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EDUCATIONAL OUTCOMES OF CHILDREN
WITH TWO WORKING PARENTS

by

Michael B. Dib

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Education
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Western Michigan University
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EDUCATIONAL OUTCOMES OF CHILDREN
WITH TWO WORKING PARENTS

Michael B. Dib, Ed.D.

Western Michigan University, 1988

In this study five measures of ability or achievement (I.Q., reading comprehension, vocabulary, math concepts, and math computation) for each of four grade levels (third, fourth, fifth, and sixth) were analyzed to determine whether there were significant differences for students from traditional working parent families and students from two-working-parent families. An ex post facto design was used.

Subjects were 335 third, fourth, fifth, and sixth grade students from a single public school district in the state of Michigan. These students were identified by teachers or principals as being from either a traditional or a two-working-parent family. All ability and achievement test scores were obtained from confidential school records.

One-tailed t tests were computed to compare the mean test scores of both groups at the .05 level of significance. Major findings were:

1. For school ability, there were no significant differences in academic ability at any of the four grade levels. The t -score for grade 3 was .824; the t -score

for grade 4 was 1.175; the t-score for grade 5 was 1.200; and, the t-score for grade 6 was .249.

2. There were no significant differences in 13 areas of achievement at any of the four grade levels. The grade 3 t-scores were: Vocabulary 1.556, math concepts .292, and math computation .470. The grade 4 t-scores were: Reading 1.454, math concepts 1.249, and math computation .001. The grade 5 t-scores were: Reading 1.400, vocabulary .174, and math computation .373. The grade 6 t-scores were: Reading .402, vocabulary .663, math concepts .196, and math computation .132.

3. Two significant differences occurred in support of students from two-working-parent families (Reading grade 3: 1.930, and math concepts grade 5: 1.665).

4. One significant difference occurred in support of students from traditional working parent families (Vocabulary grade 4: 1.724).

A conclusion of this study is that maternal employment does not have an adverse impact on the educational outcomes of children.

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Michael B. Dib

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CHAPTER I

INTRODUCTION

Over the past 25 years in the United States, shifts in family work patterns and family structure have occurred as more married mothers have entered the paid labor force. These changing social patterns have caused changes in the nature of roles and relationships within families and between families and their communities. As a consequence, the need of many families for outside supports and services have changed (Bronfenbrenner, 1979).

Several researchers have reported correlations between student achievement and parent involvement in school activities. These researchers do not identify a single form of parent involvement in the schools as being more related to school achievement than any other, but instead show that the higher the overall level of involvement, the higher the academic performance level of students (Ingram, 1979; McDill, Riglsly & Meyers, 1969; Mowry, 1972; Rankin, 1967; Wagenaar, 1977).

Researchers attempting to identify factors that account for high achievement have suggested a relationship between parent-school involvement and school

performance. The Phi Delta Kappa (1980) study of effective urban schools concludes that parental involvement and cooperation in the activities of schools is an indicator of higher-achieving schools.

The Problem

One of the biggest changes in the society of the United States since World War II has been the acceleration of the participation of mothers in the paid labor work force. Except for the period during World War II, when the labor of women was needed and there was common approval of employment for women, there has been a long history of opposition to having women with children work in the United States. One of the assumptions underlying such opposition is that separation of mother and child is detrimental to the welfare of a child. Bowlby (1951) concluded that children in group care situations suffered from severe "maternal deprivation," (p. 40) and that such deprivation was the cause of the cognitive deficits and emotional difficulties observed in these children. If a mother figure is so important, a working mother deprives her child of a chance for cognitive and emotional growth that children of nonworking mothers have available to them (Bee, 1974).

The traditional American family with the sole breadwinner father and the "at home" mother is vanishing, and

it is estimated that by the year 1990 only 14% of the households in America will live in this family pattern. In 1960, 5.7 million married women with children under the age of eighteen were employed; by 1985, this number had increased 225% to 12.8 million. Between 1960 and 1985, the largest increases occurred for women with children under the age of six, whose numbers rose from 2.5 million to 6.4 million--an increase of 256%. Forty-five percent of mothers with children less than a year of age are now returning to work. By 1990, it is predicted that the majority of the 23 million preschool children in America will have both parents employed (Bloom, 1986).

There is little doubt, that as an area of study, working mothers warrant significant attention. Work outside the home can impact children in a number of ways. The time a mother spends away from home can precipitate the amount of time she has to spend interacting with her children, which could have ramifications on the educational outcomes of her children (Hoffman, 1974).

From a psychological view, the most important issues relate to the success of mothers in accomplishing her defined roles, whether at home, in the work force, or both. Mothers who have jobs and are either satisfied or successful with their job choice probably have more satisfactory relationships with their children who view an employment role of women more positively. Both of

these conclusions may translate into more successful educational progress for their children (Baruch, 1972; Etaugh, 1974; Hoffman, 1974; Yarrow, 1961).

One situation in which a mother's work can impact children is economic. The income generated by an employed mother can make a difference in how well the family unit copes economically and, in particular, in how feasible it is for their children to make educational progress (Hoffman, 1974). If women are in the labor force to stay, then what consequences either positive or negative does a traditional family as opposed to a two-working-parent family have on the academic achievement of their children in the classrooms of America?

Definition of Terms

The terms used in this study are defined as follows:

Ability: Performance on tests designed to measure ability, intelligence, or potential for learning. The ability test used in this study was the Otis-Lennon Test of Mental Ability (OLSAT) (Otis & Lennon, 1982). This is the test used to measure ability in the Grosse Pointe Public School System.

Achievement: Performance on tests designed to measure academic achievement in the areas of reading, vocabulary, and math. The achievement tests used in this

study were the Comprehensive Tests of Basic Skills (McGraw-Hill, 1981).

Biological Parents: The two people responsible for the conception, birth, and raising of their children.

Educational Outcomes: May include one or all of the following development: social, emotional, cognitive, or physical.

Maternal Employment: A mother of a child who is employed in the paid labor force who works part or full time outside of the home.

Math Concepts: Understanding the meaning of mathematical processes; story problems.

Nonbiological parent: A parent or parents who raise children but are not the biological parent or parents.

Traditional Family: A two parent home that consists of a father who works 32 or more hours a week outside the home and a mother who does not work outside the home.

Two-working-parent families: Mother and father are both employed and each work a minimum of 32 hours a week.

Working mother: A mother of an elementary school aged child (grades 3, 4, 5, and 6) who works a minimum of 32 hours a week.

Research Objectives

In this study five measures of ability or achievement (I.Q., reading comprehension, vocabulary, math

concepts, and math computation) for each of four grade levels (third, fourth, fifth, and sixth) were analyzed to determine whether there were significant differences for students from traditional working parent families and students from two-working-parent families. The five research questions addressed were:

1. Is there a significant difference between the mean I.Q. of students from traditional working parent families and the mean I.Q. of students from two-working-parent-families at grades three, four, five, and six?

2. Is there a significant difference between the mean reading comprehension achievement scores of students from traditional working parent families and the mean reading comprehension achievement scores of students from two-working-parent families at grades three, four, five, and six?

3. Is there a significant difference between the mean vocabulary achievement scores of students from traditional working parent families and the mean vocabulary achievement scores of students from two-working-parent-families at grades three, four, five, and six?

4. Is there a significant difference between the mean math concepts achievement scores of students from traditional working parent families and the mean math concepts achievement scores of students from two-working-parent families at grades three, four, five, and six?

5. Is there a significant difference between the mean math computation achievement scores of students from traditional working parent families and the mean math computation achievement scores of students from two-working-parent families at grades three, four, five, and six?

Importance of the Study

When this study was designed, the perceived importance of the study of achievement and ability of students from traditional and two-working-parents was its potential use in helping educators and parents in determining under what conditions children would be more likely to achieve academic success.

Assumptions of the Study

In the design of this study six assumptions were formulated:

1. Students of two-working-parent families have significantly lower ability and achievement scores on standardized tests than students from traditional working parent families.

2. The Otis-Lennon Test of Mental Ability I.Q. (Otis & Lennon, 1982) scores were reliable and valid measures of ability even though grades, three, five, and six were not given the test during the 1986-87 school year.

3. The Comprehensive Tests of Basic Skills were a reliable and valid measuring instrument in the areas of reading comprehension, vocabulary, math concepts, and math computation.

4. Findings in academic achievement and ability of students on standardized tests was determined by the working status of the students' parents.

5. There is no difference in curriculum and educational opportunities among elementary and middle schools in the Grosse Pointe Public School System.

6. Any conclusions of this study may or may not represent the population of students in other school districts.

Limitations of the Study

Ten limitations of the study were:

1. The study was restricted to children of traditional working parent families and two-working-parent families.

2. Reading, vocabulary, and math were the only areas of academic achievement considered.

3. The Otis-Lennon Test of Mental Ability was the sole measure of intellectual ability.

4. The reading, vocabulary, and math tests of the Comprehensive Tests of Basic Skills (McGraw-Hill, 1981) were used as measures of achievement.

