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Child Care for Working Poor Families: Child Development and Parent Employment Outcomes: Community Child Care Research Project, Final Report

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COMMUNITY CHILD CARE RESEARCH PROJECT
FINAL REPORT

CHILD CARE FOR WORKING POOR FAMILIES: CHILD DEVELOPMENT AND PARENT EMPLOYMENT OUTCOMES

James Elicker, Carolyn Clawson, Soo-Young Hong
Tae-Eun Kim, Demetra Evangelou, & Susan J. Kontos

March, 2005
Purdue University

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Executive Summary

COMMUNITY CHILD CARE RESEARCH PROJECT

CHILD CARE FOR WORKING POOR FAMILIES: QUALITY, CHILD DEVELOPMENT, AND PARENT EMPLOYMENT OUTCOMES

2001-2004
Purdue University

James Elicker, Carolyn Clawson, Soo-Young Hong, Tae-Eun Kim, Demetra Evangelou, and Susan J. Kontos

March, 2005

While the effects of child care quality on low-income children and parents are well documented, little is known about how local communities are providing child care to low-income working families in the wake of welfare reform in the mid-1990s. The three-year Community Child Care Research Project examined child care for young children used by low-income working families in four Indiana communities (Marion, Lake, Allen, and St. Joseph counties). The project was funded by the U.S. Department of Health and Human Services/Child Care Bureau and conducted by researchers at Purdue University. Sources of the research data were parent focus groups, interviews with community child care leaders, structured observations and assessments of 307 children in their child care settings, and questionnaires completed by parents and caregivers.

Participants in the Community Child Care Research Project were volunteers in a non-random research sample. Therefore while the results accurately describe the experience of these low income working families and their child care providers, they cannot be confidently generalized to the broader population of low income working families in these Indiana cities or elsewhere.

Indiana offers a unique context for examining child care issues. Although many center-based and home-based child care providers are regulated by the state, a high proportion of child care providers are legally exempt from licensing. Indiana child care regulations exempt child care centers from licensing if they operate as "child care ministries," programs operated by a church or religious organization that is tax-exempt. Another reason for abundant exempt child care in Indiana is that home-based child care providers are not required to be licensed unless they care for six or more unrelated children (with one provider). Family child care homes are licensed for six to sixteen children. In addition, many child care subsidy and quality improvement spending decisions are made at the county level. For these reasons, Indiana provides a unique opportunity to examine how differences in communities may play a role in the availability and quality of care.

THE OBJECTIVES OF THE RESEARCH WERE TO:

1. Describe child care for young children (6 months to 6 years) used by low-income working families in the four communities.
2. Assess the quality of child care used by low-income working families.
3. Determine if there are variations across four Indiana communities for low-income working families in the types and quality of child care used.
4. Determine if developmental outcomes for children and employment for parents in low-income working families are linked to the quality level of child care they use.

KEY FINDINGS

Low-income Working Families and Their Child Care Providers

1. The typical parent participating in this study was a woman, a single parent with two children, working full time, and earning less than $18,000 per year, but not receiving Temporary Aid to Needy Families (TANF). Because it was not possible to randomly sample low-income working families, this study relied on a volunteer sample. Therefore the research results will not exactly represent the general population of low-income working parents and children in these communities. Compared to 2000 census population data for low-income families with at least one child under the age of 6 in the four communities, this sample reported a higher education level, a greater percentage of single parents (57% compared to 42%), and a greater proportion of African-Americans. However, this large sample of low-income working families provides valuable new information about members of a vulnerable population. With the welfare reforms of 1996, federal policy has encouraged personal responsibility and economic self-sufficiency. The families in this research were doing just that— working, going to school, and taking care of their children, with little or no government assistance.

2. The typical child care provider in this study was a 39-year-old woman with a high school diploma and some college credit, with about 10 years of child care experience, providing care without a specialized professional credential in early childhood education or child development. Caregivers of preschoolers were twice as likely (52%) to have specialized education in early education and care as caregivers of infants and toddlers (25%).

Child Care Issues in Four Communities

3. Availability of licensed child care and voucher subsidies to help low-income families pay for child care varied across these four communities, according to official state records. Licensed child care was least available in Allen County and most available in Marion County. Marion County had the largest waiting list for voucher subsidies to help low-income families pay for child care, while Lake County reported the shortest waiting list.

4. Selected child care leaders interviewed in the four communities identified several problems in providing child care for children from low-income working families, including: insufficient funding for child care subsidies, low quality care (especially for infants and toddlers), concerns about the growth of legal yet unregulated child care, and a lack of available child care services during evening hours or for sick children. Community leaders also mentioned strengths and challenges specific to each community.

5. A large proportion of low-income working parents reported in focus groups and surveys that their primary reason for using child care was to work or attend school. Most parents surveyed expressed satisfaction with their current child care arrangements—85% thought the quality of their child care was "perfect" or "excellent." However, parents also identified child care problems: concerns about the cost, quality, and safety of out-of-home child care; heavy reliance on friends and family members for primary or back-up child care; and lack of flexibility in child care and work schedules, especially for evening employment, sick children, or during holidays or school vacations.

6. More than one-third of the low-income working parents in this sample reported missing at least some work or school in the past month because of child care problems. A small proportion of mothers received assistance from their employers: finding child care (13%), financial assistance (8%), pre-tax accounts (17%), or allowing employees to take sick time to care for an ill child (53%). Fathers generally reported lower levels of child care assistance from their employers. Fathers in the sample in St. Joseph County reported the highest levels of employer flexibility, and fathers in Lake County reported the lowest levels.

Types of Child Care Used

7. The most common types used as primary child care by this sample of 307 low-income working families were licensed child care centers (38%) and licensed family child care homes (24%). Other types were child care ministries (16%), Head Start (9%), unlicensed family child care (8%), and relative care (5%). Twenty percent (20%) of the children started in child care soon after birth, and more than 75% of the children in this sample were enrolled in some type of child care by age 8 months. Infants and toddlers were slightly more likely to be in family child care homes, and preschoolers were more likely to be placed in child care centers.

8. Licensed family child care was used at a high rate by the sample families in Lake County (43%), while center-based care was more often used by the families in Marion and St. Joseph counties (57%). Families in the sample from Allen County used a more balanced distribution of types of child care.

Child Care Quality

9. Despite parents' high ratings of their child care quality, quality levels as assessed by our trained observers of all types of care used by our sample of low-income working families in these four communities were relatively low. Using widely accepted quality scales, the overall average level of child care quality was rated below "good," and just above "minimal." Almost half of the children in this sample attended child care that may not provide experiences and environment thought to be important for development. Approximately 25% of the classrooms or homes observed fell below "minimal" quality. The highest levels of overall or global quality were found in Head Start and licensed child care centers or preschools, while the lowest levels of quality were observed in child care ministries, licensed family child care, unlicensed family child care, and relative care.

10. In general, licensed child care in this sample was of significantly higher overall quality than unlicensed care. Child care for preschool age children was of higher quality than child care for infants and toddlers in both center-based and home-based settings. Child care quality for infants and toddlers was rated at the minimal level or below in all types of settings, in all four communities. The lowest mean quality levels of care for infants and toddlers were observed in unlicensed settings and in Lake County sample.

11. In general, child-adult ratios in the child care settings in this sample complied with National Association for the Education of Young Children (NAEYC) guidelines. Caregivers in center-based child care and all forms of licensed child care reported more general and specialized education than caregivers in home-based or unlicensed care.

12. The quality of relationships between parents and child care providers, as reported by both, was generally high, especially in home-based child care. However, in home-based child care settings, caregiver relationships with infants and toddlers were significantly less positive than relationships with preschool age children. This age difference was not found in center-based settings. Head Start centers and licensed child care centers/preschools were observed to have higher caregiver sensitivity than other settings. The highest levels of caregiver responsive interaction with infants and toddlers were observed in Head Start, relative care, and licensed child care centers/preschools. The lowest levels were found in licensed family child care. In general, licensed family child care tended to be the lowest of all types of care in several process quality assessments (e.g., caregiver sensitivity; caregiver responsive interactions with children), especially for infant/toddler care.

Child Care Quality and Children's Development

13. Many children in this sample scored below established test norms in areas of cognitive and language competence. Among children under 3 years, more than 80% were below test norms in key aspects of cognitive competence. Among children 3 to 6 years, 80% scored below test norms in receptive language.

14. Using a number of different quality and child development measures, the quality of children's child care was found to be associated with their cognitive, language, and social-emotional development, even after controlling for mothers' education level and children's age. These associations between child care quality and children's development were found for both infants/toddlers and preschool children. In general, these findings did not vary by community, nor by type of child care setting.

Specific Results for Infants and Toddlers:

- When overall child care quality (measured with ECERS-R or FDCRS) was higher, infants and toddlers also scored higher on early learning skills (visual reception, fine motor, receptive vocabulary, and expressive vocabulary).
- When caregivers of infants and toddlers had specialized education in child development or early childhood education, infants and toddlers were rated higher in social-emotional competence by their parents.
- When caregivers were observed to be more sensitive in their interactions with children (positive, warm, and non-punitive), infants and toddlers also scored higher on early learning skills.

- When caregivers were observed using more complex language with infants and toddlers, the children were also rated higher on measures of social-emotional competence by their parents.

Specific Results for Preschool Age Children:

- When overall child care quality was higher, preschool age children also scored higher on early cognitive, language, and academic skills (i.e., FACES preacademic tasks and receptive vocabulary).
- When caregivers used more complex language with them, preschool age children also scored higher on early academic skills.
- When parents rated the quality of the parent-caregiver relationship more positively, children had more positive academic attitudes as assessed by parents and caregivers and were higher on measures of social-emotional competence as assessed by parents.
- With the exception of Head Start and relative care, when caregivers rated the parent-caregiver relationship more positively, children were rated higher on social-emotional competence by caregivers.
- When caregivers rated the caregiver-child relationship more positively, children also were rated higher on social-emotional competence by both parents and caregivers.

Child Care Quality and Parent Employment

15. In this research sample, many low-income working families experienced challenges balancing work, schooling, and child care. A majority of male and female heads of household in the sample were employed or attended school or training programs 35 or more hours per week. Most worked standard daytime shifts. Approximately 15% more males than females reported working full time. Males tended to report working at their current employer longer than females, and females were more likely to report work interruptions due to illness or child care problems.

16. In general, there were few significant links between child care quality and parent education and employment outcomes. The type of child care setting or the community of residence did not contribute to parent employment or education outcomes. However, there was scattered evidence that families whose children were enrolled in higher quality child care settings also had more stable employment patterns.

CONCLUSIONS & ISSUES FOR FUTURE RESEARCH

The results of the Community Child Care Research Project provide new data describing the child care experiences of low income working families in 4 communities in Indiana. Because the study participants were volunteers rather than randomly selected, and because the research design was correlational rather than experimental, conclusions drawn from these findings necessarily have limitations. The findings cannot be confidently generalized to other low income working families and child care providers, nor can the links between child care quality and children's development be assumed to be causal. For example, while it is quite possible that higher quality child care does support better child development outcomes, it is also plausible that families whose children have more advanced levels of development found and used higher quality child care. Despite these limitations, the research results do represent the recent experiences of more than 300 low income working families, their children, and their child care providers. The results suggest a number of key issues that need further investigation by policy makers and researchers.

1. **Are children from low-income working families at risk for less than optimal development?** Many children in this sample scored lower than established norms in areas of cognitive competence. This is not unusual for children from low income families. The existing research literature suggests that both family and child care experiences influence children's development and school readiness. However the significant correlations we found between child care quality and children's abilities, even after controlling for maternal education and children's age, suggest that efforts to improve child care quality could have an impact on children's development. These findings did not vary by community or type of child care.

2. **Is child care obtained by low income working families of low quality?** The observed quality levels of all types of child care used by this sample of low income working families in four communities were low. Almost half of the children in this study attended child care that may not provide experiences and environments thought to be important for development. Educating parents about how to select good quality child care is important. However, there also appeared to be limited child care options for families, due to issues of affordability and accessibility of good quality care. Effective child care policies for low income working

families should take quality, availability, and affordability into account, so that good quality care is a realistic option for all children.

3. **Is there is a critical need to improve the quality of infant and toddler care for low income working families?** Child care quality for infants and toddlers observed in this research was low, using several quality measures, in all types of settings, in all four communities. Finding and affording good quality infant-toddler care may be especially problematic for young parents with lower education levels and lower wages, because they are least able to afford infant-toddler child care, which is typically more expensive than care for older children.

4. **Are new efforts needed to improve the quality of licensed family child care?** Even though licensed child care was generally of higher quality than unlicensed care, licensed family child care in this sample was observed to be low in overall quality and low in several aspects of process quality (e.g., caregiver sensitivity; caregiver responsive interactions with children)-- especially for infant/toddler care. The need for improvement in caregiver-child relationships in licensed family child care should be further investigated.

5. **Indiana should investigate quality levels in the rapidly growing number of child care ministries, currently license exempt.** Registered child care ministries are serving increasing numbers of children in Indiana. While this research observed a small sample of children in child care ministries, in general quality in these programs was lower than in licensed child care centers or Head Start. These results suggest the need for a more comprehensive look at quality of care in child care ministries, to determine the need for increased regulation to improve quality.

6. **Greater flexibility in child care and employment is needed for low-income working families to accommodate changing work shifts, non-traditional hours, and care for sick children.** Parents as well as child care leaders in this study pointed to the need for affordable and accessible quality child care that provides more flexibility for low income working families, to accommodate challenging work and school schedules, job training, and child illness. Employers should also look at the possibility of increasing support and work schedule flexibility for workers who are parents of young children.

7. **It is important that the strengths and limitations of individual urban communities are recognized and incorporated when planning for improvements in child care quality for low-income working families.** Indiana provides a unique context for child care because many child care decisions are made at the county level. Even though many experiences of this sample of low income families were similar across these four communities, there were significant differences in the demographics of families, availability of child care, types of care selected, quality levels of specific types of care, and in the focus of county-level quality improvement initiatives. This suggests there are important individual community strengths and limitations in child care for low income working families, and that future initiatives to improve quality should account for these variations.

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CHILD CARE FOR WORKING POOR FAMILIES: CHILD DEVELOPMENT AND PARENT EMPLOYMENT OUTCOMES

COMMUNITY CHILD CARE RESEARCH PROJECT
DEPARTMENT OF CHILD DEVELOPMENT & FAMILY STUDIES
PURDUE UNIVERSITY
2001-2004

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CHILD CARE FOR WORKING POOR FAMILIES: QUALITY, CHILD DEVELOPMENT, AND PARENT EMPLOYMENT OUTCOMES

INTRODUCTION

While the effects of child care quality on low-income parents and their children are well documented, little is known about how local communities provided child care to low-income working families in the wake of the welfare reform of the mid-1990s. This research addressed this issue by studying the child care experiences of low-income working parents and their children (6 months to 6 years) in four communities in Indiana (Marion, Lake, Allen, and St. Joseph counties) during 2002 and 2003. The research employed an integrated design, including analysis of existing state- and county-level data, qualitative interview data, parent surveys, provider surveys, and researcher observations to describe and compare child care in these four diverse communities, identifying community-level variables that may affect the type and quality of care selected and used by low-income working families. We also describe the quality level of child care used by low-income working families in the four communities and relate these factors to parent employment patterns and children's developing competence (cognitive and social-emotional).

STATE CONTEXT

During the time data were collected for this study (2002-2003), Indiana provided a unique context for examining these issues. Although both center-based and home-based child care settings could be licensed, Indiana was and still is a state where a high proportion of child care settings are exempt from licensing. Indiana child care regulations exempt center-based child care settings from regulations if they operate as "child care ministries." Indiana law recognizes child care ministries as child care operated by a church or religious organization that is exempt from federal taxation under Section 501c3 of the Internal Revenue Code. The religious organizations may choose not to become licensed by registering as a child care ministry. Another reason for abundant exempt care in Indiana is that home-based child care providers are not required to be licensed unless they care for six or more unrelated children (with one provider). Family child care homes are licensed for six to 12 children.

For family child care homes, caregivers were required to possess a high school diploma or a high school equivalency certificate (GED) to apply for a license. Since 2001, documentation was required that any new licensee had completed, enrolled in or agreed to complete within three years, a Child Development Associate (CDA) credential program or a similar program approved by the Division of Family and Children. For licensed child care centers, administrators were required to possess a college degree plus education and experiences in early childhood development including 15 college credit hours in early childhood education. Training requirements for licensed family child care providers included universal precautions, first aid, and one person on site to be pediatric CPR certified. Center teacher training requirements were the same but also included 12 hours of in-service training annually. Annual inspections for both family and center care included food, sanitation, health, program, and safety and fire. Child-adult ratios and group sizes for center- and home-based child care settings are displayed in Tables 1 and 2. For child care ministries, there was no educational requirement for administrators and no child-adult ratio requirement. Staff training requirements included only universal precautions and an annual inspection that included only fire.

TABLE 1. REQUIRED CHILD-ADULT RATIOS AND GROUP SIZES FOR INDIANA LICENSED CHILD CARE CENTERS

	Child-Adult Ratio	Maximum Group Size
Infants	4:1	8
Toddlers (18 to 27 Months)	5:1	10
3 years	10:1	20
4 years	12:1	24
5 years	15:1	30
School Age Children	20:1	30

COMMUNITY CONTEXT

In Indiana, child care spending decisions are often made at the county level. At the county level, Indiana's Step Ahead Initiative has also influenced child care. The purpose of Step Ahead was to development a comprehensive, coordinated, seamless array of services for all young children, birth to 13, across the state. Each of Indiana's 92 counties was required to create a "Step Ahead Council" comprised of service providers, advocates, and families to make decisions about the provision and coordination of services. The assumption was that the needs and services in each county are different and, thus, solutions to improving the service delivery system are different. Step Ahead Councils were given the task of determining how Child Care Development Fund (CCDF) quality dollars were to be spent in each county. There were five priorities eligible for funding (increase awareness of child care issues, develop partnerships between business and the public sector around child care, increase child care capacity, increase the number of credentialed providers, and reduce child care staff turnover). Each county could decide which priorities would be their focus and what percentage of the CCDF quality improvement funds would be allocated to the priorities selected. Although all five of these priorities address important issues, several are more directly relevant to quality (e.g., increasing the number of credentialed providers) than others (e.g. increasing awareness of child care issues).

CRITICAL ISSUES FOR CHILD CARE USED BY LOW-INCOME WORKING FAMILIES

- **Quality Child Care is Important for Children's Development:** High quality child care can be an important contributor to children's development. Extensive research in child care and early childhood education conducted over the past 20 years has clearly demonstrated strong, positive relationships between a variety of quality measures and various dimensions of children's development and well-being. (Lamb, 1998; Love, Schochet, & Meckstroth, 1996; NICHD, 2003; Scarr & Eisenberg, 1993; Vandell & Wolfe, 2000).

- **The Child Care Context is Different for Low-Income Working Families:** Low-income families are also more likely than middle class families to need "irregular" or flexible child care. In other words, they need child care that covers second and third shift work, changing shifts, etc. Formal child care settings are least likely to accommodate these needs (Phillips, 1995). Therefore, forms of informal, home-based care become more attractive to low-income families. Among families who have selected home-based care for their children, lower income and ethnic minority families are more likely than their white, middle-class counterparts to use relatives rather than regulated family child care providers, and were less likely to pay for care (Kontos, Howes, Shinn, & Galinsky, 1997). Therefore, low-income children are more likely to be cared for in legally exempt (not required to meet state licensing requirements) or illegal care (Helburn & Bergmann, 2002). The type of child care families select has implications for quality of the care they receive.

- **Children of low-income working families attend lower quality child care:** Although significant progress has been made in equalizing access to child care since the 1960s, including the expansion of Head Start and other state funded preschools for families living near or below poverty live, there are still disparities in the quality of care used by families at different income levels. Relative care, which is

TABLE 2. REQUIRED CHILD-ADULT RATIOS AND GROUP SIZES FOR INDIANA LICENSED FAMILY CHILD CARE HOMES

Age Range	Adult-Child Ratio for Licensed Family Child Care	Maximum Group Size for Licensed Family Child Care
Birth to 24 months	(6:1) [two of the 6 children must be at least 16 months and walking. Otherwise the ratio is 4:1]	Number of children allowed: 13-16; Provider's own children are counted if under age 8
Birth to 6 years	(10:1) [No more than 3 of the 10 children may be under sixteen months of age and must be walking]	
3-10 years	(12:1)	
All ages	(12:1) [the maximum capacity in a child care home is 1:12 plus 3 children during the school year who are enrolled at least in Grade 1]	

often utilized by low-income families, has been found to be significantly lower in quality than regulated family child care (69% of relatives were providing inadequate quality care). Kontos and colleagues (1997) found that a little less than half (43%) of low-income families using home-based care were receiving low quality care compared to 13% of their middle income counterparts.

- **Low-Income Children Benefit from High Quality Early Care and Education but Frequently Lack the Opportunity to Participate in Such Settings:** Based in part on the early intervention literature, it has been assumed high-quality community-based child care can serve as a protective factor for children at risk for impaired development due to risk factors such as low parental education, minority ethnic background, single parent homes, and poverty (Lamb, 1998). Several studies have reported differential effects of child care on cognitive or language development related to socioeconomic status or family structure (Peisner-Feinberg & Burchinal, 1997) and ethnicity (Burchinal, Ramey, Reid, & Jaccard, 1995; Peisner-Feinberg & Burchinal, 1997). These researchers found the effects of child care are stronger for preschool children from less advantaged circumstances.

- **Welfare Reform and Other Policies Have Brought Child Care to the Forefront of Concerns for Low-Income Working Families:** The implementation of welfare-to-work programs has placed new strains on the child care system. Income levels in Indiana, amount of child care subsidy funding, and rates of employment of low-income families post-welfare reform have resulted in a situation where the vast majority of families receiving subsidies are at 100% of poverty level or below (Janet Deahl, Educare consultant, Indiana Family Social Services Administration, personal communication, June, 2001). Few low-income families whose incomes are above 100% of poverty are receiving subsidies for their child care needs. This is a situation that has a major impact on low-income working poor families who must pay a large proportion of their income for child care in order to stay in the workforce. Focusing on child care for low-income families is particularly important as welfare reform continues and the demand for child care on the part of families transitioning from welfare to work increases (Collins, Layzer, Kreader, Werner, Glantz, 2000; Zaslow, Oldham, Moore, Magenheim, 1998).

- **Not Enough is Known About the Child Care Settings Utilized by Low-Income Working Families:** Little is known about how the child care market works for low-income working families. The differences in availability of non-parental care for different kinds of families has been well documented; however, less is known about the roles state policies and local contexts may play in affecting quality of available care. State policies that govern child care regulation as well as community–level contextual variables (such as use of federal child care dollars, availability of regulated versus exempt child care, employment rates, availability and saturation of child care subsidy funds, and diversity) are among the forces that may be affecting quality of child care.

RESEARCH DESIGN AND METHODOLOGY

The study was conducted in four urban communities in Indiana: Marion (Indianapolis), Allen (Fort Wayne), Lake (Gary, Hammond, East Chicago), and St. Joseph (South Bend) counties. These communities were chosen because they were abundantly populated with varying availability of licensed and unlicensed child care. During phase I of the research, 22 community key informants were interviewed, eight parent focus groups were conducted, 188 low-income working parents were surveyed, and existing community data were analyzed to describe child care utilization and to identify important community child care context variables for low-income families. Then, during phase II of the research, 307 low-income working families whose young children were in out-of-home child care (approximately 76 in each community; split between infants/toddlers and preschool-age children) and their child care providers in the communities were assessed, including rigorous measurements of child care structural and process quality, children's cognitive and social-emotional competence, and parents' employment patterns. (See Appendix A, Methodology, for detailed descriptions of procedures and measures.)

The families who participated in the study were recruited by research assistants in public places (public libraries, community centers, etc.), schools (vocational-technical, GED classes, state university, etc.), and government agency offices (workforce development services, WIC, Child Care and Development Fund (CCDF) voucher offices; etc.). Attention was given to recruiting an equal number of families in each community (approximately 76 in each community) and equal numbers of families with infants/toddlers and preschool-age children. A total of 307 low-

income working families whose young children were in out-of-home childcare were recruited to participate.

Several eligibility criteria were established to ensure the sample represented low-income working families with young children in out-of-home care. The criteria included:

- Annual family income was less than $35,000.
- The head of the household was working (work, school, or job training totaling at least 20 hours per week).
- The family had a child between 6 months and 6 years old, and the child was in out-of-home care at least 15 hours per week for the past two months.
- The family was not on TANF (Temporary Assistance for Needy Families).
- The child care provider agreed to participate.

SURVEY MEASURES AND INSTRUMENTS

Phase I of the research had four main components: community child care leader semi-structured telephone interviews, parent focus groups with low-income working families, parent surveys of potential participants, and review of existing community data. The community child care leader interviews addressed issues from the perspectives of the family, the child care provider, and the community. Parent focus groups explored current child care arrangements and issues such as supplemental child care, flexibility of child care, and financial resources, as well as the parents' perceptions of ideal child care and what communities do to support families. Parents completed a brief, self-administered questionnaire about their employment status, income, number of children, and child care utilization, including difficulties with child care arrangements, employer assistance with child care, and how current arrangements could be ideal. Existing community data included community child care supply, employment level and wealth, availability of child care resources and referral, and availability and utilization of child care subsidy funds as well as the overall diversity of the community.

Phase II of the research included the child assessment, parent survey, caregiver survey, and classroom observations. The child assessments included the major components of cognitive and social-emotional development and were collected through direct child assessments and rating scales completed by parents and caregivers. The parent survey was designed to measure parent employment patterns, the parent's perceptions of child care and work, the parent's relationship with the caregiver, and their child's social and emotional development. The caregiver survey was designed to gain information about their specialized training and experience in child care work, relationship with the child and their parents, and ratings of each child's social and emotional development. Classroom observations collected data on both structural and process quality of the care environment as well as children's play, social interaction and talk while in child care. (See Appendix A, Methodology, for detailed descriptions of procedures and measures.)

OVERVIEW OF PROJECT

The current document is a report of the Community Child Care Research Project (CCCRP) funded by the U.S. Department of Health and Human Services/Child Care Bureau. Subsequent chapters describe:

- Community contexts, including economic conditions and experiences of low-income working families in these four Indiana communities;
- The characteristics of the low-income working families, children and child care settings, and caregivers who participated;
- The child care experiences of low-income working families, including child care utilization, issues, problems, and solutions and variations in the child care context among communities;
- The quality of child care in the four communities and variations among communities;
- The children's social and cognitive competence, the relationship between child care quality variables and children's competence, and how the relationships vary across child care settings and communities; and
- The parents' employment and education patterns, the relationship between child care quality variables and parent employment and education patterns, and how the relationships vary in different child care settings and communities.

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Chapter 1

CHILD CARE FOR LOW-INCOME WORKING FAMILIES: FOUR COMMUNITY PROFILES

The first phase of the Community Child Care Research Project consisted of gathering information about the child care contexts of four Indiana communities: Marion, Lake, Allen, and St. Joseph counties. To provide an initial picture of these four communities in relation to child care, we examined existing community data and child care indicators available for the communities, conducted qualitative interviews with community child care leaders and low-income working parents, and did a brief non-random survey of potential parent research participants. Together, these sources provided a preliminary look at the child care perspectives of the families, the child care providers, and the larger community. We reviewed information about community child care supply, employment levels and income, availability of child care resources and child care subsidies, as well as current child care financial resources, utilization, and problems.

WHAT IS THE OVERALL DEMOGRAPHIC AND WELL-BEING PROFILE OF EACH COMMUNITY?

There were both commonalities and differences in the overall populations and in well-being indicators of the four communities during the 2002-2003 time frame of data collection. The **Marion County** site contained the largest population of Indiana's 92 counties at 862,499 people. It is home to Indiana's capital city, Indianapolis, which accounts for 91% of the county's population and is located in the geographic center of the state. According to 2000 U.S. Census data, nearly three-fourths of the population (71%) was European American, while African Americans (24%) and Latinos (4 %) were the largest minority groups. Just over three-fourths of the adult residents were high school graduates (77%) and nearly one-fourth held college degrees (21%).

Lake County is Indiana's second most populous county with 485,851 people. The largest city in the county is Gary, home to nearly one-fourth of the county's populace. We also collected data in two other cities of significant size: Hammond and East Chicago. Lake County is located in the northwest portion of the state, sharing a border with Illinois and Chicago. Two-thirds of the population was European American, while African Americans (25%) and Latinos (12%) composed the largest minority groups. The majority of the adult population were high school graduates (81%) and 16% held college degrees.

Allen County is located in the northeast portion of the state and is Indiana's third most populous county, occupied by 337,310 people. Fort Wayne is its largest city and is home to nearly two-thirds of the county's populace. Eighty-three percent of the population was European American, while African Americans (11%) and Latinos (4%) composed the largest minority groups. The majority of adults were high school graduates (86%) and nearly one-quarter held college degrees (23%).

Finally, **St. Joseph County**, located in the north central portion of the state, is Indiana's fourth most populous county with 266,378 people. South Bend is its largest city and is home to 40% of the county's populace. The majority was European American (82%), while African Americans and Latinos comprised the two largest minority groups (11% and 5%, respectively). Over three-fourths of the adults were high school graduates (79%) and 14% held college degrees.

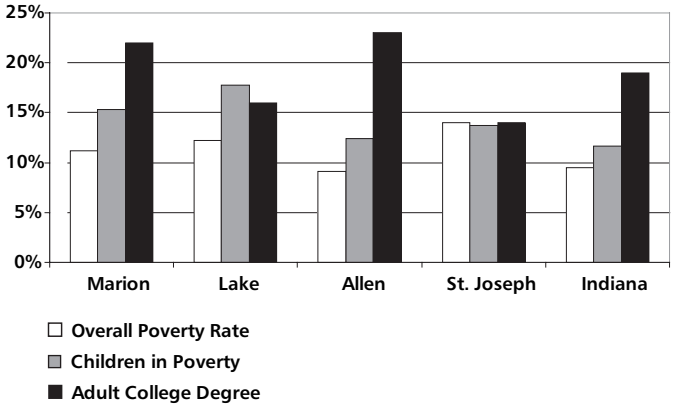
A noticeable difference among the communities was the percentage of minority population. All four communities had minority populations above the Indiana average (16%); however, greater proportions of minorities resided in Marion and Lake counties (30% and 33%, respectively) while Allen and St. Joseph counties were much closer to the state average (17%, 18%, respectively).

The proportion of families receiving Temporary Assistance for Needy Families (TANF) varied among the four counties. Three counties reported a greater percentage of families than the overall state average (6.2% of families with children under 18). The percentage of families with children receiving TANF ranged from 6% in Allen County to 16% in Lake County. St. Joseph and Marion counties fell between, reporting 8 and 11%, respectively. The four community sites were similar in unemployment rates (5%-7%), median household and per capita income (per capita income averaging around $29,000 with median household income around $41,000), and percentage of households headed by single parents (9-11%). Although a little less than 10% of all households in Indiana were headed by single parents at the time

of this study, 51% of low-income families (income at or below 200% of poverty level) in Indiana were headed by a single parent.

In general, poverty rates among the four communities were similar (9-12%); however, differences emerged when the percent of children living in poverty was considered. Figure 1.2 displays poverty rates for the four communities. Table 1.1 displays the rank order of the communities on key indicators. All communities were above the Indiana average percentage rate for children in poverty (12%); Lake County had the highest percentage (18%) while Marion, St. Joseph, and Allen counties followed with 15%, 14%, and 12%, respectively). While almost 12% of children under 18 lived in poverty in Indiana, 42% of Indiana children under age 6 lived in low-income families. Many low-income families (61%) included at least one parent who was employed full-time year round. Only 10% of low-income families included no employed parents (U.S. Census, 2003). Therefore, a large number of families must rely on non-parental care for their children while they work. See Well-being Indicators of Indiana and the Four CCCRP Communities (Table B1) in Appendix B.

FIGURE 1.1 POVERTY RATES, PERCENT OF CHILDREN IN POVERTY, AND PERCENT OF ADULT COLLEGE DEGREES[a]



WHAT ARE THE CHILD CARE EXPERIENCES OF LOW-INCOME WORKING FAMILIES IN THESE FOUR COMMUNITIES?

During Phase 1 of the Community Child Care Research Project, we reviewed existing community data, conducted interviews with community child care leaders (key informants) in each county, held focus group interviews with low-income working parents, and asked parents in public places to fill out a brief questionnaire. We used these data sources to construct descriptive profiles of the child care context for low-income working families in each of the four communities.

EXISTING COMMUNITY DATA

The availability of child care and utilization of child care vouchers in the four communities were examined using data compiled by the Indiana Youth Institute (2003). The number of licensed child care slots available per 100 children ages 0-4 ranged from 22 in Allen County to a little over 35 in Marion County. Lake and St. Joseph counties fell between these figures (24 and 30, respectively). These figures suggest families in Allen and Lake counties had less availability of licensed care for young children, while those in Marion and St. Joseph had a more adequate supply of licensed care. The percentage of children receiving child

TABLE 1.1 RANK ORDER OF COMMUNITIES' KEY INDICATORS, U.S. CENSUS DATA

Community	Marion	Lake	Allen	St. Joseph
Population, 2002 [a]	1	2	3	4
Percent of population in minority ethnic groups, 2002 [a]	2	1	4	3
Percent of households headed by single parents, 2000 [a]	1	2	4	3
Median household income, 2000 [a]	3	2	1	4
Overall poverty rate, 2000 [a]	2	1	4	3
Percent children in poverty, 2000 [a]	2	1	4	3
Unemployment rate, 2002b	2	1	3	3
Number of licensed child care spaces per 100 children, age 0-4, 2002 [b]	1	3	4	2
Ratio of children receiving child care vouchers to waiting, 2002 [b]	4	1	2	3
Percent of children receiving child care vouchers with family income 100% poverty or below, 2002 [b]	4	2	3	1

[a] U.S. Census Bureau, 2002. [b] Indiana Kids Count, 2003, Indiana Youth Institute. NA = data not available.

care vouchers who came from families with incomes at or below 100% poverty level ranged from 54% in Marion County to 78% in St. Joseph County. Allen and Lake counties were 63% and 77%, respectively. The ratio of the number children receiving child care vouchers to the number of children on waiting lists showed a similar pattern for the counties. Marion reported the smallest ratio (or relatively largest waiting list; 3:1) while Lake reported the greatest ratio (or relatively smallest waiting list; 38:1). St. Joseph and Allen counties reported ratios of 5:1 and 9:1, respectively. Therefore, of these four counties, it appeared child care subsidies were most available to low-income working families in Lake and St. Joseph counties, and least available to low-income working families in Marion and Allen counties. It is unclear whether this was a reflection of differences in the service delivery of vouchers, differences in funding levels, or differences in the demand for child care by families in the four communities.

There were differences in the types of child care parents purchased with vouchers in the communities. Allen County used child care vouchers relatively more often for home-based child care, which supported the community's apparent preference by low-income families for this type of child care. Allen County also used child care vouchers for exempt center care (i.e., child care ministries) considerably less than the other communities.

The use of child care vouchers varied by community and the child's age. St. Joseph County used the largest percentage of child care vouchers for toddlers and preschoolers (37%). Marion, Lake, and Allen counties used the largest percentage of child care vouchers for school-aged children (43%, 40, and 39%, respectively). Infants (12 months and under) comprised the smallest group using vouchers (ranging from 3% to 12%) in these communities. This could be due to the parents' preferences to stay home with their children at young ages, or to place them in more informal care arrangements, or perhaps a lack of knowledge about child care vouchers among parents of infants. Table B2, presenting an overview of child care data at state and community levels, is included in Appendix B.

