Number of participants	Percent of total	Number of participants	Percent of total
0	60	53	42	64	24	42
1	19	17	9	13	8	13
2	16	14	7	10	7	12
3	7	6	5	8	8	13
4	9	8	3	5	7	11
5	0	0			2	3
6	0	0			1	2
7	1	1			1	2
8	1	1			1	2

time). Almost half of the mothers in the present study experienced from one to four changes in employment during the target period.

Almost two thirds of the fathers were found to have been employed in stable full-time jobs during the target period. Only one father was found to have held a stable part-time job and only three fathers indicated having been stably nonemployed during the period of interest. The rest of the fathers indicated having experienced from one to four employment changes during the period of interest.

Of the 59 couples in the study, 35 experienced from one to eight changes during the 2-year period. Twenty-five of the couples experienced no changes in employment during this time.

Sample Selection Bias

Sample bias was checked by comparing participants in the current study with those of the potential sample available from the Success Study. Analysis of variance was used to investigate the presence of sample selection bias. Group comparisons were made for mothers, fathers, and parental dyads (households where a mother, a father, and the target child resided at the time of the child's graduation from Head Start) across the following variables: child gender, ethnicity (two groups: Caucasian and not Caucasian), annual household income, family size (number of people residing in the household), maternal education level, family intactness (whether or not both parents reside with the target child), mothers' OLMAT total score, and mothers' total PSI-SF score. Variable information was obtained when the target child graduated from Head Start. A summary of sample selection bias analysis findings is presented next.

Mother Response Bias

A total of 181 mothers was actively involved in the Success Study at the time the present study initiated data collection and were potentially available for inclusion in the present study. Of these, 113 (62.4%) mothers elected to participate. Participating mothers were compared to nonparticipating mothers. A summary of mother selection bias analysis results is presented in Table 13. With alpha at .05, statistically significant differences were not found between participant and nonparticipant groups for the

Table 13

Mother, Father, and Parent Response Bias Summary

	Mothers		Fathers		Parents	
Variable	In the study	Not in study	In the study	Not in study	In the study	Not in study
Number	113	68	66	57	59	57
Child gender	50% male	43% male	48% male	49% male	48% male	44% male
Caucasian	58%	49%	69%	46%	Not available	Not available
Mean annual household income	$13,987	$12,757	$16,885	$14,561	$16,885	$15,087
Family size	4.9	5.0	5.36	5.28	5.36	5.33
Mother mean OLMAT raw score	44.75 (SD = 16.79, range 15 to 76)	41.44 (SD = 1.75, range 13 to 77)	48.09 (SD = 16.55, range 15 to 76)	37.14 (SD = 17.93, range 15 to 73)	48.09 (SD = 16.55, range 15 to 76)	37.98 (SD = 17.85, range 15 to 73)
Mother mean PSI-SF total score	80.08 (SD = 20.64 range 39 to 137)	84.13 (SD = 22.91 range 47 to 137)	77.32 (SD = 20.53 range 39 to 137)	83.73 (SD = 20.03 range 47 to 137)	77.32 (SD = 20.53 range 39 to 137)	83.73 (SD = 20.03 range 47 to 137)
Mother mean years of education	12.71 years (SD = 1.75, range 7 to 19 years)	11.91 years (SD = 1.76, range 7 to 16 years)	[a]	[a]	12.93 years (SD = 1.70, range 7 to 16 years)	11.95 years (SD = 1.98, range 7 to 19 years)
Father mean years of education	[a]	[a]	13.28 years (SD = 2.04, range 7 to 19 years)	12.31 years (SD = 2.43, range 6 to 19 years)	13.28 years (SD = 2.04, range 7 to 19 years)	12.34 years (SD = 2.40, range to 19 years)
Both parents living with child	58%	54%	100%	91%	100%	100%

[a] Not applicable

variables family intactness, child gender, ethnicity, annual household income, family size, maternal OLMAT total raw score, and maternal PSI total score.

However, a main effect was found to exist for maternal education level, $F(1, 178) = 8.644$, $p < .004$. These statistical findings may be interpreted to have the following meanings. On average, mothers participating in the present study possessed 12.71 years of education, whereas nonparticipant mothers possessed 11.91 years of education. Thus, participating mothers averaged almost one more year of education than nonparticipant mothers. Participant and nonparticipant mothers generally appear equal on other characteristics examined.

Father Selection Bias

A total of 123 fathers (significant males) were actively involved in the Success Study at the time the present study initiated data collection. Of these, 66 (53.7%) fathers chose to participate. Setting alpha at .05, statistically significant differences were not found between participant and nonparticipant groups for variables child gender, annual household income, family size, family intactness, or mother PSI-SF total score. However, main effects were found to exist for ethnicity, $F(1, 120) = 7.263$, $p < .008$; father education level, $F(1, 114) = 5.516$, $p < .021$; and fathers' wives' OLMAT total score, $F(1, 114) = 11.639$, $p = .001$.

These statistically significant findings may be interpreted to have the following meanings. Fathers participating in the study were 69% Caucasian as compared to nonparticipating fathers who were 46% Caucasian, indicating that Caucasian fathers were more likely to participate than fathers who were not Caucasian. Participant fathers averaged 13.28 years of education as compared to nonparticipant fathers who averaged 12.31 years of education. Thus, participating fathers averaged

approximately one more year of education than nonparticipant fathers. Last, the average OLMAT total raw score for participant fathers' wives was 48.09, whereas the average OLMAT total score for nonparticipant fathers' wives was 37.14. Thus, fathers who participated in the current study had wives who averaged about 11 points higher (higher scores indicated higher levels of intelligence) on the OLMAT than wives of fathers who did not participate. Differences on other characteristics examined were not statistically significant for participant and nonparticipant fathers.

Parental Dyad Selection Bias

A total of 116 parents residing in the same household as their children was actively involved in the Success Study and thus potentially available for participation in the present study. As previously stated, the term "parental dyad" has been defined to mean households where a mother, a father, and a target child resided at the time of the child's graduation from Head Start. Of these, 59 (51%) parental dyads participated in the present study. With alpha at .05, statistically significant differences were not found between parental dyad participant and nonparticipant groups for the variables child gender, annual household income, family size, family intactness, or PSI-SF total scores. However, main effects were found to exist for mothers' education level, $F(1, 114) = 8.292$, $p < .005$; fathers' education level, $F(1, 109) = 4.730$, $p < .032$; and mothers' OLMAT total score, $F(1, 108) = 10.116$, $p = .002$. A detailed summary of parental dyad response bias results is presented in Table 13.

Parental dyad statistical findings may be interpreted to have the following meanings. Mothers and fathers of parental dyads were found to possess about one more year of education than nonparticipant dyad mothers and fathers. Thus, parents with higher education were, on average, more likely to participate. Mothers of parental

dyad participants possessed an average OLMAT score of 48.41 as compared to mothers of nonparticipating parental dyads average OLMAT score of 37.98. The differences in scores across groups indicate that parental dyads who participated in the study were more likely to have mothers with higher intelligence than nonparticipating parental dyad mothers.

Child Outcomes Selection Bias

A summary of child outcomes selection bias is presented in Table 13. No statistically significant differences were found across groups.

In summary, mothers and fathers participating in the present study were similar across the variables child gender, annual household income, family size, family intactness, and PSI-SF total scores. However, mother and father participants were found to possess about one more year of education than nonparticipant mothers and fathers. Father participants were more likely to be Caucasian than nonparticipating fathers. Wives of participating fathers possessed higher levels of intelligence than wives of nonparticipating fathers. Child participants and nonparticipants possess similar child outcome scores. Reliability analysis results are presented in the following section.

Reliability Analyses

Reliability analyses were conducted on a subsample of mother and father employment stability measures to determine the extent to which parents were able to provide employment history information consistently across two occasions. Results from the subsample were used to infer the reliability of the entire data set.

Reliability information was collected from 24 mothers (21% of mother participants) and nine fathers (14% of father participants) on employment-related variables. Variables considered in these analyses included child living arrangement, employment stability status (stable full-time, part-time, and nonemployed; and unstable), and number of changes that occurred during the period of interest. Cross tabulations, summing agreement/disagreement of common cells matched across variables, and Pearson product-moment correlations were used for reliability analyses. Reliability data are presented in Tables 14 through 17.

The revised employment stability measure, henceforth referred to as the employment stability measure, and the employment stability reliability measure are reviewed here to serve as a reminder of the collection method and type of data that were obtained. This information may be helpful in interpreting the reliability analysis results.

Employment Stability and Reliability Measures

Parents were instructed to record employment history information for the two years that preceded their children's graduation from Head Start. A form was provided in the employment stability measure for parents to write employment information on. Information that parents were asked to provide included the title of each job held, employment start and stop dates, the number of hours worked per week, changes in the number of hours work per week, if the change was viewed as positive or negative at the time of occurrence, and if the child of interest lived with the parent during the employment period described. A copy of the employment stability measure is provided in Appendix D. Reliability data were collected using the employment stability reliability measure. The reliability instrument consisted of the same data collection form as the

Table 14

Mothers' Employment Stability Reliability Data

Child living status: First response	Child living status: Reliability response	Employment stability: First response	Employment stability: Reliability response	Number changes: First response	Number changes: Reliability response
With mother	With mother	Unstable	Unstable	2	2
With mother	With mother	Stable nonemployed	Stable nonemployed	0	0
With mother	With mother	Unstable	Unstable	1	1
With mother	With mother	Stable nonemployed	Stable nonemployed	0	0
With mother	With mother	Unstable	Unstable	1	1
With mother	With mother	Unstable	Unstable	2	2
With mother	With mother	Unstable	Unstable	1	1
With mother	With mother	Unstable	Unstable	2	2
With mother	With mother	Stable full-time	Stable full-time	0	0
With mother	With mother	Stable nonemployed	Stable nonemployed	1	0
With mother	With mother	Unstable	Unstable	4	3
With mother	With mother	Stable nonemployed	Stable nonemployed	0	0
With mother	With mother	Unstable	Stable full-time	2	0
With mother	With mother	Unstable	Unstable	2	1
With mother	With mother	Stable nonemployed	Stable nonemployed	0	0
With mother	With mother	Stable nonemployed	Stable nonemployed	0	0
With mother	With mother	Stable part-time	Stable part-time	0	0
With mother	With mother	Stable full-time	Stable full-time	0	0
With mother	With mother	Stable nonemployed	Stable nonemployed	0	1
With mother	With mother	Unstable	Unstable	4	4
With mother	With mother	Unstable	Unstable	1	1
With mother	With mother	Unstable	Unstable	4	6
With mother	With mother	Stable nonemployed	Stable nonemployed	0	0
With mother	With mother	Unstable	Unstable	3	5

Child living status: 100% agreement, $r = +1$, $p = .00$

Employment Stability: 96% agreement, $r = +.96$, $p = .00$

Number of employment changes: 71% agreement, $r = +.87$, $p = .00$

Table 15

Fathers' Employment Stability Reliability Data

Child living status: First response	Child living status: Reliability response	Employment stability: First response	Employment stability: Reliability response	Number changes: First response	Number changes: Reliability response
With father	With father	Stable full-time	Stable full-time	0	0
With father	With father	Stable full-time	Stable full-time	0	0
With father	With father	Stable full-time	Stable full-time	0	0
With father	With father	Stable full-time	Stable full-time	0	0
With father	With father	Unstable	Unstable	1	1
With father	With father	Stable full-time	Unstable	0	1
With father	With father	Stable full-time	Stable full-time	0	0
With father	With father	Stable full-time	Stable full-time	0	0
With father	With father	Stable full-time	Stable full-time	0	0
Child living status: 100% agreement, r = +1, p = .00		Employment stability: 89% agreement, r = +.66, p = .05		Number of employment changes: 89% agreement, r = +.66, p = .05	

Table 16

Mothers' and Fathers' Employment Stability Category Reliability Data

	Mother		Father	
Employment stability category	Number of mothers per category from first data collection	Number of mothers per category from reliability data collection	Number of fathers per category from first data collection	Number of fathers per category from reliability data collection
Stable full-time employed	2	3	8	7
Stable part-time employed	1	1	0	0
Stable nonemployed	8	8	0	0
Unstable	13	12	1	2

Note. Number of mothers and fathers belonging to each employment stability category is presented as a function of both first and reliability data collection procedures.

Table 17

Mothers' and Fathers' Number of Employment Changes Reliability Data

	Mother		Father	
Number of changes	Number of mother's changes in employment obtained from first data collection	Number of mother's changes in employment obtained from reliability data collection response	Number of father's changes in employment obtained from first data collection response	Number of father's changes in employment obtained from reliability data collection response
0	10	11	8	7
1	5	6	1	2
2	5	3	---	---
3	1	1	---	---
4	3	1	---	---
5	0	1	---	---
6	0	1	---	---

Note. Number of mothers' and fathers' changes in employment is presented as a function of both first and reliability data collection procedures.

employment stability measure but with modified instructions. Reliability data were collected on the variables "child living arrangement" (child living or not living with mother and father), "employment history category" (stable full-time, part-time, nonemployed; or unstable), and the "number of employment changes that occurred." A copy of the employment stability reliability measure is provided in Appendix G. Reliability data are presented in Tables 14 through 17. Reliability analysis findings are presented next.

Mothers' reliability. The mother reliability sample consisted of 24 participants. Mother employment stability reliability data are presented in Table 14 to facilitate understanding of data reliability. Reports of children's living arrangement were the same on both initial and reliability data collection occasions, indicating that all children lived with their mothers during the employment period described by mothers (100% agreement, $r = +1$, $p=.000$).

As seen in Table 16, 23 of the 24 mothers reported belonging to the same employment stability category on both initial and reliability reporting occasions (96% agreement, r = +.96, p=.000). As seen in Table 17, 17 of the 24 mothers agreed on both reporting occasions on the number of changes that they experienced during the two year employment period (71% agreement, r = +.87, p=.000). Overall, mothers' reliability data possesses moderate to high levels of reliability.

Fathers' reliability. Reliability data for the father group is provided in Table 15 to facilitate understanding the reliability of the data. The father reliability sample consisted of nine fathers. All reports of children's living arrangements were the same across both original and reliability reporting occasions, indicating that all children lived with their fathers during the described employment period (100% agreement, r = +1, p = .000).

As seen in Table 16, eight of the nine fathers indicated belonging to the same employment stability category across original and reliability reporting occasions (89% agreement, r = +.66, p = .052). As seen in Table 17, eight of the nine fathers' reports of the number of employment changes that they experienced during the 2-year period of interest were the same on both original and reliability reporting occasions (89% agreement, r = +.66, p = .052). Fathers' data generally appear to have moderate to high levels of reliability.

In general, maternal and paternal employment data appear to possess moderate to high levels of reliability. Data are sufficiently reliable to use in further analyses. Statistical analysis procedures used in the present study are described next.

Categorical Employment Stability Analyses Overview

Four research questions were investigated in the categorical employment stability analyses. All categorical employment stability analyses used Moorehouse's (1991) employment stability categorization scheme for mothers and fathers to examine the relationship between employment stability and child outcomes. Employment stability categorizations included: (a) nonemployed–working 4 or less hours per week, (b) full-time employed--working 35 or more hours per week, (c) part-time employed--working 5 to 34 hours per week, and (d) unstable--categorical changes that occurred during the two-year employment history reported. Stable employment was defined as participants who did not experience changes across categories at any time during the two year period of interest. Unstable employment was defined in two ways: (a) participants who experienced at least one change across categories during the 2-year employment history, or (b) if one had stable employment and experienced a change of more than 8 hours per week while still maintaining their position in the same employment category (e.g., possessing full-time employment of 35 hours per week and then experiencing an increase of 8 or more hours per week).

The same criterion used to define employment stability for mothers and fathers was used to define employment stability for parents (wife-husband dyads), with one exception. Due to the complexity of applying Moorehouse's (1991) four employment stability categories to parents, parental employment stability was classified dichotomously, being either stable (neither mom nor dad experienced a change) or unstable (either mom, dad, or both experienced at least one change) during the 2-year period of interest.