5. Only third, fourth, fifth, and sixth grade students were used as subjects.

6. The study was conducted in one suburban public school district in the State of Michigan. Three elementary schools and one middle school were used in collecting data.

7. A sample of approximately 160 students was obtained at each grade level.

8. The test scores were not longitudinal, but were instead taken from one testing week in May, 1987.

9. Findings in academic achievement and ability may be complicated by some factors other than traditional working parent families compared with two-working-parent families.

10. The fact that two, or more, factors are related does not necessarily imply a cause-and-effect relationship. They all may be related to additional factors not recognized or observed.

This study was conducted with the permission of the Office of Research and Development in Grosse Pointe (Appendix A). Three elementary schools and one middle school were chosen for sampling. The employment status of childrens' parents at the time of testing was documented by interviewing principals, teachers, and collecting data through information cards on file at each of the schools.

Overview

The purpose of Chapter One has been to introduce the study with a presentation of the research problem, definition of the terms, the research objectives, importance, assumptions, and the limitations of the study. There are four remaining chapters. Literature relevant to educational outcomes of children of working parents is reviewed in Chapter II. Included in Chapter III are descriptions of the setting, subjects, instruments, procedures for data collecting, and data analysis methods. The findings of the analysis of the data are presented in Chapter IV. A discussion of the findings including conclusions and recommendations for future research is included in Chapter V. Additional information pertaining to this study is provided in nine appendices.

CHAPTER II

A REVIEW OF THE LITERATURE

In this study five measures of ability or achievement (I.Q., reading comprehension, vocabulary, math concepts, and math computation) for each of four grade levels (third, fourth, fifth, and sixth) were analyzed to determine whether there were significant differences for students from traditional working parent families and students from two-working-parent families.

The review of relevant literature is organized into four sections: (1) Environmental factors that impact educational outcomes, (2) Societal attitudes, beliefs, values, and perceptions of working women, (3) Statistics pertaining to changes in the paid labor force, and (4) A review of the descriptive and empirically based literature relating to the educational outcomes of children from traditional working parent families and two-working-parent families. In a fifth section, a summary of the chapter is provided.

Environmental Factors That Impact Educational Outcomes

Development and growth of children are invariably shaped by their everyday experiences--by the places they

go, the things they do, and the people with whom they interact. Socialization and education take place at home, at school, on the playfield, in the neighborhood, and in every other context in which children spend their time during the course of a day or a week. Behavior and performance in one setting are traceable by behavior and performance in all others. Educational outcomes (social, emotional, cognitive, and physical development) among children are the result of their total experience and circumstances at home, at school, and in the community (Hayes & Kamerman, 1982).

During the past 25 years, trends in society have put schools in the position of being surrogate parents as the traditional American family continues to crumble. Parents will be increasingly looking for schools to teach manners, morals, health, and other subjects traditionally taught by family and church. This is primarily due to single parent and two-working-parent families. With so many parents in the work force, schools have expanded their roles and now have an impact on the educational outcomes of children from two-working-parent families. Banach (1987) notes that another sign of schools as parents is the increase in elementary counseling as students with more stress "don't have a parent to rely on" (p. 146). Students who have a mother at home can rely on this parent for moral support in the time of

stress. Banach further states that "In effect, American society is turning anti-children" (p. 146). Jencks (1972) concluded that schools have little consequence on the I. Q. or the later occupational status, job satisfaction, or economic position with their students. If all schools were equally competent, the academic inequalities would not change much, and disparities in their subsequent attainment would change less than one percent. Rather than actual schooling, Jencks suggests that family background and conditions of the home are factors that are more important in determining what happens to students in life rather than actual time spent in schools across the nation.

If true that educational outcomes are largely determined in places other than the classroom, perhaps studying the educational outcomes of Japanese students would be beneficial. The entire society of Japan is mobilized around children and the number one concern for anyone in Japan is education. There are more than fifty monthly magazines that parents of preschool-age children can use to better help them with the education of their children. Bookstores are filled with educational materials on how to work with your child (Deasy, 1986; Walberg, 1986).

The most evident difference between American mothers and Japanese mothers is the fact that many Japanese

mothers do not work outside the home, especially when children are in the preteen years. The major profession of a Japanese woman is mothering, and their relationship with their children is intense and indulgent. The Japanese mother is an agent of the educational system of the nation and without her the system would not work. Japanese mothers have a curriculum for their children even in infancy; part of this curriculum involves games, songs, exercise, and dancing. As children reach school age, mothers are to remain in direct contact with their child's school and in some schools parents are fined if they do not attend Parent Teacher Association meetings (Deasy, 1986).

The first teachers of Japanese children and most important supporters are the parents, primarily the mother. The educational role of home and family is as fundamental a determinant of Japanese success in education as any factor could be. Most conditioning and early teaching are done by the mother; she sleeps beside her child in hopes it will feel dependent upon her. As soon as a child can talk, the Japanese mother shows her preschooler how to draw, make paper toys, and learn the alphabet. When a Japanese child attends preschool class, as 90% of four year olds in Japan do, the teacher does not start by teaching letters and numbers; the mother of the child has already completed that task at home.

Another example of home and school communication occurs when the Japanese mother swaps notes with the teacher of her child each day on how the youngster is doing at home as well as in the classroom. A Japanese mother who is considered "education crazy" will fill in at school for her sick child and takes notes on what the teacher has to say (Walberg, 1986).

Although Japan has half as many people as the United States, it produces 9% more engineers than does the United States. Nine out of every ten Japanese students who begin school get their high school diplomas, as compared to the nearly 25% of teenagers in America who drop out, sending one million untrained people into the job market every year. The standing of America as the top economic power in the world is in peril, and schools are receiving a lot of the blame. Students in Japan learn more--a result of working harder to meet higher standards. In Japan, the commitment to knowledge permeates society and this is related directly to the influence and teaching of the student's stay at home mother (Lord & Horn, 1987; White, 1987).

Societal Attitudes, Beliefs, Values, and Perceptions Towards Maternal Employment

Does it make a difference for a child to have a working mother? Some people would contend that children benefit from contact with a mother who has the character-

istics of competence and independence, as well as from the added income that results from employment (Berg, 1986; Gold & Andres, 1978a, 1978b; Guidubaldi, Nastasi, Cleminshaw, & Perry, 1986; Hoffman, 1980). Others would argue that children suffer from a lack of personal attention from mothers who are struggling to balance outside employment with household responsibilities; these children are even more adversely repressed in the families in which the father is non-existent (Cook, 1982; Leach, 1984). If these statements are true, in whole or in part, then what can be done with the opportunity for the development of children?

The increase in the labor force of mothers with children has been followed by an increased concern about the impact of maternal employment on the educational development of children. The assumption that maternal employment has a negative impact on children seems to have widespread public acceptance. In one national survey, 82% of the adult respondents agreed that mothers of young children should work only if money is needed; 69% agreed that children would be better off if their mothers did not work. Working mothers more often said they worried about not spending enough time with their children than other mothers did. Working mothers less often reported a positive sense about how well they were doing in raising their children (Yankelovitch, 1977).

Gaylin (1986) used a random sample of 100 women across the United States; of these women 40% of them work outside the home and 57% do not. These women were asked to respond to statements concerning working mothers.

Question 1: When a mother works outside the home...

1. Her children almost always suffer

Working mother 49.5% agreed

Nonworking mother 74.5% agreed

2. Her children are better off

Working mother 8.2% agreed

Nonworking mother 4.4% agreed

3. Her children are neither better nor worse off

Working mother 37.6% agreed

Nonworking mother 21.2% agreed

Question 2: When a mother works, children do suffer if...

1. She enjoys working

Working mother 47.9% agreed

Nonworking mother 22.3% agreed

2. There is good substitute care

Working mother 68.0% agreed

Nonworking mother 42.0% agreed

3. Mother spends as much quality time with them as possible

Working mother 65.5% agreed

Nonworking mother 38.3% agreed

Question 3: Most mothers work because...

1. They need the money

Working mother 96.4% agreed

Nonworking mother 86.5% agreed

2. They enjoy their job

Working mother 57.2% agreed

Nonworking mother 60.2% agreed

3. They do not want to take care of their children

Working mother 12.4% agreed

Nonworking mother 39.1% agreed

In a nationwide survey of nearly 1000 women of different social and economic backgrounds, Berg (1986) found that the concern of respondents for the well being of their children was not important. Working women believe that working does not have an adverse impact on their children. In their attitudes, beliefs, and actions, working mothers were devoted to the needs of their children. They gave up any time for themselves in favor of spending it with their children. Dual career parents were more likely to read and draw with their children on a more regular basis than traditional working parents. Working parents were also more likely to supervise special events, and talk to their children about school and friends. Leach (1984) believes that the children of women who work will become more attached to the care-giver than to the mother. Belsky (1980) disputes

this belief by noting that children are emotionally attached to their mothers and have a stronger preference for their mother than for their care-givers. Babies can develop affectional and emotional ties to care-givers as well as a variety of other people; this should not be considered a negative behavior since most day care givers do not replace or displace the mother as the primary source of the baby's affectional or emotional ties.