COMMUNITY CHILD CARE LEADER INTERVIEWS

Semi-structured telephone interviews were completed with 22 community child care leaders—or key informants— from Marion, Lake, Allen, and St. Joseph counties, including five or six in each county. (See the list of key informants' positions, listed by county, in Appendix B.) Key informants were identified as individuals who had knowledge and expertise in child care or the needs of low-income working families. They included representatives from Purdue Extension, a county official from the Division of Families and Children, members of the local Step Ahead coordinating council, business human resource specialists, representatives of WIC offices, representatives of the Child Care Resource and Referral Agencies, and a professor of psychology at a local university who works closely with early education and care programs.

Key informants identified insufficient funding for child care subsidies; concerns about child care quality, especially infant-toddler care; and lack of extended hours and sick care as critical issues.

The key informant interviews addressed child care issues from three perspectives: the family, the child care providers, and the larger community. Questions about the family perspective addressed the strengths and weaknesses of the community child care context, needed child care services, and child care subsidies. Questions about the child care provider perspective included training, resources, support, and quality. Questions about the larger community perspective addressed unique features of the community and ways that might best address the child care issues of the community. (Interview questions are listed in Appendix A.)

In all communities, key informants identified insufficient funding for child care subsidies; concerns about child care quality, especially infant-toddler care; and lack of extended hours and sick care as critical issues. While Marion key informants were mainly concerned about the quality of unlicensed ministries in their communities, St. Joseph informants expressed concerns about quality of both unregulated center care and unregulated relative care. Marion informants also identified the lack of funding for child care provider training resources as a critical issue. Lake informants expressed a need for more bilingual-bicultural care, reflecting the higher percentage of Latino residents in that county. Allen informants reported being concerned about the disparity of child care services between rural and urban areas, but praised the existing well-coordinated community services and strong partnerships among good providers. The following provides a summary of findings from the key informant interviews from each community:

MARION COUNTY

- **Strengths and Weaknesses of Community:** The strong collaboration of many diverse leaders and their willingness to join the effort for better child care were mentioned as strengths. One informant remarked, "In Marion County, people tend to be more politically savvy, and networking is part of the culture." The large number of unregulated ministries, and a lack of adequate child care funding were identified as concerns.

- **Needed Child Care Services:** Weekend care, sick child care, second shift care, and child care for parents to attend school and job training were needed. Infant and toddler care appeared to be problematic, in particular, because young parents who are more likely to be poor, and thus least able to afford more expensive infant-toddler child care, were also most likely to have children in this age range.

- **Child Care Subsidies:** Even though every available resource was being fully utilized, subsidized care for low-income working families was considered to be insufficient.

- **Child Care Provider Needs:** Supports for training, incentives to education, mentoring programs, workshops and demand for higher standards were needed. One informant commented, "Even if efforts quadrupled in some instances, there would still be only minimal coverage of the need for training and education."

- **Quality of Child Care:** The perception of key informants was that the general quality of care in Indianapolis is slightly above average. However, they expressed particular concerns about the quality of rapidly expanding unlicensed child care ministries.

- **Unique Features:** Because Marion County is the administrative seat of the state, unique features include the presence of a large bureaucracy, a distinctively different atmosphere between the center and the neighborhoods, as well as some of the problematic characteristics of large urban metropolitan areas, such as coordinating services for a large population.

- **Needs for the Future:** More business involvement, more training for quality, and increased enforcement of child care regulations were identified as needs.

LAKE COUNTY

- **Strengths and Weaknesses of Community:** Strengths included a strong caregiver network, a core group of people promoting quality for child care staff, and a large number of informal home-based child care providers. Concerns included low pay for child care providers, and the lack of regulated care.

- **Needed Child Care Services:** Care for infant/toddlers, non-traditional hours care (i.e., evening care, 24-hour care, drop-in care, etc.), child care for children with special needs, better quality school-age care, sick child care, and bilingual/multi-lingual care were identified as needs. Also identified were more licensed care, more accredited centers, and better outreach to low-income families, especially families in East Chicago, Hispanic families, and families on TANF. Licensed center child care was thought to be viewed by many parents as unapproachable, because of its high cost. Therefore, many parents preferred the use of license-exempt providers close to the family such as relatives, friends, and neighbors.

- **Child Care Subsidies:** Some believed subsidies were sufficient, while others cited large waiting lists as a barrier to families receiving the subsidies they need. Children requiring voucher-subsidized child care in Lake County represented 25% of all Lake County children. However, in densely populated, poverty dense areas of East Chicago, Gary, and Hammond, all of the children from families served by child care providers were voucher recipients. Consequently, child care providers in those areas relied solely on voucher dollars to provide care.

- **Child Care Provider Needs:** Better provider training (e.g., availability of a bachelor's level program in early childhood education, Child Development Associate (CDA) certification, etc.) and better compensation and benefits were needed. There was also a need for facility improvements, new materials, and transportation resources for the children served.

- **Quality of Child Care:** No consensus. Most indicated there were good quality child care settings, but much room for improvement.

- **Unique Features:** No consensus. Some expressed Lake County was like any other metro area while others identified the following unique features: heavy reliance on in-home familial care as opposed to relative and non-relative home-based care, low educational level of child care providers, concerns about safety, the largest and most rapidly growing concentration of Hispanic families of any Indiana county, and a high unemployment rate due to steel mill closings.

- **Needs for the Future:** Licensed commercial child care programs had difficulties providing competitive wages and benefits to employees because of the instability of a client population that selects the lower cost options of license-exempt family or neighborhood-based care as an option. More licensed child care centers and more support for centers; better-coordinated/organized resources and education including better, locally-controlled child care resource and referral services; and better quality monitoring (regulations for child care homes and centers) were mentioned as needs for the future.

ALLEN COUNTY

- **Strengths and Weaknesses of Community:** Strengths were found in partnerships, a well-functioning child care resource and referral agency, coordinated services to children and families, and a strong partnership of providers and businesses interested in child care issues. Weaknesses included insufficient high-quality child care spaces for low-income working families.

- **Needed Child Care Services:** Care for school-age children during school vacations, sick child care, and second shift care were needed.

- **Child Care Subsidies:** Resources were being fully utilized, but there were not enough subsidies to go around, and there is a fear it will get worse.

- **Child Care Provider Needs:** Key informants were mostly satisfied with current efforts to train providers and attend to child care quality issues. There was a wide variety of choices, including programs like CDA credentials and other helpful processes such as mentoring for providers interested in becoming accredited, but there is a need for more providers to use the resource.

- **Quality of Child Care:** Child care quality in Allen County was perceived on a continuum ranging from fair to good, with a few excellent programs.

- **Unique Features:** Low-income families preferred child care arrangements within family settings, particularly for their younger children. As children get older, parents begin to look for a place that emphasizes education more. Center-based care was less preferable because it is perceived as bad, impersonal, and less safe, fueled by widely circulated news reports about children's maltreatment in one or two centers. Informants expressed the opinion that child care preferences of low-income families in Allen County were not likely to change, under the current funding system, because parents would still choose the same arrangements if it translated into income for a friend or a family member.

- **Needs for the Future:** Assisting families by offering living wages, tying child care funding to quality, and making it worthwhile for providers to get accredited by attaching higher value to their services were efforts needed, according to our key informants.

ST. JOSEPH COUNTY

- **Strengths and Weaknesses of Community:** Child care resources were present in the community, but they were not necessarily accessible to low-income working families. Barriers for these families included cost of care, finding quality licensed care in a convenient location, and locating Child Care Resource and Referral (CCR&R) services.

- **Needed Child Care Services:** Sick child care, school-age care during school vacations, second shift care, and care for special needs children were needed.

- **Child Care Subsidies:** There were not enough child care subsidies to meet the need. The need was perceived to be greater for low-income working families than for families on TANF. Because TANF families receive priority on child care vouchers, families who qualified for vouchers but were not on TANF may have to wait a year or more to receive it. Child care resource and referral services were understaffed as well, which exacerbated the subsidy gaps.

- **Child Care Provider Needs:** Affordable and accessible consultants and training, such as provided by Teacher Education and Compensation Helps (T.E.A.C.H.) Scholarships, as well as better information on what is available were needed.

- **Quality of Child Care:** Licensed child care sites were considered average or above average in quality. Concerns were expressed about the quality of unregulated center care and relative care.

- **Unique Features of Community:** Some could not identify unique features of this community; others mentioned a high availability of child care and good awareness of child care issues within the community.

- **Needs for the Future:** More funding to reduce the child care voucher waiting list, increased training for providers, and more employer involvement in child care issues were needed.

PARENT FOCUS GROUPS

Two parent focus groups were conducted in each community. A total of 46 parents participated in the focus group interviews in St. Joseph, Marion, Allen, and Lake counties (n = 9, 9, 8, 20, respectively). Focus groups took place in public libraries, job training centers, and child care centers. They were comprised primarily of clients of these agencies. The focus group interviews proved to be valuable sources of information, as parents were eager to share their ideas, concerns, and suggestions with the researchers. Questions used to guide focus group discussions are presented in Appendix A.

Focus group parents in all four communities expressed concerns about quality of child care. Most parents in the focus groups wanted a better quality child care arrangement for their children, but felt they had few options. Still, most parents commented they were satisfied with their current child care arrangement. These parents negotiated a number of significant issues while supporting the well-being of their children. One mother elected to keep her child in a less than ideal child care setting because her daughter had already endured a number of life changes including adoption, diagnosis of a chronic illness, and recently losing her father. To this mother, staying in the same setting regardless of quality provided long sought after stability for her child. A necessary **reliance on families, friends, and neighbors for supplemental care** was expressed. One mother remarked, "It is kinda hard. I am relying on friends to pick him up and drop him off." Still other parents reported not having back-up child care available to them on a predictable basis. **Lack of extended hours, flexibility, and sick care for their children** were also mentioned as critical issues in their communities. A parent of the child diagnosed with a chronic illness expressed her frustration with changing jobs and settling for a lower paying job in order to have more flexibility and time with her child. "You can't take a sick day for your child because they (the employers) say, 'We didn't hire your child.'" Another mother expressed her frustration with the inflexibility of child care hours and the difficulty of getting basic family tasks done. "But in the evening, because I work far south and I get off at five, and it's flooring it to get here (the child care center) at a decent time, where I know that I gotta get here on time. So it would be nice sometimes to know that, you know, it's okay, it's Tuesday, um, my kids can be there, um, I gonna do my grocery shopping."

> *"You know, look at us, we are all single mothers. We all work 40 to 50 hours a week just to pay the rent and wonder if we are going to have enough groceries for the following week. Boy, boy, oh boy, I don't know what I would do (without child care subsidies)*

Some parents reported being satisfied with the **amount of financial support** they received for child care, while others were not. Parents reported they relied heavily on child care subsidies to make ends meet and keep food on the table for their children. One mother remarked, "You know, look at us, we are all single mothers. We all work 40 to 50 hours a week just to pay the rent and wonder if we are going to have enough groceries for the following week. Boy, boy, oh boy, I don't know what I would do (without child care subsidies)." Many parents, however, expressed **frustration with the child care subsidy income requirements**. Parents felt there was a disincentive to get a promotion or get a better job. One mother summed it up, "So I can't even afford to get any extra money, because I can't afford to go without child care. If I make anything more than what I make (now), they'll pull my child care. I know I could make more money if I wanted to, but it won't balance out to where I could get child care. I mean even a nickel or 10 cents more an hour."

Although there were similarities among the four communities, unique issues were identified within these parent focus groups in each community. **Marion County** parents expressed a preference for center child care and reported being satisfied overall with their current arrangements, stating ideal arrangements are the ones currently keeping their children safe and allowing them to go to work. Ideal care would be open all the time and would have flexible drop-off and pick-up times. The "flexibility" parents needed in their current child care arrangements was primarily found in supplemental care provided by relatives. Some commented on changing their work schedule to make their child care arrangement work, and doing things for themselves such as studying for school after their children had gone to bed. Cost and location were important factors in selecting child care arrangements. Most had gone through a process of using different settings to arrive at an arrangement acceptable to them. Their expectations changed with the age of their child, but many reported the relationship with their child's caregiver as central to their appraisal of the quality of their arrangement.

Stability in a caregiver was very important to Marion County parents, and they felt caregivers should be paid more so there would be less turnover and greater stability for their children. One parent commented, "I am very pleased with the way my kids are progressing here, but sometimes I wish I could be a fly on the wall and I could see everything that happens here. I don't like that sometimes a lot of teachers are coming and going. I would like for them to get some good teachers and pay them a little more so that they can stay." Marion parents also expressed a need for education about parenting as well as about services available to help low-income families. One mother observed, "You know, they need to show like a commercial, 'If you qualify for this program and send your child to day care, so you can get to work,' 'cause I think that is why a lot of women sit at home. Because they've been thinking, 'I have to pay all this money for it.'"

Lake County parents reported using a variety of child care arrangements, but most cited a close relative as their primary child care. Perhaps due to the reliance on relative care, parents in these groups did not indicate problems with flexibility in child care. They felt their mothers, sisters, and other relatives would take their child when needed. Trust in their child's caregiver was also an important issue, which provided some explanation of their reliance on relative care. Parents had many concerns about their child's health and safety in child care centers, especially for infants. Fears about maltreatment were also expressed. It seemed their concerns were derived from their mistrust of caregivers whom they do not know. One mother stated, "You look at the baby and you're, like, 'What happened?' And she'll (the caregiver) be like, 'Well, she fell is how this happened,' but that's not what happened." However, relative care was not without its problems. For example, the issue of discipline was discussed. Parents felt their relative did not have the same disciplinary style and there would be inconsistency between what the child was allowed to do at home and allowed to do at child care. Negotiations about disagreements like these with relatives can be difficult, because the relative is often providing free care and has set ideas about child rearing.

Transportation was also heatedly discussed in the Lake County groups. Parents reported difficulties taking their child on the public transportation system because of its unreliability. The high cost for taxis or buses to and from child care and school or work was also problematic for parents. One mother said, "Anybody who stays here knows that if you don't have your own transportation, you can't depend on the public (transportation)." Another parent shared, "I take a cab to my mother's house. And then I take a cab back home. Then I get on the bus to come to school. That's what I go through everyday. Sometimes she (her mother) will keep my kids for three days in a row … so I don't have to keep coming back." The lack of availability of child care settings accommodating children with special needs (i.e., feeding tubes, etc. as well as enough staff in classrooms) was also mentioned. One mother recounted, "My son is on a machine. He had a hard time breathing when he was, like, 5 months old, and every day care I went to, we came in, he had that big old bag with him, and it was like, 'We don't do that, we don't do that.'" According to these Lake County parents, ideal care would include non-traditional hours care on evenings and weekends, drop-in care to give them time to run errands, and reliable transportation to and from child care.

"I take a cab to my mother's house. And then I take a cab back home. Then I get on the bus to come to school. That's what I go through everyday. Sometimes she (her mother) will keep my kids for three days in a row … so I don't have to keep coming back."

Allen County parents identified a preference for home-based care and a shortage of infant/toddler care. One mother related, "Most places (child care settings) I called, they wanted them 1 and walking or 3 and potty trained. I couldn't find anywhere to take him." In an ideal world, these parents said, they would stay home and be with their children. Even if families were receiving services, they still needed to supplement the child care cost. Parents also talked about "the vicious circle"—the impossible situation of needing a job to get money for child care and needing child care to get a job. It remains largely a puzzling problem for these parents. They seemed particularly disturbed with the idea of having to put their children in child care so they may keep their services, while not trusting the placements they could afford. They reported feeling as if they had to give their babies up, and had no control over who goes in and out of the places that they can afford. This seemed to be one of the major reasons they elected to keep children in the family or stay at home with them. They did not agree with the time limitations placed on public assistance, because they felt young mothers were very vulnerable for a long time, and the two-year benefits limit was not a fair option. The possibility of being laid off work or having their husband leave them are high, and this places young mothers in an extremely precarious situation. There were also concerns about quality of child care: "More money does not necessarily mean better child care; it just means better toys to play with, more field trips, more things."

St. Joseph parents reported using a mixture of home-based and center-based care. Parents expressed some concerns about quality, but were for the most part satisfied with their current child care arrangements and believed that their community was doing enough about child care. However, they also said ideal child care would consist of longer hours, in-home care, and more assistance in paying for care. Consistently, parents of older children were concerned with the educational aspects of child care, just as the parents of younger children were concerned with the warmth and trust dimensions of their child care. Cleanliness and hygienic conditions were also an issue. Parents reported being distraught when they picked up their children at the end of the day, and they had not been kept clean. One parent reported, "And I don't like the part that I come in there every day to get my daughter. My daughter's face is filthy. And I'm, like, 'Oh my god, what is all over you?' And she (the caregiver) is like, 'We gave her a wipe, but she preferred to clean the table with it instead.' Okay, so why didn't you grab another one and wipe her face?"

SUMMARY: COMMUNITY CHILD CARE LEADER AND PARENT FOCUS GROUP FINDINGS

Table 1.2 provides a side-by-side comparison of themes identified in the parent focus groups and key informant interviews for each community. There was some congruence between parents and key informants on critical issues. Key informants and parents in Marion both identified the importance of additional child care subsidies and the need for extended care hours. Lake informants and parents both expressed concerns about child care quality and the need for extended hours, flexibility, and sick child care. Informants and parents in Allen both identified concerns about the quality of care available to low-income families. St. Joseph informants and parents reported a frequent reliance on relative and informal care.

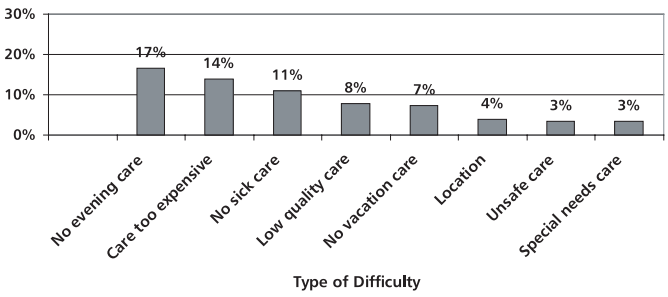
Parent surveys

A total of 151 low-income working parents completed a brief, self-administered, structured questionnaire about child care utilization. Low-income working parents were recruited in public places such as local agencies and organizations that served low-income working families, from employers who hire low-wage workers, and through local job training programs in each community.

Parents were given a list of difficulties with child care arrangements, a list of employer assistance with child care, and a list of how their current arrangements could be ideal. They were asked to indicate which items applied to them. Forty-eight of the responding parents were also focus group participants. Only one respondent was male. Participation level varied by community. The largest response was in St. Joseph County (n = 72). From Marion, Lake, and Allen counties, 32, 30, and 17 parents completed these surveys, respectively.

In general, parents reported using one caregiver in the past week (M = 1.19). However, a small number reported using up to six caregivers. One-third of the respondents (33%; n = 50) reported at least one difficulty with their child care arrangements. Figure 1.2 presents the difficulties parents identified. The most common difficulties were lack of evening or night care, too-expensive child care, and no sick child care available.

FIGURE 1.2 PARENTS' REPORT OF CHILD CARE DIFFICULTIES (N=151)



Problems with child care clearly affected a significant portion of low-income working parents' work performance. Thirty-five percent of the respondents (53 parents) reported their child care problems had directly affected their work. Of those whose work had been affected by child care problems, 70% reported they had to leave work early, while 62% reported missing days of work because of these problems. On average, parents reported approximately one day of work missed in the past year due to child care problems, but some parents reported missing as many as 14 days of work. Overall, parents reported leaving work early approximately two days in the past year, but some reported leaving

TABLE 1.2. SUMMARY OF CRITICAL CHILD CARE ISSUES FROM INTERVIEWS AND FOCUS GROUP

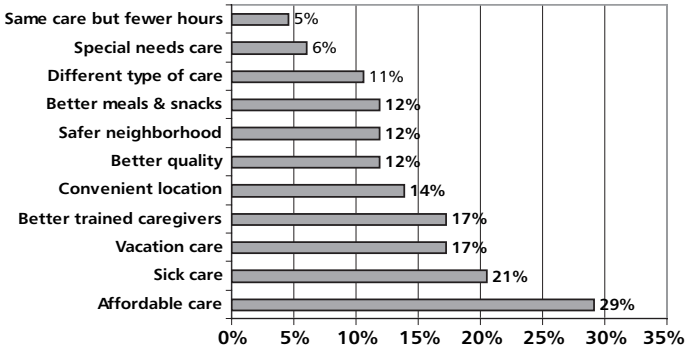
	Parent Focus Groups: Critical Issues	Key Informant Interviews: Critical Issues
Marion	• Center care preferred. • Multiple child care arrangements difficult to manage. • Rely on relatives and friends for backup. • Need for extended hours. • Vouchers are critical.	• Insufficient funds for subsidies. • Quality concerns about unlicensed ministries. • Need for extended hours and sick care. • Lack of funding for provider training.
Lake	• Reliance on relative care. • Lack of reliable public transportation. • Extended hours and flexibility are important issues, often lacking in formal care. • Concerns about quality, safety. • Care for children with special needs.	• Great need for more quality care. • No established resource & referral agency. • Need for higher quality, extended hours, sick care. • Need for bilingual-bicultural care.
Allen	• Felt there was a disincentive to work • Preferences for home-based care. • Concerns about quality of care. • Rely on family, friends, neighbors for supplemental care. • Shortage of infant-toddler care. • Need for sick child care or more flexible leave policies. • High cost of child care	• Well-coordinated community services. • Demand for child care increasing. • Concerns about quality of child care for low-income families. • Extended hours needed. • Families prefer relative care for infants & toddlers. • Insufficient subsidies. • Disparity of services between rural and urban areas.
St. Joseph	• Use mixture of home-based and center-based care. • Rely on neighbors and relatives for backup. • Most had no stable backup. • Need more flexible hours, nights, weekends, and easy transportation for children to child care. • Concerns about quality. • Concerned about remaining eligible for child care subsidies	• High demand for child care. • Relative/informal care used often. • Insufficient subsidy funds. • Need for extended hours, sick care, and care for special needs. • Concerns about quality of unregulated center and relative care.

early up to 26 days. Forty-three percent of parents reported they couldn't concentrate on work because of child care problems.

When parents were asked how their employers helped them deal with their child care problems, almost 60% (n = 90) reported their employer did not help at all with child care. Few parents actually identified specific help they received from employers. These parents reported their employers helped with on-site child care (4%), a child care flexible spending account (3%), help with paying for child care (3%), and help with finding child care (3%).

Parents were also asked what their ideal child care circumstances would be. Figure 1.3 presents their responses. The most commonly selected features were more affordable child care, sick child care, care available when school is not in session, and better-trained teachers and caregivers.

FIGURE 1.3 PARENTS' IDEAL CHILD CARE CIRCUMSTANCES (N=151)



When communities were compared using the survey data, there were few differences in responses. A greater percentage of Lake County parents selected "care available when school is not in session (vacation care)" as an ideal child care feature than did parents from other communities. Additionally, a greater percentage of Allen County parents reported that their employers helped respondents with child care problems by offering child care flexible spending accounts. However, only 5 parents in the Allen site actually reported receiving this kind of help from employers .

CONCLUSIONS

Availability of licensed child care and voucher subsidies to help families pay for child care varied across these four communities. Licensed child care was least available in Allen County and most available in Marion County. Marion County also had the largest waiting list for child care voucher subsidies, while Lake County reported the smallest waiting list.

Child care leaders interviewed in the four communities identified critical problems in providing care for children from low-income working families, including insufficient funding for child care subsidies; low quality care, especially for infants and toddlers; concerns about the growth of legal, unregulated child care; and a lack of child care services for evening hours or for sick children. The community leaders also mentioned several strengths and challenges specific to their communities.

The vast majority of low-income working parents in focus groups and brief surveys reported their primary reason for using child care was to work or attend school. Most expressed satisfaction with their current arrangements; however, they also identified a number of significant problems: concerns about the cost, quality, and safety of out-of-home child care; heavy reliance on friends and family members for primary or back-up child care; and a lack of flexibility in child care and their jobs for evening hours, sick children, or care during holidays or school vacations.

Chapter 2

WHO WERE THE FAMILIES, CHILDREN, AND CAREGIVERS?

The families who participated in the Community Child Care Research Project were recruited by research assistants in public places (e.g., public libraries, community centers, etc.), schools (vocational-technical, GED classes, state university, etc.), and government agency offices (e.g., workforce development services, WIC -Women, Infants, and Children, Child Care and Development Fund (CCDF) voucher offices; etc.). Care was taken to recruit an equal number of families in each community (approximately 76 in each community) and approximately equal numbers of families with infant/toddlers and preschool-age children. A total of 307 low-income working families whose young children were in out-of-home child care were recruited to participate.

Several eligibility criteria were established to ensure the sample represented low-income working families with young children in out-of-home care. These criteria included:

- annual family income less than $35,000;
- head of the household is working (i.e., employed, going to school, or in job-training at least 20 hours per week);
- family has a child between 6 months and 5 years old, and the child is in out-of-home care at least 15 hours per week for the past 2 months;
- family is not enrolled in TANF (Temporary Assistance for Needy Families);
- child care provider agrees to participate.

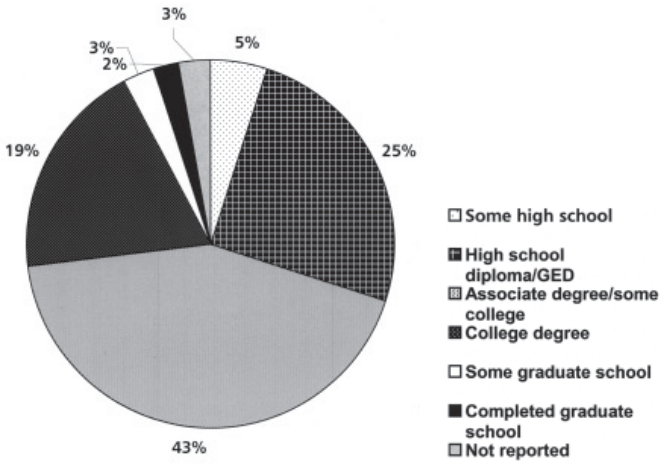
WHO WERE THE FAMILIES?

The 307 low-income working families were recruited from urban communities in St. Joseph, Marion, Allen, and Lake counties in Indiana (ns = 78, 76, 76, 77, respectively). We recruited families from Indianapolis in Marion County; from Fort Wayne in Allen County; from Gary, Hammond, and East Chicago in Lake County; and from South Bend in St. Joseph County. Statistical tests revealed families did not differ in their demographic characteristics across communities. (See Table C1 in Appendix C for a detailed summary of characteristics of the 307 families.)

In general the participating low-income working families had the following characteristics:

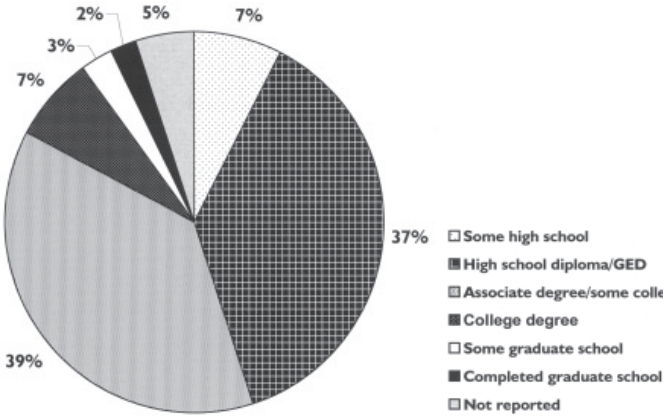
- Almost two-thirds of parents reported an annual income below the federal poverty level for a four-person family in 2002, $18,100 per year, or less than $1,500 per month. One-third of the participating families earned less than $9,600 per year, or less than $800 per month.
- Thirty percent of the parents were married, remarried, or living with a partner, while two-thirds of the parents (68%) were single and had no partner, or were divorced, or widowed.
- More than half (56%) of the parents were the only adult living in the household, while 34% identified one other adult living in the household. The remaining parents indicated an additional two to five adults resided in their household.
- The average number of children living in each household was two. A majority of the families reported one, two, or three children living in their household, but some reported up to eight children living in their household.
- Sixty percent of the families reported no male head of household. Among the 116 families identifying a male head of household, most (72%) identified the child's father as that person. The majority of male heads of household were employed (89%) and had a high school education or above (73%).

FIGURE 2.1. MALE HEAD OF HOUSEHOLD EDUCATION LEVEL



- Except for five families who did not report female heads of the household, all families identified one female head in the household. Most female heads of household were the child's mother (88%). The majority of these women were employed (83%) and had a high school education or above (88%).

FIGURE 2.2. FEMALE HEAD OF HOUSEHOLD EDUCATION LEVEL



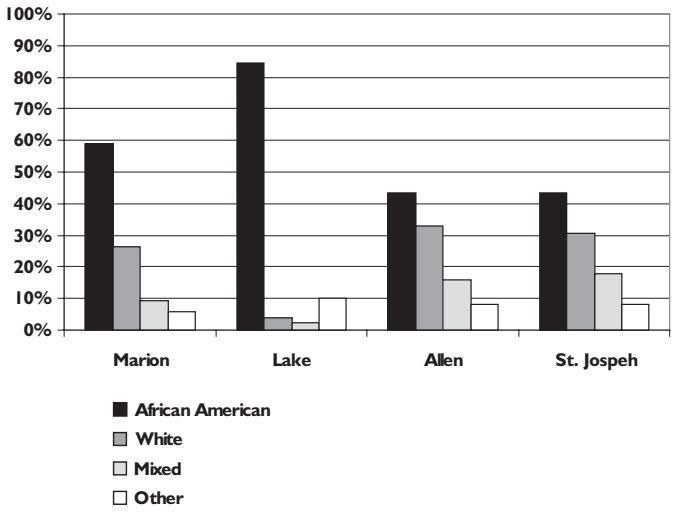
WHO WERE THE CHILDREN?

There were 307 participating children. (See Table C2 in Appendix C for a detailed summary of characteristics of the 307 children.) Here is a summary of their general characteristics:

- The children in the study ranged in age from 6 months to 6 years. Forty percent of children were under 36 months of age, while 60 % were 36 to 72 months of age.
- There were approximately equal numbers of boys and girls.
- Fifty-nine percent (59%) of the children were African American, 23% were White, 3% were Latino, 1 % were Asian/Pacific Islanders, and 14% were mixed race or ethnicity was not reported.
- Most children lived with their mothers (96%) but only 25% lived with their fathers. Twenty-four percent of children lived with both their mother and father. One child lived only with his/her father while 61% of children lived only with their mother. An additional 9% lived with their mother and another adult, other than the child's father or mother's partner. This could include a grandparent, relative, or friend. Two percent lived with their mother and mother's partner.

Statistical tests revealed the characteristics of families were not different across the four community sites, except for the distribution of children's race. Figure 2.3 displays child's race in the four communities. The sample in Lake County had 84% African American children and very few White children (4%).

FIGURE 2.3. CHILD'S RACE IN FOUR COMMUNITIES



WHO WERE THE CAREGIVERS IN THE CHILD CARE SETTINGS?

To be included in the study, both eligible families and their primary child care providers needed to volunteer to participate. A small number of providers declined to participate. Overall, the refusal rate for providers was 14%. Reasons for refusal included the closing of the child care setting, provider had too much going on, and the provider did not want to participate. However, refusal rates varied among the four communities. These differences in refusal rates may be attributed to the order of recruitment. Research assistants apparently became more skilled over time in recruitment of child care providers resulting in a decline in refusal rates over time. Lake County (the last county recruited) had the lowest refusal rate (5%) while Marion County had the highest (20%). Allen and St. Joseph counties had refusal rates of 16% and 19%, respectively. Table C3 in the Appendix C displays a summary of characteristics of the caregivers.

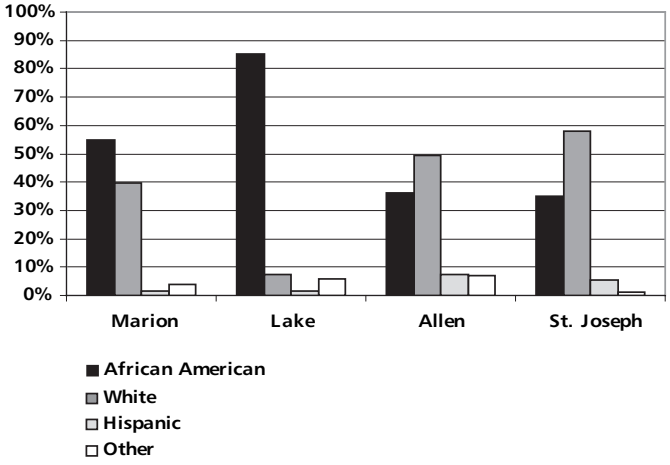
Unlike the family and child participants in the study, the characteristics of child care providers did vary considerably across communities, including age, family income, race, marital status, specialized training in early childhood education, and years of experience working with children.

- While the mean age of all caregivers was 39 years, caregivers in Lake County were about 10 years older than caregivers from the other three communities. The mean age of caregivers in Lake County was 46 years, compared to 35 to 37 years in other communities.
- About one-fourth of the caregivers reported a family income below the poverty level ($18,100 per year, or less than

$1,500 per month for a family of four). When communities were compared, caregivers in Marion County reported lower incomes than caregivers from other communities. Only 15% of caregivers in Marion County had a family income above $3,000 per month, and a large majority (71%) had income between $801 to $3,000 per month. Although family income levels differed across communities, caregivers' personal income from child care work did not differ significantly from community to community. This suggests the caregivers in Marion County more often had to rely on their child care income, while caregivers in other communities often had other sources of family income.

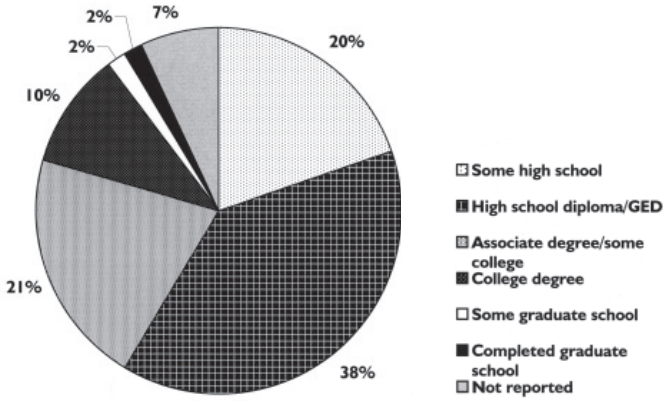
- About half of the caregivers in the study sample were African American (49%). The second largest ethnic group was White (36%). Similar to children's race distribution, Lake County differed from other communities in that caregivers were predominantly African American (85%), with few White caregivers (7%). Figure 2.4 displays differences in caregivers' race in the four communities.