The phrase "child outcomes" is used within research questions to make reference to the following five measures: WJ-R broad cognitive ability, broad knowledge, and broad skills subscales, and SSRS social skills and problem behaviors subscales. Categorical analyses investigated the following four research questions.

1. Are there statistically significant differences on child outcomes as a result of child classification into different categories of mother employment?

2. Are there statistically significant differences on child outcomes as a result of child classification into different categories of father employment?

3. Do children with stably employed parents perform better on child outcomes than children whose parents have unstable work histories?

4. Do differences in mother and father patterns of employment stability differentially impact child outcomes?

Impact of Moderating Variables

The impact of moderating variables was assessed using analysis of covariance (ANCOVA). A covariate may be defined as any variable that is significantly related to a dependent or criterion variable (Stevens, 1996). The research literature on mother employment and child outcomes reviewed earlier indicates that family size, mother education, mother intelligence, and stress related to parenting should be considered as potential covariates (Alverez, 1985; Aurbach et al., 1992; Beyer, 1995; Crockenberg & Litman, 1991; Elder et al., 1985; Greenstein, 1995; Hoffman, 1974; Jones, 1990, Kinnunen et al., 1996; McLoyd, 1989, 1990; Poehlmann & Fiese, 1994). Mother intelligence and parent-related stress were measured via the OLMAT and PSI-SF, respectively, at the time of children's Head Start graduation. Information pertaining to family size and mothers' years of education was also obtained at graduation.

Coinciding with Stevens' covariate definition, only moderating variables found to share a significant relationship with child outcomes were used as covariates in categorical analyses. Stevens (1996) indicated that several steps may be used to select covariates. Any variable that theoretically should correlate at a moderate to high level with the criterion variable should be considered as a potential covariate. Suspected covariates may then be correlated with the criterion variable to determine the strength of relationship existing between them. Relationships that are significant in size indicate potential use as covariates. Finally, Stevens (1996) indicated that it is best to use only one or two covariates within any given analysis to avoid problems associated with the covariates having a strong relationship with each other (i.e., multicollinearity).

Covariates were selected in accord with Stevens' (1996) recommendations. Variables were used as covariates in the present study if they possessed child outcome correlation coefficients of at least .22. This size was selected as the cutoff because it guarantees that all selected covariates will share at least 5% common variance (i.e., $\underline{r}^2$ of .05) with child outcomes. It should be noted that $\underline{r}^2$ of less than .10 is considered small (Cohen, 1988). However, for the purpose of identifying covariates in the present study, $\underline{r}^2$ of .05 or larger between covariates and child outcomes was deemed acceptable.

Correlational analyses between potential covariates and mother, father, and parental child outcome groupings were made. Results can be seen in Table 18. Before correlation analysis results are presented, assumptions made when using correlational procedures are reviewed, followed by a description of how assumptions were satisfied in the present study.

Table 18

Correlation Analysis Covariate Search Results

Variable	WJ-R: Broad knowledge subscale	WJ-R: Broad cognitive ability subscale	WJ-R: Broad skills subscale	SSRS: Social skills subscale	SSRS: Problem behavior subscale
Mother group					
OLMAT raw scores	.224*	.166*	.062	-.015	.014
Moms' level of education	.195*	.183*	.141	.010	-.064
Family size	-.049	-.048	-.148	.167*	-.163
PSI difficult child subscale scores	.028	.078	.000	-.316**	.370**
PSI parent- child dysfunctional interaction subscale scores	-.173	-.078	-.056	-.156	.173
Moms' number of employment changes	-.181*	-.139	-.122	-.037	.030
Father group					
Moms' OLMAT raw scores	.150	.128	.090	-.048	-.017
Moms' level of education	.309*	.314*	.344**	.030	-.119
Family size	-.008	.005	-.073	.124	-.047
Mom PSI difficult child subscale scores	-.157	.047	-.136	-.168	.265*
Mom PSI parent-child dysfunctional interaction subscale scores	-.324**	-.078	-.180	.012	.087
Dads' number of employment changes	-.145	-.169	-.255*	-.119	.265*
Parental group					
Moms' OLMAT raw scores	.150	.128	.090	-.048	-.017
Moms' level of education	-.309*	.314**	.344**	.030	-.119
Family size	-.008	.005	-.073	.124	-.047
Mom PSI difficult child subscale scores	-.157	.047	-.136	-.168	.263*
Mom PSI parent-child dysfunctional interaction subscale scores	-.324**	-.078	-.180	.012	.087
Moms' and dads' combined number of employment changes	-.346**	-.234*	-.278*	-.085	.169

Note. Mother group cell sizes approximate 113, father group cell sizes approximate 66, and parental group cell sizes approximate 59.

*Significant at .05.
**Significant at .01.

Assumptions of Bivariate Correlational Analysis

Three assumptions must be met when using bivariate correlational procedures in order for results to be recognized as fully valid (Glass & Hopkins, 1996). Assumption violations may alter results to varying extents. Bivariate correlation assumptions include the following.

1. Each bivariate component belongs to a normal distribution (the bivariate normality assumption).

2. The relationship between each bivariate component is linear (the bivariate linearity assumption).

3. The bivariate scatter plot possesses homoscedasticity (i.e., the variance in bivariate components are uniform across each other--the homoscedasticity assumption).

No single test exists that can definitively indicate whether bivariate correlation analysis assumptions have been met. Two commonly used procedures used to assess bivariate assumption violations include viewing bivariate scatter plots to visually inspect for assumption violations and comparing the mean to the standard deviation ratio for each bivariate (Glass & Hopkins, 1996; Stevens, 1996). A mean to standard deviation ratio of at lease 2:1 is consistent with a normal distribution. All child outcome covariates were plotted and visually inspected for assumption violations. In addition, mean to standard deviation ratios were inspected. No violations of bivariate normality, linearity, or homoscedasticity assumptions were found, indicating that the use of bivariate correlation analysis is appropriate in the present study.

Correlational Analyses

Correlational analyses between potential covariates and mother, father, and parental child outcome groupings were made. A detailed synopsis of findings is presented in Table 18. In the mother-child outcome group, a statistically significant relationship was found between children's WJ-R broad knowledge and cognitive ability subscale scores and mothers' OLMAT raw scores. A statistically significant relationship was found between mothers' PSI difficult child subscale and SSRS social

skills and problem behavior subscale child outcomes. Statistically significant relationships were also found between family size and SSRS social skills child outcomes. Last, statistically significant relationships between mothers' years of education and WJ-R broad knowledge and cognitive ability subscale scores were found. In the father- and parental-child outcome groups, statistically significant relationships were found to exist between PSI-SF parent-child dysfunctional interaction subscale scores and WJ-R child outcome broad knowledge subscale scores, as well as PSI-SF difficult child subscale scores and SSRS child outcome problem behavior subscale scores. Last, statistically significant relationships were found to exist for fathers' wives' years of education and all WJ-R child outcomes. A summary of identified covariates follows.

Covariate Summary

Two covariates were identified in the maternal-child outcomes group. The first covariate is mothers' OLMAT raw scores, which moderated WJ-R broad knowledge subscale scores. The second covariate is PSI-SF difficult child subscale scores, which moderated SSRS social skills and problem behaviors subscale scores. Three covariates were identified for the father- and parental-child outcome groups. The first covariate is mothers' years of education, which moderated all WJ-R subscales scores. The second covariate is PSI-SF difficult child subscale scores, which moderated SSRS problem behavior subscale scores. The third covariate is PSI-SF parent-child dysfunctional subscale scores, which moderated WJ-R broad knowledge subscale scores. It should be noted that although all correlation coefficients obtained between covariates and child outcomes are statistically significant at alpha = .05 and .01, the size of the coefficients is considered to be in the small to medium range (Cohen,

1988), indicating that a small to medium amount of moderator variable (covariate) and child outcome common variance exists.

Analysis of variance and ANCOVA were used in the present study. Assumptions of ANOVA and ANCOVA are presented next.

Assumptions of ANOVA and ANCOVA

Categorical analyses utilized ANOVA and ANCOVA procedures. It is important to note that ANOVA and ANCOVA procedures respectively have three and six assumptions which must be examined (Stevens, 1996). Violations of these assumptions alter the interpretation of results in various amounts. Analysis of variance and ANCOVA share the following three assumptions.

1. Each observation is independent, counting each participant only once (the assumption of independence).

2. Observations are normally distributed on the dependent variable in each group (the dependent variable normality assumption).

3. The population variances for the groups are equal (the homogeneity of variance assumption).

All observations within the present study are independent, satisfying the assumption of independence. Observations on the dependent variable were plotted and visually inspected for normality and skewness. No dependent variable normality assumption violations were observed. Last, a Levene test, which is commonly used to evaluate the homogeneity of variance assumption (Glass & Hopkins, 1996), was conducted on mother, father, and parental groups across child outcomes. No statistically significant findings were obtained, satisfying the homogeneity of variance

assumption. In summary, all ANOVA and the first three assumptions of ANCOVA were met in Phase 1.

In addition to the assumptions already addressed, three additional assumptions exist for ANCOVA.

1. A linear relationship exists between the dependent variable and the covariate (the linearity assumption).

2. No covariate by predictor variable interaction exists (the homogeneity of regression slope assumption).

3. The covariate is measured without error (the covariate measurement error assumption).

Stevens (1996) reported that it is not necessary (or possible) to measure a covariate with 100% accuracy. Covariates obtained from standardized instruments possessing sound psychometric characteristics satisfy the covariate measurement error assumption.

All covariate-dependent variable relationships were plotted and visually inspected for linearity. No violations of the linearity assumption were found. The homogeneity of regression slope assumption was investigated by examining the relationship between covariates and predictor variables through the use of ANCOVA. Interactions were found on three occasions, indicating that the homogeneity of regression slope assumption had been violated. Since ANCOVA results may not be robust to violation of the homogeneity of regression slope assumption (Stevens, 1996), these covariates were excluded from analyses and ANOVA procedures were used instead of ANCOVA (these are noted in Tables 19 through 22). Last, covariate measurements were found to possess moderate to high levels of reliability, satisfying the covariate measurement

Table 19

Mother Employment Stability Child Outcome Categorical Analysis Results

Variable	WJ-R broad knowledge subscale scores	WJ-R broad skills subscale scores	WJ-R broad cognitive ability subscale scores	SSRS social skills subscale scores	SSRS problem behaviors subscale scores
Stable nonemployed					
Number	35	36	36	38	38
Mean score	103.71	91.75	99.56	73	105
Standard deviation	11.97	12.07	13.73	21.65	61.06
ANCOVA adjusted mean	104.01	[a]	[a]	73	105
Stable full-time employed					
Number	12	12	12	12	12
Mean score	100.42	91.50	98.33	82	103
Standard deviation	14.88	11.43	8.23	14.70	47.21
ANCOVA adjusted mean	100.56	[a]	[a]	80	105
Stable part-time employed					
Number	7	8	8	8	8
Mean score	104.71	88.13	96.00	77	103
Standard deviation	10.40	11.94	14.32	Not available	Not available
Standard deviation	13.46	8.17	13.28	[a]	[a]
ANCOVA adjusted mean	103.83	[a]	[a]	77	12
Unstable employment					
Number	48	48	48	48	49
Mean score	100.08	89.52	97.10	74	110
Standard deviation	10.40	11.94	14.32	Not available	Not available
Standard deviation	13.07	12.70	13.86	[a]	[a]
ANCOVA adjusted mean	99.96	[a]	[a]	75	105
ANOVA or ANCOVA used	ANCOVA	ANOVA	ANOVA	ANOVA	ANCOVA
Covariate	OLMAT	[a]	[a]	[a]	PSI dif. child
F statistic	*F*(1, 97)=.79	*F*(3, 100)=.36	*F*(3, 100)=.83	*F*(3, 101)=.77	*F*(3, 102)=.99
Statistical significance of *F*	.504	.780	.825	.515	.993

[a] Not applicable

Table 20

Father Employment Stability Child Outcomes Level 1 Analysis Results

Variable	WJ-R broad knowledge subscale scores	WJ-R broad skills subscale scores	WJ-R broad cognitive ability subscale scores	SSRS social skills subscale scores	SSRS problem behaviors subscale scores
Stable nonemployed					
Number	[a]	[a]	[a]	[a]	[a]
Mean score	[a]	[a]	[a]	[a]	[a]
Standard deviation	[a]	[a]	[a]	[a]	[a]
ANCOVA adj. mean					
Stable full-time employed					
Number	36	36	36	37	37
Mean score	103.47	90.61	98.72	75	97
Standard deviation	12.77	13.86	15.34	Not available	Not available
ANCOVA adj. mean	101.96	89.15	97.48	[a]	97
Stable part-time employed					
Number	[a]	[a]	[a]	[a]	[a]
Mean score	[a]	[a]	[a]	[a]	[a]
Standard deviation	[a]	[a]	[a]	[a]	[a]
ANCOVA adj. mean					
Unstable employment					
Number	24	24	24	23	23
Mean score	99.83	87.67	95.58	77	100
Standard deviation	15.03	11.75	14.26	Not available	Not available
ANCOVA adj. mean	102.10	89.86	97.45	[a]	97
ANOVA or ANCOVA used	ANCOVA	ANCOVA	ANCOVA	ANOVA	ANCOVA
Covariate	PSI dysf. intr. Mom ed.	Mom ed.	Mom ed.	[a]	PSI dif. child
F statistic	F(1, 56)=.00	F(1, 57)=.04	F(1, 57)=.00	F(1, 58)=.15	F(1, 57)=.01
Statistical significance of F	.970	.837	.993	.702	.921

[a] Not applicable

Table 21

Parental Employment Stability Child Outcomes Level 1 Analysis Results

Variable	WJ-R broad knowledge subscale scores	WJ-R broad skills subscale scores	WJ-R broad cognitive ability subscale scores	SSRS social skills subscale scores	SSRS problem behaviors subscale scores
Stable employed parents					
Number	21	21	21	23	23
Mean score	107.71	94.48	101.90	77	94
Standard deviation	10.34	12.25	14.84	Not available[a]	Not available[a]
ANCOVA adjusted mean		93.09			96
Unstable employed parents					
Number	35	35	35	33	33
Mean score	100.09	87.23	96.00	74	97
Standard deviation	13.47	11.29	13.96	Not available[a]	Not available[a]
ANCOVA adj. mean		88.06	96.80		97
ANOVA or ANCOVA used	ANOVA	ANCOVA	ANOVA	ANOVA	ANCOVA
Covariate	[a]	Mom ed.	[a]	[a]	PSI dif. child
F statistic	F(1, 54)=4.97	F(1, 53)=2.37	F(1, 54)=2.24	F(1, 54)=.06	F(1, 53=.38
Statistical significance of F	.030	.130	.140	.805	.539
Standardized mean effect size for significant results	.59	[a]	[a]	[a]	[a]

[a] Not applicable

error assumption. Additional OLMAT, PSI-SF, and mothers' level of education psychometric information is presented in the adult measures section.