Do parent-child relationships differ when mothers do and do not work outside the home? Working mothers claim that employment outside the home can be difficult because they have major responsibilities as both employees and parents. Working mothers regard their lives as more stressful than nonworking mothers. Conflicts between work and family life can make mothers fatigued and irritable at home; conversely there is also evidence that satisfaction with life is greater for working mothers than for nonworking mothers (Booth, 1979; Gold & Andres, 1978a, 1978b; Kamerman, 1980; Pleck, Staines, & Lang, 1980).

In seeking to discover whether it is good or bad for children to have both parents in the paid labor force, researchers have become involved in the debate: "Yes," a child is negatively influenced by having both parents work or "No," two-working-parents do not have a negative influence on the educational outcomes of these children.

An important question concerning two-working-parent families should be under what conditions is a working or nonworking mother more able to meet the needs of her children (Gaylin, 1986)? The relationship of the educational outcomes of children to the employed or nonemployed status of a mother and whether or not she is happy with her status is important. Perhaps looking at working choices of women has a large influence on their children under one of the following four circumstances (Anderson, 1980; Yarrow, DeLeeuw, & Heinig, 1962):

1. Mothers who work, but do not want to work.
2. Mothers who work and want to work.
3. Mothers who do not work and do not want to work.
4. Mothers who do not work, but want to work.

Which working choices--along with the characteristics of children, parents, the school, the work place, and the neighborhood enhance the educational outcomes of children? If this question can be answered, perhaps researchers can understand how work influences families and children, and then identify the variables that are controllable.

Understanding the relationship of changing patterns of the labor force and the educational outcomes of children requires that the life of a child be regarded not as a series of distinct and unrelated experiences at home, school, and in the community, but as a cohesive

whole, with attitudes, values, and behaviors related to and inspiring one another. Such a framework would distinguish status variables, family process variables, child outcome variables, and the interaction between and among these variables (Hayes & Kamerman, 1982).

In a 1980s longitudinal study, the relationship of the employment of mothers and the cognitive and social development of children was investigated (Gottfried, Gottfried, & Bathurst, 1985). One hundred thirty middle class children were evaluated from one to five years. Data on their cognitive and social development were collected continuously. The researchers concluded that maternal employment status did not predict the development of children or home environment. After five years, attitudes of mothers were assessed. A majority of the mothers reported a positive influence of employment on the development of their children and family relationship. Attitudes of mothers in conjunction with the longitudinal findings indicate that the experiences to which children are exposed are more important for development regardless of the employment status of the mother. A large majority of employed mothers reported the following seven conditions: (1) their employment had a favorable influence on the development of their children as well as on the mother-child relationship, (2) their children were not upset when their mothers went to work,

(3) they found little difficulty coordinating work and family responsibilities, (4) their employment did not make them feel stressed in their relationships with their children, (5) they were working for both personal satisfaction and family income, (6) their husbands were favorable towards their employment, and (7) their employment increased their husbands involvement with the child. Gottfried, Gottfried, and Bathhurst concluded that it is the experiences that children are exposed to that are important for their development regardless of maternal employment status.

Pleck and Rustad (1980) analyzed the findings of national surveys conducted in the mid 1970s and their findings concur with Gottfried, Gottfried, and Bathhurst (1985) concerning the involvement of fathers with their children. In two-parent-families in which mothers are not employed, Pleck reported that fathers spend about 25% as much time as mothers do in direct interaction with their children. In these same type of families, fathers spend about one third as much time as mothers do just being accessible to their children, that is, "being around" whether or not they are actually doing things together. In two-parent-families with employed mothers, the levels of paternal accessibility are higher than in families in which mothers are not employed. Fathers spend 33% as much time as employed mothers interacting

with their children and 65% as much time being accessible to them. Does a working mother enable a father to become more involved with the raising of children? In their study of women enrolled in the Masters of Business Administration program of Harvard Business School in 1963-64, Hennig & Hackman (1964) found that one pattern held true for all 25 of these women: All had had extremely close relationships with their fathers and had been involved with a wide range of traditionally masculine activities in the company of their fathers, beginning when they were very young. Will an increase in two-working-parent families help children increase their cognitive competence due to the amount of time they are spending with their fathers?

Statistics on the Paid Labor Force

The experience of growing up in the 1980s and 90s is likely to be very different from that of previous decades. Data on labor force participation and family structure demonstrates the steadily declining number and proportion of children who live in traditional two parent families, in which the father is the breadwinner and the mother is the homemaker. The ranks of working mothers is rising rapidly. Fifty-four percent of married women with preschoolers were in the labor force in 1985, up from 42% in 1980. The number of working married women with

children under age six rose to 6.3 million in 1985, 22% more than in 1980.

The labor force participation rates of women with toddlers are increasing the fastest. Forty-nine percent of married women with children under two years of age were working or looking for work in 1985, up ten percentage points in just five years. This is a greater increase than during the 1970s, when the labor force participation rate for this group of women rose fifteen points in ten years.

Once children begin kindergarten, 2 out of 3 married women go to work. There were 8.5 million working married women whose youngest child was aged six to seventeen in 1985. While many married women with children under eighteen work part-time to help with household expenses, most put in a full day of work outside the home. Over two-thirds of them work full time, even those with preschoolers (Hodgkinson, 1985a; Russell & Exter, 1986). (Additional information is found in Appendix B).

What brings women back into the work force after they have children? O'Connell (1986) believes there are three factors:

1. There are more single mothers who have to work to support their families than ever before.

2. More women are having children later in life, and older mothers go back to work sooner than young

mothers. Fifty-three percent of women aged eighteen to twenty-four who gave birth to their first child in the twelve months prior to June 1985 returned to work within a year. Older mothers are more likely to have money to pay for child care so that they can go back to work.

3. The increase in the educational levels of women. Educated women have more vested in their careers, and this causes them to return to work. Sixty-one percent of mothers who are college graduates go back to work within a year of having a baby versus 31% of women with less than twelve years of education.

Since the 1950s major changes have taken place in the way we live together in the United States. In 1955, 60% of the households in America consisted of a working father, a housewife mother, and two or more school aged children. In 1980, that family unit was only 11% of our homes, and in 1985 it was 7% (Hodgkinson, 1985a).

Women are in the labor force to stay. Forty-five percent of the country's workers are women--all 44 million of them. By 1995 it is projected that 59 million women will be working. With the exception of the 1950s when the majority of middle class women did not hold jobs, mothers have worked throughout the history of our nation. When female labor was required to keep the economy going, as it was in the colonial period and during the major wars, women, the majority of them

mothers, were publicly encouraged to work (Berg, 1986).

With over 50% of females in the work force, the number of "latch-key" children--those who are home alone before and after school when adults are not present--has shown a major increase and will continue to do so, as women opt for work and children (of those mothers of one year olds, half have already returned to work). The numbers of latch-key children are rising mainly due to the changing life patterns of women. The typical life pattern for women of the 1980s is (a) get settled in a job, (b) get married, and (c) have children, as opposed to the previous pattern of entering the work force only after children were mature enough to fend for themselves. There are at least 4 million latch-key children in the United States of school age. Many of them think of home as a dangerous, even frightening place, particularly if there are no other children in the home. These children converse with parents by phone, spend many hours watching television, talking to friends on the phone, and have to make decisions about knocks on the door and phone calls from various strangers. Some children benefit from having family responsibilities while home alone, but other children become problems at school (Hodgkinson, 1985a). Many latch-key children are lonely and fearful and their opportunities for play and friendship with their peers are restricted. However, the type of

environment, urban, suburban, or rural, is an important factor in determining the reaction of children, with urban children more prone to fear and more restricted. With so many latch-key children, child care is a primary concern in the education of children in America. Some working women considering putting their children in family day care are worried that day care will inevitably damage their child. This has been reinforced by the discovery of instances of sexual abuse in day care centers (Berg, 1986).

Clarke, Stewart, and Apfel (cited in Shulman, 1979) have documented the positive products of day care. Children with day care experience are more advanced socially and intellectually when they start school than children raised at home. Most children do well in good day care and poorly in bad day care (Zigler & Gordon, 1982).

Rodman, Pratto, and Nelson (1985) compared a matched group of 48 self-care and 48 adult-care children. They measured the children's self-esteem, their sense of control over their own lives and environment, and their teacher's ratings of their social and interpersonal adjustments. They found no statistical difference between the two groups ($p < .001$). Self-care children had very uneventful afternoons. For the most part they did homework, chores, or watched television. These children were not formally supervised, and only a few did not have

almost immediate access to some adult. People would be mistaken to think of these self-care children as feeling isolated or lonely. Most of these children were classified as just normal children. Vandell and Katzman (1981) in a study of self-care and adult-care children concluded that self-care children are as well adjusted as those who go home to a parent after school.