FIGURE 2.4. CAREGIVERS' RACE IN FOUR COMMUNITIES



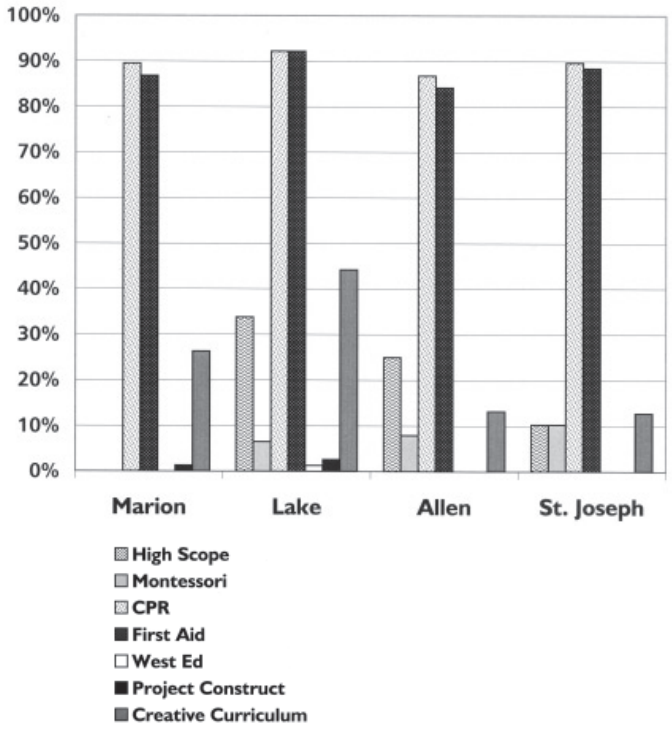
- More than half of the caregivers (57%) reported they were married, remarried, or living with a partner. Thirty-eight percent of the caregivers were single or had no partner, or were divorced or widowed. More caregivers in Lake County were divorced or widowed (21% compared to 8-12% in other communities) and fewer were single or reported no partner (15% compared to 27-38% in other communities). Also, a lower percentage of caregivers in Marion County (40%) were married than in other communities (50% or higher). The lower marriage rate in Marion County provides explanation for why those caregivers reported lower family incomes; they are less likely to have two incomes contributing to the overall family income.
- There was no difference among the communities in caregiver education level. Figure 2.5 displays caregivers' general education. A majority of the caregivers had at least a high school diploma or GED (92%). Almost 70% (67%) had some college and 24% had at least a four year college degree.

FIGURE 2.5. CAREGIVER EDUCATION LEVEL IN THE FOUR COMMUNITIES



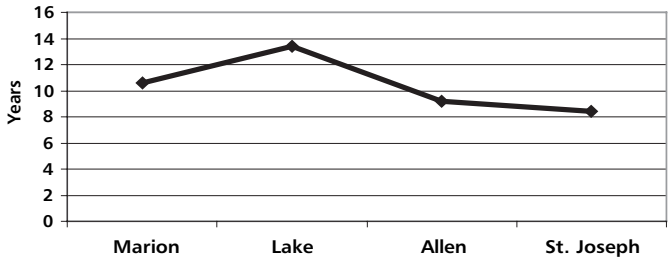
- Less than half of the caregivers (41%) indicated they had at least one specialized early childhood credential (e.g., early childhood teaching certificate, child development associate, Montessori certificate, early childhood special education endorsement, or kindergarten endorsement). However, this differed across communities. Approximately half of the caregivers in Marion and Lake Counties (48% & 52%, respectively) had at least one early childhood credential, compared to only 26% of the caregivers in St. Joseph County and 39% in Allen County.
- The majority of the caregiver sample (87%) had completed at least two specialized training programs. As expected, the two most frequently completed training programs were CPR and First Aid, as required by state regulation. Caregivers in Lake County reported more completed training programs than caregivers in the other three communities. Lake County caregivers averaged three completed training programs while the other three counties averaged two completed training programs. Figure 2.6 shows caregivers' training in the four communities.

FIGURE 2.6. CAREGIVER TRAINING IN THE FOUR COMMUNITIES.



- Caregivers in Lake County reported more years of experience in child care profession than caregivers in St. Joseph and Allen Counties (average 13 years versus eight and nine years). Figure 2.7 displays means for the four communities.

FIGURE 2.7. CAREGIVERS' MEAN YEARS OF EXPERIENCE IN CHILD CARE PROFESSION IN THE FOUR COMMUNITIES.



HOW DOES SAMPLE OF FAMILIES COMPARE WITH THE GENERAL POPULATION OF LOW-INCOME FAMILIES IN THESE FOUR COMMUNITIES?

Key demographic variables from our sample were compared to the 2000 census data of families with at least one child under the age of 6 and incomes below $35,000 in the four urban communities of Indianapolis (Marion County), Gary (Lake County), Fort Wayne (Allen County), and South Bend (St. Joseph County). Table C4 in Appendix C provides comparisons of our sample to these census data by community. There were some noticeable differences between the study samples and the census population. First, our sample reported a higher education level than the general low-income population. One of the sampling strategies relied on recruiting families from adult education centers, and this may have contributed to this difference. Also, those working or in school may have higher education levels than those who are not working or in school. Second, our sample consisted of greater percentage of single parents than the general population of low-income parents. While 57 % of our sample reported being single, 42 % of the low income census population reported being single. A greater discrepancy can be found in the percentage of those married. While 44% of the census population reported being married, only 17 % of our sample reported being married. This could be due to a greater reliance on non-parental care by single parents who are balancing work and family responsibilities without the help of another adult in the household, thus more likely to be recruited into our sample. We were unable to determine what proportion of low-income families from the census population were using child care. The distribution of race also differed. In each community, there was a greater proportion of African-Americans represented in our sample than would be expected from the general population census data.

Although the study sample did not match the general population of low-income parents and children in these cities, this relatively large sample of low-income working or in-school parents provides valuable information about an important and vulnerable low-income population. Since the welfare reform of 1996, federal policy has encouraged personal responsibility and self-sufficiency. These low income working families are doing just that: working, going to school and taking care of their children with little or no government assistance. They are not receiving TANF, and their incomes from employment make them less likely to receive child care vouchers that may be necessary to afford quality child care. Therefore, these families have limited choices when it comes to obtaining quality child care; cost rather than quality may have to be their first consideration.

CONCLUSIONS

Phase 2 of this research is based on a volunteer sample of 307 children and parents from low-income working families in four communities in northern and central Indiana. Children ranged in age between 6 months and 6 years. The typical parent participating in the study was a young, African American, single female

with at least a high school diploma and two children earning less than $1500 per month. Her child's care provider was typically a 39-year-old African American woman with some college and some specialized training in early childhood education and child care. While the study sample did not exactly match the general population of low-income parents and children in these cities, results from this large sample of low-income working or in-school parents will at least suggest patterns that may apply to the larger population of low income working parents and their children and child care providers during 2002-2003.

Chapter 3

WHAT ARE THE CHILD CARE EXPERIENCES OF LOW-INCOME WORKING FAMILIES?

The Community Child Care Research Project provides information about the child care experiences of low-income working families. Specifically, we asked parents to identify their reasons for using care, identify the types of care they used, report on their work and child care flexibility, and rate the child care quality of their current arrangement. These factors were examined within each of the four communities. The following information is based on the sample of 307 families described in Chapter 2. Descriptive statistics are summarized in Appendix D.

WHY ARE FAMILIES USING CHILD CARE?

Parents were presented a list of reasons for using child care (allows parent to work, allows parent to attend school, allows parent to take part in sports, cultural, political or leisure activities, and important for child's development) and were asked to select one main reason why their child was using child care. The dominant reasons selected were: allows parents to work (60%) and allows parent to attend school (19%). Figure 3.1 displays a comparison of the four community responses. In St. Joseph County, a greater percentage of families used child care to allow parents to work (74%) and lower percentage of families used child care because it was important for child's development (5%) than the other three communities. A greater percentage of families in Allen and Lake Counties (25% and 20 %, respectively) reported their main reason for using child care was because it was important for child's development than other communities.

The pattern of responses changed slightly when age of child was considered. Allowing parents to work remained the main reason for child care (62% of parents of infants and toddlers compared to 59% of parents of preschool-age children). Differences existed in the percentage of parents who selected allowing parent to attend school and important for child's development as the main reason for using child care. While 21% of parents of preschool-age children (children 3 to 6 years of age) selected important for child's development as the main reason for using child care, only 8% of parents of infants and toddlers (children 6 to 35 months of age) did. This is not surprising as parents of preschool-age children are more likely to be thinking about their child entering school and may be concerned about how child care is promoting their child's skills. Twenty-five percent (25%) of parents of infants and toddlers selected allow parents to go to school while 15% of parents of preschool-age children did. Figure 3.2 displays these differences.

FIGURE 3.1 FAMILIES' MAIN REASON FOR USING CHILD CARE (N=295)

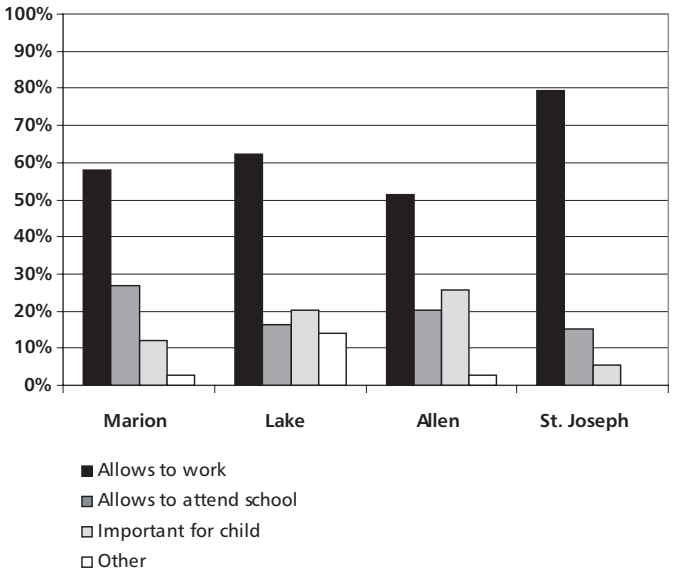
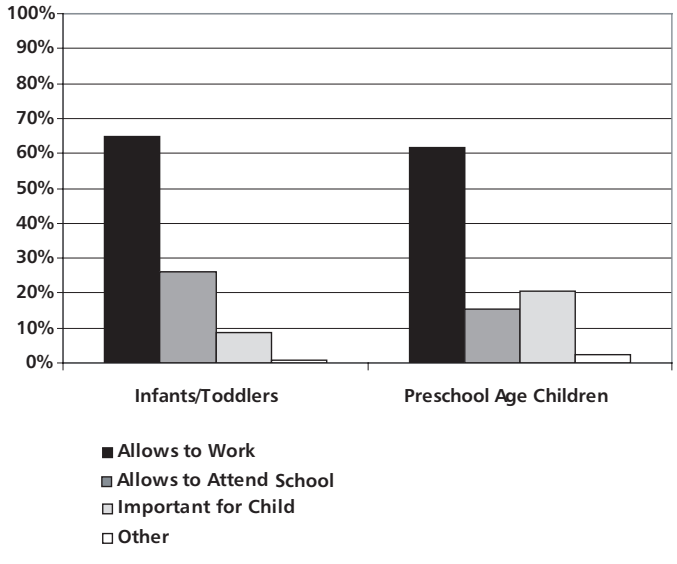


FIGURE 3.2 FAMILIES' MAIN REASON FOR USING CHILD CARE FOR INFANTS AND TODDLERS AND PRESCHOOL-AGE CHILDREN (N=295)



TYPES OF CHILD CARE

Licensed Child Care Center
Non-residential group child care by paid providers, governed by Indiana child care center licensing requirements that include requirements for staff training, health, safety, nutrition, appropriate discipline, and child development curriculum.

Registered Child Care Ministry
License exempt center-based program, an extension of a church or ministry that is a tax-exempt religious organization. No regulations for staff, group sizes, ratios, or program apply to registered ministries. They have only to meet general sanitation and fire safety rules.

Head Start
A national comprehensive preschool program for low income children prenatal to 6 years and their families. Programs must follow the Head Start Performance Standards which meet or exceed the standards for licensed child care centers in Indiana.

Licensed Family Child Care
Home-based child care provider caring for six or more non-relative children. Licensing sets minimum standards for health, safety, and caregiver training that must be maintained. Licensed family child care homes are inspected by the state once per year.

Unlicensed Family Child Care
Family care providers that are not licensed, legally caring for fewer than six children non-relative children in Indiana. Licensing is not required if the home-based provider is not paid; cares for only relative children; cares for less than 6 children, not including own children; or serves migrant children.

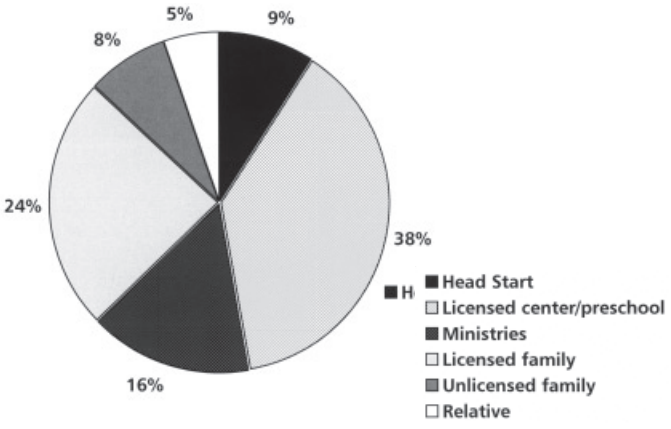
Relative Care
Relatives caring for children in the relative's home. Indiana does not regulate care provided by relatives.

(See Glossary page for additional definitions.)

WHAT TYPES OF CHILD CARE DO LOW-INCOME WORKING FAMILIES USE?

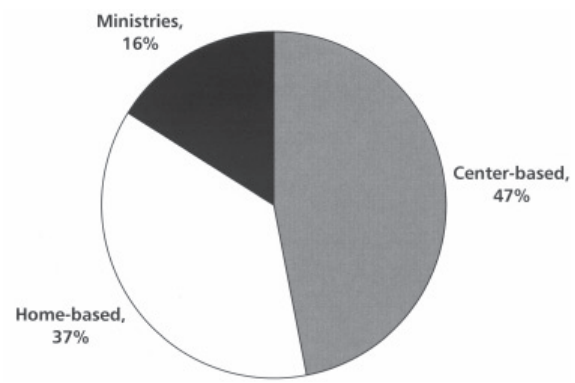
Families used a variety of child care: licensed center care/preschool, child care ministries (license-exempt centers operated by churches), relative care, Head Start, and licensed and unlicensed family child care. Figure 3.3 displays the proportion of families using each type of care. The most frequently used care for this sample of families was licensed center care/preschool (38%), followed by licensed family child care (24%) and child care ministry (16%).

FIGURE 3.3 TYPE OF CHILD CARE USED BY LOW-INCOME WORKING FAMILIES (N=307)



A majority of the children (71%) were cared for in licensed child care settings (i.e., licensed centers/preschools, Head Start, and licensed family child care) while the remaining 29% were cared for in unlicensed child care settings (i.e., child care ministries, unlicensed family child care, and relative care). About 47% of the children attended licensed center-based child care settings, including community child care programs and Head Start programs. More than one-third of the children (37%) attended home-based child care settings such as relative care and licensed/unlicensed family day care. Another 16% attended child care ministry programs, which are exempt from Indiana government regulation. Figure 3.4 displays this distribution.

FIGURE 3.4 USE OF CENTER-BASED, HOME-BASED, AND MINISTRY CARE (N=307)

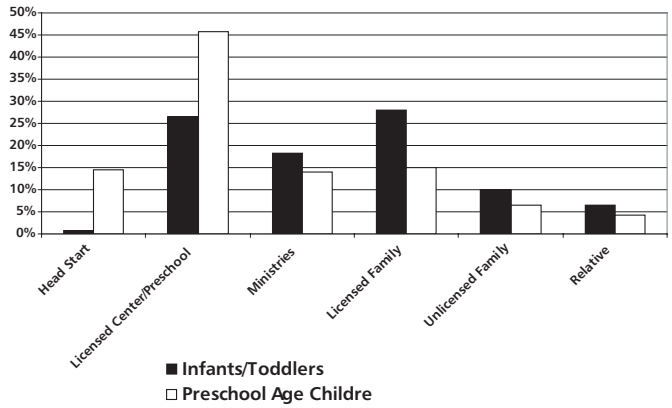


Twenty percent of these children started attending child care shortly after birth, and over half were in care by 3 months of age. Seventy-five percent were in care by 8 months of age and all children were in care by 48 months of age. On average children attended a different child care setting about every 15 months.

DO PARENTS OF INFANTS AND TODDLERS CHOOSE DIFFERENT TYPES OF CHILD CARE THAN PARENTS OF PRESCHOOL-AGE CHILDREN?

There was a greater percentage of preschool-age children receiving care in centers than infants and toddlers (74% compared to 46%) and a greater percentage of infants and toddlers were cared for in family child care than preschool-age children (55% compared to 26%). A greater percentage of preschool-age children were cared for in licensed settings (75% compared to 65%) than infants and toddlers. Figure 3.5 displays the type of child care used for infants and toddler and preschool-age children.

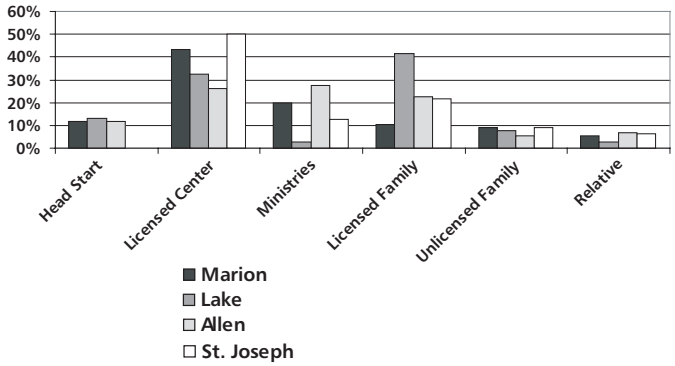
FIGURE 3.5 USE OF CARE FOR YOUNGER AND OLDER CHILDREN



DO TYPES OF CHILD CARE USED DIFFER FOR THE COMMUNITIES?

Statistical tests revealed there were differences in the distribution of child care types across the four community samples. Families in Allen County were evenly distributed in their use of licensed center care/preschool, licensed family child care, and child care ministry (22% to 27% each). Very few families in the Lake County sample (less than 3%) used child care ministries, while 42% used licensed family child care. Finally, over half of the families in St. Joseph and Marion counties (55%) selected licensed child care centers, including Head Start. Figure 3.6 shows the differences in child care placements among the four communities.

FIGURE 3.6 TYPE OF CHILD CARE USED IN THE FOUR COMMUNITIES



HOW DO LOW-INCOME WORKING FAMILIES BALANCE CHILD CARE AND WORK?

As presented in Chapter 1, data from preliminary focus group interviews and parent surveys indicated that parents encountered problems balancing work and child care. An expressed need for extended and sick care, as well as lack of financial resources were among the problems mentioned in the focus groups and preliminary surveys. Parents mentioned reliance on friends and families for supplemental care and reliance on child care vouchers for financial support as key factors allowing them to balance their work and child care. Flexibility in both work and child care appeared to be key components of a successful child care and work arrangement. The issues of child care and work flexibility were examined more closely with the large sample.

Parents mentioned reliance on friends and families for supplemental care and reliance on child care vouchers for financial support as key factors allowing them to balance their work and child care.

WHAT WERE THE EMPLOYMENT PATTERNS OF LOW-INCOME WORKING PARENTS?

Although the employment criteria for our sample was that the head of the household must be "working" at least 20 hours per week, most parents worked more than 20 hours. Of families who identified a male head of household (n = 116), 90 percent were employed and most (86%) worked full time (35 or more hours per week). Most men (72%) reported a daytime work shift. Five percent reported working a second shift during the evening.

Eighty-five percent of female heads of household were employed and a majority (72%) worked full time. Most women (79%) reported a daytime work shift. Five percent reported working a second shift during the day, evening or night. Seventy-two percent of two parent families reported both parents were working, with a majority of families having both parents working full time.

HOW FLEXIBLE DO PARENTS PERCEIVE THEIR WORK IN RELATION TO CHILD CARE ISSUES?

Both male (n = 89) and female (n = 236) heads of household were asked about the assistance and support they receive from their employer on child care, work stress, flexibility in dealing with child care problems, and child sickness.

The following percentages of male heads of household agreed with the following statements:

17% My shift and work schedule cause extra stress for me and my child.
38% Where I work, it is difficult to deal with child care problems during work.
6% My employer has a program or service to help employees find child care.
2% My employer provides direct financial assistance for child care.
16% I can pay for child care with pre-tax dollars.
36% My employer allows me to stay home when my child is ill and I have no child care.

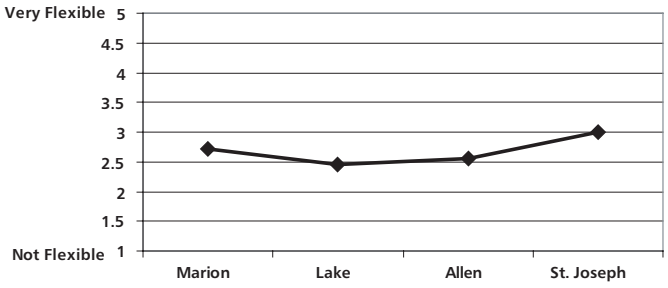
The following percentage of female heads of household agreed with the following statements:

19% My shift and work schedule cause extra stress for me and my child.
24% Where I work, it is difficult to deal with child care problems during work.
13% My employer has a program or service to help employees find child care.
8% My employer provides direct financial assistance for child care.
17% I can pay for child care with pre-tax dollars.
53% My employer allows me to stay home when my child is ill and I have no child care.

For both male and female heads of household, work offered moderate flexibility. While parents did not overwhelmingly report extra stress from their job or difficulty dealing with child care problems at work, few reported any direct child care assistance from their employer. The most striking gender difference in work flexibility was whether employers allowed parents to stay home when their child was ill and they had no child care. Females were significantly more likely to report their employer would allow them to stay home when their child was ill. It is unclear if this is due to differences in the types of jobs low-income men and women might hold, or if employers are more understanding when a mother rather than a father needs to miss work to care for a sick child. It should also be noted that there were fewer males than females included in these samples. There were data on 307 females, while there were data for only 124 males due to the high percentage of single-mother households in the sample.

Perceptions of work flexibility did not differ by age of child, but there were some differences across communities. In the area of male work flexibility, Lake County males reported the least amount of total flexibility, while St. Joseph County males reported the greatest. Figure 3.7 illustrates these differences. There were no differences among communities in female work flexibility.

FIGURE 3.7 MALE HEAD OF HOUSEHOLD WORK FLEXIBILITY IN THE FOUR COMMUNITIES



HOW DO PARENTS PERCEIVE THE FLEXIBILITY OF THEIR CHILD CARE ARRANGEMENT?

Low-income families are more likely to stay employed once they find a job, to work more hours, lose less time at work, and experience less job stress if the flexibility of their child care arrangement is congruent with their employment needs. As we have already noted, low-income workers are more likely to need flexible child care due to the nature of low wage work (e.g., shift work, changing shifts). Parents were asked about their child care as a source of needed flexibility in managing work and family.

A majority agreed with the following statements:

60% My caregiver understands my job and what goes on for me at work.

75% My caregiver is willing to work with me about my work schedule.

60% I rely on my caregiver to be flexible about hours and/or days.

A majority disagreed with the following statements:

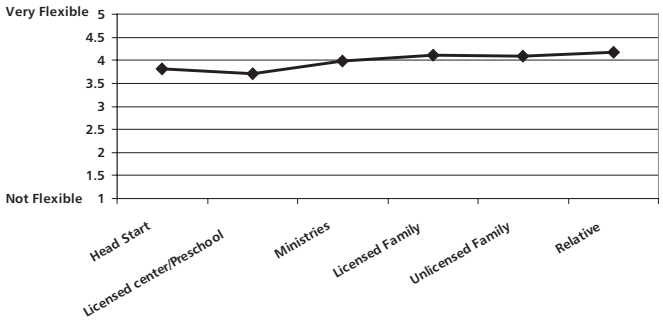
77% My child care setting makes it difficult for me to meet my work responsibilities because of rigid hours and/or no weekend care.

60% When my caregiver is ill, I have to make other arrangements for care.

For the most part, parents were positive about the flexibility they perceived in terms of their caregiver understanding their job, working with them and their employment schedule, offering flexible hours or days of care, and helping them meet work responsibilities. There was greater variability in how parents perceived the sick care flexibility their current caregiver provided. Forty-three percent reported that when their child is mildly ill, they are not allowed to bring him/her to child care. Also 28 percent did not have an arrangement at all if their child was mildly ill. This lack of flexibility in sick care results in a need for back-up care that parents must arrange with friends, family, or sick child care programs. Qualitative interviews with key informants and parent focus groups in each of the four communities supported a need for back-up care when a child is ill.

There were no differences in perceptions of child care flexibility based on the age of the child. However, there were some community differences on individual aspects of child care flexibility. Differences existed in parents' perceptions of caregiver understanding of their job and if they could rely on their caregiver to be flexible about hours and days. Although parents from all communities were generally positive about these aspects, Lake County parents agreed more strongly that their caregivers were understanding about their jobs, while St. Joseph parents agreed more strongly with caregiver's flexibility about hours and days. There were differences depending on the type of child care that families used. In general, licensed center care provided the least amount of flexibility, while relative care provided the most flexibility. Figure 3.8 presents these differences.

FIGURE 3.8. CHILD CARE FLEXIBILITY OF THE SIX CHILD CARE SETTINGS



HOW DOES THE CHILD CARE CONTEXT OF EACH COMMUNITY DIFFER FOR LOW-INCOME WORKING FAMILIES?

As reported in the Chapter 1 analysis of existing community child care data, parent focus groups, and key informant interviews, there are some unique aspects to each community. The variation counties have less availability of licensed care for their children (22 and 23 licensed slots per 100 children). Marion and St. Joseph counties had a more adequate supply (35 and 30 licensed among the number of licensed child care slots (center and family care) available per 100 children suggests differences in the availability and selection of licensed care for children. Allen and Lake slots per 100, respectively). These community differences were not however reflected in our samples' perceptions about the availability of child care.

The median number of days parents spent looking for their current child care arrangement was 14 days, but there was a great deal of variability, ranging from 0 to 210 days! Most parents (90%) spent 90 days or less looking for their current child care arrangement. When asked how difficult it was to find satisfactory child care arrangements in their area, 18 percent reported it was very easy, 19 percent reported it was easy, 34 percent reported it was neither easy nor difficult, 18 percent reported it was difficult, and 10 percent reported it was very difficult. Days spent looking for care did not differ by community, nor by age of child. While perceived difficulty in finding satisfactory child care arrangements did not differ by community, it did differ by age of child. Parents of infants and toddlers perceived it was easier to find satisfactory child care arrangements in their area than did parents of preschool age children. This may be because parents were more willing to consider more informal child care arrangements (e.g., relative care, unlicensed family child care) for infants and toddlers than for preschool-age children.

Parents were asked about availability of child care. Overall, parents had a neutral to positive view of the availability of child care arrangements in their area.

- Forty-five percent of parents felt there were good choices for child care where they live, while 28 percent did not and 27 percent were neutral.
- Fifty-eight percent of parents felt they had more than one choice when they made their current child care arrangement, while 33 percent did not and 9 percent were neutral.
- Fifty-eight percent of parents did not have difficulty finding the child care they wanted, while 29 percent did and 13 percent were neutral.
- Seventy-five percent of parents felt they did not have to take whatever child care they could get, while 14 percent did and 11 percent were neutral.
- When asked to reply yes or no to: "If I could, I would find a new child care arrangement for my child ," only 7 percent of parents replied yes, while 83 percent replied no and 9 percent were neutral.
- Eighty-eight percent of parents felt their current child care arrangements met their child's need quite well, while only 6 percent did not, and 7 percent were neutral.

There were no differences in parent's responses based on the child's age. There was one community difference. Allen County parents did not feel they had as much difficulty finding the child care they wanted as parents from the other communities.

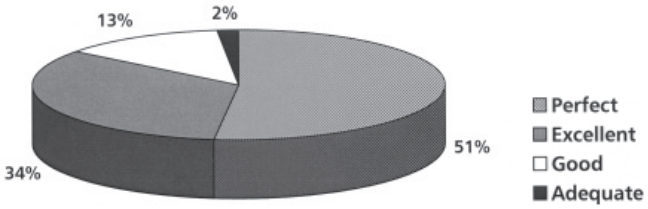
WHAT ARE THE PARENTS' PERCEPTIONS OF CHILD CARE QUALITY?

In general parents perceived their child care arrangements to be flexible and felt they had access to satisfactory child care arrangements that were good for their families. But how do parents view the quality of the child care arrangements they are using?

In general parents perceived their child care arrangements to be flexible and felt they had access to satisfactory child care arrangements that were good for their families.

Parents were asked to rate six aspects of child care quality. These included: caregiver warmth toward child, caregiver interest in child, child's safety, cleanliness of setting, number and variety of activities child engages in everyday, and the amount and desirability of the equipment available to the children. A majority (70% to 80%) of parents rated these aspects as excellent or perfect. Very few parents rated any of these aspects as fair or poor (1% to 2%). A total score of perception of quality was created by combining the averages of each aspect of quality rated. Figure 3.9 displays parents' overall rating of child care quality. Responses to these six aspects were combined to form an overall score of quality, ranging from poor to perfect. These perceptions did not differ by community, age of child, or type of child care.

FIGURE 3.9 PARENTS' PERCEPTION OF CHILD CARE QUALITY (N=304).



CONCLUSIONS

The most common types of primary child care used by this sample of 307 low-income working families were licensed center care/preschool (38%) and licensed family child care (24%). Other types used were child care ministry (16%), Head Start (9%), unlicensed family child care (8%), and relative care (5%). Twenty percent of the children started in child care soon after birth, and more than 75% were enrolled in some type of child care by age 8 months. Infants and toddlers were slightly more likely to be in family child care, and preschool-age children were slightly more likely to be in center care. Licensed family child care was used at a high rate in Lake County (42%), while center-based care was often used in Marion and St. Joseph counties (55%). Families in Allen County used a more balanced distribution of types of child care.

More than one-third of these low-income parents reported missing at least some work or school because of child care problems. A small proportion of mothers reported receiving child care assistance from their employers: finding child care (13%), financial assistance (8%), pre-tax accounts (17%), or allowing employees to take sick time to care for an ill child (53%). Fathers reported lower levels of child care support from employers. Fathers in St. Joseph County reported the highest levels of employer flexibility, and fathers in Lake County reported the lowest levels.

Chapter 4

WHAT IS THE QUALITY OF CHILD CARE USED BY LOW INCOME WORKING FAMILIES IN THE FOUR COMMUNITIES?

In this chapter, we present results of the child care quality assessments conducted in the Community Child Care Research Project. The sample consisted of the 307 child care settings attended by the children in the study. Data collection took place during 2002 and 2003. Sixty-three percent (n=193) of children were place in child care centers (licensed child care center, child care ministry, and Head Start program) while 27% (n=114) were in home-based settings (licensed and unlicensed family child care and relative care). This chapter describes the quality of child care utilized by these 307 children, and examines differences in quality among the communities and among types of care in the sample. Descriptive statistics are presented in Appendix E.

WHAT IS CHILD CARE QUALITY AND HOW DID WE ASSESS IT?

A number of measures of quality were used in this study because several elements of quality have been found to be important in previous research (Phillips, Mekos, Scarr, McCartney, & Abbott-Shim, 2000). The measures used in this study assessed the global, structural, and process quality of child care settings.

Global quality includes an overall view of quality that takes into account the space and furnishings of the program, safety and health precautions, program structure, as well as activities and learning opportunities presented to children.

Structural quality includes group size, staff-child ratio, and the training and experiences of caregivers. Past research has shown that child care settings staffed with a fewer numbers of children per teacher, a relatively small group sizes, and a teacher with a strong education background are more likely to have teachers who interact with children in sensitive, nurturing, and intellectually stimulating ways (Howes, Phillips, & Whitebook, 1992).

Process quality refers to the "process" aspects of the child care environment, including children's daily classroom activities, caregiver-child interactions, child-child interactions, caregiver sensitivity and warmth, and relationships between caregivers and children, as well as between caregivers and parents. Table 4.1 presents a list of measures that we used to assess these three types of quality. More specific information about individual measures is presented in Appendix A.

TABLE 4.1 QUALITY MEASURES USED IN COMMUNITY CHILD CARE RESEARCH PROJECT

	Measure
1. Global Quality	1. Early Childhood Environment Rating Scale-Revised (for center-based care) or Family Day Care Rating Scale (for home-based care)
2. Structural Quality	1. Group Size 2. Child-Adult Ratio 3. Caregiver General Education Level 4. Caregiver Specialized Education in Child Development and/or Early Childhood Education 5. Caregiver Years in Experience in child care
3. Process Quality	1. Student Teacher Relationship Scale (STRS) 2. Parent Caregiver Relationship Scale (PCRS, parent and caregiver report) 3. Caregiver Interaction Scale (CIS) 4. Caregiver Responsive Interaction with Child 5. Caregiver Talk with Child 6. Child's Activity Level

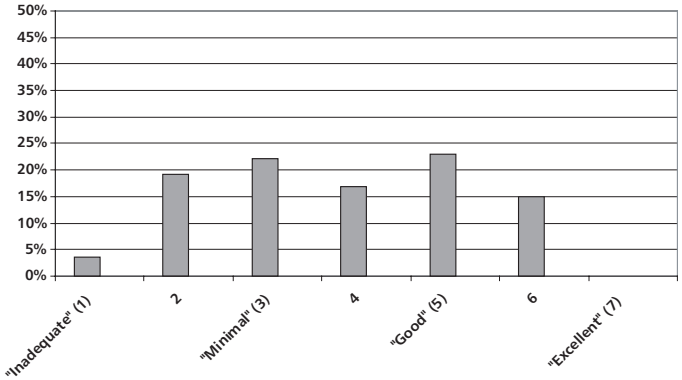
WHAT IS THE QUALITY OF CHILD CARE IN THE FOUR COMMUNITIES?

Global Child Care Quality: Environmental Ratings

Researchers assessed the global quality of each child care setting via direct observation utilizing the Early Childhood Environment Rating Scale—Revised (ECERS-R, Harms, Clifford, & Cryer, 1998) in center-based child care settings and the Family Day Care Rating Scale (FDCRS, Harms & Clifford, 1989) in home-based child care settings, both widely used, well-validated measures. Scores on these quality scales range from 1 (inadequate) to 7 (excellent). The average quality levels of all types of care in the four communities were low. The median level of global child care quality in each community was near 4 on the ECERS-R and FDCRS scales, which is between "good," and "minimal." Approximately 25% of the observed classrooms and homes fell below "minimal" quality, while another 20% were rated at "minimal." Thus, nearly ½ of the children in this sample attended child care that may not provide the kinds of experiences and environment thought to be important for development. Figure 4.1 displays the quality rating scores. Overall child care quality level did not differ across community sites.

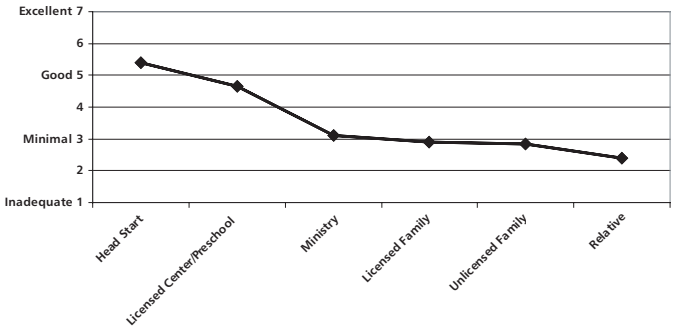
nearly ½ of the children in this sample attended child care that may not provide the kinds of experiences and environment thought to be important for development.

FIGURE 4.1 DISTRIBUTION OF GLOBAL QUALITY OF CHILD CARE CLASSROOMS AND HOMES



The highest quality care was found in Head Start settings and licensed child care/preschool centers. The lowest quality levels were observed in relative care and unlicensed family child care. On average, children in Head Start (M = 5.39) received higher global quality than children in all other care arrangements, while children in licensed child care/preschool centers received higher global quality care (M = 4.66) than children in child care ministries (M = 3.10), licensed family child care home (M = 2.91), unlicensed family child care home (M =2.85), and relative care (M = 2.40). Global quality did not statistically differ for child care ministries, licensed family care, unlicensed family care, and relative care. Figure 4.2 provides a comparison of mean global quality ratings for the six types of child care arrangements.