Categorical Employment Stability Analysis Results

Mother-Child Outcome Groups

Analysis of variance was used to examine differences between WJ-R broad cognitive ability and skills subscale scores as a function of the four maternal employment stability classifications. Analysis of covariance was used to examine differences between WJ-R broad knowledge subscales, SSRS social skills, and

Table 22

Stable Mother/Unstable Father Versus Stable Father/Unstable Mother Employment Group Child Outcome Analysis Results

Variable	WJ-R broad knowledge subscale scores	WJ-R broad skills subscale scores	WJ-R broad cognitive ability subscale scores	SSRS social skills subscale scores	SSRS problem behaviors subscale scores
Stable mother/unstable father employment					
Number	12	12	12	11	11
Mean score	104.25	86.58	97.25	72	108
Standard deviation	13.68	10.37	13.18	Not available	Not available
ANCOVA adj. mean	[a]	88.26	98.57	[a]	103
Stable father/unstable mother employment					
Number	12	12	12	12	12
Mean score	100.83	86.92	97.00	75	97
Standard deviation	9.55	10.43	13.29	Not available	Not available
ANCOVA adj. mean	[a]	85.24	95.69	[a]	103
ANOVA or ANCOVA used	ANOVA	ANCOVA	ANCOVA	ANOVA	ANCOVA
Covariate	[a]	Mom ed.	Mom ed.	[a]	PSI dif. child
F statistic	F(1, 21)=.50	F(1, 21)=.53	F(1, 21)=.26	F(1, 21)=.27	F(1, 20)=.00
Statistical significance of F	.486	.476	.617	.606	.987

[a] Not applicable

problem behavior subscale scores as a function of maternal employment stability classifications. Covariates included mothers' OLMAT raw scores and PSI-SF difficult child subscale scores. No statistically significant differences were found across groups. A description of mother employment stability child outcome analyses is presented in Table 19.

A power analysis was conducted. With a sample of 25 (making cell sizes equal across stable and unstable groups) and with alpha set at .05, it is estimated that the present analyses would have power of .54 to detect an effect size of .25. An effect

size of .25 is considered moderate in magnitude for ANOVA and ANCOVA procedures having four groups (Cohen, 1988). Power of .54 is relatively large considering that social science research commonly has power ranging from .20 to .39 (Cohen, 1988).

Father-Child Outcome Groups

Virtually none of the fathers in the present study possessed histories of nonemployment or stable part-time employment. Consequently, stable part-time and nonemployed categories were excluded from father child outcome analyses. ANOVA was used to examine differences between SSRS social skills subscale scores as a function of stable full-time and unstable fathers' employment. ANCOVA was used to examine differences between WJ-R broad cognitive ability, broad knowledge, and broad skills subscale scores as well as SSRS problem behavior subscale scores as a function of father employment stability classifications. Covariates used include mothers' years of education, PSI-SF parent-child dysfunctional interaction, and difficult child subscale scores. Given a sample size of 31 per group (making cell sizes equal across stable and unstable groups), alpha set at .05, and an effect size of .50, it is estimated that the father-child outcome analyses had power of .50. An effect size of .50 was selected because it has been reported as a medium effect size for two-group comparisons (Cohen, 1988).

Children of fathers possessing stable and unstable employment histories were not found to differ at a statistically significant level across employment stability categories on the five child outcomes used in the present study. A summary of father employment stability child outcome analyses is presented in Table 20.

Parental-Child Outcome Groups

Analysis of variance was used to examine differences between WJ-R broad cognitive ability and broad knowledge subscale scores, and SSRS social skills subscale scores as a function of the four parental employment stability classifications. Analysis of covariance was used to examine differences between WJ-R broad skills, broad cognitive ability, and broad knowledge subscale scores and SSRS problem behavior subscale scores as a function of parental employment stability classifications. Covariates used included mothers' years of education, PSI-SF parent-child dysfunctional interaction and difficult child subscale scores.

A statistically significant difference was found on WJ-R broad knowledge subscale scores. Children whose parents possessed stable employment during the 2 years preceding the children's graduation from Head Start were found to have higher average scores, $F(1, 54) = 4.97$, $p = .03$, on the broad knowledge subscale than children whose parents did not possess stable employment during the same period. A standardized mean effect size of .59 was obtained, which means that children in the stable group possessed an average WJ broad knowledge subscale score that was 59% of a standard deviation higher than children in the unstable group's average score.

Children of parents possessing stable and unstable employment histories were not found to differ across categories at a statistically significant level on the remaining four child outcomes used.

A power analysis was conducted. Given a sample size of 28 and setting alpha at .05, the power to detect an effect size of .50 was estimated to be .46. A detailed description of parental employment stability child outcome analyses is provided in Table 21.

Stable Mother/Unstable Father Versus
Stable Father/Unstable Mother Groups

To investigate the relative relationship of mother and father employment stability, ANOVA was used to examine differences between WJ-R broad knowledge subscale scores, and SSRS social skills subscale scores across stable mother/unstable father and stable father/unstable mother employment groups. Analysis of covariance was used to examine differences between WJ-R broad skills and broad cognitive ability subscale scores, and SSRS problem behavior subscale scores as a function of stable mother/unstable father and stable father/unstable mother groups. Covariates used included mothers' years of education, and PSI-SF parent-child dysfunctional interaction, and difficult child subscale scores.

Child outcome differences were not found to be statistically significant across the two employment stability groups. Given a sample size of 12 and setting alpha at .05, the power to detect an effect size of .50 was estimated to be .23. A detailed description of stable mother/unstable father and stable father/unstable mother employment child outcome group analyses is presented in Table 22.

Continuous Employment Stability Analyses Overview

For continuous employment stability research questions, employment stability has been defined as the number of employment changes that parents had in excess of eight hours per week during the two years of employment preceding the target children's graduation form Head Start. Eight hours per week was selected as the benchmark for judging whether a change in parents' employment status occurred so that parsimony could be maintained with Moorehouse (1991). For the parent analysis, employment stability was obtained by adding mothers' and fathers' number of changes

together within each family. As in the categorical employment stability analyses, the term "child outcomes" is used in continuous analyses to refer to the following five measures: WJ-R broad cognitive ability, broad knowledge, and broad skills subscales, and SSRS social skills and problem behaviors subscales. Last, because mothers' education and intelligence level were controlled in continuous analyses, only fathers with wives who participated in the Success Study could be used. This reduced the potential number of participants in the analysis from 66 to 59 fathers and corresponding child outcomes (i.e., seven fathers did not have wives who participated in the Success Study, thus no measures of mothers' intelligence or education existed for use in the present study). The following four Level 2 research questions were investigated.

1. To what extent does mother employment stability predict child outcomes after controlling for moderating variables?

2. To what extent does father employment stability predict child outcomes after controlling for moderating variables?

3. To what extent does parental employment stability predict child outcomes after controlling for moderating variables?

4. Does mother employment stability account for more child outcome measure variance than father employment stability?

Correlation and multiple regression procedures were used to investigate continuous employment stability analysis research questions. The general theme of questions 1, 2, and 3 is that of determining if the addition of the number of employment changes variable significantly increases the child outcome variance ($\underline{R}^2$) accounted for beyond that accounted for by moderating variables (Cohen, 1988). The purpose of question 4 is to compare changes in $\underline{R}^2$ that occur when (a) fathers'

number of employment changes is entered into multiple regression models after moderating variables and mothers' number of employment changes, and (b) mothers' number of employment changes is entered into multiple regression models following moderating variables and fathers' number of employment changes.

Correlation analysis results were described in the categorical employment stability analyses section and will not be described in further detail here. A summary of correlation analysis results is provided in Table 18. Multiple regression analysis assumptions will be presented next, followed by multiple regression analysis results.

Assumptions of Multiple Regression

Multiple regression procedures were used to analyze the relationship between mother, father, and parent employment stability and child outcomes. Multiple regression analysis has two assumptions that must be addressed if one is to interpret results validly (Stevens, 1996). These assumptions are as follows.

1. Each observation is independent (participants are not counted more than once) and normally distributed (the assumption of independence and normality).

2. The variance of the residuals is uniform for all values of the predicted variable (the homoscedasticity assumption).

No test exists that can definitively determine whether multiple regression assumptions have been met. Stevens (1996) reported that one may assess the extent to which multiple regression assumptions have been met by viewing histograms of standardized residuals. In addition, evaluating the method of data collection may provide information concerning violations of the assumption of independence.

The assumption of normality was discussed in the Level 1 analysis assumptions section and will not be addressed here, with the exception of noting that the

assumption of normality has been satisfied. Observations in the present study were independent, thus satisfying the assumption of independence. Residuals from multiple regression models were plotted on standardized residual histograms and examined for assumption violations. Residuals were observed to scatter randomly with no apparent patterns or systematic clustering, satisfying the homoscedasticity assumption. The results of the multiple regression analysis are presented next.

Multiple Regression Model Building

Multiple regression models were constructed so that child outcomes could be examined in relation to mother, father, and parental employment changes while accounting for the variance of moderating variables. The following process was used to build multiple regression models.

The maternal employment child outcome research literature review indicated that family size, mothers' intelligence, mothers' education, and stress related to parenting are moderating variables that may confound employment stability child outcome study results (Alverez, 1985; Aurbach et al., 1992; Beyer, 1995; Crockenberg & Litman, 1991; Elder et al., 1985; Greenstein, 1995; Hoffman, 1974; Jones, 1990; Kinnunen et al., 1996; McLoyd, 1989, 1990; Poehlmann & Fiese, 1994). The following multiple regression model was developed and used for continuous employment stability questions 1 through 3. Variables were entered into models in two steps. First, five moderating variables (family size, PSI-SF parent child dysfunctional interaction and difficult child subscale scores, mothers' years of education and OLMAT scores) were force entered into the multiple regression model simultaneously. The second step involved force entering the employment stability variable into the model. The primary concern was the change in R^2 that occurred from step 1 to step 2, given an overall

statistically significant model. This procedure was repeated for mother, father, and parental employment stability categories.

A seven-step multiple regression model was used to investigate the fourth continuous employment stability child outcome research question. In step 1, moderators were entered into the regression model. In step 2, mothers' number of employment changes was entered into the regression model. In step 3, fathers' number of employment changes was entered into the regression model. By entering variables into the model in the prescribed order, information about the amount of child outcome variance that fathers' employment stability accounted for beyond moderating variables and mothers' employment stability could be obtained. In step 4, all variables were removed from the model. In step 5, moderators were again entered. In step 6, number of fathers' employment changes was entered into the multiple regression model. In step 7, mothers' number of employment changes was entered. By entering variables into the model in the described order, information about the amount of child outcome variance that mothers' employment stability accounted for beyond moderating variables and fathers' employment stability could be obtained.

Overall, the primary concern was the change in $\underline{R}^2$ that occurred from step 2 to step 3, and step 6 to 7, given an overall statistically significant model. By comparing changes in steps 2 and 3 against changes in steps 6 and 7, information was obtained regarding the relative amount of child outcome variance accounted for by the number of changes in mothers' and fathers' employment. Regression model summaries are presented in Tables 23 through 26.

Table 23

Number of Mothers' Employment Changes Child Outcome Regression Model Summary

Variables	WJ-R broad knowledge subscale scores	WJ-R broad skills subscale scores	WJ-R broad cognitive ability subscale scores	SSRS social skills subscale scores	SSRS problem behaviors subscale scores
% variance accounted for by moderating variables: R^2	7.2	4.3	5.8	12.5	15.7
% additional variance accounted for by number of mothers' employment changes: R^2	4.3	1.5	2.7	0.0	0.0
% total variance accounted for by regression model: R^2 total	11.5	5.8	8.5	12.5	15.7
Regression model standardized Beta weight for number of mothers' employment changes	-.211	-.124	-.167	-.004	-.015
t-statistic of number of mothers' employment changes standardized Beta weight	-2.153	-1.226	-1.675	-.038	-.162
Significance of number of mothers' employment changes t-score	.034	.223	.097	.969	.872
Regression model F statistic	F(5, 96)=2.49	F(5, 96)=1.17	F(5, 96)=1.78	F(5, 98)=2.79	F(5, 99)=3.68
Regression model statistical significance of F statistic	.036	.327	.125	.021	.004

Multiple Regression Analysis Results

Mothers' Multiple Regression Analysis Results

The multiple regression models for mothers were statistically significant for the outcome variables on the WJ-R broad knowledge subscale scores, and SSRS social skills and problem behaviors subscale scores. Number of changes in mothers' employment accounted for 4.3% of the variance in WJ-R broad knowledge beyond

Table 24

Number of Fathers' Employment Changes Child Outcome Regression Model Summary

Variable	WJ-R broad knowledge subscale scores	WJ-R broad skills subscale scores	WJ-R broad cognitive ability subscale scores	SSRS social skills subscale scores	SSRS problem behaviors subscale scores
% variance accounted for by moderating variables: R^2	15.8	12.4	14.0	9.0	10.3
% additional variance accounted for by number of fathers' employment changes: R^2	.2	2.4	.9	.1	2.2
% total variance accounted for by regression model: R^2 total	16.00	14.8	14.9	9.1	12.5
Regression model standardized Beta weight for number of fathers' employment changes	-.053	-.178	-.107	-.037	.174
t-statistic of number of fathers' employment changes standardized Beta weight	-.351	-1.163	-.702	-.230	1.091
Significance of number of fathers' employment changes t-score	.727	.250	.486	.819	.281
Regression model F statistic	F(6, 48)=1.53	F(6, 48)=1.39	F(6, 48)=1.40	F(6, 48)=.80	F(6, 48)=1.14
Regression model statistical significance of F statistic	.190	.240	.235	.575	.354

for by moderating variables. Cohen (1988) considers predictor variables accounting for less than 13% of the variance in criterion variables to be small. The Beta weight, presented in Table 23, indicates that for every standard deviation change in mothers' employment, one fifth of a standard deviation decrease in broad knowledge child scores occurred. In the other two statistically significant multiple regression models, number of changes in mothers' employment did not account for additional SSRS social

Table 25

Number of Parents' Employment Changes Child Outcome Regression Model Summary

Variable	WJ-R broad knowledge subscale scores	WJ-R broad skills subscale scores	WJ-R broad cognitive ability subscale scores	SSRS social skills subscale scores	SSRS problem behaviors subscale scores
% variance accounted for by moderating variables: R^2	15.80	12.4	14.0	9.0	10.3
% additional variance accounted for by number of parents' employment changes: R^2 change	9.20	4.7	4.3	0.0	.4
% total variance accounted for by regression model: R^2 total	25.00	17.1	18.3	9.0	10.7
Regression model standardized Beta weight for number of parents' employment changes	-.325	-.234	-.223	.001	.070
t-statistic of number of parents' employment changes standardized Beta weight	-2.419	-1.652	-1.591	.009	.473
Significance of number of parents' employment changes t-score	.019	.105	.118	.993	.639
Regression model F statistic	F(6, 48)=2.66	F(6, 48)=1.65	F(6, 48)=1.79	F(6, 48)=.79	F(6, 48)=.96
Regression model statistical significance of F statistic	.026	.155	.121	.582	.461

that accounted skills and problem behaviors subscale score variance beyond variance accounted for by moderating variables.

Fathers' Multiple Regression Analysis Results

None of the multiple regression models for fathers' were statistically significant. Number of changes in fathers' employment child outcome analysis results are presented in Table 24.

Table 26

Impact of Fathers' (and Mothers') Employment Changes on Child Outcomes After Accounting for Moderating Variables and Mothers' (and Fathers') Employment Changes

Variable	WJ-R broad knowledge subscale scores	WJ-R broad skills subscale scores	WJ-R broad cognitive ability subscale scores	SSRS social skills subscale scores	SSRS problem behaviors subscale scores
Regression model F statistic	F(7, 47)=2.51	F(7, 47)=1.39	F(7, 47)=1.51	F(7, 47)=.68	F(7, 47)=.96
Regression model statistical significance of F statistic	.280	.229	.187	.692	.470
Father entered in model last					
% variance accounted for by moderating variables and mothers' employment changes: R^2	27.00	14.8	17.5	9.0	10.3
% additional variance accounted for by number of fathers' employment changes: R^2	.20	2.4	.9	.1	2.2
% total variance accounted for by regression model: R^2 total	27.20	17.2	18.4	9.1	12.5
Regression model standardized Beta weight for number of fathers' employment changes	-.056	-.179	-.109	-.039	.175
t-statistic of number of fathers' employment changes standardized Beta weight	-.394	-1.177	-.720	-.237	1.088
Significance of number of fathers' employment changes t-score	.696	.245	.475	.813	.282
Mother entered in model last					
% variance accounted for by moderating variables and fathers' employment changes: R^2	16.00	14.8	14.9	9.1	12.5
% additional variance accounted for by number of mothers' employment changes: R^2	11.20	2.5	3.5	0.0	0.0

(table continues)

Variable	WJ-R broad knowledge subscale scores	WJ-R broad skills subscale scores	WJ-R broad cognitive ability subscale scores	SSRS social skills subscale scores	SSRS problem behaviors subscale scores
% total variance accounted for by regression model: R^2 total	27.20	17.3	18.4	9.1	12.5
Regression model standardized Beta weight for number of mothers' employment changes	-.340	-.160	-.191	.024	-.024
t-statistic of number of mothers' employment changes standardized Beta weight	-2.685	-1.184	-1.422	.167	-.168
Significance of number of mothers' employment changes t-score	.010	.242	.162	.868	.867

Parents' Multiple Regression Analysis Results

The multiple regression model for parents was statistically significant for the outcome variable WJ-R broad knowledge subscale scores. Number of changes in parents' employment accounted for 9.2% of the variance in WJ-R broad knowledge subscale scores. Cohen (1988) considers this to be a small amount of variance. The Beta weight, found in Table 25, indicates that for every standard deviation change in parents' employment, a 32.5% standard deviation decrease in children's broad knowledge scores occurred. No other parent employment change child outcome multiple regression models were statistically significant.