Some researchers would argue that employment status of the mother is not the main issue. Quality time with children will have a far reaching impact on their educational growth. Some parents are warm and accepting; others are cold and rejecting. Warm parents seem to respond sensitively to the needs of their children, show their enjoyment in spending time with them, and consistently praise their children for accomplishments. These children tend to be securely attached to them, relatively compliant with their demands, high in self-esteem and nonaggressive (Maccoby, 1980).

In parent-child relationships, the parents control over behavior of their children and social activities seems to be either permissive or restrictive. Children who are treated permissively often become aggressive because their desires to attack others are not adequately restrained; excessive restrictiveness may also produce an aggressive child (Martin, as cited in Horowitz, 1975). Firm control has the most positive outcomes when parents

take the time to explain the reasons for their rules and show some flexibility when faced with problems of their children. In the terminology of Baumrind (1971), these parents are authoritative rather than authoritarian and the results of this behavior is a child who is more self-confident, independent and socially responsible.

The increasing number of mothers in the paid labor force, both full and part time, suggests that the nature of home life for many children is changing. Changes in work roles and family life have become a topic of concern and debate. The ramifications of these changes remain controversial, in part because any assessment of available evidence is influenced by conflicting value beliefs. Some people are convinced of the consequences before reviewing any evidence. Others are prepared to accept new knowledge but seek a level of assurance and certainty beyond what social science may be able to provide. The relationship between social change and the influence of these changes on the educational development of children is still not clearly understood (Hayes & Kamerman, 1982).

Studies Comparing Educational Outcomes of Children
From Traditional Working Parent and
Two-Working-Parent Families

Interest in working mothers began in the 1950s and 60s when an increase in maternal employment began to

occur. In Jones, Fundstein, and Michael (1957) a reading study of sixth grade students of professionally employed mothers, significantly higher scores on reading achievement were demonstrated, in contrast to those scores obtained by the students of traditional working parent families. Stolz (1960) concluded that the greatest difference in school achievement between traditional working parents and two-working-parent families was in the area of reading. Stolz also discovered that students of two-working-parent families had home libraries averaging 392 books, compared with 198 in the home libraries of traditional working parent families.

In a questionnaire study of 3,014 high school seniors Banducci (1967) concluded, "The fact that mothers were employed full-time appeared to have little, if any, detrimental effect on children in regard to educational aspirations, expectations, and achievement." In a study of reading (Jones, Fundstein, & Michael, 1957), working mothers not only spend more time at home reading with their children than nonemployed mothers, but urged their husbands to spend additional time as well. Von Mering (1955) concluded that employed mothers differed from nonemployed mothers in that expectations of their children were higher.

Hoffman and Nye (1963) wrote The Employed Mother In America and Siegel and Haas (1963) concluded, "The

contrasts between working mothers and those who stay at home are scarcely astonishing...working mothers' attitudes and reported practices with respect to child socialization are little different from those of other mothers." Hoffman (1974) and Etaugh (1974) concluded that there are not any detrimental repercussions on children that relate to maternal employment. These authors also agreed that children of employed mothers perceived fewer differences between male and female roles and seemed to have higher career aspirations than the children of mothers who did not work outside the home. Hoffman (1974) stated that "Thus the data about a mother's emotional state suggests that the working mother who obtains satisfaction from her work, who has adequate arrangements so that her dual role does not feel so guilty that she overcompensates, is likely to do quite well, and, under certain conditions better than does the nonworking mother."

Gold and Andres (1977, 1978a, 1978b, 1978c) designed their research on employed mothers and the development of children according to age, sex, and social status of the family. The three age levels selected were preschool (3 1/2 to 5 years), school age (9 to 11 years), and adolescence (14 to 16 years old). The variables studied were sex roles, intelligence, academic performance, and social adjustment. Sons of employed mothers scored lower

on both performance and full scale I.Q. scores, from the nursery school sample when compared to all other groups. On the Behavior Rating Scale, eight areas differentiated children of working and nonworking mothers, favoring the employed mother group in the following eight areas: (1) playing more successfully with other children, (2) being more friendly with other children, (3) cooperating more with others, (4) being less dominated by others, (5) giving ideas to others, (6) initiating activities, (7) functioning independently, and (8) looking after their own needs.

On the California Test of Personality (Thorpe, Clark, & Tiegs, 1953), school aged sons of employed mothers from the lower-class, as well as sons of non-employed mothers from the middle-class, obtained the lowest scores among all groups. Sons of employed mothers in middle-class families scored lower on language and math scales of the Canadian Test of Basic Skills. On the adolescent sample, differences between children of working mothers and children of nonworking mothers occurred on five scales of the California Test of Personality. Children of working mothers reported a greater sense of (a) personal worth, (b) belonging, (c) better family relations, (d) better total personality adjustment scores, and (e) better combined personality and social adjustment scores. Adolescents of working mothers also

had higher scores on interpersonal relations at school and reported a greater sense of personal freedom.

Gold and Andres (1978a) concluded that children of working mothers have broader conceptions of sex roles than children of nonemployed mothers. Most importantly, women who work often provide positive role models for their children. Maternal employment does not have an adverse effect on the development of children and in some cases the impacts are more positive than in children of traditional working parent families (Bronfenbrenner, 1979; Hoffman, 1980).

In studies of the cognitive development of children, performance measures of cognitive development and intelligence may improve when parents spend time in verbal interaction with children, usually by asking questions, and making comments as well as instructing them about language, reading, or other academic subjects (Carew, 1980; Clarke-Stewart & Apfel, as cited in Shulman, 1979). Parents also seem to foster the cognitive development of their children and school performance by providing appropriate resources for them: toys, books, or trips to the library (Bradley, Caldwell, & Elardo, 1979; Heynes, 1978).

Trimberger and Maclean (1982) looked at the perceptions of children regarding employment of their mothers and found that these children perceived the employment of their mothers as being positive. Selkow (1984) on voca-

tional aspirations found that children of working mothers selected larger numbers of occupations from the Vocational Orientation Scale than that of children from homes of nonworking mothers. Robb and Raben (1982) focused on sex-role ideology and found that children of working mothers were less stereotypic in their responses to both an occupational and household activities list.

Guidubaldi, Nastasi, Cleminshaw, and Perry (1986) completed a study of 699 children for possible implications of maternal employment on children. Findings of this study indicated significant differences on both academic and social child adjustment criteria as well as on home environment variables. All significant differences in social and academic criteria favored children of working mothers. On social measures, children of working mothers scored significantly higher on two scales of the Vineland Adaptive Behavior Scales (VAS) (Sparrow, Balla, & Cicchetti, 1984), communication and daily living, and lower on one subtest of the Hahnemann Elementary School Behavior Rating Scale (HESB) (Spivack & Swift, 1972), holding back and withdrawn. They were also reported to have less school absenteeism than children of nonworking mothers.

On academic criteria, children of employed mothers obtained significantly higher Full Scale I.Q. scores (WISC-R), were rated higher by their teachers on academic

achievement (HESB), and were more likely to be in regular classes. On home environment variables, employed mothers participated in significantly more recreational activities with their children. Nonemployed mothers expressed higher levels of satisfaction with their own parenting performance on the Cleminshaw-Guidubaldi Parent Satisfaction Scale (CGPSS) and their children also reported much better mother-child relations.

To compare the quality of interaction between children and mothers who worked and those who did not work and its impact on cognitive development, Lerner and Galambos (1986) made two hundred home visits to two groups of families, one with employed mothers and one with mothers who were not employed outside the home. Direct observations, in-depth interviews, and developmental assessments of babies from 12 to 30 months were used with the two groups of families. The manner in which two groups of mothers interacted with their children was compared. What the mothers and children liked to do together, types of play, teaching activities, toys provided, and other aspects of the environment were noted. Lerner concluded that the interaction of working mothers with their children was not significantly different from mothers who did not work, nor was the environment they provided. The cognitive development of the two groups was equal.

Gottfried, Gottfried, and Bathhurst (1985) in a seven year longitudinal study found no difference in the home environment or in the development of children whose mothers are employed and those who are not. How a child develops has nothing to do with maternal employment. When differences between children of working and nonworking mothers do emerge, they seem to favor the children of working mothers. Since the 1950s, there have been fifteen studies reviewed applying various ability and achievement discrepancies between students of two-working-parent families. Little or no validity has been demonstrated for a majority of these studies due to the fact that most studies have involved surveys of working and nonworking mothers and their bias seems to influence their answers to whether or not educational outcomes of children are adversely impacted by having a working or nonworking mother. In studies of achievement, there exists the possibility that parents of children with academic or social difficulties in school are less likely to grant permission for their children to participate in studies.

Summary

The literature pertaining to educational outcomes of children from traditional working parent families and two working parent families has been reviewed. The environ-

mental factors that impact child development, values of society, and changes in the paid labor force have been given. Researchers and theorists of descriptive and empirically based literature have concluded that maternal employment does not have an adverse impact on the educational outcomes of children and in some cases the outcomes are more positive than in children of traditional working parent families.