FIGURE 4.2. GLOBAL CHILD CARE QUALITY AND TYPE OF CHILD CARE



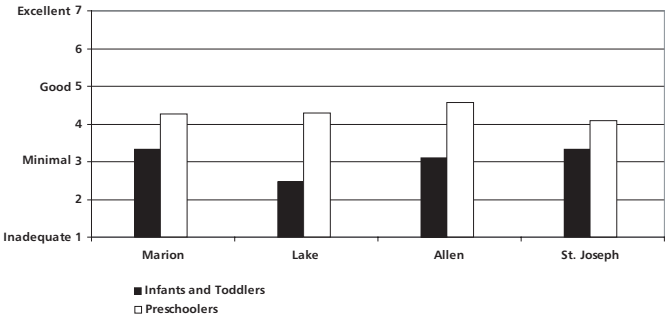
- **Home-Based and Center-Based Care:** In general, children in center-based settings received higher quality care (M = 4.38) than children in home-based settings (M = 2.84). This difference was consistent across all communities.

- **Licensed and Unlicensed Care:** Children in licensed child care settings received higher quality care (M = 4.17) than children in unlicensed settings (M = 2.90). This pattern of results was similar across communities.

- **Child Care for Infants and Toddlers and Preschool-age Children:** Preschool-age children received higher quality care (M = 4.30) than infants and toddlers (M = 3.06). Global quality for infants and toddlers averaged at a minimal level or below in all types of settings in all four communities, regardless of whether the care was center- or home-based. Seventy percent of infants/toddlers in this sample were cared for in classrooms or homes that were of minimal or lower quality. There were differences in the global quality of infants and toddlers among communities.

Even though all quality levels were low, infants and toddlers observed in St. Joseph, Marion, and Allen counties (M = 3.33, M = 3.33, and M = 3.09, respectively) received significantly higher quality care than infants and toddlers in Lake County (M = 2.46). Figure 4.3 illustrates these differences.

FIGURE 4.3 GLOBAL QUALITY (ECERS-R AND FDCRS) FOR INFANTS/TODDLERS AND PRESCHOOL-AGE CHILDREN ACROSS THE FOUR COMMUNITIES



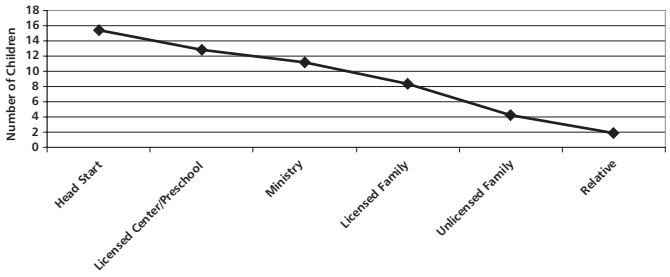
Structural Quality

The structural quality variables assessed in this study included group size, child-caregiver ratio, caregiver general education level, caregiver specialized education, and caregiver years of experience in child care. Structural quality indicators are important because they have been shown to be related to developmentally appropriate practices (Howes, Phillips, & Whitebook, 1992). Lower group sizes and child-adult ratios provide children with more opportunities for interaction with caregivers and more access to space and materials, as well as promote the health and safety of children. There is a lower risk of infection, reduced disease transmission, and fewer situations involving potential danger (such as children climbing on furniture; Hayer, Palmer, & Zaslow, 1990) when the group sizes and child-adult ratios are smaller, because caregivers are able to better monitor and promote health practices and behaviors.

Structural Quality: Group Size

The number of children in each classroom or home setting was counted by a researcher during the ECERS-R or FDCRS observation. On average, there were 10 (M= 10.42) children in a classroom or child care home, but the range was 1 to 27 children. The largest group sizes were observed in Head Start settings and licensed child care/preschool centers (M = 15.4 and M = 12.9, respectively). The smallest group sizes were observed in unlicensed family child and relative care (M = 4.3 and M = 1.9, respectively). Child care ministries and licensed family child care fell in the middle (M = 11.2 and M = 8.4, respectively). This pattern was similar for all communities. Figure 4.4 presents these group size patterns.

FIGURE 4.4. GROUP SIZE IN THE SIX TYPES OF CHILD CARE SETTINGS



- **Home-based and Center-based:** Overall, child care group sizes were larger in center-based (M = 12.8) than in home-based child care settings (M = 6.6). This pattern was similar across communities.

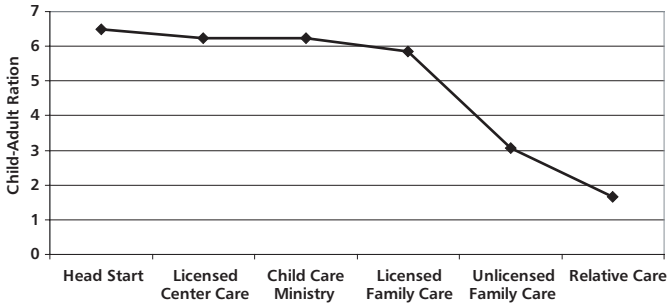
- **Licensed and Unlicensed:** Child care group sizes were larger in licensed child care settings (M = 11.6) than unlicensed child care settings (M = 7.4). This pattern did not differ across communities.

- **Child Care for Infants and Toddlers and Preschool-age Children:** Group sizes were larger for preschool-age children (M = 12.5) than for infants and toddlers (M = 7.4). These group sizes are consistent with the National Association for the Education of Young Children (NAEYC recommendations of group sizes of six to eight children for infants, 10 to 14 children for toddlers, and 16 to 20 children for preschool-age children. There was no difference among the communities.

Structural Quality: Child-Adult Ratio

Child-adult ratio was calculated by a researcher during the ECERS-R or FDCRS observation. The average child-adult ratio was 5.6 children per adult, ranging from one to 16 children per adult. Overall, child-adult ratios were significantly different across types of child care settings (Figure 4.5). Specifically, child-adult ratios in unlicensed family care (M = 3.1 children per adult) and relative care (M = 1.7 children per adult) were lower than the other forms of care [Head Start, licensed center care/preschool, child care ministries, and licensed family care (M = 6.5, M = 6.2, M = 6.2, M = 5.8, respectively)]. This pattern was similar for all communities. Figure 4.5 illustrates these differences.

FIGURE 4.5. CHILD-ADULT RATIOS IN THE SIX TYPES OF CHILD CARE SETTINGS



- **Home-based and Center-based Care:** Lower child-adult ratios were observed in home-based settings (M = 4.6 children per adult) compared to center-based child care settings (M = 6.2 children per adult). This pattern was similar for all communities.

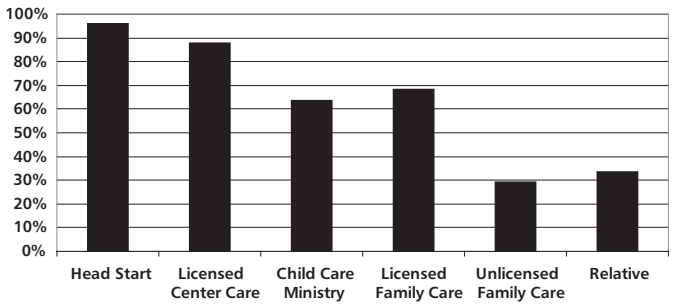
- **Licensed and Unlicensed Care:** Child-adult ratios were significantly higher for licensed (M = 6.1 children per adult) than for unlicensed child care settings (M = 4.4 children per adult). There were no differences among the communities.

- **Child Care for Infants and Toddlers and Preschool-age Children:** Child-adult ratio was higher for preschool-age children than for infants and toddlers (M = 6.3 vs. 4.7). This difference was similar for all four communities.

Structural Quality: Caregiver General Education Level

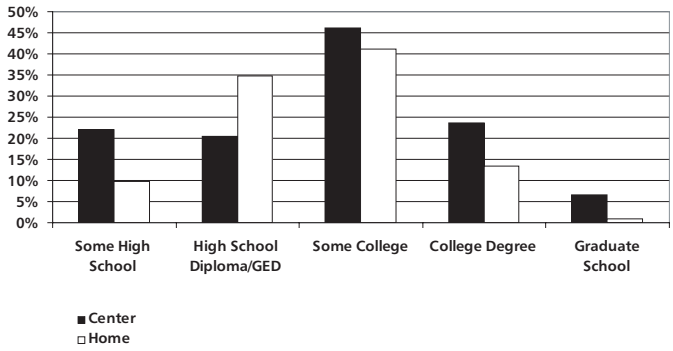
Caregivers were asked to report their highest level of general education. A majority of the caregivers had at least a high school diploma or GED (92%). Almost 70% (67%) had some college and 25% had at least a four year college degree. Caregiver education levels were highest for caregivers in Head Start settings and licensed child care/preschool centers; a majority of caregivers in these two settings had some college education (75% to 95%). The lowest levels of caregiver general education were found in relative and unlicensed family care; only a third of caregivers in these two settings reported more than a high school diploma or GED. Caregiver general education in child care ministries and licensed family child care fell in the middle. Caregiver general education did not differ by community. Figure 4.6 presents these patterns of general education.

FIGURE 4.6. CAREGIVER GENERAL EDUCATION LEVELS IN THE SIX CHILD CARE SETTING (% WITH SOME COLLEGE)



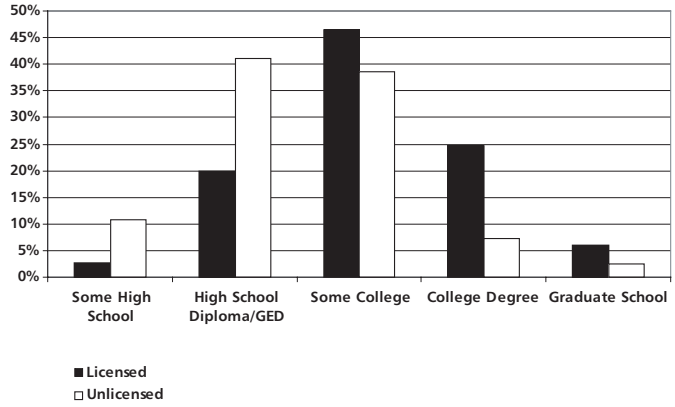
- **Home-based and Center-based Care:** Caregivers in center-based settings reported higher education levels than those in home-based settings. This pattern was similar for all communities (See Figure 4.7).

FIGURE 4.7. CAREGIVER GENERAL EDUCATION LEVELS IN HOME-BASED AND CENTER-BASED CARE



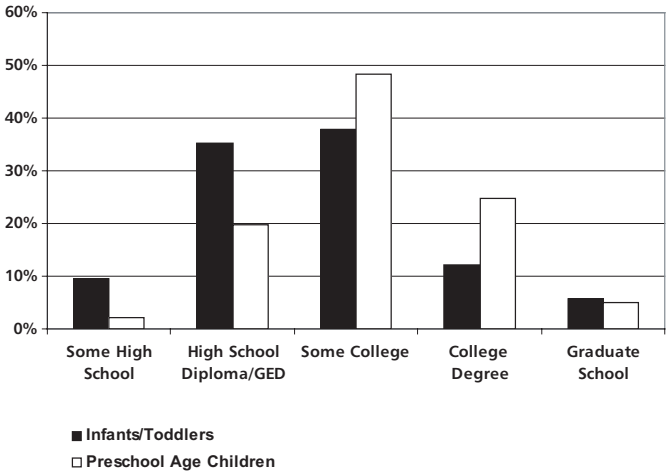
- **Licensed and Unlicensed Care:** Caregivers in licensed settings reported higher education levels than those in unlicensed settings. This did not differ for communities. (See Figure 4.8).

FIGURE 4.8. CAREGIVER GENERAL EDUCATION LEVELS IN LICENSED AND UNLICENSED CHILD CARE SETTINGS



- **Child Care for Infants and Toddlers and Preschool-age Children:** Caregivers of preschool-age children reported higher levels of education than caregivers of infants and toddlers. This did not differ for communities. (See Figure 4.9)

FIGURE 4.9. CAREGIVER GENERAL EDUCATION LEVELS IN CHILD CARE FOR INFANT AND TODDLERS AND PRE-SCHOOL-AGE CHILDREN

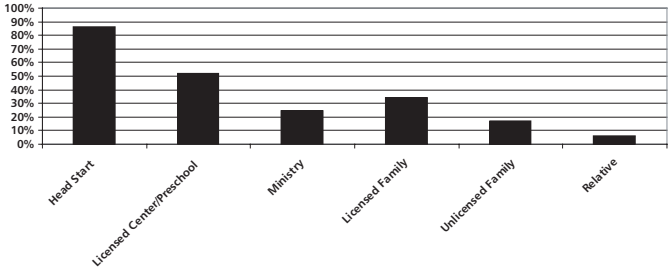


Structural Quality: Caregiver Specialized Education in Child Development

Caregivers were asked about the specialized education they had in child development and early childhood education. Specialized education was defined as possessing at least one specialized early childhood credential (e.g., early childhood teaching certificate, Child Development Associate credential, Montessori credential, early childhood special education endorsement, or kindergarten endorsement). Less than half of the caregivers (41%) indicated they possessed this level of specialized education.

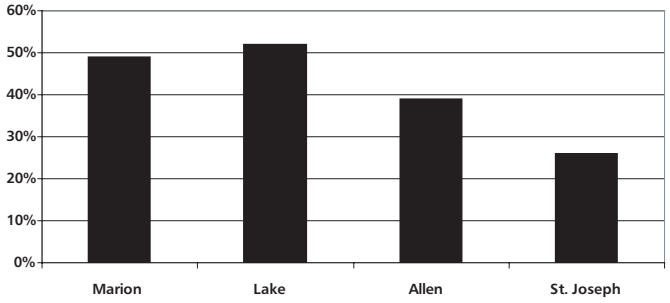
The rate of caregiver specialized education differed among the six child care settings. Almost 90% of Head Start caregivers and a little over half of licensed center care/preschool caregivers reported some specialized education, while only 6% of relative care and 17% of unlicensed family care caregivers reported specialized education. One-third of licensed family child care providers and one-fourth of child care ministry caregivers reported specialized education. Figure 4.10 displays these differences.

FIGURE 4.10. PERCENTAGE OF CAREGIVERS WITH SPECIALIZED EDUCATION IN CHILD CARE SETTINGS



Caregiver specialized education also differed by community. Lake, Marion, and Allen counties did not differ significantly in the percent of caregivers with specialized education (52%, 49%, and 39%, respectively). However only 26% of caregivers in St. Joseph County reported having specialized education, which differed significantly from Lake and Marion counties. Figure 4.11 illustrates these differences.

FIGURE 4.11. PERCENTAGE OF CAREGIVERS WITH SPECIALIZED EDUCATION IN THE FOUR COMMUNITIES



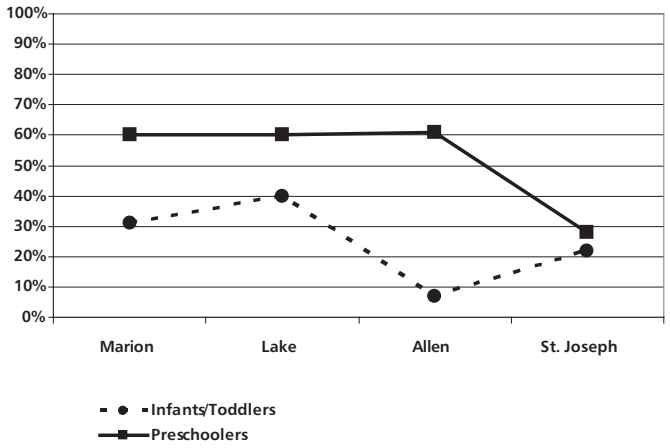
- **Home-based and Center-based Care:** A greater percentage of caregivers in center-based settings (50%) reported specialized education than those in home-based settings (26%). This pattern was similar for all communities.

- **Licensed and Unlicensed Care:** A greater percentage of caregivers in licensed settings (50%) reported specialized education than those in unlicensed settings (19%). This pattern was similar for all communities.

- **Child Care for Infants and Toddlers and Preschool-age Children:** Caregivers of preschool-age children were twice as likely (52%) to have any specialized education in child development than were caregivers of infants and toddlers (25%). The greatest discrepancy in the proportion of caregivers with specialized education occurred in Allen

County. Sixty-one percent of caregivers of preschool-age children had specialized education while only 7% of caregivers of infants and toddlers did. In St. Joseph County, a small proportion of caregivers had specialized training, and the difference between caregivers of infants and toddlers and preschool-age children was minimal. (See Figure 4.12).

FIGURE 4.12. CAREGIVER SPECIALIZED EDUCATION IN CHILD CARE FOR INFANTS AND TODDLERS IN THE FOUR COMMUNITIES.

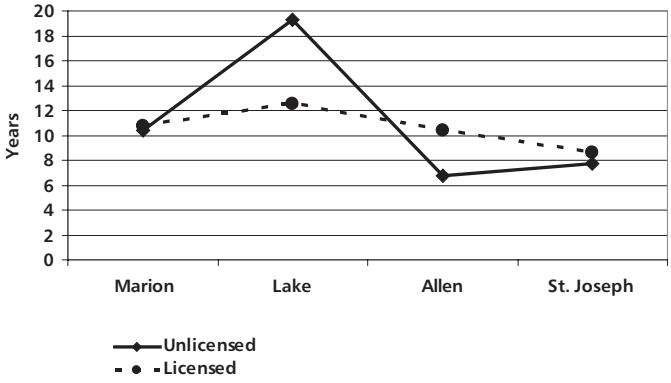


Structural Quality: Caregiver Years of Experience in Child Care

Caregivers were asked to answer a question, "Since you were 18, how long have you worked in child care?" On average, they had worked in child care for about 10 years, but there were significant differences in caregivers' years of experience across communities. Caregivers in Lake County had worked longer in child care (M = 13.38) than those in St. Joseph County (M = 8.43). Although this difference coincides with the difference in caregiver specialized education in communities, the correlation between caregiver specialized education and years of experience was relatively small (r =.16). There was no difference in caregivers' years of experience among the six child care settings, between home and center-based care, or between child care for infants and toddlers and child care for preschool-age children.

- **Licensed and Unlicensed Care:** Caregivers in licensed and unlicensed child care settings reported similar years of experience in child care. Lake County did not follow this pattern. Caregivers in unlicensed child care reported more years of experience (M = 19) than those in licensed child care (M= 12.3). (See Figure 4.13).

FIGURE 4.13. CAREGIVER YEARS OF EXPERIENCE IN LICENSED AND UNLICENSED CARE IN FOUR COMMUNITIES.



Process Quality

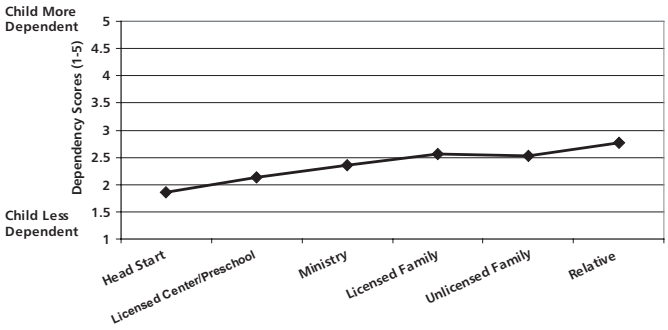
Process quality was assessed based on the caregiver-child relationship, caregiver- parent relationship, caregiver sensitivity, caregiver responsive interactions with the child, caregiver talk, and child's activity level.

Process Quality: Caregiver-Child Relationship

Caregivers rated their perceptions of their relationship with the participating children using the Student Teacher Relationship Scale (STRS Pianta, 1992). The STRS asks the caregiver to rate the child's interactive behavior, and how the caregiver thinks the child feels about him/her. Three subscales were used in this study to reflect different aspects of the caregiver-child relationship: Conflict/Anger, Closeness, and Dependency. Scores range from 1 to 5 with 5 indicating high conflict/anger, high closeness, and high dependency (or lack of independence). In general, caregivers rated their relationships with the child positively. Conflict and anger in their relationships was low (M = 1.87), while closeness was moderate to high (M = 4.07), and dependency was moderate to low (M = 2.31). There were no differences among the four communities.

There was a difference in the amount of dependency among the six child care settings. Head Start and licensed center care/preschool caregivers reported the least amount of dependency, while relative and unlicensed family care reported the most. Licensed family care and child care ministries fell in the middle. (See Figure 4.14).

FIGURE 4.14. CAREGIVER REPORT OF DEPENDENCY (STRS) IN THE SIX CHILD CARE SETTINGS



No differences in the other subscale scores (i.e., Conflict/Anger & Closeness) were found among the six types of child care settings, or between home and center-based care.

- **Home-based and Center-based Care:** Caregivers in home-based settings (M = 2.58) reported greater dependency than in center-based settings (M = 2.14) in their relationships. This pattern was similar for all communities and was present even after controlling for age of the child.

- **Licensed and Unlicensed Care:** Caregivers in unlicensed settings reported greater dependency (M = 2.47 compared to M = 2.24) and greater conflict (M = 2.01 compared to M = 1.8) in their relationships. This pattern was similar for all communities and was present even after controlling for age of the child.

- **Child Care for Infants and Toddlers and Preschool-age Children:** Caregivers of preschool-age children reported greater closeness (M = 4.17 compared to M = 3.92) while caregivers of infants and toddlers reported greater dependency (M = 2.53 compared to M = 2.17) in their relationships. This difference was true for all communities.

Process Quality: Parent-Caregiver Relationship

Parents and caregivers used the Parent Caregiver Relationship Scale (PCRS; Elicker, Noppe, Noppe, & Fortner-Wood, 1997) to rate their perceptions of the quality of the dyadic parent-caregiver relationship. The scale assesses a parent's or a caregiver's perceptions, attitudes, and feelings about her/his relationship with the other partner in the caregiving dyad. Total and subscale scores were used for comparisons. For the parent version of PCRS, the subscales are Trust/Confidence, Collaboration, and Affiliation. The caregiver PCRS has the same first two subscales and a Caring subscale instead of Affiliation. Scores range from 1 to 5 with 5 indicating a more positive perception of the relationship.

Parent Report

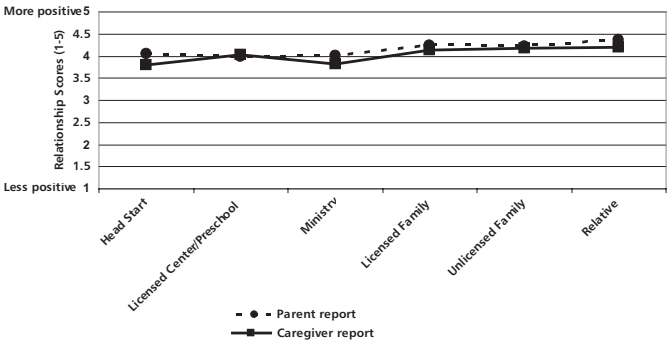
In general, relationships were rated positively (M = 4.10). The quality of relationships between parents and caregivers, as reported by parents, was highest in relative care (M = 4.36) and licensed and unlicensed family child care (M = 4.22); it was lowest in licensed center care/preschool (M = 3.9), child care ministries (M = 4.02) and Head Start settings (M = 4.05). This was true for the total and subscale scores (Trust/Confidence, Collaboration, and Affiliation). Figure 4.15 displays these differences for the total scores on the PCRS. There were no differences in the quality of parent-caregiver relationships between licensed and unlicensed care, or between child care for infants and toddlers and preschool-age children. There were community differences, however, on the total score and each subscale score. Lake County parents rated the relationship lower than Marion County parents. Parents in Allen and St. Joseph counties rated their relationships in-between parents in Lake and Marion counties.

- **Home-based and Center-based Care:** The quality of relationships between parents and caregivers was higher in home-based care (M = 4.25 compared to M = 4.0). This was true for the total and subscale scores (Trust/Confidence, Collaboration, and Affiliation). This pattern was similar for all communities.

Caregiver Report

Overall, caregivers rated the parent-caregiver relationship quality similar to parent reports (M= 4.03 compared to M = 4.10). The quality of relationships between parents and caregivers, as reported by caregivers, was highest in relative care (M = 4.26) and licensed and unlicensed family child care (M = 4.15); it was lowest in licensed center care/preschool settings (M = 4.03), child care ministries (M = 3.83), and Head Start (M = 3.79). Figure 4.15 illustrates these differences. This pattern is similar to that reported by the parents on the PCRS. Ratings by caregivers did not differ for communities, between licensed and unlicensed care, or between child care for infants and toddlers and preschool-age children.

FIGURE 4.15. TOTAL SCORES OF PARENT-CAREGIVER RELATIONSHIP IN SIX CHILD CARE SETTINGS



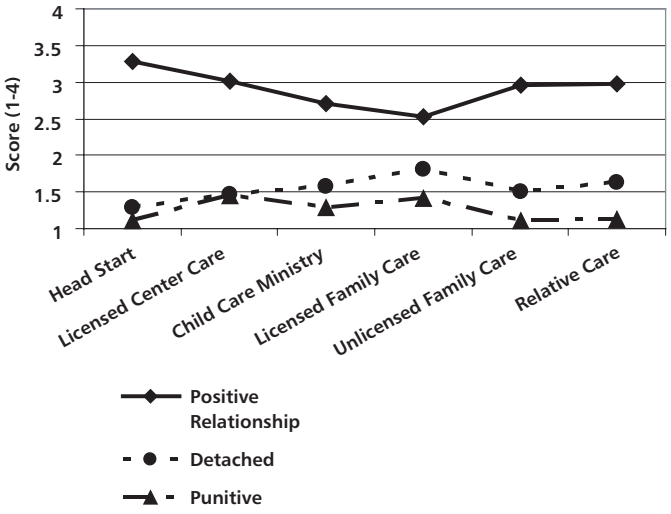
- **Home-based and Center-based Care:** The quality of relationships between parents and caregivers was higher in home-based care (M = 4.16 compared to M = 3.95). This was true for the total and subscale scores (Trust/Confidence, Collaboration, and Affiliation). This pattern was similar for all communities.

Process Quality: Caregiver Sensitivity (CIS)

During the ECERS-R and FCDRS observations, researchers also rated caregiver sensitivity using the Caregiver Interaction Scale (CIS; Arnett, 1989). The subscales we used were Positive Relationship, Punitiveness, and Detachment. The Permissiveness subscale was omitted because the item scores in the subscale were not internally consistent. Scores range from 1 to 4, with 4 indicating more positive interactions, more punitiveness, and more detachment.

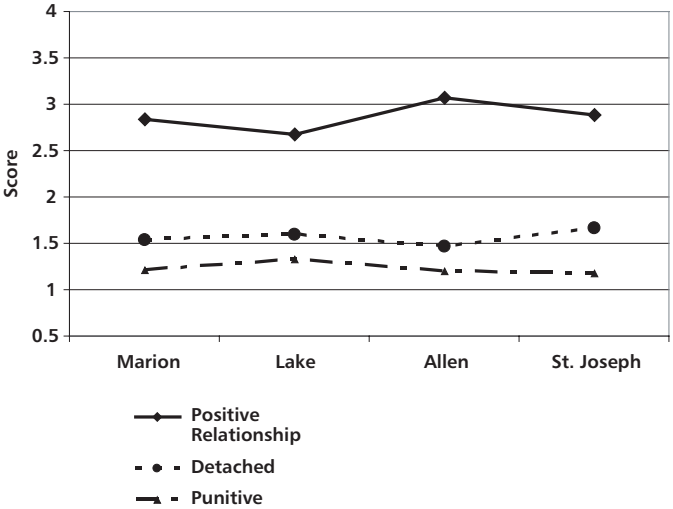
Overall, the mean scores for Positive Relationship, Punitivenss, and Detachment were 2.87, 1.23, and 1.56, respectively. There were differences in these scores among the six child care settings. Licensed family child care settings were rated higher on the Punitive subscale than all other settings (M = 1.42), and higher on the Detached subscale than Head Start and licensed center care/preschool settings. Licensed family child care along with child care ministries (M = 2.5, M = 2.70, respectively) were rated the lowest on the Positive Relationship subscale, while Head Start and licensed center care/preschool settings were rated the highest (M = 3.75, M = 3.01, respectively). Figure 4.16 presents the scores of each subscale for the six child care settings.

FIGURE 4.16. CAREGIVER SENSITIVITY SCORES FOR THE SIX CHILD CARE SETTINGS



The only community difference existed in the Positive Relationship subscale scores. Allen County caregivers were rated higher than Lake County caregivers on the Positive Relationship subscale (M = 3.07 compared to M = 2.68), while Marion and St. Joseph counties fell in the middle and did not differ significantly (M = 2.84 and M = 2.88, respectively). Figure 4. 17 presents the scores of each subscale for the four communities.

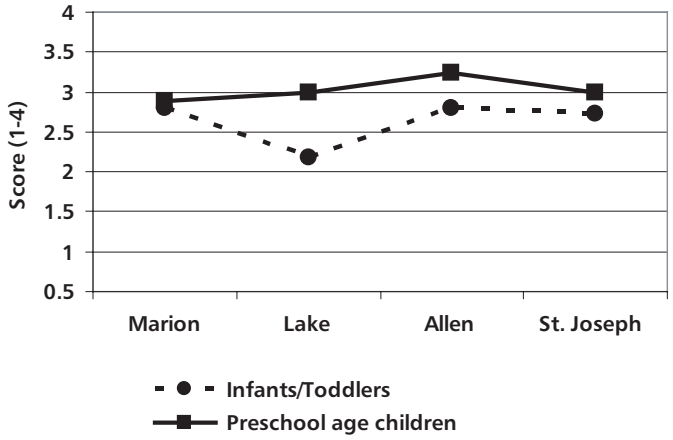
FIGURE 4.17 CAREGIVER SENSITIVITY SUBSCALE SCORES FOR THE FOUR COMMUNITIES



- **Home-based and Center-based:** Home-based settings were rated lower on the Positive Relationship subscale (M = 2.68 compared to 2.97), higher on the Punitive subscale (M = 1.32 compared to 1.18), and higher on the Detached subscale (M = 1.73 compared to 1.47) than center-based settings. This was similar for all communities.

- **Child Care for Infants and Toddlers and Preschool-age Children:** Caregiver interaction for infants and toddlers was rated as less positive (M = 2.63 compared to M = 3.02), less punitive (M = 1.32 compared to M = 1.45), and less detached (M = 2.63 compared to M = 3.02) than with preschool-age children. Within preschool-age children, there were no significant community differences. Within infants and toddlers, however, the Positive Relationship subscale score for Lake County (M = 2.18) was lower than the other three counties (M = 2.74, 2.79, 2.8, respectively). (See Figure 4.18)

FIGURE 4.18. POSITIVE RELATIONSHIP SUBSCALE SCORES FOR INFANTS AND TODDLERS AND PRESCHOOL-AGE CHILDREN IN THE FOUR COMMUNITIES

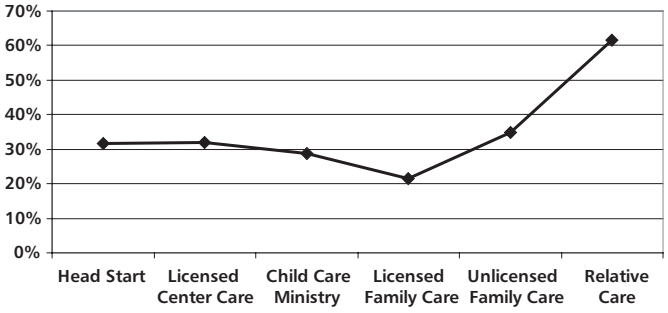


Process Quality: Caregiver Responsive Interaction with Child

Caregiver involvement with each participating child was also observed and categorized as ignore, routine/minimal, and simple/elaborated/intense using time-sampling techniques. Overall adult responsive interaction was calculated as the proportion of simple/elaborated/intense adult involvement out of the total time when an adult was within three feet of the child. In other words, the percent of time the adult was actively interacting with the child when the adult was within three feet of the child was calculated. On average, adults were observed to be interacting responsively with the child 30% of the observed times when they were within three feet of the focal child. Sixty-six sample children (21.5%) were either ignored by adult(s) or received routine or minimal involvement even when at least one adult was close to them.

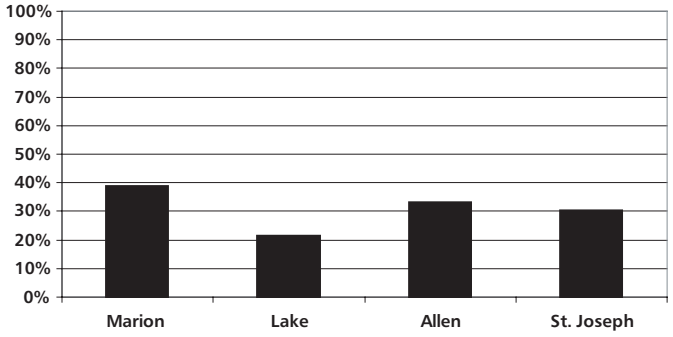
There was a significant difference in percentage of adult responsive interaction across types of child care settings. The mean percentages of adult responsive interaction in relative care (61.6%) were higher than all other forms of care. Licensed family care was observed to have the lowest percentage of adult responsive interaction (21.4%). Figure 4.19 illustrates these differences. There were no differences between home and center-based care or between licensed and unlicensed settings. (See Figure 4.19).

FIGURE 4.19. ADULT RESPONSIVE INTERACTION OF CAREGIVER WITH CHILD IN THE SIX CHILD CARE SETTINGS



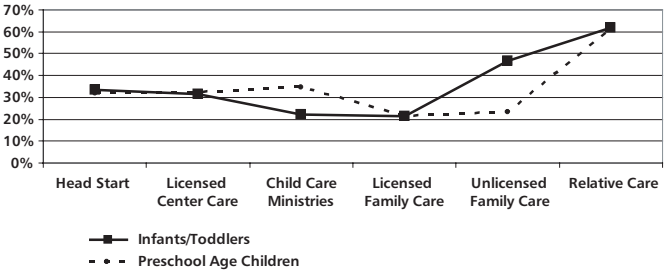
There were also differences in adult responsive interaction across communities. The mean percentages of adult responsive interaction in Marion and Allen counties were the highest (38.5% and 33.1%, respectively). Lake County was observed to have the lowest percentage of adult responsive interaction (21.4%), while St. Joseph County fell in the middle (30%). Figure 4.20 illustrates these differences.

FIGURE 4.20. ADULT RESPONSIVE INTERACTION OF CAREGIVER WITH CHILD IN THE FOUR COMMUNITIES



- **Child Care for Infants and Toddlers and Preschool-age Children:** Overall, there was no difference in the level of adult responsive interaction between age groups. However, within the sample of infants and toddlers, the proportion of adult responsive interactions was significantly different across child care settings. More specifically, for infants and toddlers, caregivers were involved significantly more responsively in licensed center care/preschool centers (M = 34.49%) and Head Start classrooms (M = 50.24%) than they were in licensed family child care homes (M = 20.87%). Adults were involved more responsively in Head Start classrooms than in child care ministries (M = 27.37%). No significant difference was found for children older than 3 years. (See Figure 4.21).

FIGURE 4.21. ADULT RESPONSIVE INTERACTION IN THE SIX CHILD CARE SETTINGS



Process Quality: Caregiver Talk

Caregiver talk with child was observed by researchers using time-sampling techniques and categorized as Initiating or Responding to the child. Talk was then rated as Praise/acknowledgement, Social, Question, Expansion, Describes, Prompt/suggestion, or Directive. Proportions of time during which the caregivers were observed engaging in these types of talk were calculated. Caregivers initiated talk with the child 29% of the observed time; they responded 5% of the time. The greatest proportion was Description (14.6%), followed by Question (6.9%), Directive (5.8%), Praise (3.2%), and Prompt/suggestion (2.4%). Social talk and Expansion were observed less than 1% of the time. There were no differences in caregiver talk among the six types of child care setting, between home and center-based care, or between licensed and unlicensed care. The only community difference was in the amount of directive talk. Allen County caregivers used directive talk significantly more than the other counties (3% compared to 6.5%).