Mothers Versus Fathers Multiple Regression Analysis Results

The only multiple regression model that was statistically significant was the WJ-R broad knowledge subscale scores model. In this model, when the number of mothers' employment changes was entered into the model before number of fathers'

employment changes, fathers' employment stability did not account for a statistically significant amount of WJ-R broad knowledge subscale scores variance beyond that accounted for by moderating variables and mothers' employment stability. However, when moderating variables and number of fathers' employment changes were entered into the model first, adding number of mothers' employment changes to the model accounted for a statistically significant amount of WJ-R broad knowledge subscale scores variance beyond that accounted for by moderating variables and fathers' employment stability. Number of changes in mothers' employment accounted for 11.2% of the variance in WJ-R broad knowledge subscale scores. Cohen (1988) considers this to be a small amount of variance. The Beta weight, found in Table 26, indicates that for every standard deviation change in mothers' employment, one third of a standard deviation decrease in children's broad knowledge scores occurred.

No other models were statistically significant. A summary of multiple regression analysis results directly comparing changes in mothers' and fathers' employment in relation to child outcomes is presented in Table 26.

CHAPTER V

DISCUSSION

The present study examined the relationship between employment stability and child outcomes. Past employment stability child outcome studies used measures of mothers' employment stability, measured employment stability across two points in time, and did not control moderating variables when conducting analyses. The current study advanced the research literature base by measuring mother, father, and parent employment stability, assessing employment stability both across two points in time and continuously, controlling for moderating variables during analyses, and using families in different income levels.

The only child outcomes for which employment stability had an impact were on the WJ-R broad knowledge scores. The broad knowledge scale provides a measure of children's ability to identify and name items found in the world (i.e., a child's broad knowledge). This finding was observed in the categorical analyses for parents and in the continuous analyses for mothers and parents. On the parent continuous analyses, further analyses indicated that mother employment stability has a greater impact on WJ-R broad knowledge scores (accounted for more variance) than father employment stability. Father employment stability did not impact WJ-R scores on either the categorical or continuous analyses. None of the other child outcomes (WJ-R broad skills and broad cognitive ability subscales; SSRS social skills and problem behaviors subscales) were impacted by employment stability.

Results generally do not coincide with expected findings. It was hypothesized that changes in parent's employment would have a marked detrimental effect on children living in low income, unstable households. Homes possessing persistent instability

were hypothesized to result in children using most of their resources to cope with persistent instability. When faced with additional changes, such as those associated with parents' employment instability, children living in chronically unstable homes were expected to have limited additional resources to adjust in a healthy way to further changes. However, current study findings generally did not support this prediction.

The following sections discuss mother, father, and parent employment stability findings. The effects of moderating variables are then presented, they are followed by an integration of present findings about results of past employment stability and child outcome studies. Contributions and limitations of the current study are then presented followed by recommendations for future research.

Mothers' Findings

Child outcomes varied as a function of mothers' employment stability. Mothers' number of employment changes accounted for 4.3% of WJ-R broad knowledge subscale score variance after controlling moderating variables. Although this finding is statistically significant, it is considered a small effect size (Cohen, 1988). Knowing about 4% of the variance in a criterion variable is likely to lead to inaccurate criterion variable predictions, illustrating that although the finding is statistically significant, it is not of practical significance.

Number of changes in mothers' employment was generally not valuable in predicting child outcomes. Mothers' multiple regression models accounted for 6% to 16% of child outcome variance and gained little predictive power when the number of mothers' employment changes was added. Adding number of mothers' changes to multiple regression models typically had no benefit to, or detracted from, the models' overall statistical significance.

Fathers' Findings

Fathers' employment stability (continuous and categorical) was not found to impact or predict any of the child outcomes used in the present study. Two of the findings did involve fathers indirectly. Children of parents (i.e., husband-wife dyads) who possessed stable employment histories obtained substantially higher WJ-R broad knowledge scores than children of unstably employed parents. In addition, the more changes that parents experienced in their employment, the lower were their children's broad knowledge scores. However, the finding that mothers' changes in employment account for significantly more broad knowledge subscale score variance than fathers' employment changes evidences that mothers' employment stability has more influence on WJ-R broad knowledge subscale scores than fathers' employment stability within husband-wife dyads.

Further evidence supporting this interpretation is found by revisiting mother and father child outcome continuous analysis results. Number of mothers' employment changes accounted for significant amounts of broad knowledge subscale score variance, whereas number of fathers' employment changes did not. Parents' employment stability and child outcome results are described in greater detail in the next section.

Changes in fathers' employment did not serve as a useful predictor of child outcomes when used alone or in combination with mothers' changes in employment. In several instances, number of changes in fathers' employment accounted for less child outcome variance than any single moderating variable. Number of changes in fathers' employment typically accounted for only .2% of child outcome variance after outcome variance explained by moderating variables had been controlled. Based on current

findings, child outcomes can be predicted with virtually the same accuracy using moderating variables as they can using moderating variables and number of changes in fathers' employment. One reason that fathers' employment stability did not impact child outcomes may be due to the small amount of variability that existed in fathers' employment stability.

In contrast to mother participants, virtually no fathers possessed stable nonemployment or part-time employment during the period of interest. Further, fathers who experienced changes in employment reported having fewer changes than did mothers. The restricted variance is not a limitation of the present study but likely reflects the reality that fathers possessing low levels of income have fewer employment changes than do low-income mothers.

Parents' Findings

Children of stably employed parents obtained scores averaging over 7.5 points higher on the WJ-R broad knowledge subscale than children of unstably employed parents, which is the present study's largest finding, both statistically and pragmatically. Similarly, a statistically significant amount of variance (9%) in WJ-broad knowledge subscale scores was accounted for by changes in parents' employment; however, this is considered to be a small amount of variance (Cohen, 1988) and once again illustrates that a finding can be statistically but not pragmatically significant. Children of stably employed parents did not perform better on other measures of child outcomes. Number of changes in parents' employment was not a useful predictor of child outcomes.

Fathers' changes in employment accounted for virtually no WJ-R broad knowledge subscale score variance. However, mothers' employment changes

accounted for about 11% of the variance in WJ-R broad knowledge subscale scores. As mentioned in the previous section, this finding indicates that mothers' employment stability has more impact on WJ-R broad knowledge subscale scores than fathers' employment stability within mother-father dyads. Knowing approximately 11% of the variance in a criterion variable is considered a small effect size (Cohen, 1988) and would lead to a high rate of inaccurate predictions if used as the sole variable to predict child outcomes. Neither mothers' nor fathers' changes in employment proved a better predictor of other child outcomes.

Moderating Variable Findings

Mother employment and child outcome research literature indicated that mothers' level of education, intelligence, stress, and family size may confound employment stability child outcome research and thus should be controlled when conducting analyses. Within the present study it was also found that parent-related stress and parents' general satisfaction with their children also moderated child outcomes. Moderating variables were controlled in the present study and were generally found to have a small but statistically significant relationship with many child outcomes. Overall, moderating variables were better predictors of child outcomes than were the employment stability variables.

Although one is not able to determine from current study findings why moderating variables proved better predictors of child outcomes than employment stability, at least one plausible explanation does exist. Moderating variables within the present study may reflect quality of home learning environment and parent-child interactions. Quality of parent-child interactions and home learning environment may have a larger effect

on children's cognitive and social development than changes in parents' employment within families of Head Start.

It makes sense that quality of home learning environment has a larger effect on a child's cognitive development than changes in parent's employment when one considers that a change in employment is itself a transient event. Following the employment change, stability (either unemployment or new employment) typically follows. However, a child's home learning environment likely represents a more permanent condition. Since a home learning environment is likely experienced by a child as relatively constant, it is likely to have a larger impact on the child than a transiently experienced change in a parent's employment.

Parenting-related stress may have a larger effect on children's cognitive and social development than changes in parents' employment because individuals experiencing high levels of stress related to parenting may spend less time teaching their children socially appropriate behaviors. Such parents may even model inappropriate behaviors to their children via using harsh disciplinary measures or publicly fighting with a spouse. Parents experiencing high stress levels may also prove less effective in providing their children with cognitively stimulating environments than parents experiencing lower stress levels. As such, the quality of a child's home environment is likely to be drastically affected by the extent to which her parents are experiencing parent-related stress. Such effects may have a greater influence on a child's cognitive and social development than his parent's employment stability.

Integrating Current Results with Past Studies

Employment stability was defined in the categorical analyses by examining parents' employment status across two points in time (2 years apart), as has been

done in previous research (Goldberg & Easterbrooks, 1988; Gottfried et al., 1988; Greenberger & O'Neil 1992; Moorehouse, 1991), making it possible to directly compare results across studies. Because previous employment stability and child outcome studies included no measures of fathers' or parents' employment stability, current father and parent child outcome results cannot be compared with findings from other studies. Also, child outcomes in Goldberg and Easterbrooks' study consisted entirely of ego measures. No measures of children's ego were obtained in the present study, making it impossible to compare results with those from Goldberg and Easterbrooks (1988).

Moorehouse

Moorehouse (1991) found no clear relationship between changes in mothers' employment and child (combined school grades and Teacher's Ratings Questionnaire results) cognitive outcomes. Findings ranged from children of stably employed mothers performing better to equivocal on cognitive outcomes relative to children of unstably employed mothers. Of the measures used in the current study, the WJ-R broad skills subscale is most similar to cognitive child outcomes as defined in Moorehouse's study. Present study findings indicate that mothers' employment stability has no significant relationship with cognitive child outcomes, which partly coincides with Moorehouse's results.

Moorehouse also examined the relationship between mothers' employment stability and child outcomes pertaining to social competencies (the social adjustment scales, a subscale of the Teacher's Ratings Questionnaire). Results were mixed. No relationship was found between child social competency outcomes and relatively small changes in mothers' employment. However, when mothers experienced relatively

large shifts in employment, children tended to obtain lower social competency scores. Of the measures used in the current study, the SSRS social skill subscale is most similar to the social adjustment scales used by Moorehouse. The present study supports Moorehouse's finding that changes in maternal employment stability do not have a significant relationship with child social skill (competency) outcomes.

Gottfried and Gottfried

Gottfried et al. (1988) found that children of mothers possessing stable employment histories obtained lower scores on the Kaufman Assessment Battery for Children and Wechsler Intelligence Scale for Children than children of mothers possessing unstable employment histories. Of the child outcomes used in the present study, WJ-R broad skills and cognitive ability subscales are most similar to tests used by Gottfried et al. No differences on broad skills and cognitive ability subscale scores were found across mothers' employment stability groups, findings that do not support Gottfried et al. (1988).

Greenberger and O'Neil

Greenberger and O'Neil (1992) examined differences on child outcomes obtained from the Child Behavior Checklist and the How My Child Acts Scale as a function of mother employment stability. In general, the researchers found children of stably nonemployed and part-time employed mothers to obtain lower outcome scores (indicating the presence of fewer problematic behaviors) than children in other groups. Of the measures used in the present study, the SSRS problem behavior subscale is most like the outcomes used by Greenberger and O'Neil. The current study did not find problem behavior subscale scores to differ as a function of mother employment stability, contradicting Greenberger and O'Neil's findings.

In summary, the present study generally indicated that child outcomes did not vary as a function of mothers' employment stability categories, a finding that partly supports past mother employment stability as well as child outcome research. Study finding explanations are provided in the following section.

Rationale for Differences Across Studies

Possibilities why employment stability did not generally prove to be a robust predictor of child outcomes and why results from the current study do not closely coincide with results from previous employment stability child outcome studies are numerous. First, results from previous research shows no clear relationship between mothers' employment stability and child outcomes within or across studies. One may hope that subsequent studies would obtain findings of consistent relationships between variables, as was the case in the present study.

Second, samples utilized in previous studies generally possessed higher levels of annual family income, parents' education, fathers' employment stability, and dual-parent households than families in the present study. Differences on these four family dimensions may differently moderate the relationship of employment stability and child outcomes. For example, changes in parents' employment may have less effect on children when occurring against a background of unstable life experiences. In such situations, children may be accustomed to change and thus are "inoculated" against the effects of changes in parents' employment. Alternatively, children living in unstable environments may be too busy coping with preexisting changes to notice changes that occur as a result of flux in parents' employment. Thus, one would expect to find differences between preexisting studies and the current study.

Third, although child outcomes used in the present study were similar to those used in three of the previous studies (Gottfried et al., 1988; Greenberger & O'Neil, 1992; Moorehouse, 1991), they were not identical. It is possible that outcomes in the present study measured different child cognitive and behavioral constructs than those measured in previous employment stability and child outcome studies. However, because child measures used in the present studies have generally been found to correlated at moderate to high levels with measures used in past studies, this explanation does not appear likely.

Fourth, if a relationship exists between mother, father, or parent employment stability and child outcomes, it may not have been detected in the present study. However, given that the categorical analyses were found to possess moderate levels of power (Cohen, 1988), this possibility appears less tenable than others.

Fifth, the effects of changes in parents' employment may have been ameliorated as a result of the children attending Head Start for half of the employment history described by parents.

Finally, it is possible that employment stability is truly a poor predictor of child outcomes. From this perspective, findings of the present study may reflect the relationship of employment stability and child outcomes as it exists in the population. Given the consistency of the current study's findings, as well as the inconsistency of previous research findings, this is a parsimonious and likely explanation. Contributions and strengths of the present study are presented in the following section.

Literature Contribution

As previously mentioned, the current study was the first known to analyze child outcomes in relation to fathers' employment stability. This is an important contribution

to the child outcome and employment stability literature base because prior to the current study virtually nothing was known about the relationship between fathers' employment stability and children's development. The current study was also the first known to analyze child outcomes in relation to parents' employment stability. This too is important because nothing was known about the combined relationship of mothers' and fathers' employment stability with child outcomes prior to the current study.

The present study made a third contribution to the employment stability and child outcome research literature base by measuring employment continuously. Employment stability was not measured continuously in prior studies. Since three of the four effects found in the present study involved the use of continuous employment stability data, measuring employment stability continuously appears a more sensitive measure of employment stability than point-in-time data.

The current study made a contribution by being the first employment stability study to examine the reliability of employment stability data. Measuring the reliability of the employment stability data makes it possible to estimate the extent to which participants are able to reliably report their employment experiences and by inference the extent to which the data reflect participants' actual employment experiences. Reliability information does not, however, directly provide estimates of data validity.

A fifth contribution made by the current study was that it used child outcome measures and procedures similar to those used in four other studies (Goldberg & Easterbrooks, 1988; Gottfried et al., 1988; Greenberger & O'Neil 1992; Moorehouse, 1991). By replicating components of other studies, a more accurate estimation can be made of the relationship between employment stability and child outcomes as it exists in the population.