The methodology used in the comparative study of academic achievement in children from traditional working parent families and two-working-parent families is presented in Chapter III.

CHAPTER III

METHODOLOGY

In this study five measures of ability or achievement (I.Q., reading comprehension, vocabulary, math concepts, and math computation) for each of four grade levels (third, fourth, fifth, and sixth) were analyzed to determine whether there were significant differences for students from traditional working parent families and students from two-working-parent families.

The purpose of this chapter is to describe how the study was completed. Included are descriptions of the setting, subjects, instruments, procedures, and data analysis methods.

Setting

The setting was the Grosse Pointe Public School System. This is a suburban school district located in the midwestern United States. This school district has a high socioeconomic status with a majority of its inhabitants considered upper-middle-class. The school district had a kindergarten through twelfth grade enrollment of 7,324 students as of September 1987. Additional information on this school district is presented

in Appendix C.

Subjects

Subjects included third, fourth, fifth, and sixth grade students who were selected from three elementary schools. All sixth grade students were selected from one of the three middle schools in the district. Six hundred sixty-one students were screened for the study in the following manner: the grade 3 population was 158 students, the grade 4 population was 166 students, and the grade 5 population was 164 students. One hundred seventy-three sixth graders from one middle school also were selected as subjects. Although 661 students were screened, many students did not fit criteria of being from a traditional working parent family or a two-working-parent family; these students were not included in the study. Excluded from the study were students whose mothers work part-time or any student who could not be accurately categorized as either being from a traditional or two-working-parent family. For inclusion in the study, students had to meet the following criteria:

1. Living in a home with a married mother and father. Parents were either biological, or one or both parents were nonbiological.

2. Living in a home with a traditional working parent family or a two-working-parent family during the 1986-87 school year.

3. Principal permission to collect the information necessary to determine the working status of parents during the 1986-87 school year.

4. No single parent, divorced single parent, living with relatives, or guardians, and part-time working parents were included in this study.

Otis-Lennon Mental Ability Test (OLSAT)

The OLSAT is a test of abstract thinking and reasoning ability designed to predict success in cognitive, school-related activities for grades one through twelve. Two-thirds of the obtained scores fall within ± 1 standard error of measurement from their underlying "true" scores. Ninety-five percent of the obtained scores fall within ± 2 standard errors of measurement from the underlying "true" scores. The OLSAT I.Q. is a standard score with a mean of 100 and a standard deviation of 16 points. This test provides an I.Q. with different age levels. Means range from 35.11 to 45.75 and standard deviations from 9.83 to 12.93. Split half reliability ranges from .89 to .92. This is a valid test with the content of the OLSAT examined to conclude that the test can be used to measure verbal, numerical, and symbolic reasoning abilities associated with the assessment of general mental ability. This test is also used to help predict school grades and scores on achievement tests (Buros, 1985).

Comprehensive Tests of Basic Skills

The CTBS is a series of norm-referenced, objective-based tests for kindergarten through twelfth grade. The tests are designed to measure achievement in the basic skills commonly found in state and district curriculum. These tests provide information about the relative ranking of students against a norm group as well as specific information about the instructional needs of students. This is a valid test with data that helps researchers support the content validity of CTBS by indicating that category objectives were generally placed in appropriate test levels. The Kuder-Richardson formula 20 (KR20), was applied to the CTBS in order to formulate the internal consistency of these tests. Standard errors of measurement are estimated as a function of the scale scores using Item Response Theory (IRT). They indicate where in its range a given test level measures most accurately. The reliability of these tests by grade level are: (a) grade 3, reading comprehension .92, vocabulary .93, math concepts .91, and math computation .90; (b) grade 4, reading comprehension .94, vocabulary .94, math concepts .92, and math computation .92; (c) grade 5, reading comprehension .94, vocabulary .94, math concepts .91, and math computation .90; and, (d) grade 6, reading comprehension .95, vocabulary .94, math concepts .92, and math computation .92 (CTB/McGraw-Hill, 1984).

Instruments

Subjects

The Otis-Lennon Test of Mental Ability (Otis & Lennon, 1982) was used as the measure of school ability. The Comprehensive Tests of Basic Skills (McGraw-Hill, 1981) were used as measures of achievement. These tests included reading comprehension, vocabulary, math concepts, and math computation. Both tests meet APA (1985) standards, have reliability of .9 or better, and demonstrate validity. The norming population for both tests were comparative and both were representative of the United States population.

Teachers and Principals

A brief interview with the teachers and principals was used to classify eligible students into one of two categories, either a traditional working parent family, or a two-working-parent family. Any student who did not meet the criteria of a traditional working parent family, or a two-working-parent family was not included in this study.

Procedures

Data Collection

The Grosse Pointe Public School System consists of nine elementary schools and three middle schools. Three

of the nine elementary schools and one of the three middle schools were chosen to identify the students used in the collection of data. Once the schools had been identified, a letter (Appendix D) was sent to each school principal explaining the purpose of the study and requesting permission to interview teachers and collect information from existing records regarding the working status of the students' parents. Students from grades three, four, five, and six were used in data collection after being screened from the total number of students from each school chosen.

After grade levels and schools had been determined, these students were classified into one of four groups: (1) Group A--students from two-biological-working parent families, (2) Group B--students from traditional biological working parent families, (3) Group C--students from two-working-parent families where one or both parents are nonbiological parents, and (4) Group D--students from traditional working parent families where one or both parents are nonbiological parents. Any student who did not meet the criteria of one of the four groups was not included in this study.

The study was conducted through the Office of Research and Testing in the Grosse Pointe School System. All names of students and test information were treated as confidential information. I.Q. and achievement test

scores were obtained from the confidential records obtained from the Director of Research and Testing. All students had been administered the Otis-Lennon Mental Ability Test within the previous two years. The Otis-Lennon full scale scores were obtained from testing and research records.

After Data Collection

Each student was assigned a code number. The names and identifying information were removed from all materials.

Full scale scores from each group were recorded under the following ability and achievement areas: (a) ability--I.Q. score, and (b) achievement--reading comprehension, vocabulary, math concepts, and math computation. The mean scores in each category were obtained from students of traditional working parent families and students from two-working-parent families. These mean scores were obtained to determine if there is a significant difference in achievement and ability between the two groups in I.Q., reading comprehension, vocabulary, math concepts, and math computation.

Data Analysis

The mean scores in the areas of ability and achievement of traditional working parent children and two-work-

ing-parent children were compared by answering five research questions using data gathered through the previously described procedures. The statistical method used for data analysis were one-tailed t tests of the null hypothesis at the .05 level of significance.

Research Questions

I.Q.

Research Question 1. Is there a significant difference between the mean I.Q. of students from traditional working parent families and the mean I.Q. of students from two-working-parent families at grades three, four, five, and six?

Reading

Research Question 2. Is there significant difference between the mean reading comprehension achievement scores of students from traditional working parent families and the mean reading comprehension scores of students from two-working-parent families at grades three, four, five and six?

Vocabulary

Research Question 3. Is there a significant difference between the mean vocabulary achievement scores of students from traditional working parent families and the

mean vocabulary achievement scores of students from two-working-parent families at grades three, four, five, and six?

Math

Research Question 4. Is there a significant difference between the mean math concepts achievement scores of students from traditional working parent families and the mean math concepts achievement scores of students from two-working-parent families at grades three, four, five, and six?

Research Question 5. Is there a significant difference between the mean math computation achievement scores of students from traditional working parent families and the mean math computation achievement scores of students from two working-parent families at grades three, four, five, and six?

Test Statistics

One-tailed t tests were used for answering the 5 research questions at the .05 level of significance. The one-tailed t tests were interpreted using the critical value of the test statistic. The normal curve as the underlying distribution was used (Hinkle, Wiersma, & Jurs, 1979).

Summary

The methodology used in this study was the ex post facto casual-comparative study of determining if a significant difference in mean test scores occurred in areas of I.Q., reading comprehension, vocabulary, math concepts, and math computation from children of traditional working parent families compared to children of two working parent families. The setting was a suburban public school system in the metropolitan Detroit area of Michigan. Subjects were third, fourth, fifth, and sixth grade students who were from one of two groups: (1) children of traditional working parent families, or (2) children of two-working-parent families. Mean test scores were gathered using the Otis-Lennon Test of Mental Ability and the Comprehensive Tests of Basic Skills for achievement. The results of these scores in reading comprehension, vocabulary, math concepts, and math computation were compared to determine if there was a significant difference in achievement between the two groups of students. Scores were compared using one-tailed t tests of the mean scores.

The findings of this study are presented in Chapter IV. Included in Chapter IV is information on the subjects and results of the data analysis relating to the five research questions. This study is concluded with a discussion of the findings in Chapter V.

CHAPTER IV

FINDINGS

In this study five measures of ability or achievement (I.Q., reading comprehension, vocabulary, math concepts, and math computation) for each of four grade levels (third, fourth, fifth, and sixth) were analyzed to determine whether there were significant differences for students from traditional working parent families and students from two-working-parent families.