- **Child care for Infants and Toddler and Preschool-age Children:** Caregivers for preschool-age children were observed using descriptive talk more than caregivers of infants and toddlers (M = 16% compared to 12%). Although infant/toddler and preschool caregivers did not differ on other categories of talk, differences emerged in the percent of praise talk when the type of setting was considered. While relative and Head Start caregivers used more praise talk with infants and toddlers, unlicensed family child care caregivers used praise talk more with preschool-age children.

Process Quality: Child's Cognitive Activity Level

Using time-sampling techniques (20-second intervals), research assistants coded the behaviors of each child to reflect the type of activity in which he/she was engaged. Then, based on the type of activity in which the child was engaged, the cognitive activity level was categorized as none, low-yield, medium-yield, and high-yield activities, and the proportions of each category to the total intervals observed were calculated. (See Table 4.2 for a description of the categories). The percent of each activity level was weighted by 0, 1, 2, and 3, and the sum of the four was used as

Children in Head Start displayed higher levels of cognitive activity (M = 1.22) than children in relative care and child care ministries (m = .74 and M = .98, respectively).

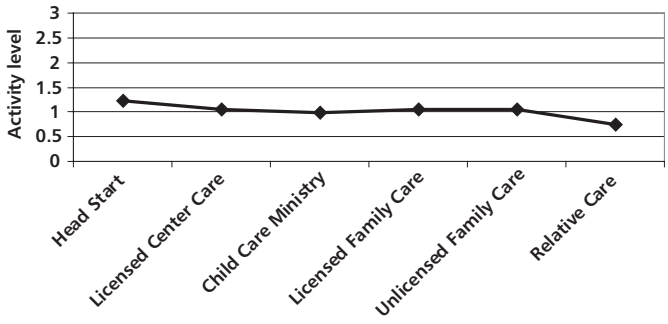
TABLE 4.2. DEFINITIONS OF CHILDREN'S COGNITIVE ACTIVITY LEVELS

Cognitive Activity Level	Activities Engaged	Weight Given
None	Routines, Other, and Unoccupied/wandering	0
Low-yield	Close-ended art, Didactic, TV (TV and TV-child), and Large motor.	1
Medium-yield activities	Manipulatives, Book/Writing, Sensory, Computer, and Music	2
High-yield activities	Open-ended art, Blocks, and Dramatic play	3

overall children's activity level. The possible range of the scores is 0 to 3. Overall, the average level of children's activity was 1.04 (min = .02 and max = 2.84). This means the overall children's activity level was a little higher than "low yield."

Differences were found in children's cognitive activity among the six types of child care settings. Children in relative care displayed lower levels of cognitive activity (M = .74) than other forms of care. Children in Head Start displayed higher levels of cognitive activity (M = 1.22) than children in relative care and child care ministries (m = .74 and M = .98, respectively). Figure 4.22 illustrates these differences. There were no differences between home and center-based settings or among the four communities.

FIGURE 4.22. CHILD COGNITIVE ACTIVITY LEVEL IN THE SIX CHILD CARE SETTINGS



- **Licensed and Unlicensed care:** The overall level of child's cognitive activity was higher in licensed settings (M = 1.07 vs. .96). This was similar for all communities.

- **Child Care for Infants and Toddlers and Preschool-age Children:** The overall level of preschool-age children's cognitive activity was higher than that of infants and toddlers (M = 1.13 vs. .91). This was similar for all communities.

CONCLUSIONS

Despite the parents' high ratings of their child care quality, the global quality levels assessed by our trained observers of all types of care used by low-income working families in these four communities were relatively low. On a well-validated observation scale, the average level of child care quality observed was below "good," and just above "minimal." Almost ½ of the children in this sample attended child care that may not have provided the kinds of experiences and environment thought to be important for development. The highest levels of global quality were found in Head Start settings and licensed center care/preschool centers, while the lowest levels were observed in child care ministries, licensed family care, unlicensed family care, and relative care. Overall, licensed settings were of higher global quality than unlicensed settings.

In general, child-adult ratios in the settings complied with NAEYC guidelines. Caregivers in center-based care and licensed care reported more general and specialized education than caregivers in home-based or unlicensed care. On indicators of process quality, home-based settings had more positive parent-caregiver relationships, while center-based settings were higher on measures of caregiver sensitivity with children. Licensed family child care tended to be the lowest on process quality, especially for infant/toddler care. Overall, infants and toddlers received the lowest quality of care. Global quality for infants and toddlers was at a minimal level or below in all types of settings in all four communities, regardless of whether the care was center- or home-based. Caregivers of infants and toddlers also reported lower levels of general and specialized education than caregivers of preschool-age children.

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Chapter 5

LOW INCOME WORKING FAMILIES: CHILDREN'S DEVELOPMENT AND CHILD CARE QUALITY

This chapter explores variations in cognitive and social-emotional developmental outcomes among the 307 children who participated in the study. Cognitive development for infants and toddlers was assessed directly by researchers, and included early learning skills such as visual reception, fine motor, receptive vocabulary, and expressive vocabulary. For preschool-age children, cognitive development was also assessed directly by researchers, and included receptive vocabulary, social awareness (e.g., give name, date of birth), color naming, and counting. Preschool cognitive outcomes also included academic attitudes such as creativity, verbal intelligence, independence, task orientation, and distractibility, assessed by parent and caregiver ratings. Children's social-emotional development was assessed by caregiver and parent ratings of children's social competence and problem behaviors (e.g., anger/aggressiveness and anxiety-withdrawal). For a complete description of the child development measures see Appendix A.

Relationships between child care quality (discussed in Chapter 4) and children's cognitive and social-emotional outcomes were examined using correlation and regression analyses (see Appendix F for these statistics). The level of mothers' education, the child's age in months, the child care setting, and the community of residence were included as control variables in these analyses.

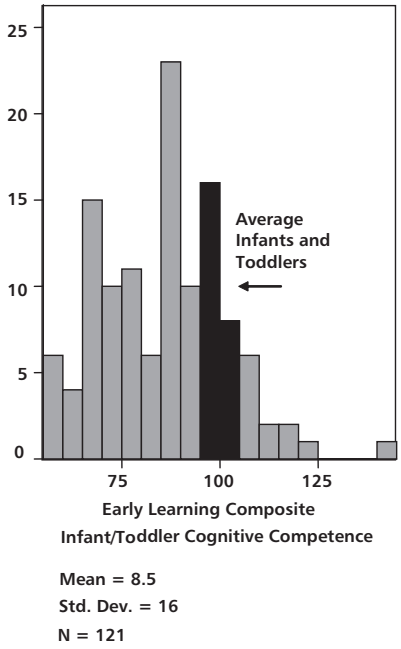
CHILDREN'S COGNITIVE OUTCOMES

Infants/Toddlers

Each infant and toddler's visual reception (performance in processing visual patterns), fine motor skills (visual-motor ability), receptive vocabulary (understanding of words), and expressive vocabulary (ability to produce language—words and sounds) were assessed directly by researchers using the Mullen Scales of Early Learning. An overall Early Learning composite score was then created based on these subtests.

The majority of infants and toddlers in this low-income working family sample were less advanced in these areas of cognitive competence than average children of the same age. While the average score for the Mullen Early Learning Composite based on a sample of children of any given age across all income levels is 100, infants and toddlers in this sample had a mean score of 85 (SD = 16, Mdn = 87). Scores of children in this research sample ranged from 56 to 143, with only 15% scoring above the test average (100) for infants and toddlers. No differences in infant and toddler early learning skills were found among the four communities. Figure 5.1 displays the distribution of scores.

FIGURE 5.1. DISTRIBUTION OF INFANT/TODDLER EARLY LEARNING COMPOSITE SCORES IN THIS RESEARCH SAMPLE



The typical infant or toddler in this sample was at the 15th percentile in early learning (cognitive) skills when compared to the test norms for children in the same age range. Even prior to age 3 years, children in this sample seem to be behind their agemates in cognitive competence.

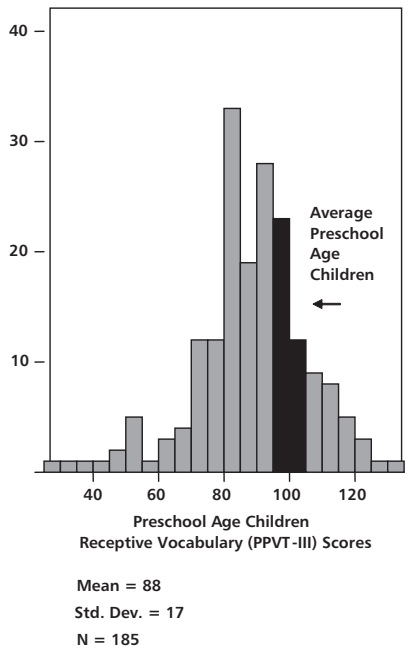
Preschool-Age Children

Preschool-age children's cognitive skills were assessed a number of ways. Early academic skills were assessed directly by research assistants. (See Appendix A for detailed descriptions of these assessments.) Children were asked to state their first and last name, age, and month and day of birth (FACES social awareness

task), name 10 colors (FACES color naming task), and count 10 bears while pointing to 10 objects (FACES bear counting task). The Peabody Picture Vocabulary Test-Third Edition (PPVT-III) was also administered to assess each child's receptive vocabulary. Academic attitude was assessed by parent and caregiver ratings of each child's creativity, verbal intelligence, independence, task orientation, and distractibility using portions of the Classroom Behavior Inventory (CBI). Scores on the CBI range from 1 (not at all like the child) to 5 (very much like the child).

One-third of the preschool-age children were able to state their first and last name, age, and month and day of birth; about half of the children were able to recall three out of five. On average, children could identify eight of 10 colors, and 55% of children could identify nine to 10 colors. Nearly two-thirds were able to complete the counting task (counting up to 10 bears). Similar to the Early Learning scale for the infant and toddler sample, the majority of preschool-age children in this research sample scored lower in receptive vocabulary than average of the same age, according to published norms. While the average test score based on a sample of children of a given age across all income levels is 100, children in this sample had a mean score of 88 (SD = 17 Mdn = 89). Scores ranged from 29 to 132, with only 20% of this sample scoring above the national average for preschool children. Figure 5.2 displays the distribution of scores.

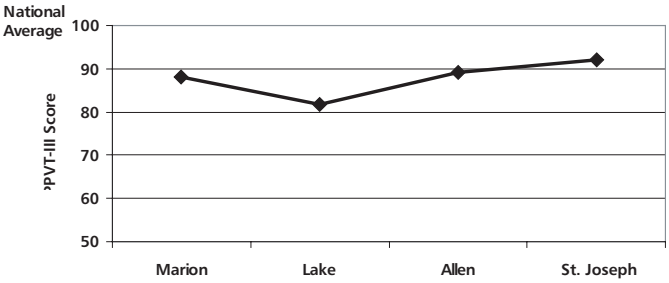
FIGURE 5.2. DISTRIBUTION OF PRESCHOOL-AGE CHILDREN'S RECEPTIVE VOCABULARY (PPVT-III) SCORES IN THIS RESEARCH SAMPLE



These results suggest that the typical preschool-age child from this sample of low income working families was at the 20th percentile in receptive vocabulary ability when compared to typical children in the same age range.

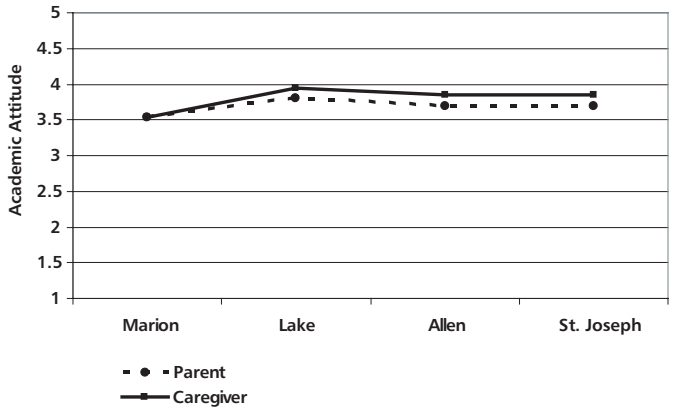
There were differences among the four communities in preschool children's receptive vocabulary (PPVT-III) abilities. Children in the Lake County sample (M=82) scored lower on receptive vocabulary ability than children in St. Joseph, Allen, and Marion counties (M=92, M=89, and M=88, respectively). These differences remained even after mother's education and child's age in months were taken into account. Figure 5.3 displays these differences.

FIGURE 5.3. RECEPTIVE VOCABULARY (PPVT-III) SCORES FOR PRESCHOOL-AGE CHILDREN IN THE FOUR COMMUNITIES



In general, children were rated positively in academic attitudes by both parents and caregivers. The mean scores were not significantly different for parent (M = 3.68) and caregiver reports (M = 3.53) (possible score range was 1 to 5). Therefore, on average, both caregivers and parents rated preschool-age children as relatively creative, verbally intelligent, independent, task-oriented, and not very distractible. In general, parents and caregivers viewed the children as having positive academic attitudes. Parent ratings of academic attitudes did vary by county. Lake County parents rated their children somewhat higher (M= 3.80) than did parents in Marion County (M=3.53). Children in St. Joseph and Allen counties fell between (M=3.70). Even after controlling for the effect of mother's education and child's age, these differences remained. Figure 5.4 displays academic attitude scores from parent and caregiver reports.

FIGURE 5.4. ACADEMIC ATTITUDE SCORES OF PRE-SCHOOL-AGE CHILDREN IN THE FOUR COMMUNITIES BY PARENTS AND CAREGIVERS



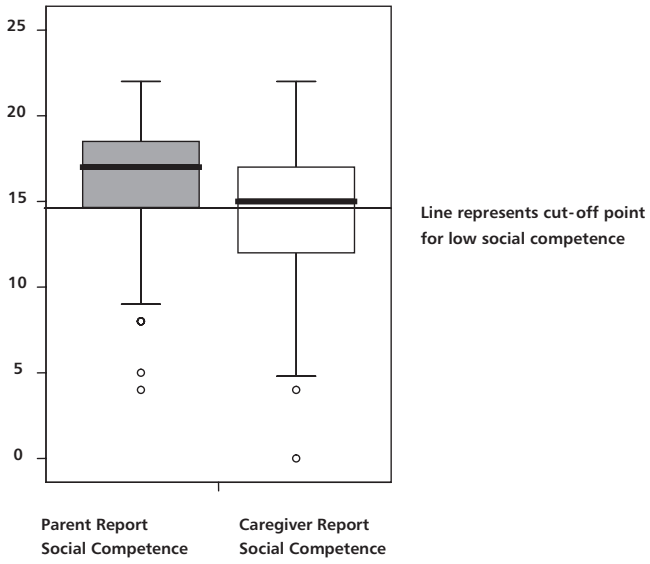
In general, preschool-age children in center-based care performed higher on all measures of cognitive competence than did children in home-based care. However, children in center-based care were older and also had mothers with slightly higher education levels. When the influence of mother's education and child's age were statistically controlled, these differences in cognitive competence disappeared. When we examined differences among the six specific child care settings, the difference found between home-based and center-based child care also faded. The only difference that remained was in the children's ability to state their first and last name, age, and month and day of their birth. Children in licensed center care/preschools could correctly complete about four out of five of these items, while children in licensed family child care and relative care could correctly complete two to three out of the five items. Child care ministries, unlicensed family child care, and Head Start fell in the middle. When licensed and unlicensed settings were compared, the only difference that emerged was in color naming. Preschool-age children in licensed child care were able to name almost eight colors, while children in unlicensed care named approximately six. However, this licensed-unlicensed difference may have been due to child age and mother education, because the differences disappeared when these characteristics were statistically controlled.

CHILDREN'S SOCIAL-EMOTIONAL OUTCOMES

Infants/Toddlers

Parents and caregivers reported children's social competence and behavior problems using the Brief Infant Toddler Social and Emotional Assessment (BITSEA). In general, both parents and caregivers rated children low on behavior problems and high on social competence. Cut-off points to determine extreme scores for Problem Behavior and Social Competence scales were examined. Compared to a test sample researched by the BITSEA authors, children with scores above the 75th percentile on the Problem Behavior Scale and those with scores below the 25th percentile on the Social Competence Scale are of special interest. Children with scores in the highest quartile for behavior problems or the lowest quartile for competence on the BITSEA are not considered to have psychopathology or delayed competence, but they may be considered at-risk and warrant further assessment. Twenty-six percent (26%) of children in this research sample were identified by parents and 49% were identified by caregivers to have competence scores in the lowest 25th percentile. Figure 5.5 displays the distribution of scores from parent and caregiver social competence reports.

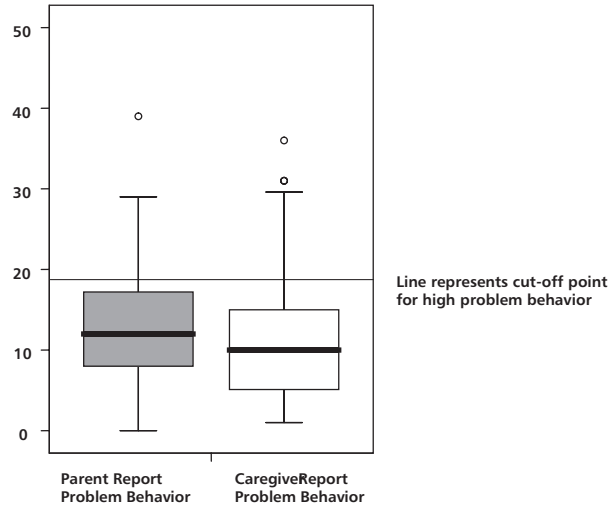
FIGURE 5.5. INFANTS/TODDLERS SCORES ON SOCIAL COMPETENCE SCALE OF BITSEA, REPORTED BY PARENTS AND CAREGIVERS



Note: Scores below the line indicate infants/toddlers who fell below social competence cut-off point, indicating risk.

Eighteen percent (18%) of children were identified by parents and 12% were identified by caregivers to have problem behavior scores above the 75th percentile. Figure 5.6 displays the scores on each problem behavior report. There were no differences in social outcomes as assessed with the BITSEA among the four communities, or among types of child care. Composite variables (combining parent and caregivers reports) were created for Social Competence and Problem Behavior.

FIGURE 5.6. INFANTS/TODDLERS SCORES ON PROBLEM BEHAVIOR SCALE OF BITSEA REPORTED BY PARENTS AND CAREGIVERS



Note: Scores above the line indicate infants/toddlers who were above the problem behavior cut-off point, indicating risk.

Preschool-age Children

Portions of the Classroom Behavior Inventory were completed by parents and caregivers to assess extroversion and considerateness. The Social Competence and Behavior Evaluation (SCBE) was completed by parents and caregivers to assess anger-aggression, social competence, and anxiety-withdrawal. Together, these measures were used to create two overall social-emotional competence composite scores for preschoolers, one reported by parents and one reported by caregivers. High scores indicate that the child's behavior was rated lower on anger-aggression and anxiety-withdrawal and higher on social competence; low scores imply that the child's behavior was rated higher on anger-aggression and anxiety-withdrawal and lower on social competence.

For our analyses, standardized scores were used (M = 0, SD = 1). If the score is a positive number, the child was more socially competent and less aggressive and anxious/withdrawn. If the score is a negative number, the child was more aggressive and anxious/withdrawn and less socially competent. If the score is close to 0, it means there is a balance between social competence and anger/aggression/anxiety/withdrawal. There were no differences in composite scores among counties or among types of child care. In general, most children were rated moderate to high on social competence and low on problem behaviors.

WHAT IS THE RELATIONSHIP BETWEEN CHILD CARE QUALITY AND CHILDREN'S COGNITIVE AND SOCIAL-EMOTIONAL DEVELOPMENT? DOES TYPE OF CHILD CARE OR COMMUNITY OF RESIDENCE MAKE A DIFFERENCE IN THESE RELATIONSHIPS?

The relationships between child care quality and children's cognitive and social-emotional competence were examined. Statistical analyses were conducted to determine if there were significant associations between child care quality measures and children's developmental competence measures, and also to determine if these associations still existed after the effects of mother's education level, child's age in months, and child care setting were considered. The effects of mother's education, child age, and type of child care were examined separately first, and then combined with child care quality indicators. Multi-level regression analyses were also used to determine if relationships between quality and children's competence varied by community. The relationships between mother's education, child's age, and child's competence were controlled in each analysis, so we could more clearly determine if there is a link between child care quality and child development.

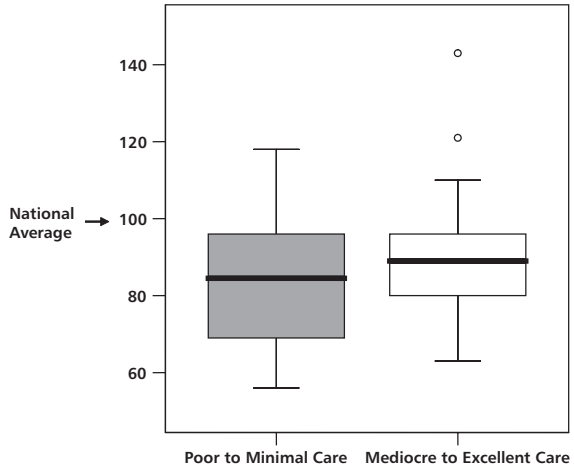
Global Quality and Child Competence

Global quality of child care settings (ECERS-R and FDCRS scores) was positively related to aspects of cognitive competence among both infants/toddlers and preschool-age children. We found no relationship, however, between global quality and social-emotional competence for either age group.

- **Infants/Toddlers**
  Infants and toddlers in child care programs of higher global quality (ECERS-R or FDCRS) scored higher on early learning skills (visual reception, fine motor, receptive vocabulary, and expressive vocabulary) than infants and toddlers in child care programs of lower global quality. Higher levels of mother's education were also related to higher scores of early learning skills. There was no relationship between child's age, type of child care setting, and these early learning skills. When relationships with mother's education level, type of child care setting, and child's age were controlled, the relationship between global quality and early learning skills remained. Therefore, children who were cared for in the same type of child care setting and who had mothers with similar education levels were likely to exhibit higher

early learning skills if their child care setting was of higher global quality. Figure 5.7 provides a comparison of poor-to-minimal and mediocre-to-excellent quality programs. It should be recalled, however, that most infants and toddlers in our study received lower than average scores on the early learning measure, regardless of child care quality.

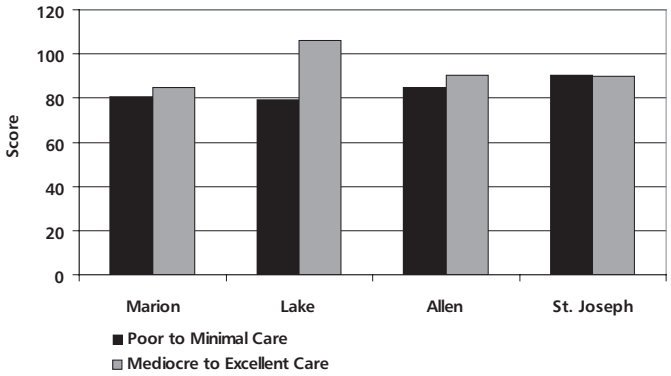
FIGURE 5.7. RELATIONSHIP BETWEEN GLOBAL QUALITY AND INFANT/TODDLER EARLY LEARNING COMPOSITE SCORES



Note: ECERS-R and FDCRS categories were coded as follows: 1-3.49 = poor to minimal care, 3.50-7 = mediocre to excellent care

When the effect of community was considered, the relationship between global quality and infant/toddler early learning skills varied. Figure 5.8 depicts early learning skills in the four communities. In Marion and Allen counties, the difference in early learning skills between infants/toddlers in low and high global quality settings was noticeable, but only statistically significant in Allen County. Lake County displayed the strongest relationship between global quality and early learning skills, but also averaged the lowest global quality and the least variation in global quality among communities. In St. Joseph County, no significant relationship between global quality and early learning skills was present; on average, infants and toddlers in low and high quality child care settings scored similarly on early learning skills. One explanation for this lack of difference in 3 counties is that the quality of child care for infants and toddlers does not vary too much and is relatively low in all counties.

FIGURE 5.8. EARLY LEARNING COMPOSITE SCORES IN HIGH AND LOW QUALITY CHILD CARE SETTINGS IN THE FOUR COMMUNITIES

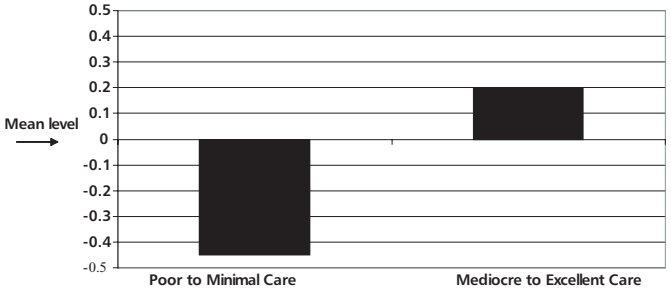


Note: ECERS -R and FDCRS categories were coded as follows 1-3.49=poor to minimal care; 3.51-7=mediocre to excellent care.

- **Preschool-age Children**

  Preschool-age children in child care settings of higher global quality (ECERS-R or FDCRS) scored higher on early academic skills than children in child care settings of lower global quality. Mother's education and type of child care setting were not related to children's scores of early academic skills. Older children tended to score higher on early academic skills than younger children. When relationships with mother's education level, type of child care setting, and child's age were controlled, the relationship between global quality and early academic skills remained. Figure 5.9 illustrates this relationship. Variables that made up early academic skills (i.e., FACES tasks and receptive vocabulary) were submitted to factor analyses, and factor scores were used for regression analyses. These variables had a mean of 0 and standard deviation of 1. Positive scores indicate higher levels of early academic skills while negative scores indicate lower levels of early academic skills.

FIGURE 5.9 RELATIONSHIP BETWEEN GLOBAL CHILD CARE QUALITY AND PRESCHOOL-AGE CHILDREN'S EARLY ACADEMIC SKILLS SCORES



Note: 5.9 Relationship between global quality and early academic skills of preschool age children

The relationship between global quality and preschool children's early academic skills scores did not vary among the four communities. In conclusion: Regardless of community residence, children who were cared for in the same type of child care settings and had mothers with similar education were more likely to exhibit higher early academic skills if their child care setting was of higher overall quality.

Structural Quality and Child Competence

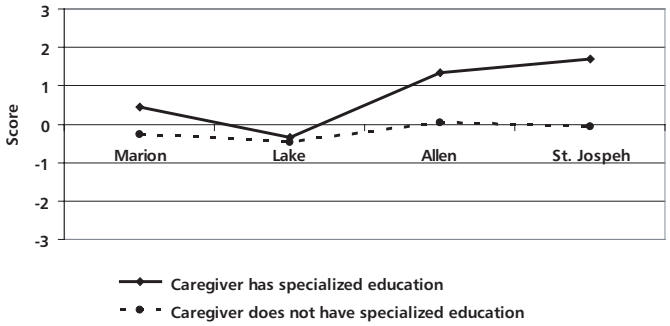
Some aspects of structural quality (adult-child ratio, caregiver education, and caregiver specialized training) were not associated with children's cognitive outcomes. There were associations, however, between indicators of structural quality and the social-emotional competence of both infants/toddlers and preschool-age children.

- **Infants/Toddlers**

  Higher levels of caregiver general education were related to higher ratings of infant/toddler social-emotional competence, as rated by parents. Mother's education and type of child care setting were not related to social-emotional competence ratings by parents. Older children were rated higher on social-emotional competence than younger children. When mother's education, type of child care setting, and child's age were taken into account, the relationships between caregiver general education and social-emotional competence disappeared. Therefore, when mothers were more educated, when the child was older, and when they were in certain types of child care, children were more likely to be cared for by caregivers with higher levels of general education. While there was a link between these variables and social-emotional competence, it is impossible to disentangle their separate influences. This did not vary by community.

  Caregiver specialized education in child development/early childhood education was also related to higher ratings of infant/toddler social-emotional competence, as rated by parents. When relationships with mother's education level, type of child care setting, and child's age were controlled, this relationship remained. Infants and toddlers with mothers of similar education and cared for in the same type of child care settings were more likely to be rated higher on social-emotional competence by parents if their caregiver had more specialized education in child development or early education. This relationship did, however, vary by community. In St. Joseph County this relationship remained, while in Marion and Allen counties the relationship was weaker. In Lake County the relationship did not exist. Figure 5.10 presents these relationships.

FIGURE 5.10. SOCIAL-EMOTIONAL COMPETENCE SCORES OF INFANTS AND TODDLERS IN THE FOUR COMMUNITIES



Note. Positive score on social-emotional competence indicates more social competence and fewer problem behaviors; negative score on social-emotional competence indicates lower social competence and more problem behaviors.

- **Preschool-age Children**

  Preschool-age children who were cared for by caregivers with higher levels of education were rated higher on social-emotional competence by their caregivers. Mother's education, type of child care setting, and child's age were not related to social-emotional competence rated by caregivers. However, when relationships with mother's education level, type of child care setting, and child's age were controlled, the relationship between caregiver education and social-emotional competence diminished. While there was a link between these variables and social-emotional competence, it is impossible to disentangle their separate influences. This did not differ for the four communities.

Process Quality and Child Outcomes

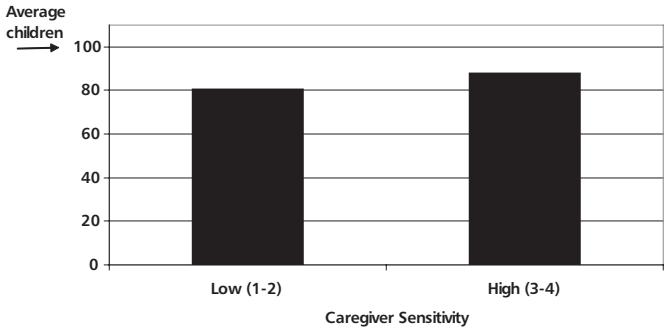
Indicators of process quality (including caregiver sensitivity, caregiver talk, and interpersonal relationships within the child care setting) were positively related to cognitive and social-emotional competence among both infants/toddlers and preschool-age children.

- **Infants/Toddlers**

  Greater caregiver sensitivity (positive, warm, and non-punitive interactions with children) and a greater percentage of high-level caregiver talk (questioning, expanding, describing, and prompting/suggesting) were related to higher early learning composite scores for infants and toddlers. The relationship between caregiver sensitivity and early learning composite scores remained even after maternal educa-

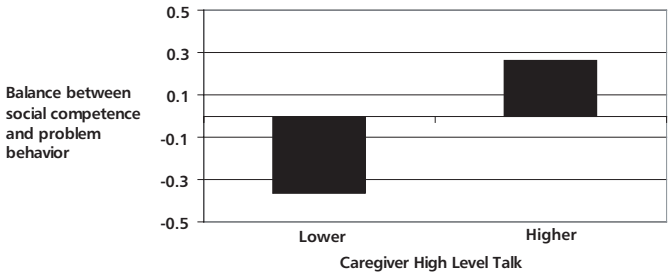
tion, type of child care setting, and child's age were taken into account. This relationship did not vary by community. Therefore, infants/toddlers with mothers of similar education and cared for in the same type of child care setting were more likely to exhibit higher early learning skills if the caregiver was involved in positive, warm, and non-punitive interactions with children, regardless of community residence. Figure 5.11 illustrates this relationship. The relationship between caregiver talk and early learning skills was not statistically significant when mother's education, type of child care and child's age were considered. This did not vary by community.

FIGURE 5.11. RELATIONSHIP BETWEEN CAREGIVER SENSITIVITY AND INFANT/TODDLER EARLY LEARNING SKILLS



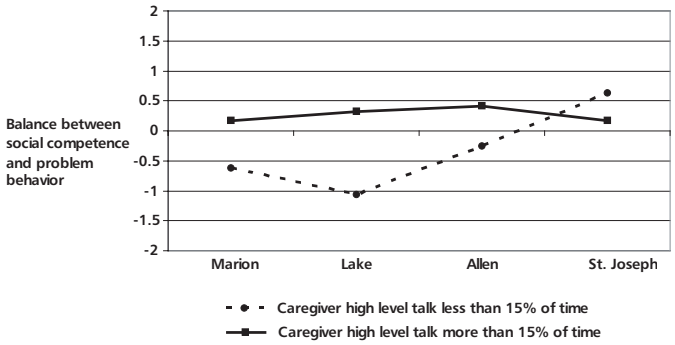
A greater percentage of high-level caregiver talk was related to higher ratings of social-emotional competence by the parent. When relationships with mother's education level, type of child care setting, and child's age were controlled, the relationship between caregiver talk and social-emotional competence remained. Therefore, infants and toddlers with mothers of similar education and cared for in the same type of child care settings were more likely to be rated higher on social-emotional competence by the parent if the caregiver used a greater percentage of high-level talk with the child. Figure 5.12 presents these differences.

FIGURE 5.12. RELATIONSHIP BETWEEN CAREGIVER HIGH-LEVEL TALK AND INFANT/TODDLERS SOCIAL-EMOTIONAL COMPETENCE REPORTED BY PARENT



The relationship between caregiver talk and social-emotional competence varied by community. In Marion, Allen, and Lake counties the relationship was present, with the strongest relationship in Marion County. Thus, infants and toddlers in Marion, Allen, and Lake counties were more likely to be rated higher on ratings of social-emotional competence if their caregivers used high caregiver talk more often. In St. Joseph County we found no statistically significant relationship between ratings of social-emotional competence and caregiver talk. Figure 5.13 illustrates these relationships.

FIGURE 5.13. RELATIONSHIP BETWEEN PARENT REPORT OF SOCIAL-EMOTIONAL COMPETENCE OF INFANTS AND TODDLERS AND CAREGIVER HIGH-LEVEL TALK IN THE FOUR COMMUNITIES



A greater percentage of adult responsive interaction with the child was related to lower ratings of social-emotional competence by the parent. When mother's education, type of child care setting, and child's age were taken into account, the relationship between the percentage of caregivers involved in complex interactions and lower ratings of social-emotional competence by the parent diminished. Therefore, when children's mothers were more educated, when the child was older, and when they were in certain types of child care, they also were cared for by caregivers who used a more adult responsive interaction. While there was a link between these variables and social-emotional competence, it is impossible to disentangle their separate influences. This was true for all communities.

- **Preschool-age children**

  More positive ratings of the caregiver-child relationship by the caregiver and greater observed caregiver sensitivity were related to higher scores in children's early academic skills. However, when the relationship of mother's education, type of child care setting, and child's age were controlled, these relationships proved not statistically significant. Therefore, when children's mothers were more educated, when the child was older, and when they were in certain types of child care, the caregiver-child positive relationship and caregiver sensitivity was also higher. While there was a link between these variables and early academic skills, it is impossible to disentangle their separate influences. This relationship did not differ for the four communities.