Finally, the present study made a contribution by examining employment stability within the context of low-income families. Past employment stability child outcome studies utilized samples of middle- to upper-middle-class families. By examining the effect of employment stability on a restricted range of the child population consisting of children belonging to low-income families, a better understanding was gained about the impact of employment stability as a function of family income level. Thus, the present study made at least six contributions to the employment stability and child outcome research literature base. The current study has some limitations that are described next.

Limitations

The present study has at least three limitations. First, children were in Head Start for a year of the employment history period provided by parents. It is not known what effect, if any, participating in Head Start may have had on the relationship between child outcomes and changes in parents' employment.

The second limitation of the current study is that the sample was taken from a restricted range of the population that differs from samples used in previous employment stability child outcome studies. Samples used in existing research generally consisted of two-parent families possessing stable employment and average to above average annual income. By contrast, families in the current study commonly had single-parent households, possessed relatively low levels of income, and experienced a relatively high number of employment changes. As such, the present study is not simply an extension of previous studies and results cannot be generalized to all families. Issues pertaining to restriction of range are minimized as long as results are generalized to children and families possessing characteristics that match those of

present study participants. Characteristics of participants in the present study have been described in great detail so that results may be generalized to appropriate others.

The third limitation is that the sample used in the present study consisted of families who remained active participants in the Success Study for a period of 3 to 5 years. It is possible that families remaining in the Success Study possessed systematic differences from attrited families which may have related to employment stability and child outcomes. For example, parents who were able to commit to participating in the Success Study for several years may provide stable home environments for their children, which may in turn temper the impact of employment changes on child outcomes. In an effort to curtail the significance of this limitation, sample selection bias data were collected and analyzed. Sample selection bias results can be reviewed in the sample selection bias section.

In general, selection bias results indicate that the sample used in the present study differed from the overall Success Study sample in the areas of mother and father education level, mother intelligence level, and father ethnicity. Due to the selection bias, it is possible that current results are not generalizable to all families of Head Start. However, even though sample selection bias was found, the sample used in the present study still reflects a low-income group that has never been studied in relation to employment stability. Participant characteristics were described so results can be generalized to appropriate others, minimizing the significance of sample selection bias found in this study. Direction is provided for future research is provided next.

Recommendations for Future Research

A consistent relationship between mother, and possibly parent, employment stability and children's general world knowledge was found in the present study. Child

measures of general world knowledge were not used in previous studies, and thus current results cannot be compared with other studies. Findings need to be replicated before the employment stability broad knowledge relationship can be described with even a small to moderate level of certainty. Further, it is not understood why children of stably employed mothers and parents have more world knowledge than children of unstably employed mothers and parents. Research investigating this phenomenon is needed so that it can be better understood.

Although fathers' employment stability was not found to have a significant relationship with child outcomes in the present study, either alone or in combination with mothers' employment stability, current results are not definitive and need to be replicated. Similarly, a better understanding of the relationship between parents' employment stability and child outcomes is needed.

As mentioned, a limitation of the present study was the children's involvement in Head Start coinciding with the second year of parents' 2-year employment history. Future studies should avoid this confound and use samples of children who are not enrolled in Head Start, preschool, or involved in education-related interventions.

Since three of the four findings in the present study involved the use of continuous employment stability data, it appears that a continuous measure of employment stability is a more sensitive measure than categorical measures of employment stability. Future research may benefit from using continuous measures of employment stability, for example, being able to detect subtle employment stability child outcome relationships.

The relationship of employment stability, moderating variables, and child outcomes is not well understood. Current research literature indicates that moderating variables may influence the impact that parents' employment stability has on child

outcomes. However, current results provide no reason to conclude that identified moderating variables actually alter the relationship between employment stability and child outcomes. Research exploring the effect that moderating variables have on employment stability and child outcomes is needed.

Finally, the present study had parents' recall their employment histories. Although data collected were found to possess acceptable rates of reliability, future studies may benefit by collecting employment stability data prospectively. Collecting prospective employment stability data may enable researchers to obtain more sensitive measures of employment stability, increase data reliability, decrease participant attrition, and ultimately obtain a better understanding of the relationship between parents' employment stability and child outcomes.

Summary

Mother and parental employment stability was found to have a small impact on WJ-R broad knowledge scores. Mother, father, and parental employment stability (both continuous and categorical) was not found to affect WJ-R broad cognitive ability and broad skills subscale scores or SSRS social skills and problem behavior subscale scores. Moderating variables generally proved to be better predictors of child outcomes than employment stability, but also accounted for small amounts of child outcome variance. Results from the current study partly coincide with findings from past studies. Incongruities between past studies and the present study may be due to family income level (average to above average versus low income) sample differences, child instruments used across studies measuring different cognitive and behavioral constructs, and the children in the present study participating in Head Start for 1 year of the 2-year employment period measured.

The present study made contributions to the employment stability and child outcome research literature by analyzing child outcomes in relation to father and parental employment stability, measuring employment stability continuously, and measuring employment stability reliability. In addition, a contribution was made by using child measures and procedures similar to those used in other employment stability and child outcome studies. Limitations of the current study entailed children's participation in Head Start during parents' employment history and sample selection bias.

Future research should replicate and further explore the finding that mother and parental employment stability impacts children's acquisition of general world knowledge. Because the present study was the first to examine the effect of fathers' employment stability on child outcomes, current findings should not be deemed definitive. More research is needed. The effect that moderating variables have on employment stability and child outcomes is not clear and needs to be further explored. Finally, employment stability may be measured more sensitively in future studies by doing so prospectively and continuously.

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APPENDICES

Appendix A

Tables

Table A1

General Literature Review Articles and Findings

Author(s)/Year	Findings
Alessandri, 1992	Boys and girls from single-parent households with employed mothers rated their families as being more cohesive and organized than did children of nonemployed mothers. Girls of mothers employed full-time received more emphasis on independence and achievement from their mothers than did boys of full-time employed mothers. Children of employed mothers were found to have higher levels of self-esteem than children of nonemployed mothers. Girls of full-time employed mothers possessed higher school grades than children in all other child-maternal employment status groupings. Children of employed mothers were more knowledgeable than children of nonemployed mothers about the beliefs that their mothers held about them. They were also more likely to possess self-beliefs that were congruent with their mother's child-beliefs.
Alvarez, 1985	Nonemployed mothers were found to generally have less education than mothers employed part- or full-time. Most mothers working part-time reported doing so because they wanted to, whereas most mothers working full-time reported doing so out of financial necessity. Mothers working in response to personal choice were generally satisfied with their jobs, did not perceive their employment as conflicting with their maternal roles, experienced satisfying social interaction through their work environment, and reported increases in self-worth as a result of being employed. The opposite trend was found for mothers working in response to financial necessity. Motivation to work, role conflict, and perceived gains in autonomy as a result of employment influenced mothers' perceptions of their children. Mothers employed full-time reported their sons least favorably and their daughters most favorably.
Aurbach, Lerner, Barasch, & Palti, 1992	Children of highly educated mothers were found as more academically competent, obtained higher IQ scores, and were rated as having fewer behavior problems than children of mothers with less education. Children from homes that provided stimulating environments were found to be more academically competent than children from less stimulating homes. Children whose mothers reported satisfaction with their life roles and cared for them as infants obtained higher academic competency scores and lower problem behavior scores than other children. Sons' IQ scores were positively related to maternal employment during sons' first 5 years of life. Sons of single mothers obtained lower IQ scores than sons whose mothers were not the sole caretakers. Sons of younger mothers were reported as engaging in more problematic behaviors than sons of older mothers. Girls with behavioral problems were more likely to have mothers that were: (1) not home when the girls returned from kindergarten, (2) were dissatisfied with their jobs, or (3) had a disability, mental or a medical problem.
Bailey, 1994	Maternal employment was found to impact paternal child involvement during the first 5 years of child development. Fathers with employed wives, as compared to fathers with nonemployed wives, were generally found to spend more time engaged in care and play activities with their children during the first 5 years of their child's lives. The less time that mothers had available for their children, as a result of employment, the more time that fathers spent involved with their children in care and play activities.

(table continues)

Author(s)/Year	Findings
Baydar, & Brooks-Gun, 1991	Continuous maternal employment during the first 3 years of children's lives was generally not found to affect child vocabulary or behavioral development, independent of child poverty status. However, maternal employment during the first year of child development was found to negatively impact both child vocabulary and behavioral development. Last, infant/child care was found to affect vocabulary and behavioral development during the first 3 years of impoverished children's lives. Specifically, impoverished children were found to experience more cognitive benefits than nonimpoverished children from receiving mother and grandmother care during the first 3 years of life. Boys of employed mothers experienced more cognitive and behavioral benefits from receiving infant and child care from their grandmothers than did girls. Care provided by fathers and centers was found to have particularly detrimental cognitive and behavioral affects on 3 year old boys.
Bronfenbrenner, Alvarez, & Henderson, 1984	Mothers with some education past high school, as compared to mothers with less education, made more positive comments about their children, particularly their sons. The more hours that mothers with higher education levels worked per week, the more approvingly they spoke of their 3-year-old daughters. The opposite trend was found for mothers possessing lower levels of educational attainment. That is, mothers possessing lower levels of education who were employed full-time were found to make the most negative statements about their 3-year-old sons, whereas mothers employed part-time made the most positive statements about their sons. Last, fathers' responses indicated the same trends as those obtained from mothers, but on a smaller scale.
Burchinal, Ramey, Reid, & Jaccard, 1995	Infants and children who attended daycare or preschool obtained higher vocabulary aptitude scores than other children. For African American children, attending preschool was associated with large vocabulary aptitude test score gains. Girls generally obtained lower vocabulary aptitude scores than boys, among children whose mothers worked full-time for the first five years of their children's lives. Children who attended preschool engaged in more problematic behaviors than children who did not attend preschool. However, African American children who attended preschool or daycare were found to have better social skills than other African American children. Behavior of boys who had infant care was rated more positively than other boys; no differences were observed for girls. Eight year old White children who received infant care rated their mothers more positively than middle aged children who did not receive infant care. The opposite trend was found for African American children.
Clarke-Stewart, 1989	Research literature concluding that infants who attend daycare are at increased risk of developing emotional insecurity and/or social maladjustment has numerous shortcomings, including: (1) relying predominantly on the Ainsworth Strange Situation Test to measure child emotional insecurity, (2) aggression and noncompliance found in children attending daycare may reflect adaptive autonomous child behavior instead of daycare side-effects, (3) moderating factors within the children and their families may be more likely to impact child development than daycare factors. It was also determined that high quality daycare settings can lead to child gains in socioemotional and cognitive development, and boys may be more prone than girls to develop negative social behavior in response to attending daycare.

(table continues)

Author(s)/Year	Findings
Crockenberg & Litman, 1991	Employed mothers who were unsatisfied with their work roles, as compared to satisfactorily employed mothers, generally engaged in more negative and controlling parenting behaviors with their children. Employed mothers generally used less power assertion, more guidance, and were more responsive to their children than were nonemployed mothers. Boys of employed mothers who were placed in multiple childcare settings experienced higher levels of defiant behavior than other children. Last, poor quality childcare was most strongly associated with increases in defiant behavior in children of employed mothers.
Duncan, Brooks-Gunn, & Klebanov, 1994	Family income was a better predictor of age-5 IQ scores than any other SES measure (positive correlation) and was also the most powerful predictor of child behavior problems (negative correlation). Children of single-mother households engaged in higher rates of problematic behaviors than children of 2-parent households. Children from neighborhoods with above average household incomes generally engaged in fewer problematic behaviors and obtained higher IQ scores than children from other neighborhoods. Children from low income neighborhoods were not generally found to obtain lower IQ scores than children from average income level neighborhoods. Children living in poverty generally obtained relatively low IQ scores and high behavior problem scores, irrespective of becoming impoverished in early or late childhood.
Elder, Nguyen, & Caspi, 1985	Income loss was found to have a significant negative effect on father's, but not mother's parenting behavior. Adolescent boys, but not girls, were found to perceive their fathers more negatively in response to income loss. Adolescent girls responded to paternal economic decline by adopting lower self-opinions, setting lower self-standards, and experiencing more frequent mood swings. Following economic loss, fathers tended to engage in more rejecting behavior toward their children, which had a negative effect on daughters, but not sons. Fathers were more likely to engage in rejecting behaviors toward adolescent daughters perceived as unattractive, as compared to adolescent daughters perceived as attractive. No such relationship was found to exist between paternal rejection and adolescent sons' perceived attractiveness.
Garrett, Ng'andu, & Ferron, 1994	Average income-to-needs ratio (adequacy of household income at allowing parents to provide for their family) was positively associated with home environment quality of children who were, and were not, born into poverty. Families with children born into poverty had large home environment quality increases in response to family income increases. Home environment quality for impoverished children appears extremely responsive to increases in family income relative to the needs of the family.
Greenstein, 1995	Mother's marital status at the time of her child's birth was not related to the child's IQ score. Maternal IQ score, and age at the time of child's birth, was positively related to child IQ score. Children from families possessing high levels of income obtained higher IQ scores than children from lower income families. Children from households with cognitively stimulating environments obtained higher IQ scores than other children. Maternal emotional support was positively related to child IQ score. No evidence indicating that maternal employment has detrimental effects on child cognitive ability was found. Number of maternal hours worked weekly had no significant effect on child IQ test performance.

(table continues)

Author(s)/Year	Findings
Harold-Goldsmith, 1989	Parents who perceived their financial situation favorably generally provided more stimulating home environments for their children than parents who perceived their financial situation unfavorably. Employed mothers generally provided more stimulating child home environments than did nonemployed mothers. Fathers' employment status was not found to relate to child home environment stimulation level. Parents with some education beyond high school were found to provide more stimulating child home environments than parents with less education. When parents perceived their financial situation as being good, parents generally had more confidence that their children would experience a promising future, relative to parents who perceived their financial situation as being undesirable. Parental education level was positively related with parental confidence in their children's future.
Haskins, 1989	When comparing high quality preschool programs (HQPP) with Head Start programs, four general conclusions can be made: (1) HQPP and Head Start both produce meaningful gains in intellectual performance and socioemotional development within one year of service delivery, (2) gains made on standardized aptitude and achievement tests appear to fade faster for Head Start graduates than for HQPP graduates; however, all gains diminished by several years postgraduation, (3) HQPP appear to reduce subsequent special education placement and grade retention, whereas Head Start does not, and (4) HQPP appear to have positive effects on such measures of life success as delinquency, teen pregnancy, welfare participation, and employment; however, Head Start does not.
Hoffman, 1989	Maternal employment was found to influence children indirectly through family environment and caregiving arrangements, which in turn are moderated by such variables as parental attitudes, maternal employment satisfaction, and family structure. Children of happily employed mothers appeared to benefit from their mother's employment experience. Children whose mothers worked part-time received more benefits than children of nonemplolyed mothers. Mothers working more than 40 hours weekly appeared less sensitive to their infant's needs than other mothers. Employed mothers tended to interact more with their infants, especially verbally, and placed greater emphasis on child independence training than did nonemployed mothers. Mothers who returned to work during times of family tumult, such as divorce, negatively impacted their children. Fathers in dual-wage families spent more time engaging in infant care and household activities than did single-wage family fathers. They also generally reported higher levels of happiness than did other fathers. Children of working mothers appeared to experience insecure mother and father attachments at higher rates than children of nonemployed mothers. Daughters of employed mothers were more likely to reject traditional gender-role ideology, obtained higher social adjustment score ratings, and performed better academically than daughters of nonemployed mothers. Parents were found to engage in less positive interactions with their sons when mothers were employed. Last, full-time employed mothers described their sons less positively than did nonemployed mothers.