The findings of the study are presented in Chapter IV. Included in the chapter are information on the subjects and scaled test scores. Findings on the planned data analysis presented in Chapter III follow the information on the subjects. The chapter is concluded with a summary of the findings.

Subjects

Letters were mailed to principals of three elementary and one middle school requesting permission for access to confidential information on the working status of students' parents from their school, as well as access to teachers in helping classify students into either a traditional family or a two-working-parent family. Two

school principals believed they could not provide the appropriate information and this resulted in the selection of two alternate schools to replace the original two chosen. Within five weeks following contact with school principals, the data were collected from each school. Six hundred and sixty-one students (Appendix E) were screened for inclusion in the study, 360 (54%) were either living in a traditional family, or a two-working-parent family, 201 (30%) were from traditional families and 159 (24%) were from two-working-parent families. Twenty-five students were excluded from the final study. Eleven of these students were classified as living in a nonbiological traditional working parent family and 14 students were classified as living in a nonbiological two working parent family. The classification of these students by grade level is shown in Appendix F.

The 335 students included in this study were third, (n=70, 36 traditional, 34 two-working-parent), fourth (n=94, 63 traditional, 31 two-working-parent), fifth (n=83, 47 traditional, 36 two-working-parent), and sixth (n=85, 44 traditional, 41 two-working-parent) graders who have two biological parents and are living in either a traditional working parent family or a two-working-parent family. Of the 335 students in the study, 190 (57%) were from traditional working parent families and 145 (43%) were from two-working-parent families.

Organization of Data

Data were taken from ability tests administered between March 1985 and March 1987. Achievement test data were taken from tests administered in May 1987. The findings of the ability of each student and achievement scores were recorded on Data Organization Form A (Appendix G). After collection of each individual student form, the data were reclassified to Data Organization Form B (Appendix H) for the purpose of categorizing students by groups according to grade level and working status of the family.

The CTBS mean scaled scores and standard deviations on achievement in reading comprehension, vocabulary, math concepts, math computation, and the OLSAT mean I.Q. scores are shown in Table 1.

Before scores could be compared, new achievement scaled scores were projected for the students from two working parent families based on the ability scores of students from traditional working parent families. These scores were projected and converted to new scaled scores using the formula to convert any set of scores with a known mean and standard deviation. The formula is shown in Appendix I and the new projected scaled scores in achievement for students from two working parent families are shown in Table 2.

Table 1
 Descriptive Data of Mean Scaled Scores and Standard
 Deviations from CTBS Achievement and OSLAT Ability
 Tests Administered to Students from Traditional
 and Two-Working-Parent Families for
 Grades 3, 4, 5, and 6

Grade	Tests	Traditional		Two Working Parent	
		Mean	<u>SD</u>	Mean	<u>SD</u>
3	I.Q.	119.527	15.284	116.735	12.875
	Reading	706.583	48.956	718.647	54.696
	Vocabulary	673.138	44.050	680.000	43.682
	Math Concepts	671.833	26.846	668.050	25.960
	Math Computation	680.470	29.179	678.382	23.392
4	I.Q.	119.460	13.992	123.000	13.163
	Reading	751.222	51.189	748.451	49.955
	Vocabulary	715.126	54.754	707.903	46.622
	Math Concepts	704.714	39.721	704.806	41.383
	Math Computation	712.079	22.869	718.548	24.031
5	I.Q.	118.638	13.365	114.916	14.777
	Reading	763.936	46.777	767.166	42.638
	Vocabulary	729.170	42.603	722.194	33.685
	Math Concepts	710.893	23.359	712.944	32.095
	Math Computation	725.978	17.037	723.222	16.449
6	I.Q.	114.454	13.767	115.195	13.577
	Reading	781.836	37.072	786.707	37.712
	Vocabulary	736.795	29.242	733.975	39.275
	Math Concepts	720.500	22.758	723.048	27.138
	Math Computation	736.704	17.311	737.365	22.691

Table 2

Descriptive Data on Converted Mean Achievement Test
Scaled Scores for Students From Two-Working-Parent
Families Using the Formula Shown in Appendix I
for Grades 3, 4, 5, and 6

Grade	Tests	Scaled Mean	Converted Mean
3	Reading	718.647	730.508
	Vocabulary	680.000	689.473
	Math Concepts	668.050	673.680
	Math Computation	678.382	683.454
4	Reading	748.451	735.016
	Vocabulary	707.903	695.364
	Math Concepts	704.806	693.676
	Math Computation	718.548	712.085
5	Reading	767.166	777.905
	Vocabulary	722.194	730.678
	Math Concepts	712.944	721.028
	Math Computation	723.222	727.365
6	Reading	786.707	784.648
	Vocabulary	733.975	731.831
	Math Concepts	723.048	721.566
	Math Computation	737.365	736.126

Data Analysis and Findings

One-tailed t tests were computed for the five research questions in order to compare the difference of mean test scores of ability and achievement in the areas of reading comprehension, vocabulary, math concepts, and math computation. The one-tailed t tests were interpreted using the directional alternative hypothesis set forth in Hinkle, Wiersma, and Jurs (1979). Level of significance was set at .05 and has a critical value for the test statistic of 1.645. The findings of the data analyses are shown in Table 3.

Findings

I.Q.

Research Question 1. Is there a significant difference between the mean I.Q. of students from traditional working parent families and the mean I.Q. of students from two-working-parent families at grades three, four, five, and six?

The mean I.Q. score of third grade students from a traditional working parent family was 119.527. The mean I.Q. score of third grade students from a two-working-parent family was 116.735. The t -score was .824. There was no significant difference between students in the two groups at the .05 level of significance.

Table 3

Test Statistics of Ability and Achievement Mean Scores
and Obtained t-scores of Students from Traditional
and Two Working Parent Families
for Grades 3, 4, 5, and 6

Grade	Test	Traditional Mean	Two Working Mean	<u>t</u> -score
3	I.Q.	119.527	116.735	.824
4		119.460	123.000	1.175
5		118.638	114.916	1.200
6		114.454	115.195	.249
3	Reading	706.583	730.508	1.930*
4		751.222	735.016	1.454
5		763.936	777.905	1.400
6		781.836	784.648	.402
3	Vocabulary	673.138	689.473	1.556
4		715.126	695.364	1.724*
5		729.170	730.678	.174
6		736.795	731.831	.663
3	Math Concepts	671.833	673.680	.292
4		704.714	693.676	1.249
5		710.893	721.028	1.665*
6		720.500	721.566	.196
3	Math Computation	680.470	683.454	.470
4		712.079	712.085	.001
5		725.978	727.365	.373
6		736.704	736.126	.132

* t-score significant at .05; critical value is 1.645.

The mean I.Q. score of fourth grade students from a traditional working parent family was 119.460. The mean I.Q. score of fourth grade students from a two-working-parent family was 123.000. The t -score was 1.175. There was no significant difference between students in the two groups at the .05 level of significance.

The mean I.Q. score of fifth grade students from a traditional working parent family was 118.638. The mean I.Q. score of fifth grade students from a two-working-parent family was 114.916. The t -test score was 1.200. There was no significant difference between students in the two groups at the .05 level of significance.

The mean I.Q. score of sixth grade students from a traditional working parent family was 114.454. The mean I.Q. score of sixth grade students from a two-working-parent family was 115.195. The t -score was .249. There was no significant difference between students in the two groups at the .05 level of significance.

Reading

Research Question 2. Is there a significant difference between the mean reading comprehension achievement scores of students from traditional working parent families and the mean reading comprehension achievement scores of students from two-working-parent families at grades three, four, five, and six?

The mean reading comprehension achievement score of third grade students from a traditional working parent family was 706.583. The mean reading comprehension achievement score of third grade students from a two-working-parent family was 730.508. The t -score was 1.930. There was a significant difference in support of students from a two working parent family at the .05 level of significance.

The mean reading comprehension achievement score of fourth grade students from a traditional working parent family was 751.222. The mean reading comprehension achievement score of fourth grade students from a two-working-parent family was 735.016. The t -score was 1.454. There was no significant difference between students in the two groups at the .05 level of significance.

The mean reading comprehension achievement score of fifth grade students from a traditional working parent family was 763.936. The mean reading comprehension achievement score of fifth grade students from a two-working-parent family was 777.905. The t -score was 1.400. There was no significant difference between students in the two groups at the .05 level of significance.

The mean reading comprehension achievement score of sixth grade students from a traditional working parent

family was 781.836. The mean reading comprehension achievement score of sixth grade students from a two-working-parent family was 784.648. The t-score was .402. There was no significant difference between students in the two groups at the .05 level of significance.

Vocabulary

Research Question 3. Is there a significant difference between the mean vocabulary achievement scores of students from traditional working parent families and the mean vocabulary achievement scores of students from two-working-parent families at grades three, four, five, and six?

The mean vocabulary achievement score of third grade students from a traditional working parent family was 673.138. The mean vocabulary achievement score of third grade students from a two-working-parent family was 689.473. The t-score was 1.556. There was no significant difference between students in the two groups at the .05 level of significance.