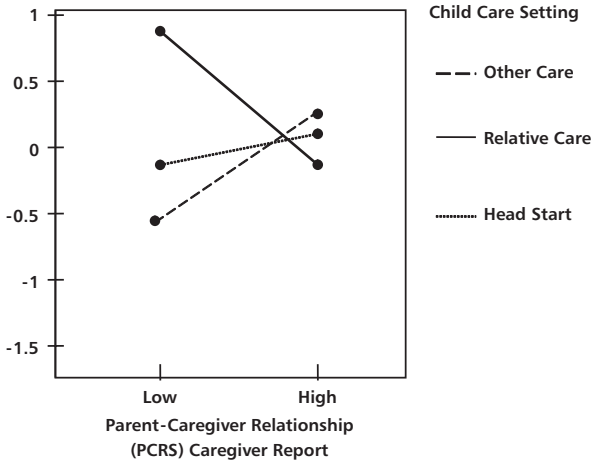
  A greater percentage of high-level caregiver talk (questioning, expanding, describing, prompting/suggesting) was linked to higher scores of early academic skills and higher ratings of social-emotional competence, rated by caregivers. The relationship between caregiver talk and early academic skills remained even after mother's education, type of child care setting, and child's age were considered. The relationship between caregiver talk and early academic skills did not vary by community. Therefore, preschoolers with mothers of similar education and cared for in the same type of child care setting were more likely to exhibit higher early academic skills if they experienced a higher-level caregiver talk, regardless of community residence. The relationship between caregiver talk and social-emotional competence proved not statistically significant when the effect of mother's education, type of child care setting, and child's age were taken into account. Therefore, when children's mothers were more educated, when the child was older, and when they were in certain types of child care, they also were cared for by caregivers who used higher level talk. While there was a link between these variables and social-emotional competence, it is impossible to disentangle their separate influences. This was true for each of the four communities.

  Greater caregiver sensitivity was also correlated with higher early academic skills. However, when the relationship of mother's education, child's age, and type of child care setting were controlled, these relationships proved not statistically significant. Therefore, when children's mothers were more educated, when the child was older, and when they were in certain types of child care, they also received more sensitive care. While there was a link between these variables and early academic skills, it is impossible to disentangle their separate influences. This finding was consistent among the four communities.

  Positive ratings of the parent-caregiver relationship by the parent were also related to higher ratings of the child's academic attitude and higher ratings of social-emotional competence by the parent. Mothers' education, type of child care setting, and child's age were not related to either academic competence or social-emotional competence. When relationships with mother's education, type of child care setting, and child's age were controlled, the relationships remained. These relationships did not vary by community. Therefore, preschool-age children who were cared for in the same type of child care settings with mothers of similar education were more likely to be rated higher on social competence and academic attitudes if their parent rated the parent-caregiver relationship more positively, regardless of community residence.

  Similarly, more positive ratings of the parent-caregiver relationship by the caregiver were related to higher ratings of children's social-emotional competence, rated by the caregiver. This relationship changed slightly after the type of child care setting was considered. The relationship was strong for licensed center care/preschools, child care ministries, licensed family care, and unlicensed family care. For Head Start settings, this relationship did not exist, while for relative care the relationship was opposite. Therefore, with the exception of Head Start and relative care, children cared for by caregivers who rated the parent-caregiver relationship more positively were more likely to be rated higher on social-emotional competence, regardless of mother's education, child's age in months, and community residence. Figure 5. 14 illustrates these differences.

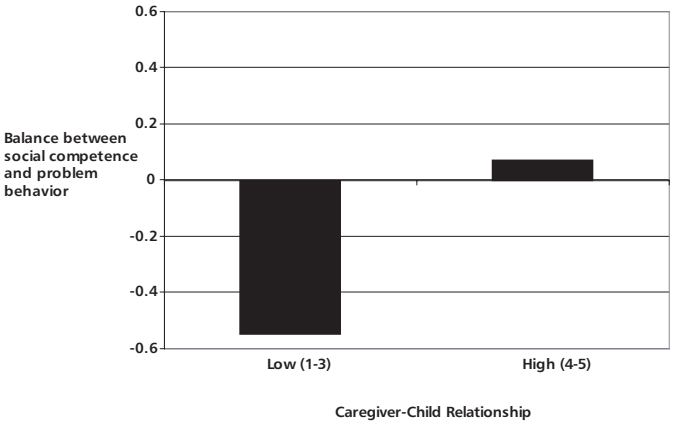
FIGURE 5.14. RELATIONSHIP BETWEEN PARENT-CAREGIVER RELATIONSHIP AND PRESCHOOL-AGE CHILDREN'S SOCIAL-EMOTIONAL COMPETENCE REPORTED BY CAREGIVERS IN DIFFERENT CHILD CARE SETTINGS



Note: Other care illustrates the similar relationships between parent-caregiver relationship and social-emotional competence that existed in licensed center/preschool care, child care ministry, licensed family care and unlicensed family care.

More positive ratings of the caregiver-child relationship by the caregiver were related to higher ratings of children's social-emotional competence by both parents and caregivers. These links between caregiver-child relationships and children's social-emotional competence remained even after maternal education, type of child care setting, and child's age were taken into account. Therefore, children who were cared for in the same type of child care settings with mothers of similar education were more likely to be rated higher on social-emotional competence if their caregiver-child relationship was more positive, regardless of community residence. Figure 5.15 illustrates this relationship.

FIGURE 5.15. RELATIONSHIP BETWEEN CAREGIVER-CHILD RELATIONSHIP AND PRESCHOOL-AGE CHILDREN'S SOCIAL-EMOTIONAL COMPETENCE REPORTED BY PARENTS



CONCLUSIONS

Children of low-income working parents in this sample scored lower than established average levels in some areas of cognitive competence. Even prior to the age of 3 years, children in this sample are behind their age mates in cognitive competence. This finding has important policy implications and suggests the need for enrichment in both family and child care settings to promote these children's early cognitive development. The availability of quality child care for infants and toddlers in this sample is of special concern based on the results of this research, since global quality ratings for the youngest children were at a minimal level or below, regardless of type of child care setting.

Global, structural, and process child care quality indicators were associated with children's cognitive and social-emotional competence, even after controlling for mothers' education and children's age. Therefore, efforts to improve child care quality are likely to have a positive impact on the development of children like those in this sample. In general, the relationships between child care quality and child competence did not vary by community, nor by child care setting. These links between quality and child development are robust. Improving child care quality for low-income working families is an issue that deserves attention in these Indiana communities, and probably in other communities.

CHILDREN AND CAREGIVERS: DOES ETHNICITY OR ETHNIC MATCH INFLUENCE RELATIONSHIPS IN CHILD CARE?

MICERE ODEN, UNDERGRADUATE RESEARCH ASSISTANT, FEBRUARY 2, 2005

(**Note:** Micere Oden participated in the Community Child Care Research Project (CCCRP) as an undergraduate research assistant from 2002 to 2004. This is a summary of the independent study she conducted using the CCCRP data. Micere graduated from Purdue in December, 2004 with a B.S. in Youth, Adult, and Family Services.)

The objective of this study was to discover how ethnicity relates to interactions and relationships between caregivers and children. Using the data from the Community Child Care Research Project, I investigated whether or not child ethnicity, caregiver ethnicity, and caregiver-child ethnic match were associated with (1) caregivers' perceptions of their relationships with children and (2) the proportion of time caregivers talked to children.

Research Question 1: Are child ethnicity and caregiver ethnicity associated with caregiver-child relationships?

Research Question 2: Is caregiver-child ethnic match associated with caregiver-child relationships?

Research Question 3: Are child ethnicity and caregiver ethnicity associated with the amount of time caregivers talk to children?

Research Question 4: Is caregiver-child ethnic match associated with the amount of time caregivers talk to children?

Method

The study was conducted in four urban communities in Indiana: Marion, Lake, Allen, and St. Joseph Counties. The sample consisted of 307 low-income working families with young children who were being cared in out-of-home child care settings. Families who were eligible for this study had: annual family income less than $35,000, head of the household was "working" at least 20 hours a week, family had a child between 6 months to 6 years old, and the child was in enrolled in out-of-home child care at least 15 hours per week for the past 2 months, family was not on TANF (Temporary Assistance for Needy Families), and child care setting agreed to participate.

- **Caregiver-Child Relationship.** The Student Teacher Relationship Scale (STRS) assesses the child care provider's feelings and perceptions regarding their interpersonal relationship with the child. The total number of items on the STRS is 30. Average scores can range from 1 (low quality relationship) to 5 (high quality relationship). Four scores were calculated from the caregiver's completion of the STRS. The total score indicates the teacher's overall positive perceptions about their relationship with the child. The STRS also has subscales for closeness, conflict, and dependency.

- **Caregivers' Talk with Children.** Using observation by observers using time-sampling techniques (20-second intervals) we coded the caregiver's talk with the child to reflect the type of verbalizations they used. Whether the caregiver's talk was initiated or in response to the child was coded; then type of talk was coded. Types of talk coded included: "high level talk" (questions, expansions, prompts/suggestions, and describing) and "low level talk" (praise/acknowledgement and directives.)

Results and Implications

The results suggested that caregivers' perceptions of their relationships with the children were not related to the ethnic background of the child, and caregivers' ethnic match with the child was not related to the relationship they had with the focal child. Second, caregivers' ethnicity did not relate to the proportion of time they talked to children, and caregivers' ethnic match with the children did not relate to the proportion of time they talked to children.

The implications of this study, when considered with the other results of the CCCRP, are that the provision of high quality, nurturing, and age-appropriate care and education for children of low income working families in child care settings contributes to positive adult-child relationships and a richer learning environment, regardless of the ethnicity of the caregivers and the children. I found no evidence that children's ethnicity or ethnic match with their child care providers were associated with these important child care quality variables.

CHAPTER 6

LOW INCOME WORKING FAMILIES: PARENTS' EMPLOYMENT, EDUCATION, AND CHILD CARE QUALITY

This chapter explores parent employment and education outcomes in the 307 families who participated in the study. Each family was asked to report employment/education patterns for a female and male head of household; 116 male heads of households and 307 female heads of household were identified. Relationships between child quality variables (discussed in Chapter 4) and parent employment/education outcomes were examined. The combined relationships of a number of child care quality variables (discussed in Chapter 4) with parent employment/education were examined using correlation and regression analyses (see Appendix G for statistics). The effects of child's age in months, child care setting, and community residence were also included in these analyses. Parent outcomes included in this research were hours per week spent in paid employment or in a school or training program, work hours per day (full-time, part-time, temporary), work shift (day, evening, night, shift change), number of months working for employer, interruption in work due to illnesses or child care problems, and raises or promotions at work.

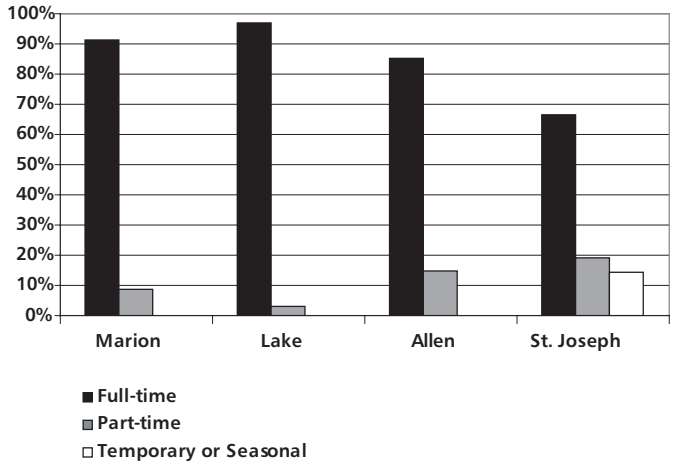
PARENT EMPLOYMENT AND EDUCATION OUTCOMES

Parent employment and education outcomes: Male heads of household

One hundred and sixteen (38%) families identified a male head in the household. Almost three-fourths (72%) of the identified male heads of households were the child's biological father. The remaining male heads of household were the child's grandfather (10%), the child's stepfather (8%), or other male living in the household (9%). Among the male heads' employment outcomes, only work hours (full-time vs. part-time and temporary) and length of current employment differed among communities. (See results reported below.) In general, male heads of household reported the following employment and education patterns:

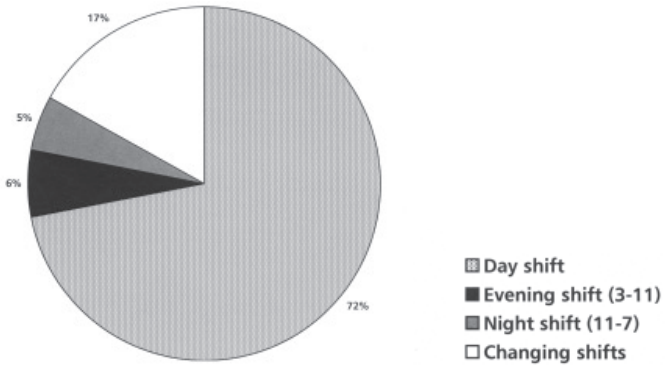
- A large majority of male heads of household (89%) were employed.
- On average male heads spent about 38 hours per week working or in school/training program.
- A majority (87%) of male heads worked full-time (35 or more hours per week not including time in school/training program). Only 14% reported working part-time (less than 30 hours per week) or at a temporary or seasonal position. Work patterns varied by community. A higher proportion of male heads worked full time in Lake, Allen, and Marion counties (96.8%, 85.2%, and 91.3%, respectively) than male heads in St. Joseph (67%). Although Lake County had the highest unemployment rate during the time of the study, male heads in the research sample in that county had the highest rates of both full- and part-time employment. St. Joseph County had one of the lowest employment rates, but male heads in the research sample in that county had the lowest rates of employment. Interestingly, the St. Joseph County sample was the group of males to report temporary or seasonal work. Figure 6.1 displays these differences. This community difference remained after child's age and type of child care setting were considered.

FIGURE 6.1. PERCENTAGE OF MALE HEADS IN FULL-TIME, PART-TIME AND TEMPORARY/SEASONAL EMPLOYMENT IN THE FOUR COMMUNITIES



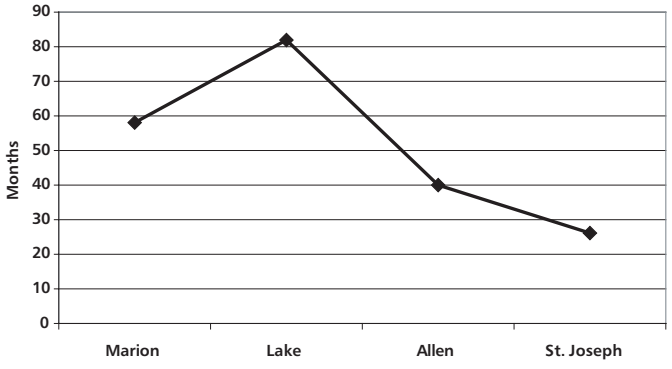
- Most male heads (72%) worked standard hours (daytime) as opposed to evening (3-11pm), at night (11pm-7am), or changing shifts. This ranged from 57% in Lake County to 81% in Allen County but did not differ statistically. Figure 6.2 displays the work shifts of all male heads of households.

FIGURE 6.2. MALE HEAD OF HOUSEHOLD WORKING SHIFTS (N=116)



- The average number of months male heads had been employed at their current employer was 53 months. The means in each community were 26 months in St. Joseph, 58 months in Marion, 40 months in Allen, and 82 months in Lake County. Statistical tests revealed male heads in Lake County had a significantly longer employment history with the current employer than male heads in St. Joseph County. This difference remained after child's age and type of child care setting were considered. Figure 6.3 displays means for each community.

FIGURE 6.3. NUMBER OF MONTHS MALE HEADS WERE EMPLOYED WITH CURRENT EMPLOYER IN THE FOUR COMMUNITIES



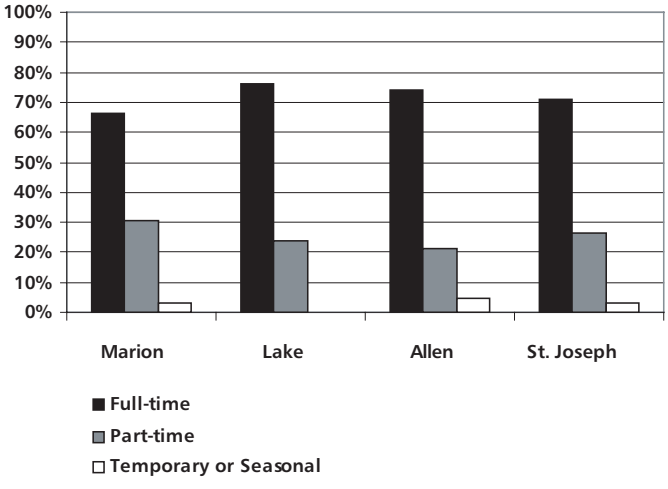
- Work had been interrupted at least once in the past month due to illness or child care problems for almost half of all male heads. The percentages of male heads whose work had been interrupted were 38% in St. Joseph, 61% in Marion, 43% in Allen, and 48% in Lake County. These community differences were not statistically significant.
- About one-quarter (27%) of the male heads of household in this study had received a recent raise or promotion. The percentage of male heads who received a raise ranged from 19% in St. Joseph County to 39% in Marion County, but community differences were not statically significant.

Parent employment and education outcomes: Female heads of household

Communities did not differ in the rate of female heads of household employment and education outcomes. In general, female heads of household had the following employment and education characteristics:

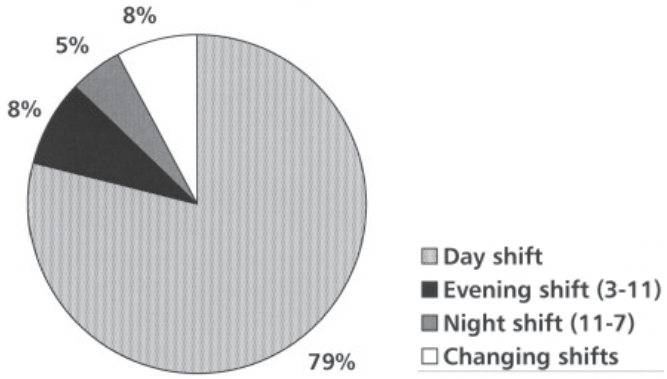
- A large majority of female heads (83%) were employed, ranging from 79% in Marion County to 89% in Lake County.
- On average, female heads spent about 33 hours per week working or in school/job training.
- On average, 72% of female heads worked full-time (35 or more hours per week, not including time in school/training program) as opposed to part-time (less than 30 hours per week) or temporary/seasonal position. The percentages of female heads working full-time were 71% in St. Joseph County, 66% in Marion County, 74% in Allen County, and 76% in Lake County. These differences were not statistically significant. Figure 6.4 displays these work patterns.

FIGURE 6.4. PERCENTAGE OF FEMALE HEADS IN FULL-TIME, PART-TIME AND TEMPORARY/SEASONAL EMPLOYMENT IN THE FOUR COMMUNITIES



- Almost 80% of female heads worked standard hours (daytime). The remainder either worked in the evening (3 pm-11pm), at night (11pm-7am), or changing shifts. The percentages of female heads working non-traditional hours were 17% in St. Joseph County, 16% in Marion County, 28% in Allen County, and 23% in Lake County. These differences were not statistically significant. Figure 6.5 displays the work shifts of all female heads of households.

FIGURE 6.5. FEMALE HEADS OF HOUSEHOLD WORKING SHIFTS (N=253)

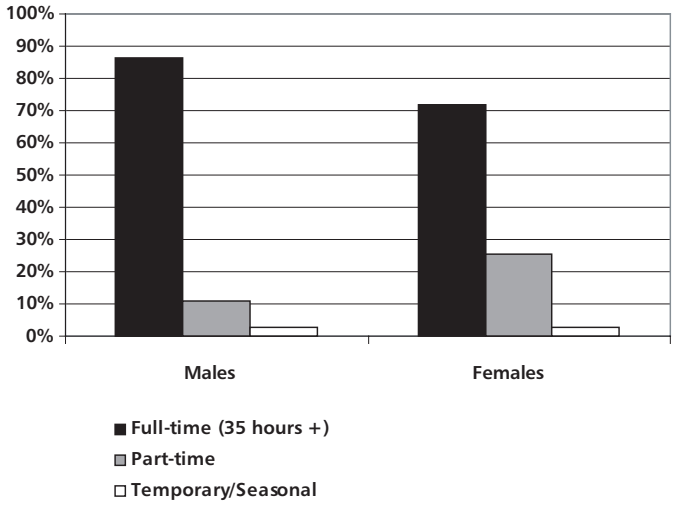


- The average number of months the female heads had been employed at their current employer was 36 months. The means for each community were 30 months in St. Joseph County, 34 months in Marion County, 31 months in Allen County, and 48 months in Lake County, but did not differ significantly.
- At least two out of three working female heads experienced missing work at least once in the past month due to illness or child care problems. The percentages of female heads who experienced missing work were 68% in St. Joseph County, 73% in Marion County, 63% in Allen County, and 70% in Lake County, but did not differ significantly.
- About one in five working female heads of household reported they had received a raise or promotion recently. The percentages of working female heads receiving a raise ranged from 13% in St. Joseph County to 32% in Allen County, but did not differ statistically.

Comparison of Male and Female Employment

In general, there are many similarities between the working patterns of male and female heads in this study. Most males and females in this sample of low income working parents were employed or in school or training programs 35 or more hours per week. However, almost 15% more males reported working full time than did females. Therefore, it appears that while male heads of household are spending more time away from home at work, many female heads of household are balancing work, school, and family. Figure 6.6 compares these working patterns.

FIGURE 6.6. COMPARISON OF MALE AND FEMALE HEADS IN FULL-TIME, PART-TIME AND TEMPORARY/SEASONAL EMPLOYMENT



There were also differences in the stability of work reported by male and female heads. Male heads reported they had worked for their current employer longer than female heads (M = 53 months and Mdn=30 compared to M= 38 months and Mdn=19). This may have been due in part to women needing to take maternity leave. Also, not surprisingly, females were more likely to have their employment interrupted due to illness or child care problems. While a little over two-thirds of females reported this interruption, less than one-half of males reported it. This gender difference coincides with the gender differences we found in work flexibility (see Chapter 3). Females were more likely to report that their employer would allow them to stay home when their child was ill. Again, this could be a reflection of mothers' perceived or actual greater responsibility for child care. A greater role in child care may affect women's job stability as well. These apparent differences in child care responsibility and job stability may affect the types of jobs low-income men and women are able to obtain.

Not surprisingly, females were more likely to have their employment interrupted due to illness or child care problems.

Comparison of Parent Employment Outcomes for Children in Home- and Center-based Care

The employment patterns for parents using home- and center-based care were compared. No differences were found between employment patterns of female heads using home-based care and those using center-based care. Only one difference between employment patterns of male heads was found. Males whose children were in center-based care were more likely to report their work had been interrupted during the past month due to illness or child care problems compared to those whose children were in home-based care (56% compared to 36%). There was a similar trend with female heads; however, the difference (72% compared to 63%) was not statistically significant. This difference between home- and center-based care may be explained by the relative lack of flexibility in hours for center-based child care that parents reported in the focus group interviews. Licensed family child care or more informal home-based care are often more flexible in terms of allowing a parent to pick up their child later than scheduled, as well as in caring for sick children, services not often available with center-based care. Again, this gender difference in work interruption reflects gender differences reported in work flexibility (i.e., employers would be more likely to allow mothers to stay home when their child was ill).

Males whose children were in center-based care were more likely to report their work had been interrupted during the past month due to illness or child care problems compared to those whose children were in home-based care (56% compared to 36%).

Comparison of Parent Employment Outcomes for Infants/Toddlers and Preschool-age Children

There were few differences in parent employment patterns between parents of infants/toddlers and preschool-age children. The only statistically significant difference was in the number of months male heads of household had been employed with their current employer. Male heads of household with preschool children reported being employed longer by their current employer than male heads of infants/toddlers (M=65 compared to M=38 months). There was a trend for male heads of household with preschool-age children to be more likely to report their work had been interrupted sometime in the past month due to illness or child care problems (53% compared to 41%). This difference is likely due to differences in types of care chosen for preschool-age children versus infants/toddlers. As reported in Chapter 3, preschool-age children are more likely to be found in center-based programs, and infants/toddlers are slightly more likely to be found in home-based care. As reported above, males whose children were in center-based care were more likely to report their work had been interrupted due to illness or child care problems. For female heads of household, there were no statistically significant differences in employment patterns of parents with infants/toddlers and preschool-age children, but there were some trends. Female heads with preschool-age children were more likely to work full-time than those with infants/toddlers (70% compared to 63%). In addition, female heads with preschool-age children were more likely to work a daytime shift (82% compared to 75%). Again, there was no difference in hours working or in attending school. Taken together, these results suggest mothers of infants/toddlers may be working slightly less, but may be more often involved in education or training programs, which would necessitate part-time employment and evening or changing employment shifts. Therefore, although mothers of infants/toddlers may not work outside the home as many hours as fathers, they are spending similar amounts of time away from their children, necessitating similar demands for child care.

Comparison of Parent Employment Outcomes for Single vs. Two Parent Households

A little over two-thirds of our sample reported they were single with no partner, divorced, or widowed. Marital status and living arrangements for the child had implications for the parent outcomes examined. For female heads, the only difference existed in the length of time employed with current employer. Single, divorced, or widowed female heads with no partner reported shorter employment durations with their current employers (36 months compared to 46 months for married mothers). This may reflect more demands that single parents encounter when they are juggling employment, family, and child care.

We were also interested in comparing families who reported two heads of household with those who reported only one. Sixty percent of families reported only one head of household, which was female. Females in families with two heads of household reported a longer length of time employed with current employer (47 months compared to 29 months for women who were single heads of household). On the other hand, three-fourths of females in families with two heads of household reported their work had

been interrupted due to illness or child care problems in the past month, compared to two-thirds of females who were the sole head of household. Therefore, it appears that, regardless of marital status and living arrangements, low-income working mothers are experiencing significant challenges with employment and child care.

Low-income working families of all types were experiencing similar struggles in balancing employment, schooling, and the child care needs of their family.

In general, families with children of different ages, in different child care settings, of different household compositions, and in different communities reported similar employment outcomes. Therefore low-income working families of all types were experiencing similar struggles in balancing employment, schooling, and the child care needs of their family.

Relationship Among Child Care Quality and Parent Employment and Education Outcomes

One goal of this research was to determine if child care quality had any impact on parents' employment or education. In general, we found few relationships among indicators of child care quality and parent education and employment outcomes. Appendix G presents the significant correlation and regression statistics among child care quality and parent employment variables.

For male employment outcomes, greater child-adult ratio (more children per adult) was related to the number of hours in work, school, or training program and interruption to due to illness or child care problems. After the effect of child's age and type of child care setting were considered, these relationships remained. They did not vary by community. Although center-based settings were more likely to have higher child-adult ratios and, as reported above, males who reported work interruptions were more likely to have their child in center-based care, the type of child care setting did not contribute significantly to this relationship. Therefore, males with children of the same age were more likely to work or attend school for more hours and experience work interruptions if their child's care setting had a higher child-adult ratio, regardless of child care setting and community residence. It is possible that settings with more children per adult are less able to provide flexible care, and thus child care interruptions are more likely for fathers.

More positive ratings of the parent-caregiver relationship by the parent and higher levels of children cognitive activity were related to daytime working shifts of male heads of household. As reported in Chapter 4, more positive relationships between caregiver and parent were more likely in home-based care. Therefore, when relationships with type of child care setting and child's age were controlled, this connection between parent-caregiver relationship and working shift disappeared. This did not vary by community. The relationship between child's cognitive activity and working shift persisted after child's age and type of care was considered. The child's level of cognitive activity, as we observed it in child care, is a reflection of quality in the child care environment, but may also reflect more advanced development in the child. It is possible that stable daytime employment of fathers is supported by higher quality child care. It is also possible that fathers with more stable daytime employment are better able to support their children's cognitive development.

For female employment outcomes, higher levels of caregiver general education were related to interruption in females' work due to illness or child care problems. Caregiver general education was higher in center-based care, and center care tends to be less flexible in terms of allowing a parent to pick up their child later than scheduled, as well as caring for sick children. Thus, when relationships with type of child care setting and child's age were controlled, the relationship disappeared. This did not vary by community.

Caregiver specialized education was related to a recent raise for female heads. When relationships with type of child care setting and child's age were controlled, the relationship remained. Although communities differed in caregiver specialized education, the relationship between specialized education and recent raise did not vary by community. Advanced training is another child care structural quality indicator. It is possible that mothers who have their children in higher quality child care are also mothers who are more likely to advance in their employment. Higher levels of children's cognitive activity were related to the number of months female heads of household had been employed with their current employer. This is further evidence supporting the hypothesis that more stable employment of parents is related to more advanced cognitive activity in child care by children, either as a cause or effect. This relationship remained after child's age and type of care were considered, and did not vary by community.

CONCLUSIONS

In general, there are many similarities between the employment and education patterns of male and female heads of households in this study. A majority of both males and females were employed and worked or attended school or training programs 35 or more hours per week. Most worked standard daytime shifts. However, 15% more males reported working full time than females. Males tended to report working at their current employer longer than females, and female heads were more likely to have experienced work interruptions due to illness or child care problems. In general, families with children of different ages, those in different child care settings, those of different household compositions, and those in different communities reported similar employment patterns and outcomes. Therefore, in this research sample, many low-income working families were experiencing similar challenges in balancing work, schooling, and the child care needs of their families.

There was some evidence that families whose children are enrolled in higher quality child care settings have more stable employment patterns.

In general, there were few relationships among indicators of child care quality and parent education and employment outcomes. The type of child care setting or the community residence did not contribute to parent employment or education outcomes. However, there was some evidence that families whose children are enrolled in higher quality child care settings have more stable employment patterns.

Conclusions

The results of the Community Child Care Research Project provide new data describing the child care experiences of low income working families in 4 communities in Indiana. Because the study participants were volunteers rather than randomly selected, and because the research design was correlational rather than experimental, conclusions drawn from these findings necessarily have limitations. The findings cannot be confidently generalized to other low income working families and child care providers, nor can the links between child care quality and children's development be assumed to be causal. For example, while it is quite possible that higher quality child care does support better child development outcomes, it is also plausible that families whose children had more advanced levels of development located and used higher quality child care. Despite these limitations, the research results do represent the recent experiences of more than 300 low income working families, their children, and their child care providers. Therefore, the results suggest a number of key issues that need further investigation by policy makers and researchers.

1. **Are children from low-income working families at risk for less than optimal development**? Many children in this sample scored lower than established norms in areas of cognitive competence. This is not unusual for children from low income families. The existing research literature suggests that both family and child care experiences influence children's development and school readiness. The significant correlations we found between child care quality and children's abilities, even after controlling for maternal education and children's age, suggest that efforts to improve child care quality could have an impact on children's development. These findings did not vary by community or type of child care, suggesting that efforts to improve child care quality for low income working families be beneficial in all types of child care.

2. **Is child care obtained by low income working families low quality**? The observed quality levels of all types of child care used by this sample of low income working families in four communities were low. Almost half of the children in this study attended child care that may not provide experiences and environments thought to be important for development. Educating parents about how to select good quality child care is important. However, there also appeared to be limited child care options for families, due to issues of affordability and accessibility of good quality care. Effective child care policies directed at low income working families should take quality, availability, and affordability into account, so that good quality care is a realistic option for all children.

3. **Is there is a critical need to improve the quality of infant and toddler care for low income working families**? Overall child care quality for infants and toddlers observed in this research was at a minimal level or below in all types of settings in all four communities. Finding and affording good quality infant-toddler care may be especially problematic for young parents with lower education levels and lower wages, because they are least able to afford infant-toddler child care, which is typically more expensive than care for older children.

4. **Are new efforts are needed to improve the quality licensed family child care**? Even though licensed child care was generally of higher quality than unlicensed care, licensed family child care in this sample was observed to be low in overall quality and low in several aspects of process quality (e.g., caregiver sensitivity; caregiver responsive interactions with children)-- for infant/toddler care. The need for improvement in caregiver-child relationships in licensed family child care should be further investigated.

5. **Indiana should investigate quality levels in the rapidly growing child care ministries that are currently license exempt**. Registered child care ministries are serving increasing numbers of children in Indiana. While this research observed a small and select sample of children in child care ministries, in general observed quality in these programs was lower than in licensed child care centers or Head Start. These results suggest a more comprehensive look at quality of care in child care ministries is needed, to determine the need for increased regulation to improve quality.

6. **Greater flexibility in child care and employment is needed for low-income working families to accommodate changing work shifts, non-traditional hours, and care for sick children**. Parents as well as child care leaders in this study pointed to the need for affordable and accessible quality child care that provides more flexibility for low income working families, to accommodate challenging work and school schedules, job training, and child illness. Employers should also look at the possibility of increasing support and work schedule flexibility for workers who are parents of young children.

7. **It is important that the strengths and limitations of individual urban communities are recognized and incorporated when planning for improvements in child care quality for low-income working families**. Indiana provides a unique context for child care because many child care decisions are made at the county level. Even though many experiences of this sample of low income families were similar across these four communities, there were significant differences in the demographics of families, availability of child care, types of care selected, quality levels of specific types of care, and in the focus of county-level quality improvement initiatives. This suggests there are important individual community strengths and limitations in child care for low income working families, and that future initiatives to improve quality should account for these variations.

Glossary

Definitions and explanations for terms used in this report. Note that other organizations or researchers may define these terms differently.

- **Low-income Working Family**
  Family with young child (6 months to 6 years) with annual household income below $35,000 per year (approximately 200% of federal poverty level or below). At least one adult head of household is engaged in paid employment, school, or job training for a total of 20 hours or more per week.

- **Infant**
  Children 6 months to 12 months of age.

- **Toddler**
  Children 13 to 35 months of age.

- **Preschooler**
  Children 36 to 60 months of age.

TYPES OF CHILD CARE

- **Licensed Child Care Center**
  Non-residential building where at least one child receives care by paid non-relative provider. Indiana child care center licensing requirements include requirements for staff training, health, safety, nutrition, appropriate discipline, and child development curriculum. Director must have at least an associate degree with coursework in Early Childhood Education/Child Development (ECE/CD) and 3 years experience. Lead caregivers must be at least 18 yrs, high school graduates, and have a CDA credential OR take ongoing training in ECE/CD. Child care licensing consultants make a minimum of one visit to licensed facilities each year. There were only five preschools (part-day programs) included in the study, and they were included in this categorization.

- **Registered Child Care Ministry**
  License exempt center-based program in Indiana, an extension of a church or ministry that is a tax-exempt religious organization. In 1991 an Indiana statute was passed recognizing ministries as license exempt, having only to meet general sanitation and fire safety rules. No regulations for staff, group sizes, ratios, or program apply to registered ministries. There were less than 100 registered ministries at this time. The mid- to late-1990s saw a dramatic increase in ministries. Indiana had over 650 registered ministries in December, 2004. A child care ministry that is exempt from licensing must clearly state in all of its paid promotional advertising that the child care ministry is providing child care as an extension of the ministry's church or religious ministry.

- **Head Start**
  A national comprehensive preschool program in the United States. Head Start serves children prenatal to 6 years and their families. The program provides comprehensive education, health, nutrition, and parent involvement services to low-income children, prenatal to 5 years, and their families. Sponsoring organizations in local communities apply for competitive grants to operate local Head Start programs under national guidelines, the Head Start Performance Standards. These standards meet or exceed the standards for licensed child care centers in Indiana.

- **Licensed Family Child Care**
  Indiana requires home-based child care providers to be licensed if they care for more than six children. A provider's own children are only counted in group size limits if they are under the age of 8 years. A Class I child care home serves any combination of full time or part time children not to exceed at any one time 12 children, plus 3 school age children. A maximum of 15 children under 11 yrs. may be in a class I home at any one time. Class II child care homes have 2 or more providers, with more than 12 but not more than 16 children at any one time. Licensing does not guarantee high quality, but it does set minimum standards for health, safety, and caregiver training that must be maintained. Licensed family child care homes are inspected by the state once per year.

- **Unlicensed Family Child Care**
  Family care providers that are not licensed, legally caring for fewer than six children non-relative children in Indiana. Licensing is not required for a child care home if the pro-

vider is not paid; cares for only relative children; cares for less than 6 children, not including own children; or serves migrant children.

- **Relative Care**
  Relatives caring for children in the relative's home. Indiana does not regulate care provided by relatives.

CAREGIVER TRAINING AND EDUCATION

- **Child Development Associate Certification (CDA)**
  A national competency-based credentialing program for early childhood education providers.