(table continues)

Author(s)/Year	Findings
Jones, 1990	Approximately half of all fathers who perpetrated child abuse were found to be unemployed around the time of the abuse. A weaker but similar trend was found for mothers. An interaction between parental unemployment and family stress may lead to an increase in child abuse. Family stress factors that may arise in response to job-loss include: (1) deterioration of paternal psychological state, (2) perceived loss of family status, (3) increases in parental alcohol consumption, (4) providing child care in response to having more available time, (5) increased contact with family members and decreased extrafamilial interpersonal contact, (6) intensification of interpersonal interaction dynamics, and (7) deterioration in parents' ability to conceal chronic child abuse following unemployment.
Keltner, 1992	Families who endorsed performing 28 family routines (e.g., meal, bed, and story reading time) at relatively high frequencies, or provided relatively stimulating home environments, had children who were generally healthier across: (1) physical examination, (2) hematocritic/hemoglobin, (3) height and weight, (4) dental inspection, and (5) vision screening domains.
Kinnunen, Gerris, & Vermulst, 1996	Paternal job stress and dissatisfaction were positively related to personal strain, which was: (1) positively related to fathers' perceptions of child rearing stress and parental role restrictiveness, (2) negatively related to father's reports of marital satisfaction and communication effectiveness, and (3) positively related to reports of child distractability, restlessness, aggression, depression, and mood vacillation.
Kurtz & Derevensky, 1994	Mothers who were divorced were more likely to be employed than mothers who were not divorced. Employed and nonemployed mothers rated their children as possessing similar levels of behavioral and emotional adjustment. Children from households headed by divorced employed mothers were more involved in recreational activities, and rated themselves as having higher self-esteem than did other children. Children of employed mothers rated themselves as possessing more self-worth, and confidence in their athletic ability than did children of nonemployed mothers. Maternal employment in *intact families* was negatively related to child independence training in the home. The relationship of maternal employment status with child adjustment was found to be mediated by mother's preference for work and her emotional state.
Li & Currie, 1992	Women were found to be approximately three times more likely than men to experience work interruptions for one year or longer, as a result of child rearing. Following work interruption, women were found to be approximately 4.5 times more likely than men to return to work as a part-time, versus full-time employee. Last, women experienced significantly more job interruptions and duration of job discontinuity as a function of being married and number of children. No such relationship was found for men.
McLoyd, 1989	Paternal employment and income loss may negatively impact fathers' mental health in accord with: (1) the appraisal of the economic decline, (2) paternal personality variables, e.g., self-denigration, views regarding marital role, and (3) environmental factors, e.g., social and financial support. Fathers adversely affected by economic decline engaged in decreased rates of nurturing parenting behaviors and engaged in relatively high rates of punitive and capricious disciplinary practices with their children. Increases in unhealthy paternal parenting practices were positively related to child socioemotional problems, externalizing behavior problems, and life aspiration/expectation decrements.

(table continues)

Author(s)/Year	Findings
McLoyd, 1990	Effects of poverty were found to negatively impact parents' emotional health, which in turn adversely affected parenting practices, which negatively affected child emotional and behavioral well-being. Impoverished parents were found to possess relatively high levels of anxiety, irritability, and depression. They were also found to enact in relatively high rates of punitive and coercive parenting behaviors. Fathers with strained marital relations were found to be more hostile to their sons but not daughters. Children of parents who experienced economic adversity were found to possess relatively high rates of depression, loneliness, emotional sensitivity withdrawal, and behavior problems.
Parcel & Menaghan, 1994	Maternal nonemployment during the first 3 years of child development was positively related to child verbal fluency scores. However, children of nonemployed mothers who resumed work in stressful positions, subsequently experienced decrements in their relative verbal fluency score rankings. Maternal employment status during children's post-birth years bore no relationship with child behavior problem frequency scores. However, paternal hours employed weekly during children's first 3 years of life was negatively related to child behavior problem scores. Children of fathers who worked overtime hours obtained relatively lower verbal facility scores. Last, moderate levels of part-time maternal employment during infants' first years of life appeared to benefit children's verbal fluency and social performance.
Poehlmann & Fiese, 1994	Married mothers (especially highly educated) were found to provided their toddlers with more social and cognitive stimulation in the home than divorced mothers, irrespective of work status. Married mothers were found to be more involved in their toddler's lives and provided a greater variety of stimulation to their children than divorced mothers. Married mothers reported having more social support and being more satisfied with their lives than did divorced mothers. Satisfied mothers generally provided their children with more stimulating home environments than unsatisfied mothers. Working mothers generally appeared more accepting of their toddler's behavior, regardless of marital status. Maternal employment status was found to be virtually unrelated to toddler's mental test scores.
Striefel & Braeger, 1995	Low income families who received multifaceted family centered services across a 5-year time period were found to generally experience significant increases in annual household income. Increases in annual household income were generally due to female partners who were unemployed at the beginning of service delivery, obtaining employment sometime in the future. Elevations in annual household income was generally not found to be due to male partners who were employed at the beginning of service delivery obtaining higher paying jobs sometime following the initiation of service delivery.
Vandell & Ramanan, 1992	Children of mothers employed both early and later in the children's lives generally obtained higher aptitude, math, and reading achievement scores than children of nonemployed mothers. No relationship was found between maternal employment status and child behavior problems or child attention. Mothers with higher IQ scores and education levels were more likely to be employed than mothers with lower IQ scores and/or less education. Home environments of employed mothers generally received higher quality child stimulation ratings than home environments of nonemployed mothers. Maternal employment was postulated to impact the family environment, which mediates the effect of maternal employment on child cognitive development.

Author(s)/Year	Findings
Zaslow, Pedersen, Suwalsky, Cain, & Fivel, 1985	During daytime hours, nonemployed mothers spent significantly more time making eye-contact with their infants than did employed mothers. During evening hours, nonemployed mothers and their spouses were found to hold their infants more than employed mothers and their spouses. Fathers with nonemployed spouses spent more time than their spouses in such child interactions as: care giving, touching, and holding. The opposite pattern was found for fathers with employed spouses. Note: employed and nonemployed mothers engaged in virtually identical amounts of maternal-infant interaction. Fathers of nonemployed wives engaged in significantly more child care-giving, touching, holding, playing, and stimulation than did fathers of employed wives.
Zaslow, Pedersen, Suwalsky, & Rabinovich, 1989	Infants of nonemployed mothers smiled, laughed, and spent more time in mutual gaze with parents than infants of employed mothers. Fathers with employed spouses spent more time holding and smiling at their infants than their wives. Nonemployed mothers spent more time with their sons, relative to their daughters, in play activities, providing stimulation, and expressing affection. The opposite pattern was found for employed mothers. Last, compared to employed mothers and their spouses, nonemployed mothers and their spouses were found to provide more visual stimulation and eye contact with their infants, which in turn led to increases in infant smiling and laughing behavior.

Table A2

Integrative Review Sample Characteristics

Characteristics	Gottfried, Gottfried & Bathurst	Moorehouse	Goldberg & Easterbrooks	Greenberger & O'Neil
Publication Year	1988	1991	1988	1992
Year Study Began	1979	1982	1980	1987
Sample Selection Method	Unspecified	Selected from prior study	Selected from prior study	Unspecified
Original Family Sample Size	130	152	75	238
Number Female	62	58	35	103
Number Male	68	54	40	135
Ending Sample Size	105	112	58	156
Number Female	Unspecified	Unspecified	28	67
Number Male	Unspecified	Unspecified	30	89
Attrition Primarily Due to:	Family relocation	Divorce, relocation	Relocation, disinterest	Unspecified
% Household 2-Parent at Start	100	100	100	100
% Divorced/Separated During Assessment Time Period	22	Between 1 & 26	5	Unspecified
Mother Education	Beyond high school	13 years (mean)	College degree (mode)	Bachelor's or more (46%)
Father Education	Beyond high school	13 years (mean)	College degree (mode)	Bachelor's or more (51%)
Annual household Income	Not given	$25, 500 (5,600-60,000)	$20,000 to $30,000	over $45,000
Socioeconomic Status	Middle class	Middle class	Middle class	Unspecified
Paternal Employment	Near 100%; stable	100%; stable	97% employed; stable	100%; stable
Ethnicity of Sample	90% white, 7% Latino, 3% other	White	White	90% white, 10% "other"
Approximate Years Employment Stability Was Assessed Across	5 years	3 years	2 years	2 years
Constantly Married During Assessment Time Period	89%-94.1%	Unspecified	Unspecified	Unspecified
Measure 1	Achievement	Cognitive	Ego Resiliency (CC.)	Behavior
Study Sample Size	107	Ranging 20 to 91	41	156
Mean Age	6 years	About 6 years	6 years	About 6 years
Measure 2	IQ score	Social	Ego Control (CC.)	Not applicable
Study Sample Size	99	Ranging 20 to 91	41	Unspecified
Mean Age	6	About 6 years	6 years	Unspecified
% Female	Not given	Not given	Not given	Unspecified
% Male	Not given	Not given	Not given	Unspecified
[A]Study Quality	3	4	3	3
[A]Quality-CM Relationship	None	None	None	None

[A]Quality was rated on a 5 point scale (1=poor, to 5=high). Four criteria were used to rate quality: (1) threats to validity, (2) inclusion of raw data, (3) the appropriateness of the conclusions, (4) the general ability of the author to clearly communicate information to the reader.

Table A3

Head Start Success Study Demographic Information

Variable	Maternal Information (at pretest)		Paternal Information (at pretest)	
Mean Age	29.9 years		33.5 years	
Marital Status				
	Single	22%	Single	15%
	Married	61%	Married	74%
	Separated	3%	Separated	3%
	Divorced	14%	Divorced	8%
Mean Education Level	12.2 years		12.6 years	
Degree				
	No high school dipl.	24.5%	No high school dipl.	22%
	High school diploma	59%	High school diploma	51.5%
	GED	9%	GED	12%
	Associate's degree	3%	Associate's degree	2%
	Bachelor's degree	4%	Bachelor's degree	8%
	Master's degree	.5%	Master's degree	4%
	Doctorate degree	0	Doctorate degree	.5%
Mean Weekly Employment Hours	12.4			35.4
Employment Status				
	Unemployed	58%	Unemployed	15%
	Unskilled workers	27%	Unskilled Workers	50%
	Technically trained	14%	Technically Trained	31%
	Professional	1%	Professional	4%
	Household Information (at pretest)			
Two-parent households	65%			
Primary language at home	89% English 7% Spanish 4% Other			
Mean household income	$12,696			
Mean children in home	2.9			
	Child Information (at posttest)			
Mean age	4.7 years			
Gender	48% male			
Ethnicity				
	Caucasian	53%		
	Hispanic	25%		
	African American	6.5%		
	Asian	4.5%		
	Other	11%		

Table A4

Head Start Success Study Data Collection Measures

Measure	Respondent	Description
Child		
Woodcock-Johnson Cognitive Test	Child	Measures cognitive skills
Woodcock-Johnson Achievement Test	Child	Measures achievement skills
Cooper-Farran Behavior Rating Scale	Teacher	Measures work-related/interpersonal skills
Social Skills Rating Scale	Teacher	Measures social skills/behavioral approp.
Temperament Assessment Battery for Children	Teacher	Teacher perception of child temperament
	Teacher	
Maternal		
Parenting Stress Index--Short Form	Mother	Parenting stress related to child, parent-child
Neo-Five Factor Inventory	Mother	interaction, and other factors
Otis-Lennon Mental Abilities Test	Mother	Maternal personality
		Maternal intelligence
Parent Style/Belief		
Parenting Inventory	Mother	Examine parental belief in the area of expectations, discipline, and nurturance
Home Learning Environment Profile	Mother	Report of home environment/home activities
Rating of Parent Participation in Head Start	Teacher	Rating of parent participation in Head Start
Familial		
Family Support Scale	Mother	Perception of different sources of support
Family Resource Scale	Mother	Measures extent to which different
Family Adaptation and Cohesion Evaluation Scales	Mother	resources are adequate
(FACES III)--Cohesion Scale		Parent perception of family cohesion
Contextual		
Family Demographics	Mother	General information on family
Holmes/Rahe Life Events Scale	Mother	Report of major life events occurring in the past year
School Environment		
Early Childhood Environment Rating Scale (ECERS)	Observation	Classroom observation according to developmentally appropriate practice guidelines

Appendix B

Human Subjects Committee Approval Letter

Utah State
UNIVERSITY

VICE PRESIDENT FOR RESEARCH OFFICE
Logan, Utah 84322-1450
Telephone: (801) 797-1180
FAX: (801) 797-1367
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25 July 1996

MEMORANDUM

TO: Mark Innocenti
Thomas M. Wolfe

FROM: True Rubal
Secretary to the IRB

SUBJECT: "The Relationship Between Parental Employment Stability and Child Outcome Measures"

The above-referenced proposal has been reviewed by this office and is exempt from further review by the Institutional Review Board. The IRB appreciates researchers who recognize the importance of ethical research conduct.

The research activities listed below are exempt from IRB review based on the Department of Health and Human Services (DHHS) regulations for the protection of human research subjects, 45 CFR Part 46, as amended to include provisions of the Federal Policy for the Protection of Human Subjects, June 18, 1991.

2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through the identifiers linked to the subjects: and (b) any disclosure of human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Your research is exempt from further review based on exemption number 2. Please keep the committee advised of any changes, adverse reactions or termination of the study. A yearly review is required of all proposals submitted to the IRB. We request that you advise us when this project is completed, otherwise we will contact you in one year from the date of this letter

Appendix C

Head Start Partnership Support Letter

Salt Lake Community Action Head Start Program

764 South 200 West, Salt Lake City, UT 84101 • PH: 801-359-2444 • FAX: 801-355-1798

Marie Augustine
Executive Director
Salt Lake Head Start

Cathy Hoskins
Executive Director
Salt Lake CAP

July 26, 1996

Tom Wolfe and Mark Innocenti
Early Intervention Research Institute
Utah State University
Logan, UT 84322-6580

Dear Tom and Mark:

We are writing this letter in support of your proposed grant to study the effect of Head Start parents' employment stability on child academic and social development. As you know, Head Start, and especially our program, has been very interested in the issue of parent employment. We feel that this is an under-emphasized area, and is in need of an increased intervention focus. As you point out, there is a lack of research to provide direction on this important issue. The plan you have proposed should provide quality data to help answer questions regarding the impact of parent employment stability on children.

There are a number of positive aspects in your proposal. You are building on an already established Head Start project which allows you to obtain more information while being less intrusive on parents. The fact that you are willing not only to present the proposal to our parent Policy Council, but to include them in the development of the employment stability form and informed consent form, demonstrates good partnership. Also, the fact that participating parents will be paid for their time is a welcome addition, and demonstrates respect for parents' time.

We realize you need to receive the approval of our parent Policy Council on this project; however, given your and our timelines this is not possible, as our Policy Council is not scheduled to meet until August 10, 1996, which is too late to meet your needs. Be assured your project will be presented to the parents at that time. We do not believe the Policy Council will be opposed to your project. In fact, we feel they will welcome it. The fact that you are willing to work with us on different project aspects is also welcome. Also, the fact that the Head Start "Success Study" received approval, and has been collaboratively working with Head Start in Salt Lake City, and that you are building on this project, is positive. We believe that a partnership can be established, upon final approval of the Policy Council, between your project and the Salt Lake CAP Head Start program.

We wish you success on your application, and we look forward to working with you in the future.

Sincerely,

Marie Augustine,
Head Start Director

Cathy Hoskins,
Executive Director

MA/CH/fgo

Appendix D

Employment Stability Measure

Study explanation and payment information

We are studying, for the **National Head Start Program**, the impact that changes in parents' employment have on child intellectual and social development. ***This study is part of the Head Start Success Study in which you and your child have already been participating***.

You will be paid ***$10.00*** for returning employment information, to Thomas Wolfe, in the pre-addressed postage paid envelope.
You will also be entered into a drawing in which 3 study participants will be randomly selected and awarded an additional ***$50.00***.

Good luck and thanks for your help! ☺

We are interested in your employment as it relates to your child. We would like you to provide us with employment information from ***July of 1993*** to ***June of 1995***. *It may not be possible for you to provide exact employment information for this time period. In such instances, please provide the most accurate information that you can.* A sheet has been provided for you to record the following employment information: (1) employment **start dates**, (2) employment **end dates**, (3) the approximate number of **hours worked weekly**, (4) **changes** in the number of hours worked weekly, (5) if the **change was** viewed **positively or negatively** *at the time that it occurred*, and (6) the **title** of each **job** held during this period.

information provided is confidential!☺

On the sheet provided, please start by writing the title of the job that you held in July, 1993 as well as the approximate number of hours worked per week at that time. If you were not employed at that time indicate so.