The mean vocabulary achievement score of fourth grade students from a traditional working parent family was 715.126. The mean vocabulary achievement score of fourth grade students from a two-working-parent family was 695.364. The t-score was 1.724. There was a significant difference in support of students from traditional

working parent families at the .05 level of significance.

The mean vocabulary achievement score of fifth grade students from a traditional working parent family was 729.170. The mean vocabulary achievement score of fifth grade students from a two-working-parent family was 730.678. The t-score was .174. There was no significant difference between students in the two groups at the .05 level of significance.

The mean vocabulary achievement score of sixth grade students from a traditional working parent family was 736.795. The mean vocabulary achievement score of sixth grade students from a two-working-parent family was 731.831. The t-score was .663. There was no significant difference between students in the two groups at the .05 level of significance.

Math

Research Question 4. Is there a significant difference between the mean math concepts achievement scores of students from traditional working parent families and the mean math concepts achievement scores of students from two-working-parent families at grades three, four, five, and six?

The mean math concepts achievement score of third grade students from a traditional working parent family was 671.833. The mean math concepts achievement score of

third grade students from a two-working-parent family was 673.680. The t -score was .292. There was no significant difference between students in the two groups at the .05 level of significance.

The mean math concepts achievement score of fourth grade students from a traditional working parent family was 704.714. The mean math concepts achievement score of fourth grade students from a two-working-parent family was 693.676. The t -score was 1.249. There was no significant difference between students in the two groups at the .05 level of significance.

The mean math concepts achievement score of fifth grade students from a traditional working parent family was 710.893. The mean math concepts achievement score of fifth grade students from a two-working-parent family was 721.028. The t -score was 1.665. There was a significant difference in support of students from a two working parent family at the .05 level of significance.

The mean math concepts achievement score of sixth grade students from a traditional working parent family was 720.500. The mean math concepts achievement score of sixth grade students from a two-working-parent family was 721.566. The t -score was .196. There was no significant difference between students in the two groups at the .05 level of significance.

Research Question 5. Is there a significant differ-

ence between the mean math computation achievement scores of students from traditional working parent families and the mean math computation achievement scores of students from two-working-parent families at grades three, four, five, and six?

The mean math computation achievement score of third grade students from a traditional working parent family was 680.47. The mean math computation achievement score of third grade students from a two-working-parent family was 683.454. The t -score was .470. There was no significant difference between students in the two groups at the .05 level of significance.

The mean math computation achievement score of fourth grade students from a traditional working parent family was 712.079. The mean math computation achievement score of fourth grade students from a two-working-parent family was 712.085. The t -score was .001. There was no significant difference between students in the two groups at the .05 level of significance.

The mean math computation achievement score of fifth grade students from a traditional working parent family was 725.978. The math computation achievement score of fifth grade students from a two-working-parent family was 727.365. The t -score was .373. There was no significant difference between students in the two groups at the .05 level of significance.

The mean math computation achievement score of sixth grade students from a traditional working parent family was 736.704. The mean math computation achievement score of sixth grade students from a two-working-parent family was 736.126. The t -score was .132. There was no significant difference between students in the two groups at the .05 level of significance.

Summary

The findings of the ex post facto comparative study on the ability and achievement of students from traditional working parent families and two-working-parent families have been presented. The findings of the data analysis indicate no significant difference in the ability and achievement research questions. Significant differences occurred in support of students from two-working-parent families in third grade reading achievement scores and fifth grade math concepts achievement scores. Significant differences in support of students from traditional families occurred in only one achievement area--vocabulary scores of grade four students.

This study is concluded in Chapter V. Conclusions and recommendations, a summary of the study, discussion of findings, and recommendations and implications for educators are presented.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

In this study five measures of ability or achievement (I.Q., reading comprehension, vocabulary, math concepts, and math computation) for each of four grade levels (grades 3, 4, 5, and 6) were analyzed to determine whether there were significant differences for students from traditional working parent families and students from two-working-parent families. No significant differences were found for 17 of the 20 comparisons made. The discussion based on the findings of this study are divided into sections: (a) a summary of the study from its inception through the statistical analyses of the data, (b) findings, (c) conclusions, (d) recommendations for future research, and (e) implications for educators.

Summary

Since World War II, one of the biggest changes in the society of the United States has been the accelerated participation of mothers in the paid labor work force. Except for a period during World War II, when the labor of women was needed and there was common approval of employment for women, there has been a long history of

opposition to having women with children work in the United States. One of the assumptions underlying such opposition is that separation of mother and child is detrimental to the welfare of the child.

Following the 1940s, researchers and theorists have studied the educational outcomes of children from traditional working parent families and those children from two-working-parent families. These researchers of descriptive and empirically based literature have concluded that maternal employment does not have an adverse impact on the educational outcomes of children and in some cases the outcomes are more positive than in children of traditional working parent families. The findings of this study are confirmatory of this conclusion.

The purpose of this ex post facto study was to compare two groups of students--those from traditional working parent families and those from two-working-parent families. Academic ability and achievement were compared on standardized tests to determine if there was significant difference in ability and achievement between the two groups. Subjects were 335 students from grades 3, 4, 5, and 6. One hundred and ninety students were from traditional working parent families and 145 were from two-working-parent families. Ability was compared using the Otis-Lennon Mental Ability Test (Otis & Lennon, 1982).

Achievement was compared using the Comprehensive Tests of Basic Skills.

The findings of the data analyses investigating the significant difference between the ability and achievement of students from traditional working parent families and two-working-parent families showed no significant difference in ability at all grade levels. There was no significant difference in 13 areas of achievement at the four grade levels. Two significant differences occurred in support of students from two-working-parent families in reading at the third grade level and math concepts at the fifth grade level. One significant difference occurred in support of students from traditional working families on the fourth grade vocabulary test.

Findings

Twenty statistical analyses were computed to determine if significant differences occurred in academic ability and achievement between students from traditional and two working parent families. Of these analyses, only 3 out of 20 had any significant difference at the .05 level of significance. Since the analyses were repeated analyses on the same subjects, these statistical significant findings were not considered meaningful. Thus, there is a single major finding of this study: There are no meaningful differences in academic ability and

achievement scores for students of traditional and two-working-parent families. This major finding concurs with the literature on maternal employment and the academic achievement of students (Banducci, 1967; Etaugh, 1974; Gold & Andres, 1977, 1978a, 1978b, 1978c; Gottfried, Gottfried, & Bathhurst, 1985; Guidubaldi, Nastasi, Cleminshaw, & Perry, 1986; Hayes & Kamerman, 1982; Hoffman, 1974; Jones, Fundstein, & Michael, 1957).

Conclusions

The major findings of this comparative ex post facto study of academic ability and achievement of students from traditional working parent families and students from two-working-parent families lead to eight conclusions applicable to this study.

1. The socioeconomic status of the school district used in this study is considerably higher than the national norm, thus caution should be used before making assumptions that these findings would relate to other school districts with a different socioeconomic status.

2. Maternal employment cannot be looked upon as a single condition experienced the same way by all parents, with constant impact on all children (Bloom, 1986; Cook, 1982; Hayes & Kamerman, 1982).

3. Employment of two parents cannot be looked upon as all good or all bad for children in different social,

economic, and cultural settings (Hodgkinson, 1985a, 1985b; Hoffman, 1974, 1975, 1980; Lerner, 1986).

4. Academic achievement of children is a result of many factors, only one of which is the employment status of the parents (Hayes & Kamerman, 1982; Vandell & Katzman, 1981).

5. Academic ability and achievement may depend on the many facets of employment (occupation, earnings, job satisfaction, work schedules) and how these interact with family attitudes, values, and relationships between children and their parents (Gold & Andres, 1977, 1978a, 1978b, 1978c; Guidubaldi, Nastasi, Cleminshaw, & Perry, 1986).

6. Educational outcomes of children may be influenced more by their everyday experiences and interactions with other people rather than the employment status of their mother (Belsky, 1978; Berg, 1986).

7. Given the findings of the study, there is no basis for assuming that academic ability and achievement differ between children of traditional and two-working-parent families.

8. If differences exist between children which are attributable to the issue of work status, these are more likely to be related to variables other than the ones presented in this study, e.g., self-esteem, behavior, peer relations (Elkind, 1981; Gaylin, 1986; Hayes, 1980; Hennig & Hackman, 1964).

Recommendations for Further Research

The findings of this comparative ex post facto study of academic ability and achievement of students from traditional and two-working-parent families and the conclusions lead to eight recommendations for further research.

1. The study could be replicated using school districts with a varied socioeconomic status from different regions of the United States. The district used in this study is considerably above the national norm in socioeconomic status. The findings of this study could be influenced by the economic status of the community.

2. Students from grades 7 through 12 could be tested using the same methodology to determine if meaningful differences occurred at higher grade levels. This did not hold true at elementary grade levels, but could at higher grade levels due to the positive role models working mothers provide (Gold & Andres, 1977, 1978a; Berg, 1986).