- **Montessori**
  A comprehensive early education program based on the philosophy of Italian educator Maria Montessori, with a structured approach to environment and learning.

- **High/Scope**
  A curriculum for early childhood education and child care that emphasizes child-initiated learning, based on the theory of Jean Piaget by the High/Scope Education and Research Foundation, Ypsilanti, Michigan.

- **West Ed**
  The Program for Infant Toddler Caregivers (PITC), a training program for caregivers that targets high quality services for infants and toddlers. The program was developed by the West Ed, LaJolla, California.

- **Project Construct**
  A program that provides training in pre-literacy and language following the philosophy of Jean Piaget.

- **Creative Curriculum**
  A comprehensive developmental curriculum for young children developed by Teaching Strategies, Inc.

- **CPR and First Aid**
  Cardio-pulmonary resuscitation and first aid, basic safety and emergency response training programs.

EARLY CHILDHOOD EDUCATION & CHILD CARE ORGANIZATIONS

- **National Association for the Education of Young Children (NAEYC)**
  NAEYC is a national organization dedicated to improving the well-being of all young children, with particular focus on the quality of educational and developmental services for children from birth through age 8. It is the world's largest organization working on behalf of young children with more than 100,000 members, and a national network of nearly 450 local, state, and regional Affiliates.

- **Indiana Association for the Education of Young Children (IAEYC)**
  AEYC is the state affiliate of the National Association for the Education of Young Children. IAEYC serves as a resource to early childhood professionals and parents as well as providing advocacy for issues regarding the quality care and education of young children.

- **National Academy of Early Childhood Programs (NAECP)**
  NAECP administers a national, voluntary, professionally sponsored accreditation system for all types of preschools, kindergartens, child care centers, and school-age child care programs. It is generally acknowledged that the quality standards for programs accredited by NAECP are higher than for state licensing.

- **T.E.A.C.H. (Teacher Education and Compensation Helps) Scholarships**
  The T.E.A.C.H. Early Childhood® INDIANA project serves as an umbrella for educational scholarship opportunities for people working in licensed, registered or legally exempt child care centers and homes in Indiana. T.E.A.C.H. Early Childhood® INDIANA covers partial costs to help with the costs of college tuition, books and travel. In return for receiving a scholarship, each recipient must complete a certain amount of education, in the form of college coursework, during a prescribed contract period. All scholarship recipients receive increased compensation in the form of a bonus or raise, after completing a certain amount of coursework following the contract period. Recipients make a commitment to remain in the sponsoring child care program or the field of early childhood for 6 months to one year beyond the contract period, depending on the scholarship model.

- **Paths to Quality**

  Paths to QUALITY is a voluntary system for child care providers who are willing to go beyond the minimum state requirements of licensing to provide a higher level of care. It is offered by the Early Childhood Alliance Child Care Resource and Referral, a non-profit United Way Partner agency that supports families and child care providers in Allen, DeKalb, LaGrange, Noble, Steuben, and Whitley Counties. Paths to QUALITY helps child care providers learn new ways to improve the quality of their care and give parents more choices when selecting quality child care.

Appendix A

METHODOLOGY

The study was conducted in four urban communities in Indiana, in Marion, Lake, Allen, and St. Joseph counties. These communities were chosen because they were abundantly populated and contained varying availability of licensed and unlicensed child care.

Research assistants visited public places, schools, and government agency offices to locate low-income parents of young children. Volunteer participants were recruited through the following sites:

- workforce development services;
- Women, Infants, and Children programs (WIC);
- Ivy Tech State Colleges, Indiana University-Purdue University Indianapolis (IUPUI), Indiana University-Purdue University Fort Wayne;
- breast feeding classes;
- GED classes;
- Baby Closet;
- housing authorities;
- Child Care and Development Fund (CCDF) voucher offices;
- community centers; and
- public libraries.

Several enrollment criteria were established to ensure that our sample represented low-income working families with young children in out-of-home care. The criteria included:

- annual family income was less than $35,000;
- head of the household was "working" (work, school, or job training) at least 20 hours a week;
- family had a child between 6 months to 6 years old and the child was in out-of-home care at least 15 hours per week for more than two months;
- family was not receiving TANF (Temporary Assistance for Needy Families); and
- child care provider agreed to participate.

Eligible families were encouraged to complete a sign-up sheet and ask their children's caregiver if he/she would participate in the study. A total of 475 families completed the sign-up sheet during initial enrollment. Next, research assistants made a follow-up phone call to confirm whether both the family and their caregiver agreed to participate. If so, research assistants scheduled a visit with the caregiver to observe the child in the child care setting for about two and one-half hours. Among the 475 potential participating families, 307 families and their child care providers participated, a participation rate of 64.6%. Families dropped out from the study for a variety of reasons, including lost contact during the follow-up phone call, the caregiver did not consent to participate, or the family was no longer eligible when contacted.

During the child care visit, the caregiver was asked to read and sign a consent form before the research team conducted any observation or assessment. After receiving signed consent, the research team observed and assessed the global, process, and structural quality of the child care setting.

The global quality of each child care setting was assessed via direct observation by a research assistant utilizing the Early Childhood Environment Rating Scale—Revised (ECERS-R, Harms, Clifford, & Cryer, 1998) in center-based child care settings and the Family Day Care Rating Scale (FDCRS, Harms & Clifford, 1989) in home-based child care settings. Aspects of structural quality (child-adult ratio, group size, and caregiver education, training, and experience) were assessed via direct observation and caregiver survey. The Arnett Caregiver Interaction Scale (CIS, Arnett, 1989) and context coding of each child's activity, caregiver-child involvement (modified from Howes & Stewart, 1987), child's level of social interaction, and child's cognitive level of object play was used to assess process indicators of quality. After establishing rapport with the child, the research team conducted standardized assessments: Mullen Scales of Early Learning (Mullen, 1995) was used if the child was under 36 months old; the Peabody Picture Vocabulary Test—Third Edition (PPVT-III, Dunn & Dunn, 1997) and FACES tasks were used if the child was over 36 months old.

After the observation was completed, the research assistant left a caregiver survey and a parent survey with the caregiver. Parents picked up and returned the survey to the caregiver. The parent survey was designed to measure parent employment patterns, parents' perceptions of child care and work, parents' relation-

ship with the caregiver, and their child's social and emotional development. The caregiver survey was designed to gain information about the caregivers' specialized training and experience in child care work, their relationship with the child and the parents, and each child's social and emotional development. Both packets were collected by a research assistant and a $30 check was given to each parent and caregiver after the completed survey was received.

COMMUNITY CHILD CARE LEADER INTERVIEWS

Semi-structured telephone interviews were completed with a purposive sample of 22 community child care leaders—key informants—from Marion, Lake, Allen, and St. Joseph counties, including five or six in each county. Key informants were identified as individuals who had knowledge and expertise in child care or the needs of low-income working families. Informants included representatives of Purdue Extension, a county official from the Division of Families and Children, members of the local Step Ahead coordinating council, business human resource specialists, representatives of WIC offices, representatives of the Child Care Resource and Referral Agencies, and a professor of psychology at a local university who works closely with early education and care programs. The key informant interviews addressed child care issues from three perspectives: the family, the child care providers, and the larger community.

TABLE 1.2. SUMMARY OF CRITICAL CHILD CARE ISSUES FROM INTERVIEWS AND FOCUS GROUP

Constructs	Instruments
Community context	Community child care leader (key informants) interviews Parent focus groups Existing state and county data
Parent and child characteristics	Parent survey
Caregiver characteristics	Caregiver survey
Global child care quality	Early Childhood Environmental Rating Scale—Revised (ECERS-R) or Family Day Care Rating Scale
Structural child care quality	Observation: group size & child-adult ratio Caregiver survey: Caregiver qualifications (education, training, years of experience)
Process child care quality	Caregiver Interaction Scale (CIS) Observation: caregiver involvement with child
Social-emotional competence and behavioral problems (Infants & Toddlers)	Brief Infant Toddler Social and Emotional Assessment (BITSEA) parent and caregiver report
Cognitive functioning (Infants & Toddlers)	Mullen Scales of Early Learning
Social and cognitive skills (Preschool Age Children)	Classroom Behavior Inventory (CBI) parent and caregiver report
Social competence, emotion regulation and expression, and adjustment difficulties (Preschool Age Children)	Social Competence and Behavior Evaluation (SCBE-30) parent and caregiver report
Receptive vocabulary (Preschool Age Children)	Peabody Picture Vocabulary Test (PPVT-III)
Knowledge of social environment (Preschool Age Children)	Family And Child Experiences Survey (FACES): Social Awareness Task
Knowledge of colors and counting ability (Preschool Age Children)	Family And Child Experiences Survey (FACES): Color Name & Counting

Interview Questions About Low Income Families:

1. What is the current and projected demand for child care services in this community for low-income families?
2. What are the strengths and weaknesses in child care resources in this county?
   (How are families finding, paying and maintaining child care?)
3. What types of child care services are needed but are not available in your county?
   (For example: sick child care, second shift, resource and referral.)
4. What types of child care do the low-income families use now? (Regulated or unregulated.)
5. What types of child care do most of these families prefer?
6. Are the available subsidies to low-income working families sufficient?
7. Are the available resources being fully utilized? (For example: funding, slots, R&R.)

Interview Questions About Child Care Providers:

1. What resources are available to county child care providers to help them offer good quality care for all families? (For example: money, training, mentors, accreditation, resource library.)
2. Are the available subsidies and other resources adequate, or are there unmet provider needs?
3. What is your sense of the quality of care available in this county?

Interview Questions About the Community:

1. Is this community unique in its child care services? How?
2. What are your recommendations for meeting this community's child care needs in the next five years?
3. What are the best ways for us to contact low-income working families in this community and enlist their participation in the study?
4. Are you aware of employers who might be or are interested in working with us?
5. What is the best way to contact the employers of these families in your community?

PARENT FOCUS GROUP INTERVIEWS

Two parent focus groups were conducted in each community. A total of 46 parents participated in the focus group interviews in St. Joseph, Marion, Allen, and Lake counties (n = 9, 9, 8, 20, respectively). Focus groups took place in public libraries, job training centers, and child care centers, and were comprised primarily of clients of local child care centers, GED classes, family service agencies, or work training programs. The focus group interviews proved to be valuable sources of information, as these volunteer parents were eager to share their ideas, concerns, and suggestions with the researchers.

Focus Group Interview Questions:

1. What child care arrangements do you have for your children now while you are working, in school, or in job training?
2. When you need to find child care outside of your immediate family, who do you go to? Who do you ask first for help or information?
3. How much do you rely on relatives or friends for help with child care? What kinds of help?
4. How flexible are your current child care arrangements? In other words, what happens when you need to change your hours, take some time off, or when you need more hours of care?
5. Have you experienced problems finding or using child care of any type? What kinds of problems? How do these child care problems affect you and your family?
6. Do you have the financial resources you need to purchase the child care you want for your child? What kinds of resources are available to help you pay for care? Are you able to use these resources?
7. In a perfect world, what would your ideal child care solution be?
8. Do you have ideas about how your community could better support families with child care? What would help you, and who would do it?

PARENT SURVEY

Parents completed a paper and pencil survey that asked about child and family demographic characteristics, parent employment/education outcomes, and parent perceptions of work and child care. These data not only were used for sample descriptive purposes but also to examine the relations of demographics with child care quality, child development outcomes, and parent employment/education outcomes. Descriptions of parent employment/education patterns will be provided as a separate section later.

Child and Family Demographic Characteristics

Questions about number of children and adults in the household; child's age, sex, and race; reason for using out-of-home child care; child's child care history (age of entry and ending in each child care setting); and child's relations with adults living in the household were asked. Information regarding male and female heads and their employment status, occupation, highest level of formal education, marital status, family income, and type of housing were also collected.

Parent Perceptions of Work and Child Care

Work Flexibility Scale. This scale was adapted from Bond, Galinsky, and Swanberg (1998). Male and female heads of each household were asked to rate six items of work flexibility with respect to their child care issues (e.g., "My shift and work schedule cause extra stress for me and my child.") using a 5-point rating scale format (1 = strongly disagree, 3 = neutral, to 5 = strongly agree). A mean score for the scale was calculated to indicate the levels of work flexibility for male and female heads of household. The internal consistencies were minimally acceptable (Cronbach Alpha = .50 for male head and .64 for female head).

Child Care Flexibility Scale. This scale consists of seven items derived from Emlen (1998). Parents were asked to rate statements about their child's child care setting and caregivers (e.g., "My caregiver is willing to work with me about my work schedule.") using a 5-point rating scale format (1 = strongly disagree, 3 = neutral, to 5 = strongly agree). A mean score was calculated to indicate the level of flexibility the child care setting and caregiver provided parents. The internal consistency for this scale was minimally acceptable (Cronbach Alpha = .56).

Child Care Availability. Parents were asked about the number of days they spent looking for child care and to rate levels of difficulty in finding satisfactory child care on a 5-point Likert scale (1 = very easy to 5 = very difficult). In addition, parents also reported their perceptions of child care availability by rating six items adapted from Emlen (1998) (e.g., "There are good choices for child care where I live.") using a 5-point rating scale format (1 = strongly disagree, 3 = neutral, to 5 = strongly agree). A mean score was calculated for analysis. The internal consistency for this scale was acceptable (Cronbach Alpha = .75).

Child care quality scale. Parents rated the quality of their current child care setting on six items (e.g., "caregiver warmth toward your child"), ranging from 1 (perfect) to 6 (poor). A mean score was calculated for analysis. The scale was found to have a high internal consistency (Cronbach Alpha = .92).

CAREGIVER SURVEY

Caregivers completed a paper and pencil survey that asked about their demographic characteristics and information regarding their child care work. These data were used not only for sample descriptive purposes but also to examine the relation of demographics with child care quality, child development outcomes, and parent employment outcomes.

Demographic Characteristics

This part of the caregiver survey consisted of questions regarding caregiver's age, marital status, race, and family income.

Information on Child Care Work

This portion of the caregiver survey included questions about their annual earnings from child care, fringe benefits from their child care work, the reasons that they work in child care, their plan for child care work (i.e., "How much longer do you plan to work in child care?"), the number of years during which they have been working in child care, possible reasons for leaving child care work, and whether or not they have a substitute caregiver.

CHILD CARE QUALITY

Global Quality

Center-based child care settings, including licensed child care centers/preschools, child care ministries, and Head Start settings were assessed using the Early Childhood Environment Rating Scale-Revised (ECERS-R). Quality of home-based child care settings such as family child care homes (licensed/unlicensed) and relative cares were assessed using the Family Day Care Rating Scale (FDCRS). The two measures, designed to carry similar conceptual structures, allow researchers to compare quality across types of child care settings.

In our study, observers spent at least two hours in the classroom or day care home rating the ECERS-R or FCDRS. Total and subscale scores for analysis were calculated by dividing total scores by the number of items. Four observers were trained to a minimum 80% reliability (calculated as agreements/agreements + disagreements) on the ECERS-R and FDCRS before beginning data collection. The average inter-rater percent agreement was

88% (range = 53 ~ 100%), and the average Cohen's Kappa was .82 (range = .41 ~ 1.00).

Early Childhood Environment Rating Scale—Revised edition (ECERS-R: Harms, Clifford, & Cryer, 1998). The ECERS-R was used to assess global quality in center-based child care settings. It consists of 43 items that address space and furnishings, personal care routines, language-reasoning, activities, interaction, program structure, and parents and staff. Each item was rated on a 7-point scale (1 = inadequate; 3 = minimal; 5 = good; 7 = excellent). The total scale was shown to be reliable (r = .921; Harms, Clifford, & Cryer, 1998).

In the present study, the subscale internal consistencies ranged from .81 to .93. The total scale internal consistency was .97, calculated without item 37 (provisions for children with disabilities) because too few cases were scored. The total mean score of all items was used for analysis.

Family Day Care Rating Scale (FDCRS: Harms & Clifford, 1989). The FDCRS was used to assess global quality in home-based child care settings. It consists of 32 items organized under six subscales: space and furnishings, basic care, language and reasoning, learning activities, social development, and adult needs. Each item is rated on a 7-point scale (1 = inadequate; 3 = minimal; 5 = good; 7 = excellent). The authors reported adequate inter-rater reliability (r = .86) and significant positive relationships with independent home visitor quality ratings.

In the present study, the subscale internal consistencies range from .70 to .89, with a total scale internal consistency of .95. The total mean score was used for analysis.

Structural Quality

Group Size and Child-Adult Ratio. The number of adults and children in each child care setting was recorded six to eight times by a researcher during a two-hour visit to each child care setting. Group size was defined as the maximum number of children present in the child care setting, and child-adult ratio was calculated by dividing the maximum number of children by the maximum number of adults in the classroom or in the home.

Characteristics of Caregiver. Caregivers were asked to report their general education level, specialized training level (i.e., number of training programs they have completed), and their child care experiences (i.e., number of years in child care work) in the caregiver survey.

PROCESS QUALITY

Student Teacher Relationship Scale (STRS: Pianta, 1992). The STRS is a paper and pencil measure caregivers completed. It was used to assess the caregiver's perceptions of his/her relationship with a particular child, the child's interactive behavior, and how the caregiver thinks the child feels about him/her. This measure blends theory on child-adult attachment with research on the importance of early school experiences in determining the trajectories of children's school progress. The STRS is a 5-point Likert-type scale (1 = Definitely does not apply, 5 = Definitely applies) consisting of 28 items that can be divided into three subscales: Conflict (12 items), Closeness (11 items), and Dependency (4 items). Previous studies conducted to test validity of this measure found a correlation between STRS scores and behavioral problems in elementary classrooms, peer relations, and the cost and quality of the child care environment. In addition, among children who were likely to be referred for special education, high scores on the STRS were predictive of success in the early school years, indicating the sensitivity of the instrument to resilience processes. The authors report internal consistencies (Cronbach's Alpha) of .91 for the total score, .93 for the Conflict subscale, .86 for the Closeness subscale, and .68 for the Dependency subscale (Pianta, 1992). For the present study, the internal consistencies (Cronbach's alpha) were .81 for Conflict, .71 for Closeness, .58 for Dependency, and .78 for the total scale. The total mean score was used for analysis.

Parent Caregiver Relationship Scale (PCRS: Elicker, Noppe, Noppe, & Fortner-Wood, 1997). The PCRS is a paper and pencil measure that parents and caregivers completed to assess the perceived quality of the dyadic parent-nonparental caregiver relationship. The 35 items on the scale assessed the parent or a caregiver's perceptions, attitudes, and feelings about her/his relationship with the other partner in the caregiving dyad. Each item consists of a statement about the relationship, scored by circling the appropriate number on a 5-point Likert-type scale (1 = Strongly disagree to 5 = Strongly agree). There are three factor-based subscales for each version of the PCRS. For the parent version of PCRS, the subscales are Trust/Confidence, Collaboration, and Affiliation. The caregiver PCRS has the same first two subscales and a Caring subscale instead of Affiliation. Validity correlations were computed between PCRS variables and theoretically-related variables in the child-care context, such as

group size and amount of time in care. Parent subscales correlations (Pearson's r) ranged from -.22 to .37; caregiver subscales ranged from .25 to .48. There were no significant correlations found between parent or caregiver PCRS scores (r = .03 to .19) and the child care variables examined. Our sample internal consistencies (Cronbach's alpha) for the parent version were .95 for the total score, .93 for the Trust/Confidence subscale, .89 for the Collaboration subscale, and .66 for Affiliation. For the caregiver PCRS, our sample internal consistencies were .89 for total score, .91 for Trust/Confidence, .55 for Collaboration, and .61 for the Caring subscale. A total mean score for parent report and a total mean score for caregiver report was used for the analysis.

Caregiver Interaction Scale (CIS: Arnett, 1989). The CIS was used to measure the quality of care and interactions provided by caregivers in child care settings. Research assistants rated dimensions of caregiver interactions using a 4-point scale [Not at all (1) to Very much (4)] during the child care setting observation. The CIS consists of 4 subscales: Positive interactions (10 items), Punitiveness (eight items), Detachment (four items), and Permissiveness (four items). The internal consistencies(Cronbach Alpha's) for this sample were: .94 for the Positive interactions scale, .92 for the Punitiveness scale, .89 for the Detachment scale, and .06 for the Permissiveness scale. We did not use the Permissiveness subscale due to the low internal consistency. The internal consistency for the total score without the Permissiveness scale was .94. A total mean score consisting of the Positive Interactions, and reversed scores for Punitive and Detachment subscales was used for analysis.

Adult Involvement Scale. Using time-sampling techniques (20-second intervals) research assistants coded the behaviors of caregivers to reflect the level of responsive interactions (modified from Howes & Stewart, 1987). The average inter-rater percent agreement was 89% (range = 55 to 100%), and the average Cohen's Kappa was .83 (range = .38 to 1.00). The following are code descriptions.

- **Ignore** – Adult within three feet of child but paying no attention to focal child.
- **Routine/minimal** – Caregiver touches the child for routine caregiving (e.g., blowing nose) but no verbal response to child; caregiver touches child only for necessary discipline, to move child away from another, to answer a direct request for help, or to give verbal directives with no reply encouraged.
- **Simple/elaborate/intense** – Caregiver uses warm or helpful contact beyond essential routine care or answers the child's verbal bids without elaboration; caregiver engages in some physical gestures, maintains close proximity to the child, acknowledges a child's statements and responds to but does not restate, or sits with the child during play, suggests materials, etc. Caregiver hugs or holds child, restates child's statement (thus acknowledges it) and provides answers to the child, engages the child in conversation, plays interactively with the child, or sits and eats with the child in a social atmosphere.

"Adult responsive interaction" was calculated as the proportion of simple/elaborated/intense adult involvement out of the total time when an adult was within three feet of the focal child. In other words, it is the percent of time during which an adult was interacting responsively to the focal child when the adult was within three feet from the child.

Children's activity. Using time-sampling techniques (20-second intervals) research assistants coded the behaviors of each child to reflect the type of activity in which he/she was engaged (modified from Howes & Stewart, 1987). The average inter-rater percent agreement was 96% (range = 85 to 100%), and the average Cohen's Kappa was .95 (range = .78 to 1.00). The following are code descriptions.

- **Art** – Children are painting at an easel or working on a project that involves some combination of paper, glue, paint, colored pencils, scissors, etc. Focus is on producing a product that is adult-determined (e.g., matching bunny rabbits) or child determined (open-ended). Putting on a smock to do an art activity is included. If the product is child-determined, put an 'O' in the box instead of a check.
- **Books/library/writing** – Child is "reading" books, even if it is not in the library area of the room (pretend reading is included), with peer/adult/self. Also code this if the child is in a designated writing center (in a classroom) or any other location where writing materials are provided for children to use in anyway they desire (don't count writing that is part of dramatic play).
- **Blocks** – Child is building with large blocks on the floor; using large constructive play materials (e.g., pipes).
- **Computer** – Child is playing computer games, using word processing to create documents, or surfing the Web. May be operating the mouse and keyboard or be a companion to child who is.

- **Dramatic play** – Child is in area of room/house designated for fantasy play (e.g., housekeeping or other theme area) or using dress-ups, housekeeping items, dolls, etc. Child does not have to be actually engaged in fantasy for this to be coded. They must be using materials designated for fantasy play, however.
- **Manipulatives/table toys** – Child is playing with tinker toys, bristle blocks, puzzles, peg boards, lotto, play dough, etc. (even if on the floor).
- **Music** – Child is using musical instruments, CD player/tape/record player for listening, singing, dancing, etc. (Do not code if music is in the background and child sings along while they are engaged in something else.)
- **Sand/water/sensory** – Child is using sand table, water table, or table with textured materials (such as beans, goop, rice, pudding, shaving cream).
- **Large motor** – Child is involved with a climber, running, balance beam, etc.
- **Television** – Child is watching the TV or a video/DVD and not engaged in any of the other activities listed. Not coded when the TV is in the background. If the show is child-oriented (e.g., children's cartoons, Sesame Street, Bear in the Big Blue House, etc.), put a 'C' in the box instead of a check.
- **Didactic** – Child is working with flash cards, worksheets (not coloring book; see art), reciting the alphabet or numbers. Could also include doing the calendar, weather, day of the week, or recognizing names with cards.
- **Routines** – Child is engaged in hand-washing, toileting, eating snack (code TV if eating snack in front of TV). If this is coded, then PLAY is not coded.
- **Other** – Child is in an undefined area (e.g., potted plant area) or in an activity not listed here.
- **Wandering/unoccupied** – Child is wandering among activities without being engaged in any of them, or is otherwise unoccupied. Sitting on an adult's lap for comfort is considered unoccupied.

Children's activity categories were combined as: none, low-yield, medium-yield, and high-yield activities, based on concepts developed in previous studies (Howes & Smith, 1995; Kontos et al., 2002; Kontos & Wilcox-Herzog, 1997), and the proportions of each category to the total number of intervals observed were calculated. Table A.2. provides a description of each combined child's activity category.

We also created one index variable indicating the level of children's activity based on the four categories presented above. A weighted score for each category was calculated using the proportion values observed. Then the weighted scores for the four categories were summed, and we used the summed score as the level of each child's cognitive activity. Possible scores range from 0 (None) to 3 (high-yield activity).

Adult talk. Using time-sampling techniques (20-second intervals) research assistants coded the caregiver's talk to reflect the type of verbalizations that they used. Whether the caregiver's talk was initiated or in response to the child was coded; then type of talk was coded. The following are code descriptions.

Adult Initiates/Responds (check one):
- **Initiates** – Adult initiates verbal interaction with the child.
- **Responds** – Adult responds verbally to child's verbal or nonverbal initiation.

Type of Adult Talk (check one):
- **Praise/acknowledgement** – Teacher uses verbal praise with child (good job, excellent, that is a pretty picture, etc.) or acknowledges a child (okay, thank you, etc.).

TABLE A.2. DEFINITIONS OF CHILDREN'S COGNITIVE ACTIVITY CATEGORIES.

Cognitive Activity Level	Activities Engaged	Score Given
None	Routines, Other, and Unoccupied/wandering	0
Low-yield	Close-ended art, Didactic, TV (TV and TV-child), and Large motor.	1
Medium-yield activities	Manipulatives, Book/Writing, Sensory, Computer, and Music	2
High-yield activities	Open-ended art, Blocks, and Dramatic play	3

- **Social** – teacher talks to child about personal and home topics such as clothing being worn, what children or caregiver did outside of class, talking about siblings/parents, etc. (regardless of form the language takes).
- **Question** – The question is designated to elicit a verbal response from the child (yes/no or open-ended response). Code even if the intent is not realized. Verbal clue of correct response is not provided.
- **Expansion** – Teacher listens to what child says and restates with more complex language.
- **Describes** – Teacher describes what the child is doing or what child could be doing. Code if teacher is reading a book verbatim or describing pictures in a book.
- **Prompt/suggestion** – Child is given a verbal clue as to what he/she should do by giving only part of the information. Sort of a reminder. Not the same as a directive, because it does not tell the child exactly what to do. Examples include: How about trying this? Maybe this is a way to do it. It might help to _____. Why not put that block here? Is there another way? There might be another way to do it. A good choice would be to _____.
- **Directive** – Teacher makes a statement that tells child exactly what he/she should do with no reply encouraged. Examples: Tell Jim how you feel. Sit in that chair. Go to the front door. You need to stop.

Adult talk was further categorized as high level talk and low level talk. High level talk included question, expansion, prompt/suggestion, and describes; low level talk included praise/acknowledgement and directives. In our analyses, we only used adult high level talk as a process quality variable.

For the Adult Initiates/Responds section, the average inter-rater percent agreement was 96% (range = 90 to 100%), and the average Cohen's Kappa was .92 (range = .73 to 1.00). For the Types of Adult Talk section, the average percent agreement was 95% (range = 80 to 100%), and the average Cohen's Kappa was .90 (range = .67 to 1.00).

PARENT OUTCOMES

In the parent survey, families were asked to report on male and female heads of household employment patterns. The type of their work, whether or not a recent raise or promotion was received, work shift (daytime, evening, night, or shift change), length of time in current position, and if they work full-time (35 or more hours/week), part-time (less than 30 hours/week), or temporary position was determined for each male and female head household identified. Families were also asked to report the total number of hours per week each head of household was involved in work or school/training, and the amount of time lost from work in the last month due to illness, child illness, or child care problems.

CHILD OUTCOMES

Child Behaviors

For both infants/toddlers and preschool-age children, behaviors of children and caregivers were coded in 20-second intervals to reflect 'types of child's play,' 'people/objects with whom/which the child interacting/attending to,' and 'whom the child talks to.' The following are the code descriptions.

Play. Behaviors of each child were coded in 20-second intervals to reflect the type of play. The average inter-rater percent agreement was 91% (range = 60 to 100%), and the average Cohen's Kappa was .82 (range = .45 to 1.00). The following are code descriptions.

- **Unoccupied/wandering** – Check if checked in "activity" and/or "interacting/attending to" (15 seconds or more). Check if child is in Time-Out.
- **Onlooker** – Child is stopped and engaged in observing what other child/children is/are doing (15 second or more); watch adult prepare materials without talking to peers/adults.
- **Engaged with peers** – Child is focused on peer interaction (conversation, running/chasing) more than toys or fantasy.
- **Engaged with adults** – Child is focused on adult interaction more than toys or fantasy. Code if child is sitting on an adult's lap for comfort.
- **Engaged in manipulating/exploring** – mouths, takes apart, holds and caresses, otherwise focuses on toys without using them for play (the way they were intended or for fantasy); looking at pet.
- **Engaged in using toy in way intended** – Lotto is used as lotto rather than build little houses out of the lotto cards; holding pet.
- **Engaged in fantasy** – Any type of play that primarily involves fantasy (transforming objects or transforming people).

If an "engaged" category is tied with an "unoccupied/wandering" or "onlooker," use the engaged category. Do not code if child is in Routine activity.

Child's social interaction. Behaviors of each child were coded in 20-second intervals to reflect child's social interactions. The average inter-rater percent agreement was 96% (range = 85 to 100%), and the average Cohen's Kappa was .88 (range = .63 to 1.00). The following are code descriptions.

- **Peers** – Child's primary focus is on interacting with peers – not involving fantasy – rather than primarily interacting with materials or engaging in fantasy play with peers. Must have eye contact or reciprocal behavior with peers.
- **Adults** – Child is focused on interactions with an adult who is reading, talking, playing with the child. Eye contact and/or reciprocal behavior is assumed. Only code if child is not engaged with play materials. Code if child is sitting on adult's lap for comfort even if no verbal interaction is occurring.
- **Play materials** – Child is primarily focused on the play materials (blocks, table toys, art) rather than peers or adults. Child may be involved in fantasy play with or without props.
- TV/video/computer – Child is primarily engaged in interactions with these machines rather than peers, teacher, toys, or fantasy.
- **No one (wandering/unoccupied)** – Check this if wandering/unoccupied checked in area of room (unless child is sitting on adult's lap for comfort). Put 'A' instead of check if child is alone in the room.

Child talk. Behaviors of each child were coded in 20-second intervals to reflect to whom the child talked. The average inter-rater percent agreement was 95.79% (range = 85 ~ 100%), and the average Cohen's Kappa was .93 (range = .74 ~ 1.00). The following are code descriptions.

- **No one** – Coded if child speaks to no person during the entire observation interval.
- **If child speaks** (verbalizes – no sounds or gestures) even one time, then code into one of following:
- **Self, computer, unknown** – Child is talking to self rather than peers or teacher, talks to computer while working on it, talks to a stuffed animal, or talks but the observer cannot determine the exact audience.
- **Other children** – Child is talking to other children.
- **Adult** – Child is talking to an adult.

INFANTS AND TODDLERS (6 ~ 35 MOS.)

Brief Infant Toddler Social and Emotional Assessment (BITSEA: Briggs-Gowan & Carter, 2002)

The BITSEA was used to measure infants' and toddlers' social-emotional competence and behavioral problems. Both the parent and the caregiver responded to BITSEA items based on behaviors observed at home or in child care. This is a short version of ITSEA (Infant Toddler Social and Emotional Assessment). The BITSEA consists of 60 items selected from ITSEA, and each item is scaled 0: Not true/Rarely, 1: Somewhat true/Sometimes, and 2: Very true/Often. This measure contains two subscales, one of which measures problem behaviors (49 items) and the other measures competence (11 items). Internal consistency of the scales from the original data was .66 to .89 (Briggs-Gowan, Carter, Skuban, & Horwitz, 2001). Validity was measured by comparing parents' report with evaluators' ratings, and most correlations were significant (r = .39 to .44). As an additional measure of validity, they investigated whether or not "parental worry, parenting stress, and interference in family life (p. 26)" are significantly related to high scores on problem scale and low scores on competence scales to measure another kind of validity, and they found significant relationships among them (r = .25 to .63). The internal consistencies for our sample were .74 for competence scale and .84 for the problem scale. Internal consistency of parents' report was .77, and that of caregivers' report was .83. Two composite variables (one parent and one caregiver report) were created to combine Social Competence and Problem Behavior into a total measure of socio-emotional competence for analysis.

The Mullen Scales of Early Learning (Mullen, 1995)

The Mullen Scales of Early Learning was used to assess infants/toddlers cognitive ability. At the child care setting, research assistants administered the Mullen to participating infants and toddlers. It consists of four scales: Visual Reception Scale, Fine Motor Scale, Receptive Language Scale, and Expressive Language Scale. Using these four scales it is possible to compute an "Early Learning Composite" score, and this was the score used in this analysis. The Visual Reception Scale examines a child's performance in processing visual patterns. The Fine Motor Scale examines a child's visual-motor ability. The Receptive Language Scale examines a child's ability to process linguistic input. The Expressive Language Scale examines a child's ability to use language productively. Internal consistency was tested using modi-

fied split-half procedure for each scale and for the composite. The median values of the internal consistency for each scale were from .75 to .83 and that of the composite was .91. In addition, test-retest reliability was checked by administering the scales to two samples (50 1- to 24-month-old children and 47 25- to 56-month-old children). Test-retest reliabilities for the younger group were from .82 to .85; those for the older group were from .71 to .79.

To check construct validity, developmental progression of scores, intercorrelations of the scales, and principal-axis factor analysis were examined. Steady increases were found in mean scores through the age range confirming age differentiation in developmental progressions (younger children develop more rapidly). Mullen also examined the squared values of correlations and found that some variance in each scale was explained by other scales. This indicates "an underlying commonality of the separate scale scores to yield a meaningful composite (p. 60)." Principal-axis factor analysis was conducted as well, and it was found that all four scales provide estimate of general cognitive development with factor loading higher than .65, and that receptive language and expressive language measure gave the best estimate of general cognitive development.

In addition, the author examined correlations between Mullen Scales and other measures, such as Bayley Scales of Infant Development (Bayley, 1993) and found higher correlations between Mullen Scales and Bayley Mental Development Index (ranging from .53 to .59) than between Mullen Scales and Bayley Psychomotor Development Index (ranging from .21 to .52), suggesting that Mullen Scales is a valid measure of cognitive development. Mullen also included some literature supporting that Mullen Scale is a valid cognitive measures (e.g., Bangs, 1986; Brigance, 1978;).

OLDER CHILDREN (3-5 YEARS)

Classroom Behavior Inventory (CBI: Schaefer, Edgerton, & Aaronson, 1977)

The Classroom Behavior Inventory (CBI) was used to measure preschool-age children's social and cognitive skills. The CBI is a paper and pencil adult report measure containing 30 items that are rated on a 5-point scale ranging from Not at all (1) to Very much (5). The original measure consists of 10 subscales: Considerateness (5 items), Creativity (5 items), Extroversion (5 items), Independent (5 items), Task-orientation (5 items), Verbal intelligence (5 items), Dependence (3 items), Hostility (3 items), Introversion (3 items), and Distractibility (3 items). Internal consistencies were from .85 to .96 for individual scales. Osborne, Schulte, and McKinney (1991) conducted factor analysis in their study and created three composite subscales: Academic Competence factor (Creativity, Verbal intelligence, Independence, Task orientation, reversed Dependence, and reversed Distractibility), Extroversion factor (Extroversion and reversed Introversion), and Considerateness factor (reversed Hostility and Considerateness). This analysis creating three composite factors explained 82% of the total variance of the original framework for the CBI conducted by Schaefer et al. (1978). The internal consistencies for our sample were .90 for the Academic competence scale, .72 for Extroversion scale, and .79 for the Considerateness scale. Internal consistency of parents' report was .89, and that of caregivers' report was .94.