Then, progress forward in time until you reach June, 1995, recording the following information as it applies to you:

Record the ***date*** that your ***employment ended*** at the previous job indicated. Or, if you were unemployed, provide the ***date*** that you ***started a job***.

Record the ***date*** that you ***started new employment***. ***Or***, if you did not begin a new job after ending a job, provide the ***date*** that ***you became unemployed***.

Record the approximate ***number of hours*** worked ***weekly*** for each job.

Record when ***changes*** in the ***number of hours*** worked ***weekly*** happened AND the ***new number of hours*** that you worked each week ***after the change*** in hours happened.

For each of the above changes (that is, change in jobs, becoming unemployed, becoming employed, or changing hours) record if it ***was*** viewed ***positive***ly or ***negative***ly ***<u>at the time that it happened</u>***.

Record the ***title of*** each ***job*** worked during this period.

For the entire time period of July, 1993 to June, 1995, Repeat these steps for every job, and/or period of unemployment, that you experienced

<u>information that you provide is confidential</u>!☺

If you cannot provide exact information, please just do the best you can.

record ✍ your employment information on the enclosed sheet ☞

EXAMPLE *OF RECORDING employment information*

REMEMBER TO RECORD THE FOLLOWING FROM JULY, 1993 TO JUNE, 1995:

- DATE EMPLOYMENT ENDED
- NUMBER HOURS WORKED WEEKLY
- WAS CHANGE VIEWED AS **POSITIVE** OR **NEGATIVE**
- DATE STARTED NEW EMPLOYMENT
- CHANGES IN NUMBER OF HOURS WORKED WEEKLY
- JOB TITLE OF EACH JOB HELD DURING THIS TIME

July, 1993

July, 1993 - I was working as a cook
- I worked about 30 hours per week

September 1993 - I got fired from my cook job because the restaurant went out of business
- I ***viewed this as negative*** because I wouldn't have money to feed my family

February 1994 - I got a job as a store clerk selling clothes
- I worked about 30 hours per week
- I ***viewed this as positive*** because I needed to earn money to feed my family

November 1994 - still at my clerk job
- I got an increase in hours from 30 hours per week to 40 hours per week
- I ***viewed this as positive*** because I got paid more

May 1995 - I got a new job as a construction worker
- I worked about 50 hours per week
- this ***was positive*** because the pay was better

June 1995 - still working 50 hours a week doing construction

June 1995

Data Collection Measure: Page 4

record your employment information Here

REMEMBER TO RECORD THE FOLLOWING FROM JULY, 1993 TO JUNE, 1995:

- DATE EMPLOYMENT ENDED
- NUMBER HOURS WORKED WEEKLY
- WAS CHANGE VIEWED AS **POSITIVE** OR **NEGATIVE**
- DATE STARTED NEW EMPLOYMENT
- CHANGES IN NUMBER OF HOURS WORKED WEEKLY
- JOB TITLE OF EACH JOB HELD DURING THIS TIME

July, 1993 ☺ Did you live with your child from July 1993 to June 1995? YES ` NO `

June, 1995

IN ORDER TO OBTAIN PAYMENT, PROVIDE THE INFORMATION ASKED FOR BELOW & RETURN THIS PAGE IN THE PRE-ADDRESSED AND POSTAGE PAID ENVELOPE. ☺

Parent Name:_____ Date:_____

Address:_____ Social Security Number:_____

_____

Appendix E

Participant Consent Form

Participant Consent Form

FOR PAYMENT, PLEASE RETURN THIS IN THE PRE-ADDRESSED POSTAGE PAID ENVELOPE ☺

The Relationship Between Parental Employment Stability and Child Outcome Measures

My signature at the end of this consent form certifies that I have been informed of the purpose of the proposed research, which is to determine if patterns of parental employment have intellectual or behavioral effects on children who have been involved in Head Start.

I understand that I have been selected to participate in this study based on my and my child's past participation in the Head Start Success Study conducted by the Early Intervention Research Institute. I understand that participation involves recording personal employment information for the two years that preceded my child finishing Head Start. A form will be provided for me to record the following information: (1) employment start dates, (2) employment end dates, (3) the number of hours worked weekly, (4) changes in the number of hours worked weekly, (5) if the change was viewed as negative or positive at the time that it happened, and (6) the title of each job worked during this period. In addition, I will be asked to record periods of unemployment. I understand that I will be paid $10 for completing this form and will also have 3 chances to win $50.00.

I understand that risks to me and my child are nonexistent, as participation requires only my cooperation. I understand that there will be approximately 225 participants in this study and that I will be identified only by an assigned number. I understand that all records pertaining to me and my child will be kept in a locked file in a locked room. The investigators have assured me that all information as part of the study will be kept confidential. The information collected from this study will be kept for approximately five years.

I understand that I will be informed of the project results at the end of the study. If I decide to withdraw from this study, I understand that I may do so at any time without affecting my or my child's participation in the Head Start Success Study and without experiencing any other unwanted consequences. I have been given the following numbers to call should I have any questions about the research, my rights, or any other related matters.

Mark Innocenti (Phone 797-2006 or 1-800-797-1699)

Thomas M. Wolfe (Phone 797-3539 or 1-800-797-1699)

_____

Parent or Legal Guardian's Name (please print)

_____ _____

Parent's or Legal Guardian's Signature Date

_____

Title of Signee (e.g., *mother, father*, etc.)

_____

Child's Name (please print)

Appendix F

Participant Prompting Telephone Script

Participant Prompting Telephone Script

1. *"Hello, My name is_____."* **Go to # 2.**

2. *"I am helping to conduct a study at **Early Intervention Research Institute**, which is part of **Utah State University**. We are studying the impact that changes in moms' and dads' employment have on children. It is called the **Employment Stability Study.**"* **Go to # 3.**

3. *"You have been selected to participate in the **Employment Stability Study** based on '**Child's name**' past participation in the **Head Start Success Study**. Do you remember that Study?"* **Go to # 4.**

4. **If Participant Remembers, Say:**

   "Good." **Go to # 5.**

   If Participant Does Not Remember, Say:

   *"It is the study that has been tracking '**Child's name**' performance in Head Start over the past several years. You have probably met with a person from the **Head Start Success Study** who has interviewed you and tested '**Child's name**' during the past three years."*

   Whether or Not Parent Acknowledges Being a *Head Start Success Study* Participant, Go to # 5.

5. *"Have you received anything in the mail over the past several months from the **Employment Stability Study**?"*

   If Yes or No:

   *"Let me tell you a bit about what you have to do to participate in the **Employment Stability Study**. First, should you participate in the **Employment Stability Study** you will be paid $10.00 for your effort and have 3 chances to win an additional $50.00. Participation will take about ½ hour of your time. You will be given a form to record employment information on regarding the two years of your employment that preceded '**Child's name**' finishing Head Start. You will be asked to provide the following information: (1) employment start dates, (2) employment end dates, (3) the number of hours worked weekly, (4) changes in the number of hours worked weekly, (5) if the change was viewed as negative or positive at the time that it happened, and (6) the title of each job that you worked during each period".*

   Go to # 7.

7. *Would you like to participate in the **Employment Stability Study**?"* **If No: Go to # 8.**

If Yes: *"We will mail you a participant packet for you to complete and return to us in a postage paid envelope."* **Go to # 8.**

8. *"Thank you for you time. If you have any further questions please call Tom Wolfe at 1-800-797-1699."*

Appendix G

Employment Stability Reliability Measure

Reliability Study Explanation and Payment Information

I would like to thank you for participating in the ***Employment Stability Study*** during the recent past. As previously mentioned, we are studying, for the ***National Head Start Program***, the impact that Changes in parent's employment have on child intellectual and social development. We trust that you have received your payment. If you have not obtained payment for your participation please contact **Thomas M. Wolfe at 797-3539 or 1-800-887-1699.**

AS part of the ***Employment Stability Study*** that you have already participated in, I am currently investigating the accuracy of the ***Employment Information Recording Sheet*** that you used to record your employment history on. Please complete the enclosed ***Employment Information Recording Sheet.***

You will be paid An Additional ***$10.00*** for completing and returning the employment information sheet to Thomas Wolfe, in the pre-addressed postage paid envelope.

Simply follow the same set of instructions that you used when you completed the form the first time. A set of instructions has once again been provided for you to follow in case you have forgotten how to fill out the form.

Thank you very much for your help. I really appreciate it. ☺

Sincerely,

Thomas M. Wolfe

On the sheet provided, please start by writing the title of the job that you held in July, 1993 as well as the approximate number of hours worked per week at that time. If you were not employed at that time indicate so.

Then, progress forward in time until you reach June, 1995, recording the following information as it applies to you:

Record the ***date*** that your ***employment ended*** at the previous job indicated. Or, if you were unemployed, provide the ***date*** that you ***started a job***.

Record the ***date*** that you ***started new employment***. ***Or***, if you did not begin a new job after ending a job, provide the ***date*** that ***you became unemployed***.

Record the approximate ***number of hours*** worked ***weekly*** for each job.

Record when ***changes*** in the ***number of hours*** worked ***weekly*** happened AND the ***new number of hours*** that you worked each week ***after the change*** in hours happened.

For each of the above changes (that is, change in jobs, becoming unemployed, becoming employed, or changing hours) record if it ***was*** viewed ***positive***ly or ***negative***ly ***<u>at the time that it happened</u>***.

Record the ***title of*** each ***job*** worked during this period.

For the entire time period of July, 1993 to June, 1995, Repeat these steps for every job, and/or period of unemployment, that you experienced

<u>information that you provide is confidential</u>!☺

If you cannot provide exact information, please just do the best you can.

record ✍ your employment information on the enclosed sheet ☞

EXAMPLE *OF RECORDING employment information*

REMEMBER TO RECORD THE FOLLOWING FROM JULY, 1993 TO JUNE, 1995:

- DATE EMPLOYMENT ENDED
- NUMBER HOURS WORKED WEEKLY
- WAS CHANGE VIEWED AS **POSITIVE** OR **NEGATIVE**
- DATE STARTED NEW EMPLOYMENT
- CHANGES IN NUMBER OF HOURS WORKED WEEKLY
- JOB TITLE OF EACH JOB HELD DURING THIS TIME

July, 1993

June, 1993 - I was working as a cook
- I worked about 30 hours per week

September 1993 - I got fired from my cook job because the restaurant went out of business
- I ***viewed this as negative*** because I wouldn't have money to feed my family

February 1994 - I got a job as a store clerk selling clothes
- I worked about 30 hours per week
- I ***viewed this as positive*** because I needed to earn money to feed my family

November 1994 - still at my clerk job
- I got an increase in hours from 30 hours per week to 40 hours per week
- I ***viewed this as positive*** because I got paid more

May 1995 - I got a new job as a construction worker
- I worked about 50 hours per week
- this ***was positive*** because the pay was better

June 1995 - still working 50 hours a week doing construction

June 1995

record your employment information Here

REMEMBER TO RECORD THE FOLLOWING FROM JULY, 1993 TO JUNE, 1995:

- DATE EMPLOYMENT ENDED
- NUMBER HOURS WORKED WEEKLY
- WAS CHANGE VIEWED AS **POSITIVE** OR **NEGATIVE**
- DATE STARTED NEW EMPLOYMENT
- CHANGES IN NUMBER OF HOURS WORKED WEEKLY
- JOB TITLE OF EACH JOB HELD DURING THIS TIME

July, 1993 ☺ Did you live with your child from July 1993 to June 1995? YES ` NO `

June, 1995

IN ORDER TO OBTAIN PAYMENT, PROVIDE THE INFORMATION ASKED FOR BELOW & RETURN THIS PAGE IN THE PRE-ADDRESSED AND POSTAGE PAID ENVELOPE. ☺

Parent Name:_____ Date:_____

Address:_____ Social Security Number:_____

_____

Appendix H

Social Security Number Reminder Form

Social Security Number Reminder Form

I would like to thank you for participating in the ***Employment Stability Study*** during the recent past. As previously mentioned, we are studying for the **National Head Start Program** the impact that parents' employment changes have on child intellectual and social development.

When you returned the ***Employment Information Recording Sheet*** to me, you did not provide your **social security number** on the form in the spot provided.

In order for you to receive your **$10.00 payment**, ***YOU MUST PROVIDE YOUR SOCIAL SECURITY NUMBER***. This is the last reminder that you will receive in an effort to obtain your **social security number** so that you may be paid. If you do not provide your **social security number**, Utah State University will not be able to write a check in your name for participating in the study.

A pre-addressed postage paid envelope has been provided for you to send your **social security number** to me so that you can be paid. Simply record your **social security number** below in the space provided and return this form to me. You should receive payment within 60 days.

Thank you very much for your help. I really do appreciate it. ☺

Sincerely,

Thomas M. Wolfe

Parent Name:_____ Date:_____

Address:_____

_____ **Social Security Number**:_____

Appendix I

Prototype Employment Stability Measure/Instruction Sheet

INSTRUCTIONS FOR COMPLETING CALENDAR

We are studying the impact of parental employment stability on child intellectual and social development for the national Head Start program. This study is part of the Head Start Success Study in which you and your child, Tommy, have been participating. We are interested in your employment as it relates to Tommy. We would like you to provide us with employment information over the two years that preceded Tommy finishing Head Start in June of 1992. It may not be possible for you to provide exact employment information for this time period. In such instances, please provide the most accurate information that you can. A calendar has been provided for you to record the following employment information: (1) employment start dates, (2) employment end dates, (3) the approximate number of hours worked weekly, (4) changes in the number of hours worked weekly, and (5) the title of each job worked during this period. You will be paid $10.00 for completing and returning the calendar to Thomas M. Wolfe in the pre-addressed and postage paid envelope.

You may complete the calendar by following these easy steps.

1. Start to record your information in June 30th, 1995 and work backward from this point in time. Provide the following information at this starting point:

- ***IF EMPLOYED***: Print the title of the job that you held at this time as well as the approximate number of hours that you worked weekly. For example, if you were a salesperson and worked about 35 hours per week, print: "*salesperson - 35 hours*" in the June 30th, 1995 box.

- ***IF NOT EMPLOYED***: Print the words "*not employed*" in the June 30th, 1995 box.

2. After recording your initial information, draw an arrow back through the calendar dates until you come to a point in time that you experienced a change in the information that you provided. If you cannot remember the exact week that a change happened, record the information in the week that you think that it happened. Several examples are provided:

Example 1 - change (decrease) in hours: If you experienced a decrease in weekly hours, for example from 35 to 18 hours worked per week as a carpenter, you would have 2 pieces of information to record: (1) the number of hours that you changed to, and (2) the job title, **NOTE: the job title may or may not have stayed the same, depending upon if your decrease in hours happened at the same time that you changed jobs.* Record this information in the week that it happened. Start by recording the job title followed by a description of the change in hours:
"*carpenter - changed from 35 to 18 hours*".

Example 2 -change (increase) in hours: If you experienced an increase in weekly hours, for example from 25 hours to 38 hours worked per week as a janitor, you would have 2 pieces of information to record: (1) the job title **NOTE: the job title may or may not have stayed the same, depending upon if your increase in hours happened at the same time that you changed jobs*, (2) the number of hours that you changed to. Record this information in the week that it happened. Start by recording the job title followed by a description of the change in hours:
"*janitor - changed from 25 to 38 hours*".

Example 3 - change from unemployed to employed: If you experienced a change from being unemployed to employed, for example from being unemployed to working 40 hours a week as manager, you would have 3 pieces of information to record: (1) the switch from unemployed to employed, (2) the job title, and (3) the number of hours worked per week. Record this information in the week that it happened. Start by printing that a change in employment status happened. Then, record the job title followed by a description of the number of hours worked weekly:
"*Change from unemployed to employed - manager - 40 hours per week*".