3. The same methodology could be used with students classified according to sex. A working mother might prove to be a more positive role model for her daughter than if she did not work outside the home (Gottfried, Gottfried, & Bathurst, 1985; O'Connell, 1986; Trimberger & Maclean, 1982).

4. A longitudinal study might be conducted in which the relationship of achievement and time parents spend

with their children outside of the day was investigated.

5. A study that investigates the status variables of working parents such as race, family structure, age, sex, and parents' educational level (Guidubaldi, Nastasi, & Perry, 1986).

6. Studies that measure the social, emotional, and physical development of children from traditional and two working parent families.

7. A study that examines the formal (schools, churches, recreation programs, after-school programs, and child care services) and informal (neighborhood, clubs, networks) community supports and services to determine under what circumstances do the children of working parents do well, and under what circumstances do they have problems (Hayes & Kamerman, 1982).

8. Researchers devoting attention to the role of schools in providing supports and services to children of working and nonworking parents. How do these services (latch-key, enrichment programs, lunch) impact the educational outcomes of children (Anderson, 1980; Belsky, 1978)?

Implications for Educators

The potential importance of this study is in its use by educators seeking to understand the relationship of academic achievement and conditions that may influence

student achievement. There are 4 ways in which the findings of this study may inform educators. First, educational outcomes and maternal employment should not be confined solely to academic achievement. Other factors such as (a) social, emotional, and physical development, (b) aspirations, (c) accomplishments, and (d) attitudes toward expectations of family formation should be addressed by educators. Peer relationships of students and patterns of television watching might impact their growth and development and how these are influenced by whether their mothers are in the paid labor work force (Belsky, 1984a, 1984b, 1984c; Hayes & Kamerman, 1982). Second, maternal employment during the 1980s continues to be a subject that arouses emotional responses from many people. Among those educators who have observed the increase of maternal employment and who have been concerned about the consequences for children, some view the increase as indicating change in family life and different learning opportunities for children. The main concern of these educators is in acquiring more knowledge to aid parents as well as policy makers in establishing that children develop not only academically, but socially, emotionally, and physically as well. Third, although there is little or no meaningful difference between children of traditional and two working parent families in academic achievement, the findings are not an

absolute conclusion that would permit educators to say that this phenomenon is no longer an area to be studied. Maternal employment and its impact on children should not be the sole mean of any conclusion (Gottfried, Gottfried, & Bathhurst, 1985; Guidubaldi, Nastasi, Cleminshaw & Perry, 1986; Maccoby, 1980). Work by itself is not a uniform condition experienced in the same way by adults who are parents (Berg, 1986). All parents are not the same, nor are their children, the communities in which children live, schools they attend, their neighbors, or their friends (Hoffman, 1974; Hoffman, 1975). Educators should look at as many environmental factors as possible before making conclusions about educational outcomes of students and their relationship to maternal employment. Fourth, available research findings offer no evidence that two-working-parent families are either "good" or "bad" for children.

APPENDICES

Appendix A

Letter of Permission from Grosse Pointe Administration
to use the Grosse Pointe Public Schools System
for Data Collection



**The Grosse Pointe
Public School System**
389 St. Clair Avenue
Grosse Pointe, Michigan 48230
Phone: (313) 343-2020

73

DIRECTOR OF RESEARCH AND DEVELOPMENT

February 9, 1988

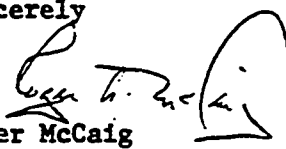
Michael Dib
Mason School

Dear Mike

This letter constitutes permission to make reference to the Grosse Pointe Public School System wherever appropriate to do so in your dissertation. It is my assumption, in granting this permission, that the sole use of the information cited will be for the educational and scholarly purposes of your research.

Good luck with your ambitious, important study.

Sincerely


Roger McCaig

Appendix B
Statistics on the Number of Women
in the Paid Labor Force

THEIR RISING RANKS

(number of married women in labor force, in thousands,
and labor force participation rate)

	Number in Labor Force in 1985	Percent in Labor Force in 1985	Percent in Labor Force in 1980
Total	12,386	54.3	50.2
Without children 18 at home	12,620	48.2	46.0
With children 18 at home	14,766	61.0	54.3
With children 6-17 at home	8,469	67.8	61.8
With children 6 at home	6,298	53.7	41.7
Age of youngest child			
0 - 1	2,562	49.4	39.0
2	1,145	53.4	48.1
3	952	55.1	51.7
4	856	59.7	51.5
5	783	62.1	52.4
6	751	64.5	58.5
7	772	67.3	61.7
8	689	69.2	62.3
9	664	66.2	60.8
10	687	68.2	65.1
11	664	69.2	63.4
12	736	71.4	65.6
13	750	69.5	64.6
14	799	70.3	62.6
15	757	67.9	60.8
16	609	64.2	62.3
17	591	64.9	55.6

Cited in Russell & Exter, 1986

Appendix C
School District Information

SCHOOL AND LIBRARY INFORMATION
1987-88

Enrollment (K-12--as of 9/14/87) 7,324

PERSONNEL

Full-time teachers	482
Part-time teachers	30
Full-time public librarians	13
Part-time public librarians	1
Clerical Staff	96
Plant and cafeteria staff	120
Aides, monitors, and parking lot attendants	84
School administrators	34
Library administrators	1
Other regular staff	20
Average elementary class size	22.0

FINANCE

State Equalized Valuation	\$1,213,372,708
S.E.V. per pupil	165,671
General Fund Budget*	41,696,693
Per pupil cost	5,693

*as adopted on June 9, 1987

TAX LEVY ON STATE EQUALIZED VALUATION

School Operation

Allocated by county	7.1826
Voted	23.3255
Total Operation Millage	30.5081
Debt Retirement Millage	0.9338
Public Library Millage	1.2332
TOTAL LEVY FOR 1987-88	32.6751

A mill equals \$1 per \$1000 of the State Equalized Valuation (approximately one-half the market value) of the local real estate.

Appendix D
Letter to Principals

MICHAEL B. DIB
TEACHER
Grosse Pointe Public Schools
1640 Vernier Rd.
Grosse Pointe Woods, MI 48236
Phone: 343-2271

Dear

I am a doctoral student at Western Michigan University in the process of completing my dissertation which is in the area of working status of parents and the possible impact this might have on the achievement and ability of their children in the Grosse Pointe Public School System. I have been given permission to complete my study by Dr. McCaig and Dr. Whritner. I am requesting your assistance in this endeavor.

I would appreciate it if you would inform your teachers and secretary that I will be collecting information on the working status of students' parents during the 1986-1987 school year. I will be looking at grades 3, 4, and 5 at the elementary level and grade 6 at the middle school. I would like to interview teachers and look at confidential school records in the office to help classify as many students as possible. Confidentiality of your school and the names of students will be maintained. I will be the only person to know the names of students in your school. I will be contacting you next week by phone to set up appointments with your staff. Your assistance is valued and appreciated.

If you would like a summary of the results when the study is completed, please contact me at the address above. If you have any questions now or in the future, please call me at 343-2271. Again, I appreciate your help in the completion of this study. Thank you.

Sincerely,

Michael B. Dib

Appendix E
Number of Students by Grade Level
Included in This Study

NUMBER OF STUDENTS CLASSIFIED AND INCLUDED IN THE STUDY

	<u>Traditional</u>	<u>Two Working Parent</u>	<u>Total</u>
Grade 3	36	34	158
Grade 4	63	41	166
Grade 5	47	36	164
Grade 6	<u>44</u>	<u>41</u>	<u>173</u>
Total	190	145	661
	—	—	—

335 (51%) out of 661 students were classified into either a biological traditional working parent family or a biological two working parent family.

Appendix F

Table Showing the Number of Students Classified
and Excluded From the Study

STUDENTS EXCLUDED FROM THE STUDY

	<u>Non Biological Traditional</u>	<u>Non Biological Two Working Parent</u>
Grade 3	5	3
Grade 4	2	3
Grade 5	3	1
Grade 6	<u>1</u>	<u>7</u>
Total	11	14

Appendix G
Data Organization Form A

DATA ORGANIZATION FORM A

Student # _____ Family Status _____

I.Q. (OLSAT)

Full Scale _____ Grade _____

Achievement (CTBS)

	<u>Percentile</u>	<u>Scale Score</u>
Reading	_____	_____
Vocabulary	_____	_____
Math Concepts	_____	_____
Math Computation	_____	_____

Appendix H
Data Organization Form B

Appendix I

Formula for Converting Scores to a New Mean

$$SS_a = \bar{X}_a + S_a \left(\frac{\bar{X}_a - \bar{X}_b}{S_b} \right)$$

where X_b = specific score in set of scores to be converted

SS_a = standard score to be predicted and converted

\bar{X}_a = mean of scores to be predicted

S_a = standard deviation of scores to be predicted

\bar{X}_b = mean of known scores

S_b = standard deviation of known scores

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