Example 4 - change from employed to unemployed: If you experienced a change from being employed to unemployed, for example from being employed 20 hours a week as a store clerk to being unemployed, you would have 3 pieces of information to record: (1) the switch from employed to unemployed, (2) the job title, and (3) the number of hours per week that you had been working. Record this information in the week that it happened. Start by printing that a change in employment status happened. Then, record the job title followed by a description of the number of weekly hours that you had worked prior to your job ending:
"*Change from employed to unemployed - store clerk - 20 hours*".

3. Each time that you record an employment change you should proceed to draw an arrow backward in time on the calendar until you come to another change in your employment history. Continue to work backward through the calendar until you come to the last day of the last month, which will be July 31, 1993.

4. It is necessary for you to record whether you were employed or unemployed on July 31, 1993. If you were ***unemployed on July 31st, 1993***, print: "*not employed*" in that box on your calendar.

If you were ***employed on July 31st, 1993***, print the title of the job that you held as well as the approximate number of hours that you worked weekly. For example, if you were a cook and worked about 35 hours per week, print: "*cook - 35 hours*" in the July 31st, 1993 box.

Note: For your convenience, an example of a completed calendar has been provided for you. Please refer to it if you have any questions. Completing the calendar should be an easy experience. It is not meant to be difficult or tricky.

If you have any questions regarding this study or completing the form, please contact one of the following people:

Thomas M. Wolfe (Phone 797-3539 or 1-800-887-1699)
Mark Innocenti (Phone 797-2006 or 1-800-887-1699)

We sincerely thank you for your participation in this important project. Please return your completed calendar in the pre-addressed and postage paid envelope that has been provided for you. You will receive a payment of $10.00 from Utah State University in approximately 1 month.

EXAMPLE OF A COMPLETED CALENDARS

June 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 Still working 50 hours per week doing construction	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 Got a new job as a construction worker. I worked about 50 hours per week. This was positive because the	2	3	4	5	6	7
8 pay was better	9	0	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

March 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

EXAMPLE OF A COMPLETED CALENDARS

February 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

January 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

December 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

EXAMPLE OF A COMPLETED CALENDARS

October 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

August 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

July 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

EXAMPLE OF A COMPLETED CALENDARS

June 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

May 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

April 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

March 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

EXAMPLE OF A COMPLETED CALENDARS

February 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

January 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	29	30
31						

December 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

EXAMPLE OF COMPLETED CALENDARS

October 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

August 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

July 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

PLEASE COMPLETE THE NEXT SET OF CALENDARS

June 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	0	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

March 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

PLEASE COMPLETE THE NEXT SET OF CALENDARS

February 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

January 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

December 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 Still at my clerk job. I got an increase in hours from 30 hours per week to 40 hours per	2	3	4	5	6
7 week. I viewed this as positive because I got paid more	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

PLEASE COMPLETE THE NEXT SET OF CALENDARS

October 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

August 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

July 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

PLEASE COMPLETE THE NEXT SET OF CALENDARS

June 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

May 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

April 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

March 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

PLEASE COMPLETE THE NEXT SET OF CALENDARS

February 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
I got a job as a store clerk selling clothes. I worked about 30 hours per week. I viewed this as positive because I needed to earn money to feed my family.						
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

January 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	29	30
31						

December 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

PLEASE COMPLETE THE NEXT SET OF CALENDARS

October 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 I got fired from my cook job because the restaurant went	2	3	4
5 out of business. I viewed this as negative because I would not have money to feed my family..	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

August 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

July 1993

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 I was working as a cook. I worked about	2	3
4 30 hours per week.	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

VITA

Thomas Michael Wolfe

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663 Southwest Street
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Education

Ph.D. Dual major	Utah State University, Logan, UT. Graduation: June, 1999. First Major: Combined Clinical, Counseling, and School Psychology Program (Professional-Scientific Psychology Program). Full American Psychological Association Accreditation. Second Major: Research Evaluation Methodology
MS	Utah State University, Logan, UT. School Psychology Program. Full NASP accreditation. Graduation: August, 1997.
MA	Mankato State University, Mankato, MN. Clinical Psychology Program. Graduation: June, 1994.
BS - *summa Cum Laude*	Mankato State University, Mankato, MN. Major: Psychology

APA Internship Experience

September, 1998 - present	Intern - Human Services Inc., Oakdale, MN Full American Psychological Association Accreditation **Client Population: Child and Adolescent**

Practicum Experience

1997 - 1998
- 300 hours

Practicum Therapist - Counseling Center, Utah State University.
Client Population: Trauma Survivors - Adult College Students

1996 - 1997
- 300 hours

Practicum Therapist - Counseling Center, Utah State University.
Client Population: Adult College Students

1995 - 1996
- 300 hours

Practicum Student - Ogden City School District, Ogden, UT.
Client Population: Preschool and Elementary Ed. Children

1995 (summer)
- 100 hours

Practicum Therapist - Psychology Community Clinic, Utah State University.
Client Population: Adolescent and Adult Non-College Students

1994 -1995
- 300 hours

Practicum Therapist - Psychology Community Clinic, Utah State University.
Client Population: Adult Non-College Students

1993 (summer)
- 300 hours

Practicum Therapist - Leo A. Hoffman Center, Inc., St. Peter, MN.
Client Population: Adolescent (Adjudicated Sexual Perpetrators)

NonPracticum Professional Experience

1997 - 1998
- 775 hours

Therapist - Bear River Mental Health, Logan, UT
Client Population: Child, Adolescent and Adult

1995 - 1998
- 175 hours

Therapist - Psychology Community Clinic, Utah State University.
Client Population: Child, Adolescent and Adult

1997
- 54 hours

Therapist - Child Evaluation and Treatment Center, Logan, UT
Client Population: Child and Adolescent

1996 - 1997
- 960 hours

Mental Health Specialist - Community Family Partnership, Center for Persons with Disabilities, Utah State University.
Client Population: Child and Adult

1995 - 1997 • 1406 hours	Project Coordinator and Testing Trainer for Utah Department of Education evaluation - Early Intervention Research Institute, Center for Persons with Disabilities, Utah State University. **Evaluand:** Statewide evaluation of Part H to Bart B transition services for Utah Department of Education.
1995 - 1996 • 80 hours	Psychometrician - Cache County School District, Logan, UT. **Client Population: Children grades 1 through 5**
1992 - 1993 • 8 hours	Mental Health Observer - Minnesota Valley Action Council Head Start, Mankato, MN. **Client Population: Children of Head Start (ages 3 - 5 years)**

Research Experience

1996 - 1998	**Dissertation:** *The Relationship Between Parental Employment Stability and Child Outcome Measures.* **Area:** The relationship between parental employment stability and Head Start children's cognitive and social outcome measure performance. **Chairperson:** Mark Innocenti, PhD, Utah State University.
1997	*Principle Investigator.* **Area:** Using single case treatment design to reduce inappropriate out of seat behavior in a preschool setting.
1996 - present	*Principle Investigator.* **Supervisor:** Kevin Masters, PhD, Utah State University. **Area:** Childhood asthma: The impact that airflow meters have on self-monitoring asthmatic signs.
1996 - present	Research assistant to David Stein, PhD, Utah State University. **Area:** Drug and alcohol prevention meta-analysis.
1995	Research assistant to Kenneth Merrell, PhD, Utah State University. **Area:** The relationship between social skills deficits and the existence of conduct problems in preschool age children.
1995	Research assistant to Kenneth Merrell, PhD, Utah State University. **Area:** The relationship between social skills deficits and the existence of ADHD in preschool age children.

1993 - 1994	**Master's Thesis**: *Hypermnesia: Accessing Previously Unavailable Information From Memory.* **Area:** Computerized experimentation to determine if hypermnesia may occur when recalling cue-dependently forgotten information. **Chairperson**: Philip Goernert, PhD, Mankato State University.
1991 - 1993	Research assistant to Philip Goernert, PhD, Mankato State University. **Area:** Directed forgetting. Administered computerized memory test to participants and debriefed them.
1992 - 1993	*Principal Investigator.* **Supervisor:** Daniel Houlihan, PhD, Mankato State University. **Area:** Investigated whether repeatedly viewing oneself receiving a reinforcer is the mechanism of change involved in child videotape self-modeling interventions.
1990 - 1990	*Principal Investigator.* **Supervisor:** Daniel Sachau, PhD, Mankato State University. **Area:** Female aerobic exercisers misattributing the source of their arousal to photographs of male models.
1989 - 1990	Thesis research assistant under supervision of Daniel Sachau, PhD, Mankato State University. **Area:** Self-esteem and purchasing habits.
1989 - 1990	*Principal Investigator.* **Supervisor:** Margaret Philip, MS, Mankato State University. **Area:** the effects of paradoxical instructions on free recall.

Teaching Experience

1994 - 1995	*Graduate Teaching Assistant*, General Psychology, Utah State University, Logan, UT. **Supervisors:** Tamara Ferguson, PhD - Fall/Winter Mark Nafziger, PhD - Spring
1993 - 1994 Fall	Instructor of Record, General Psychology, Mankato State University, Mankato, MN. **Supervisor:** Kenneth Good, PhD, Department Chairperson
1992 - 1993 Spring	Instructor of Record, General Psychology, Mankato State University, Mankato, MN. **Supervisor:** Kenneth Good, PhD, Department Chairperson

1992 - 1993	*Graduate Teaching Assistant*, General Psychology, Mankato State University, Mankato, MN. **Supervisor:** Philip Goernert, PhD
1991 - 1992 Fall	*Undergraduate Teaching Assistant*, General Psychology, Mankato State University, Mankato, MN. **Supervisor:** Michael Zeller, MS

Dissertation and Thesis

Dissertation	The relationship between parental employment stability and child outcome measures.
Thesis	Hypermnesia: Accessing previously unavailable information from memory.

Grant Writing Activities

Federally Funded Grant Written and Awarded

1996 - 1998

Principle Investigator: Thomas M. Wolfe
Utah State University, Logan, UT

Funding Agency: *Department of Health and Human Services, Administration of Children, Youth and Families: Head Start Discretionary Research Grants, Priority Area 1.03.*

Supervisor: Mark Innocenti, PhD, Utah State University, Logan, UT

Title: The relationship between parental employment stability and child outcome measures.

Status: Awarded **Amount:** $30,000

Funding Duration: 2 years

Description: Thomas Wolfe wrote and was awarded, a 2 year federally funded research scholar grant. The grant was awarded on a nationwide competitive basis. The study investigated the impact that parental employment stability has on Head Start children's cognitive and social outcome measure performance.

University Faculty Research Grant Written

1992

Principle Investigator: Daniel Houlihan, PhD
Mankato State University, Mankato, MN

Project Assistants: Thomas M. Wolfe and Jonna Thomas

Title: Promoting Generalization of Treatment Effects Through Compliance Training Incorporating A Compliance Matrix System.

Status: Not awarded

Federal Government Research Grant Reviewer

1998 - June **Funding Agency:** *Department of Health and Human Services, Administration of Children, Youth and Families: Head Start Discretionary Research Grants, Priority Area 1.03.*

1997 - August **Funding Agency:** *Department of Health and Human Services, Administration of Children, Youth and Families: Head Start Discretionary Research Grants, Priority Area 1.03.*

Performance Update Meetings in Washington DC

1997 - November Convene in Washington DC with Federal Project Officer to present grant activity progress.

1996 - November Convene in Washington DC with Federal Project Officer to present grant activity progress.

Publications in Refereed Journals

Houlihan, D., & **Wolfe, T.** (1994). Book Review: Behavior modification in the human services (3rd ed.). Child and Family Behavior Therapy, 16(2), 81-83.

Merrell, K. W., & **Wolfe, T.** (In Press). The relationship of teacher-rated social skills deficits and ADHD characteristics among kindergarten-age children. Psychology in the Schools.

Wolfe, T., & Houlihan, D. (Under Review). The Power Pillow: A practical and innovative device for treating inappropriate out-of-seat behavior in preschool and kindergarten settings. Prevention and Remediation of School Problems.

Editorial Experience

1993 Guest editor with D. Houlihan, PhD, Behavioral Residential Treatment, 1993.

Instruments Developed

Wolfe, T., & S. Wolfe (1996). The healthy partners discussion system.
Description: A protocol for aiding partners in the discussion, resolution, and maintenance stages of conflict management.

Wolfe, T. (1997). The Power Pillow.
Description: A seat cushion which illuminates when it is sat on. Designed to reduce inappropriate out-of-seat behavior in preschool and kindergarten settings.

Professional Conference Presentations

Wolfe, T. (February, 1998). The relationship between parental employment stability and child outcome measures. Poster presented at the 5th Annual Early Intervention Research Institute Mini Conference. Logan, UT.

Wolfe, T. (February, 1997). The relationship between parental employment stability and child outcome measures. Paper presented at the 4th Annual Early Intervention Research Institute Mini Conference. Logan, UT.

Wolfe, T. (November, 1996). The relationship between parental employment stability and child outcome measures. Paper presented at Annual National Head Start Grantee Awards Meeting. Washington, D.C.

Wolfe, T., & Merrell, K. W. (1996, March). Social skills deficits and ADHD in preschool age children: Implications for school psychologists. Poster presented at the 1996 National Association of School Psychologists. Atlanta, GA.

Wolfe, T., & Goernert, P. (1993, November). Hypermnesia: Accessing previously unavailable information from memory. Paper presented at the biannual conference of the Midwest Association for Behavior Analysis and Therapy, Minneapolis, MN.

Wolfe, T., Larson, M., & Goernert, P. (1993, April). Forgetting: A few more things to remember. Paper presented at the biannual conference at the Midwest Association for Behavior Analysis and Therapy, Mankato, MN.

Wolfe, T. (May, 1991). Arousal misattribution. Poster presented at the Minnesota Undergraduate Conference, St. Paul, MN.

Community Outreach Presentations

Nafziger, M., & Wolfe, T. (November, 1996). Cognitive and behavioral strategies for managing stress. Presented to undergraduate class at Utah State University, Logan, UT.

Selected Conferences and Workshops Attended

Rapid Single Session Assessment in the Age of Managed Care: A Workshop. Shawn Christopher Shea, M.D. St. Paul, MN, November, 1998.

Head Start Annual Convention. Washington DC, July 8-12, 1998.

Intervention Procedures for At-Risk Children and Youth: 20th Annual Conference. Martin Agran, PhD, Dan Morgan, PhD, Richard West, PhD, Richard Young, PhD, Steven Kukic, PhD, and Kenton Reavis, PhD, Directors. Utah State University, June 16-20, 1997.

Community Family Partnership & Bear River Early Head Start Training: Getting Men Involved. Ed Pitt, Associate Director, The Fatherhood Project Male Involvement Project, NYC. Utah State University, September, 1996.

National Association of School Psychologists Conference. Salt Lake City, UT, February, 1996.

Association for Advancement of Behavior Therapy Conference. Atlanta, GA, November, 1993.

Honors and Awards

1994 - 1998	Department Tuition Waver (out of state), Utah State University, Logan, UT
1995 - 1996	Rural Psychology Training Grant Stipend, Utah State University, Logan, UT
1994 - 1998	Graduate Student Honor Roll, Utah State University, Logan, UT
1992 - 1994	Graduate Student Honor Roll, Mankato State University, Mankato, MN
1998 - 1992	Undergraduate Honor Roll, Mankato State University, Mankato, MN
1998 - 1992	Inducted into *Phi Kappa Phi Honor Society.*
1992 June	Graduated summa Cum Laude, Mankato State University, Mankato, MN
1992 June	Graduation Ceremony Venerable Mention of Cumulative 4.0 GPA
1992	Inducted *Who's Who Among Students in American Universities and Colleges.*
1990 - 1991	Graduation Honor Marshal, Mankato State University, Mankato, MN
1989 - 1990	*Allis Scholarship,* Mankato State University, Mankato, MN