Social Competence and Behavior Evaluation (SCBE: LaFreniere & Dumas, 1996)

The short form of SCBE consists of three scales: Anger-Aggression (10 items), Social Competence (10 items), and Anxiety-Withdrawal (10 items). These scales were used to assess socio-emotional competence. Parents and caregivers rated items ranging from not at all like the child (1) to very much like the child (2). The original 80-item Social Competence and Behavior Evaluation (SCBE) was developed to measure 30- to 78-month-old children's "patterns of social competence, emotion regulation and expression, and adjustment difficulties (p.369)." Anger-Aggression scale contains items regarding angry, aggressive, egotistical, and oppositional behaviors; Social Competence scale consists of items related to joyful, secure, tolerant, socially integrated, calm, pro-social, cooperative, and autonomous behaviors; and Anxiety-Withdrawal scale includes items related to depressed, anxious, isolated, and dependent behaviors. Sixty-seven percent of the total variance was explained by these three factors. The authors collected data in three different sites: Quebec, Indiana, and Maine. Internal consistencies were from .72 to .89. Validity was tested by computing correlations of these three indexes with the corresponding 10-item scales, and the correlations were from .92 to .97. In addition, in the Indiana sample the authors asked teachers to rate children using another measure related to children's problem behaviors (the Revised Behavior Problem Checklist: RBPC) and computed correlations with Anger-Aggression and Anxiety-Withdrawal scales. The Pearson's correlations were .67 and .87. The internal consistencies for our sample were .84 for the Anger-Aggression scale, .83

for Social Competence scale, and .74 for the Anxiety-Withdrawal scale. Internal consistency of parents' report was .83, and that of caregivers' report was .88.

For data analysis, the CBI and SCBE were combined to create two socio-emotional competence composite scores, one reported by parents and one reported by caregivers. High scores imply that the child's behavior was rated low on anger-aggression and anxiety-withdrawal and high on social competence; and low scores imply that the child's behavior was rated high anger-aggression and anxiety-withdrawal and low on social competence. For our analyses, the standardized scores were used (M = 0, SD = 1). If the score is positive, the child is more socially competent than aggressive and anxious/withdrawn. If the score is negative, the child is more aggressive and anxious/withdrawn than socially competent. If the score is close to 0, it means there is a balance between social competence and anger/aggression/anxiety/withdrawal.

Peabody Picture Vocabulary Test – III (PPVT-III: Dunn & Dunn, 1997)

Peabody Picture Vocabulary Test – III (PPVT-III) was used to measure receptive vocabulary. Research assistants asked children to point to the picture that matches the words spoken by the examiners. The scores were converted to standard scores. Reliability was tested using modified split-half procedure, and the median reliability was .94 (ranging from .86 to .97). Alternate-forms reliability coefficients were also calculated by administering two different test forms to the same group of people. The coefficients computed from the standard scores were from .88 to .96 (median = .94). Validity was also investigated using other measures of vocabulary and verbal ability (WISC-III; KAIT; K-BIT; and OWLS). They found moderate to high correlations, with coefficients ranged from .62 to .91, supporting that PPVT-III is a valid instrument that measures some aspects of children's intelligence, verbal ability quite well.

Family And Child Experiences Survey (FACES)

Social Awareness Task. Social Awareness Task was used to test children's knowledge of their social environment. The examiners asked children to tell their full name (both first and last names), age, and date of birth (both month and day). Possible total score was 5 (first name, last name, age, month of their birth, and day of their birth; 1 point each), and reliabilities were from .61 to .63.

Color Name and Counting. Color naming and counting were used to test children's knowledge of colors and their counting ability. A picture containing randomly arranged bears in 10 colors (red, blue, white, pink, green, yellow, brown, purple, yellow, and black) was presented to children. Children were asked to point to each bear and name the color of the bears (2 points for each bear). Following the color-naming task, children were asked to count the bears. The examiners recorded the number at which children stopped counting or became incorrect (1 point if the number was correct). After that, the examiners asked children how many bears there were and recorded their answers (1 point if the answer was 10). Finally, the examiners rated children's one-to-one counting on a scale range from 1 (child could not count or did not try) to 5 (prefect, no mistakes). Color name and counting tasks have been found to be associated with different levels of school readiness skills of preschool children from low-income families (Zill, Resnick, Kim, McKey, Clark, Pai-Samant, Connell, Vaden-Kiernan, O'Brien, & D'Elio, 2001). The reported internal consistency of color names was .94. In addition, validity was examined by investigating correlations of color names and counting with reading scores at the end of kindergarten (r = .39 and r = .40, respectively) and with general knowledge scale at the end of kindergarten (r = .38 and r = .36, respectively). A multivariate regression analysis also provided similar results suggesting that counting task was a significant predictor of children's reading scores at the end of kindergarten year.

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Appendix B

CHILD CARE FOR LOW INCOME WORKING FAMILIES: FOUR COMMUNITY PROFILES

TABLE A1. WELL-BEING INDICATORS OF INDIANA AND THE FOUR CCCRP COMMUNITIES

Community	Marion	Lake	Allen	St. Joseph	Indiana
Largest City	Indianapolis	Gary	Fort Wayne	South Bend	Indianapolis
Population, 2002[a]	862,499	485,851	337,310	266,378	6,156,913
Population under 5 years, 2002[a]	68,810	34,787	24,924	19,325	410,739
Number of families with children, 2000[a]	106,350	59,587	43,884	32,260	767,836
Overall poverty rate, 2000[a]	11.4%	12.2%	9.1%	10.4%	9.5%
Percent of children in poverty, 2000[a]	15.3%	17.8%	2.4%	13.7%	11.7%
Unemployment rate, 2002[b]	5.3%	6.9%	5.1%	5.1%	5.1%
Mean per capita income annual, 2001[b]	$31,292	$27,521	$29,265	$28,098	$27,522
Median household income, 2000[a]	$40,421	$41,829	$42,671	$40,420	$41,567
Percent of population in minority ethnic groups, 2002[a]	29.5%	33.3%	16.9%	17.6%	16%
Percent of households headed by single parents, 2000[a]	11.8%	11.3%	10.0%	9.9%	9.1%
Monthly average of families receiving TANF 2002[b]	11,483 (10.8%)	9,635 (16.2%)	2,637 (6.0%)	2,671 (8.3%)	47,459 (6.2%)
Monthly average of persons issued food stamps 2002[b]	77,058	55,996	21,548	19,793	395,440

[a] U.S. Census Bureau, 2000.

[b] Indiana Kids Count, 2003, Indiana Youth Institute.

TABLE A2. CHILD CARE DATA AT COMMUNITY LEVELS

Community	Marion	Lake	Allen	St. Joseph
Total licensed child care slots, 2002	22,740	8,209	5,626	5,607
Licensed capacity, 2003	21,061	7,746	5,673	5,003
Number licensed child care centers, 2002	135	52	37	40
Number licensed child care homes, 2002	519	302	182	227
Number of registered ministries, 2003 (no regulation of # of slots)	131	50	38	28
Number of registered ministries, 2002 (no regulation of # of slots)	125	49	36	32
Number of licensed child care spaces per 100 children, Ages 0-4, 2002	35.7	23.7	22.1	30
Annual number of children receiving child care vouchers, 2002	18,530	10,836	6,334	3,174
Monthly average of children on waiting list for child care vouchers, 2002 (ratio, receiving: waiting)	6,939 (3:1)	295 (38:1)	697 (9:1)	623 (5:1)
Percent of children receiving child care vouchers with family income 100% poverty or below, 2002	54%	77%	63%	78%
Percent of children receiving child care vouchers by child care setting, FFY2002				
Licensed center care	28.1%	19.1%	19%	28.1%
Licensed child care homes	14.7%	24.1%	23.7%	27.7%
Unlicensed child care homes (relative and non-relative)	31.5%	36.2%	42%	22.4%
Child care ministries	17.2%	17.4%	12.6%	16.9%
Other license exempt centers (YMCA, schools)	8.5%	.2%	2.7%	4.9%
Percent of children receiving child care vouchers by age, FFY2002				
Infants (0 to 1 yrs)	3%	6.6%	8.4%	11.7%
Toddlers (1 to 3 yrs)	17.9%	19.8%	20.5%	25.6%
Preschool age children (3 to 6 yrs)	35.6%	33.7%	32.6%	33.7%
School age children (6 yrs and up)	43.4%	39.8%	38.5%	29%

Source: Indiana Family and Social Services Administration, Bureau of Child Development

COMMUNITY CHILD CARE LEADER INTERVIEWS

Listed are the positions of the community child care leaders interviewed in each community.

Marion County

- A representative of the local Step Ahead council
- A representative of the Division of Families and Children
- A representative of the Resources and Referral Agency
- A business specialist
- An advocate for the homeless

Lake County

- Director of Child Enrichment Center
- An informant from IACCRR
- A director of Lake Area United Way
- A coordinator of Lake Area United Way and Gary WIC program
- An associate professor of psychology at a local university

Allen County

- A representative of the Division of Families and Children
- A representative of the WIC offices
- A member of the local Step Ahead Council
- A representative of a community action agency
- Two representatives from Early Childhood Alliance

St. Joseph County

- A representative of extension services
- A state official from the Division of Families and Children
- A member of the local Step Ahead Council
- A business specialist
- A representative of the WIC offices

Appendix C

CHARACTERISTICS OF FAMILIES, CHILDREN, AND CAREGIVERS

The following tables display the descriptive statistics for key characteristics of family, child, and child care participants. ANOVA and chi-square tests were completed to identify differences among communities on the variables. Statistical values (F and chi tests) are reported only for those characteristics that did differ by county.

TABLE C1. KEY CHARACTERISTICS OF FAMILY PARTICIPANTS IN CCCRP (*N* = 307)

Variable	M(SD)	N(%)	Range	F(p)	χ^2(p)
Number of adults in household	1.51(0.70)	299	1 - 6		
Number of children in household	2.37(1.24)	302	1 - 8		
Family income per month					
$1 ~ 800		106(34.5)			
$801 ~ 1500		95(30.9)			
$1501 or more		95(30.9)			
Not reported		11(3.6)			
Marital status					
Single/no partner		174(56.7)			
Married		52(16.9)			
Divorced/widowed		34(11.1)			
Remarried		2(0.7)			
Living with a partner		42(13.7)			
Not reported		3(1.0)			
Male head in household					
Child's father		84(27.4)			
Child's stepfather		9(2.9)			
Child's grandfather		12(3.9)			
Other		11(3.6)			
None		183(59.6)			
Not reported		8(2.6)			
Male head employment					
Employed		103(88.8)			
Not employed		11(9.5)			
Not reported		2(1.7)			
Male head education level					
Some high school		23(19.8)			
High school diploma		45(38.8)			
Associates degree/some college		24(20.7)			
College degree		12(10.3)			
Some graduate school		2(1.7)			
Completed graduate school		2(1.7)			
Not reported		8(6.9)			

Variable	M(SD)	N(%)	Range	F(p)	χ^2(p)
Female head in household					
Child's mother		271(88.3)			
Child's stepmother		2(0.7)			
Child's grandmother		21(6.8)			
Other		8(2.6)			
Not reported		5(1.6)			
Female head employment					
Employed		256(83.4)			
Not employed		47(15.3)			
Not reported		4(1.3)			
Female head education level					
Some high school		23(7.5)			
High school diploma		115(37.5)			
Associates degree/some college		116(37.8)			
College degree		22(7.2)			
Some graduate school		9(2.9)			
Completed graduate school		7(2.3)			
Not reported		15(4.9)			

TABLE C2. KEY CHARACTERISTICS OF CHILDREN PARTICIPANTS IN CCCRP (*N*=307)

Variable	M(SD)	N(%)	Range	F(p)	χ^2(p)
Age in months	40.09 (16.75)	307			
Children under 36 months of age		121(39.4)			
Children over 36 months of age		186(60.6)			
Gender					
Boy		152(49.5)			
Girl		153(49.8)			
Race					41.96
African American		181(59.0)			(0.00)
Asian/Pacific islander		2(0.7)			
Hispanic/Latino		8(2.6)			
White		72(23.5)			
Mixed		39(12.7)			
Not reported		5(1.6)			
Child's living arrangements					
Live only with mother		188(61.2)			
Live only with father		1(0.3)			
Live with mother and father		74(24.1)			
Live with mother, father, and another		2(0.7)			

Variable	M(SD)	N(%)	Range	F(p)	χ^2(p)
Live with mother and mother's partner			1 - 6 1 - 8		
Live with mother and another		6(2.0)			
Live with father and another					
Live with other		26(8.5)			
Not reported		2(0.7) 5(1.65) 3(1.0)			
Live with mother					
Yes		296(96.4)			
No		8(2.6)			
Not reported		3(1.0)			
Live with father					
Yes		79(25.7)			
No		225(73.3)			
Not reported		3(1.0)			
Live with someone else (e.g., relative, guardian)					
Yes		35(11.4)			
No		269(87.6)			
Not reported		3(1.0)			

TABLE C3. KEY CHARACTERISTICS OF CHILD CARE PROVIDER PARTICIPANTS IN CCCRP (*N* = 307)

Variable	M(SD)	N(%)	Range	F(p)	χ^2(p)
Age in years	38.95 (12.39)	286	16 - 62	12.46 (0.0)	
Education level					
Some high school		15(4.9)			
High school diploma/GED		77(25.1)			
Associate degree/some college		132(43.0)			
College degree		59(19.2)			
Some graduate school		8(2.6)			
Completed graduate degree		7(2.3)			
Not reported		9(2.9)			
Does caregiver have an early childhood education or child development credential?					13.30 (0.00)
Yes		127(41.4)			
No		180(58.6)			

TABLE C3. KEY CHARACTERISTICS OF CHILD CARE PROVIDER PARTICIPANTS IN CCCRP (*N* = 307)

Variable	M(SD)	N(%)	Range	F(p)	χ^2(p)
Number of specialized training program completed					57.11 (0.00)
0	2.34 (0.96)	14(4.6)			
1		15(4.9)			
2		165(53.7)			
3		66(21.5)			
4		34(11.1)			
5		2(.7)			
6		1(.3)			
Not reported		10(3.3)			
Marital status					23.19 (0.03)
Single/no partner		80(26.1)			
Married		148(48.2)			
Divorced/widowed		39(12.7)			
Remarried		6(2.0)			
Living with partner		22(7.2)			
Not reported		12(3.9)			
Race					60.23 (0.00)
African American/Black		149(48.5)			
Asian/Pacific Islander		3(1.0)			
Hispanic/Latino		11(3.6)			
White		111(36.2)			
Other		10(3.3)			
Not reported		23(7.5)			
Family income per month					22.50 (0.01)
$1 ~ 800		32(10.4)			
$801 ~ 1500		44(14.3)			
$1501 ~ 3000		82(26.7)			
$3001 or more		82(26.7)			
Not reported		67(21.8)			
Annual earnings from child care					
$0 ~9,999		69(22.5)			
$10,000 ~ 19,000		88(28.7)			
$20,000 or more		66(21.5)			
Not reported		84(27.4)			
Years of experience	10.36 (6.69)		0 - 43	4.24 (0.01)	

TABLE C4. COMPARISON OF CCCRP SAMPLE AND CENSUS POPULATION ON KEY DEMOGRAPHIC VARIABLES

	Marion	Census[a]	Lake	Census[a]	Allen	Census[a]	St. Joseph	Census[a]
Number of children in household								
1	28.9%	39.1%	20.8%	34.5%	25.0%	34.2%	39.7%	33.1%
2	28.9%	34.0%	26.0%	34.4%	30.3%	34.1%	28.2%	33.6%
3	23.7%	19.2%	32.5%	18.7%	26.3%	18.7%	19.2%	24.9%
4	9.2%	5.3%	15.6%	9.2%	7.9%	9.1%	7.7%	4.9%
5	5.3%	1.7%	2.6%	1.8%	5.3%	1.8%	3.8%	2.4%
6	-----	0.3%	1.3%	0.9%	3.9%	0.9%	-----	1.0%
7	-----	0.2%	-----	0.4%	-----	0.4%	-----	-----
8	1.3%	0.2%	-----	-----	-----	0.6%	-----	-----
9	-----	-----	-----	-----	-----	------	-----	-----
10	-----	-----	-----	-----	-----	0.3%	-----	-----
Not reported	2.6%		1.3%		1.3%		1.3%	
Number of adults in household								
1	56.6%	42.4%	59.7%	40.5%	52.6%	37.3%	56.4%	44.1%
2	34.2%	54.6%	32.5%	54.4%	34.2%	58.6%	33.3%	55.2%
3	5.3%	2.5%	5.2%	3.1%	10.5%	3.8%	6.4%	0.8%
4	1.3%	0.5%	-----	1.0%	-----	0.3%	-----	-----
5	-----	-----	-----	1.0%	-----	-----	-----	-----
6	-----	-----	-----	-----	1.3%	-----	-----	-----
7	-----	0.1%	-----	-----	-----	-----	-----	-----
Not Reported	2.6%		2.6%		1.3%		3.8%	
Education of head of household								
Some high school	9.2%	24.4%	5.2%	24.2%	3.9%	24.6%	11.5%	27.5%
High school diploma/GED	34.2%	37.5%	32.5%	37.3%	42.1%	38.3%	41.0%	36.4%
Associate degree/some college	42.1%	28.0%	42.9%	31.5%	36.8%	32.6%	29.5%	27.4%
College degree	6.5%	7.4%	9.1%	6.0%	13.1%	3.8%	11.6%	6.5%
Master's degree or higher	2.6%	2.7%	2.6%	1.1%	-----	0.7%	3.8%	2.3%
Not reported	5.3%		7.8%		3.9%		2.6%	
Marital Status								
Single	-----	41.7%	-----	44.6%	-----	35.7%	-----	48.1%
No partner	64.5%	NA[b]	58.4%	NA[b]	46.1%	NA[b]	57.7%	NA[b]
Living with partner	14.5%	NA[b]	14.3%	NA[b]	13.2%	NA[b]	12.8%	NA[b]
Married	13.1%	42.4%	15.6%	43.5%	26.3%	50.3%	15.4%	38.7%
Divorced/widowed	7.9%	15.9%	10.4%	12.0%	14.5%	14%	11.5%	13.0%
Not reported	-----		1.3%		-----		2.6%	

	Marion	Census[a]	Lake	Census[a]	Allen	Census[a]	St. Joseph	Census[a]
Race of child								
Black	64.5%	9.5%	84.4%	39.5%	43.4%	18.4%	43.6%	28.4%
Asian/Pacific islander	-----	1.1%	-----	0.5%	1.3%	1.5%	1.3%	1.2%
Hispanic/Latino	-----	NA[c]	2.6%	NA[c] 45.4%	3.9%	NA[c] 70.0%	3.8%	NAc 57.7%
White	26.3%	64.2%	3.9%	3.5%	32.9%	1.6%	30.8%	4.2%
Mixed	9.2%	2.2%	7.8%	11.1%	15.8%	6.0%	17.9%	8.6%
Other	-----	3.1%	-----		-----		-----	
Not reported	-----		1.3%		2.6%		2.6%	
Ethnicity of child								
Hispanic	-----	5.4%	2.6%	21.4%	3.9%	9.6%	3.8%	11.4%
Non-Hispanic	100%	94.6%	97.4%	78.6%	96.1%	90.4%	96.2%	88.6%

[a] U.S. Census Bureau, 2000.

[b] NA indicates data Not Available from this data source.

[c] NA indicates data Not Applicable. In census data Hispanic/Latino is categorized only as ethnicity; therefore, those individuals from the census data that are Hispanic/Latino are included in Black, White, Other, and Mixed race categories. Due to differences in data collection, a comparison of race and ethnicity should be interpreted with caution.

TABLE C5. DESCRIPTIVE STATISTICS OF PARENT AND CHILD DEMOGRAPHICS BY COUNTY

Variables	Marion	Lake	Allen	St. Joseph
Parents Demographics				
Number of children in household	2.38(1.33)	2.57(1.15)	2.49(1.32)	2.06(1.13)
Number of adults in household	1.50(.67)	1.44(.60)	1.63(.85)	1.47(.64)
Monthly Family income				
$1-$800	13.4%	13.5%	9.3%	16.4%
$801-1500	28.4%	13.5%	11.1%	17.9%
$1501 or $3000	43.3%	30.8%	40.7%	22.4%
$3001 or more	14.9%	42.3%	38.9%	43.3%
Marital Status				
Single/no partner	64.5%	58.4%	46.1%	57.7%
Married	11.8%	15.6%	25.0%	15.4%
Divorced/widowed	7.9%	10.4%	14.5%	11.5%
Remarried	1.3%	---	1.3%	---
Living with partner	14.5%	14.3%	13.2%	12.8%
Not reported	---	1.3%	---	2.6%
Percent of families with male head of household present	35.5%	42.9%	40.8%	32.5%

Variables	Marion	Lake	Allen	St. Joseph
Male head education				
Some high school	34.6%	12.9%	14.3	26.1%
High school diploma/GED	15.4%	48.4%	53.6	47.8%
Associates degree/some college	30.8%	29.0%	21.4	4.3%
College degree	19.2%	3.2%	10.7	13.0%
Some graduate school	---	3.2%	---	4.3%
Completed graduate school	---	3.2%	---	4.3%
Not reported	---	---	---	---
Female head education				
Some high school	9.2%	5.2%	3.9%	11.5%
High school diploma/GED	34.2%	32.5%	42.1%	41.0%
Associates degree/some college	42.1%	42.9%	36.8%	29.5%
College degree	2.6%	6.5%	9.2%	10.3%
Some graduate school	3.9%	2.6%	3.9%	1.3%
Completed graduate school	2.6%	2.6%	---	3.8%
Not reported	5.3%	7.8%	3.9%	2.6%
Days spent looking for current child care arrangement	50.22(87.70)	31.63(47.12)	26.36(39.93)	29.16(59.85)
Child care flexibility (1-5)	3.64(.66)	3.87(.55)	3.758(.65)	3.64(.70)
Child care availability (1-5)	3.61(.77)	3.87(.80)	3.77(.75)	3.81(.71)
Children Demographics				
Age in months	38.89 (15.53)	42.27 (16.99)	40.45 (18.37)	38.77 (16.06)
Percent of infants/toddlers	38.2%	39%	39.5%	41.0%
Percent of preschoolers	61.8%	61.0%	60.5%	59.0%
Gender				
Female	43.4%	53.2%	56.6%	47.7%
Male	56.6%	46.8%	43.4%	52.6%
Child's race				
African American	64.5%	84.4%	43.4%	43.6%
White	26.3%	3.9%	32.9%	30.8%
Hispanic/Latino	---	2.6%	3.9%	3.8%
Asian/Pacific Islander	---	---	1.3%	1.3%
Mixed	9.2%	7.8%	15.8%	17.9%
Not reported	---	1.3%	2.6%	2.6%
Child's living arrangements				
Live with mother and father	21.1%	23.7%	32.9%	22.4%
Live with mother only	61.8%	61.8%	57.9%	65.8%
Live with father only	---	1.3%	---	---
Live with mother and mother's partner	2.6%	1.3%	2.6%	1.3%
Live with mother and other adult	11.8%	9.2%	5.3%	7.9%
Live with father and other adult	1.3%	---	---	1.3%
Live with other adult only	1.3%	2.6%	1.3%	---
Age child entered child care in months	5.69(9.05)	6.57(10.09)	8.30(11.89)	7.60(9.75)

TABLE C6. DESCRIPTIVE STATISTICS OF CHILD CARE CHARACTERISTICS BY COUNTY

Variables	Marion	Lake	Allen	St. Joseph
Caregiver Demographics				
Age in years	35.84(11.01)	46.26(12.02)	36.93(11.61)	37.14(12.17)
Education level				
Some high school	4.0%	5.2%	4.3%	6.6%
High school diploma/GED	32.0%	16.9%	27.1%	27.6%
Associates degree/some college	34.7%	48.1%	50.0%	44.7%
College degree	20.0%	56.0%	15.7%	17.1%
Some graduate school	5.3%	0.0%	1.4%	3.9%
Completed graduate degree	4.0%	3.9%	1.4%	0.0%
Race				
African American	52.6%	75.3%	32.9%	33.3%
White	38.2%	6.5%	44.7%	55.1%
Hispanic/Latino	1.3%	1.3%	6.6%	5.1%
Asian/Pacific Islander	2.6%	---	1.3%	---
Other	1.3%	5.2%	5.3%	1.3%
Not reported	3.9%	11.7%	9.2%	5.1%
Marital Status				
Single/no partner	36.8%	14.3%	27.6%	25.6%
Married	39.5%	54.5%	51.3%	47.6%
Divorced/widowed	11.8%	20.8%	7.9%	10.3%
Remarried	---	2.6%	---	5.1%
Living with partner	9.2%	5.2%	6.6%	7.7%
Not reported	2.6%	2.6%	6.6%	3.8%
Monthly income from child care				
$0-$9,999	36.1%	34.0%	22.2%	31.0%
$10,000-$19,000	37.7%	30.0%	48.1%	41.4%
$20,000 or more	26.2%	36.0%	29.6%	27.6%
Not reported				
Years of experience	10.61(9.34)	13.38(10.11)	9.1(6.82)	8.43(7.34)
Percent of caregivers with early childhood credential	48.7%	51.9%	39.5%	25.6%
Number of specialized training program competed	2.04(.82)	2.84(1.05)	2.32(.88)	2.17(.90)

Appendix D

CHILD CARE EXPERIENCES OF LOW-INCOME FAMILIES

The following tables display descriptive statistics of selected child care variables as well as a summary of the types of child care low-income working families used in our sample. ANOVA and chi-square tests were completed to identify differences among communities on the variables when applicable.

TABLE D1. TYPES OF CHILD CARE LOW-INCOME WORKING FAMILIES USED

Variable	M(SD)	N(%)	Range	F(p)	χ^2 (p)
Current child care setting					29.51 (0.00)
Center-based child care		145(47.2)			
Home-based child care		114(37.2)			
Child care ministry		48(15.6)			
Age entry child care in month	7.05(10.25)	276	0 - 48	0.87 (0.46)	
Number of child care placements by child age in year	0.8(0.62)	276	.18 – 5.14	0.19 (0.90)	
Reason for using child care					26.23 (0.01)
Allow parent to work		185(60.3)			
Allow parent to attend school		58(18.9)			
Allow parent time for leisure		1(0.3)			
Important for child development		47(15.3)			
Other		4(1.3)			
Not reported		12(3.9)			

TABLE D2. SUMMARY OF PARTICIPATING CHILDREN'S CHILD CARE SETTINGS.

CCCRP PARTICIPANTS SUMMARY TABLE

CC setting	ST. JOSEPH CO.							MARION CO.							ALLEN CO.						
	6~35 MOS.			3~6 YRS.			T	6~35 MOS.			3~6 YRS.			T	6~35 MOS.			3~6 YRS.			T
	M	F	T	M	F	T		M	F	T	M	F	T		M	F	T	M	F	T	
1. Lic.center/preschool	4	8	12	16	11	27	**39**	4	5	9	13	11	24	**33**	1	4	5	7	8	15	**20**
2. Child care ministry	1	2	3	6	1	7	**10**	6	3	9	3	3	6	**15**	4	5	9	5	7	12	**21**
3. Lic. FCCH	3	8	11	3	3	6	**17**	2	3	5	1	2	3	**8**	8	2	10	2	5	7	**17**
4. Unlic. FCCH	3	1	4	2	1	3	**7**	2	1	3	3	1	4	**7**	0	3	3	1	0	1	**4**
5. Relative care	1	1	2	2	1	3	**5**	2	0	2	0	2	2	**4**	2	1	3	0	2	2	**5**
6. Head Start	0	0	0	0	0	0	**0**	1	0	1	6	2	8	**9**	0	0	0	3	6	9	**9**
Center vs. Home																					
Center-based (1+2+6)	5	10	15	22	12	34	**49**	11	8	19	22	16	35	**54**	5	9	14	15	21	36	**50**
Home-based (3+4+5)	7	10	17	7	5	12	**29**	6	4	10	4	5	12	**22**	10	6	16	3	7	10	**26**
Lic. vs. Unlic.																					
Licensed (1+3+6)	7	16	23	19	14	33	**56**	7	8	15	20	15	35	**50**	9	6	15	12	19	31	**46**
Unlicensed (2+4+5)	5	4	9	10	3	13	**22**	10	4	14	6	6	12	**26**	6	9	15	6	9	15	**30**
Total	**12**	**20**	**32**	**29**	**17**	**46**	**78**	**17**	**12**	**29**	**26**	**21**	**47**	**76**	**15**	**15**	**30**	**18**	**28**	**46**	**76**
By child gender	MALE			**41**				MALE			**43**				MALE			**33**			
	FEMALE			**37**				FEMALE			**33**				FEMALE			**43**			

CC setting	ST. JOSEPH CO.							TOTAL						
	6~35 MOS.			3~6 YRS.			T	6~35 MOS.			3~6 YRS.			T
	M	F	T	M	F	T		M	F	T	M	F	T	
1. Lic.center/preschool	4	2	6	10	9	19	**25**	13	19	32	46	39	85	**117**
2. Child care ministry	1	0	1	1	0	1	**2**	12	10	22	15	11	26	**15**
3. Lic. FCCH	8	12	20	3	9	12	**32**	21	25	46	9	19	28	**8**
4. Unlic. FCCH	2	0	2	1	3	4	**6**	7	5	12	7	5	12	**7**
5. Relative care	0	1	1	1	0	1	**2**	5	3	8	3	5	8	**4**
6. Head Start	0	0	0	5	5	10	**10**	1	0	1	14	13	27	**9**
Center vs. Home														
Center-based (1+2+6)	5	2	7	16	14	30	**37**	26	29	55	75	63	138	**193**
Home-based (3+4+5)	10	13	23	5	12	17	**40**	33	33	66	19	29	48	**114**
Lic. vs. Unlic.														
Licensed (1+3+6)	12	14	26	18	23	41	**67**	34	44	79	69	71	140	**219**
Unlicensed (2+4+5)	3	1	4	3	3	6	**10**	24	18	42	25	21	46	**88**
Total	**15**	**15**	**30**	**21**	**26**	**47**	**77**	**59**	**62**	**121**	**94**	**92**	**186**	**307**
By child gender	MALE			**36**				MALE			**153**			
	FEMALE			**41**				FEMALE			**154**			

M: Male; F: Female
T: Total (male + female)
T: Total (younger children + older children)
Lic.: Licensed
Unlic.: Unlicensed
FCCH: Family Child Care Home

Appendix E

QUALITY OF CHILD CARE

The following tables display descriptive statistics for selected child care variables. ANOVA and chi-square tests were completed to identify differences among communities on the variables when applicable.

Table E1.
Means (Standard Deviations) of Child Care Quality Variables (N = 307)

Child Care Quality Variables		M (SD)	N (%)	Range	F(p)	χ2(p)
Global Quality	Global Quality Score (ECERS-R & FDCRS)(1 ~ 7)	3.81 (1.44)		1.09-6.48	1.15 (.33)	
	ECERS-R Score (1 ~ 7)	4.39 (1.28)		1.15-6.48	.85 (.47)	
	FDCRS Score (1 ~ 7)	2.78 (1.10)		1.09-5.32	.98 (.41)	
Structural Quality	Group Size	10.28 (5.54)		1-27	.97 (.41)	
	Child-Adult Ratio	5.64 (3.02)		1-16	1.98 (.12)	
	Caregiver General Education Level (1~6)	2.96 (.99)		1-6		17.50 (.29)
	Caregiver Specialized Education in Child Development		126 (44)			13.30* (.00)
	Number of Years in Experience (caregiver)	10.36 (8.69)		0-43	4.24* (.01)	
Process Quality	Caregiver-Child Relationship (STRS total: 1 ~ 5)	3.98 (.41)		2.63-4.83	.56 (.64)	
	Conflict/Anger Subscale	1.87 (.63)		1-4.25	.27 (.85)	
	Closeness Subscale	4.07 (.51)		2.45-5	1.68 (.17)	
	Dependency Subscale	2.31 (.79)		1-4.75	1.14 (.33)	
	Parent-Caregiver Relationship (PCRS: 1 ~ 5)– parent report	4.10 (.54)		1.89-5	3.85* (.01)	
	Trust/Confidence Subscale (1 ~ 5)	4.36 (.55)		2.23-5	3.58* (.01)	
	Collaboration Subscale (1 ~ 5)	4.10 (.58)		1.64-5	3.14* (.03)	
	Affiliation Subscale (1 ~ 5)	3.65 (.58)		1.75-5	4.30* (.01)	
	Parent-Caregiver Relationship (PCRS: 1 ~ 5)– caregiver report	4.03 (.55)		2.46-5	.16 (.92)	
	Trust/Confidence Subscale (1 ~ 5)	4.03 (.62)		2.07-5	.15 (.93)	
	Collaboration Subscale (1 ~ 5)	3.23 (.37)		2.27-4.13	.48 (.70)	
	Caring Subscale (1 ~ 5)	3.44 (.39)		2-5	.94 (.42)	

Child Care Quality Variables		M (SD)	N (%)	Range	F(p)	$\chi 2$(p)
	Caregiver Sensitivity (CIS: 1 ~ 4)[3]	3.30 (.56)		1.05-4	2.53 (.06)	
	Positive Relationship Subscale (1 ~ 4)	2.87 (.76)		1-4	3.53* (.02)	
	Punitiveness Subscale (1 ~ 4)	1.23 (.47)		1-3.88	1.55 (.20)	
	Detachment Subscale (1 ~ 4)	1.56 (.67)		1-4	1.16 (.33)	
	Adult Responsive Interactions (0 ~ 1)	0.31 (.27)		0-1	5.40* (.00)	
	Caregiver Talk					
	Mean Percentage Praise/ acknowledgement (0 ~ 100%)	3.2% (3.5)		0-21	1.36 (.26)	
	Mean Percentage Social (0 ~ 100%)	.5% (1.8)		0-16	1.96 (.12)	
	Mean Percentage Question (0 ~ 100%)	6.9% (6.8)		0-56	1.07 (.36)	
	Mean Percentage Expansion (0 ~ 100%)	.4% (1.3)		0-12	1.72 (.16)	
	Mean Percentage Describes (0 ~ 100%)	14.6% (12.6)		0-57	1.76 (.16)	
	Mean Percentage Prompt/suggestion (0 ~ 100%)	2.4% (3.8)		0-23	.756 (.52)	
	Mean Percentage Directive (0 ~ 100%)	5.8% (6.8)		0-44	6.39* (.00)	
	Children's Cognitive Activity Level (0 ~ 3)	1.04 (.45)		.02-2.84	2.49 (.06)	

Table E2.
Descriptive statistics of child care quality indicators by county

Variables	Marion	Lake	Allen	St. Joseph
Global Quality				
ECERS-R score (1-7)	4.31(1.37)	4.64(1.46)	4.47(1.20)	4.28(1.13)
Percent of infants/toddlers in center based care	65.5%	23.3%	46.7%	46.9%
Percent of preschoolers in center based care	80.1%	63.8%	78.3%	73.9%
FDCRS score (1-7)	2.68(1.17)	2.59(.81)	3.03(1.19)	2.88(1.25)
Percent of infants/toddlers in home based care	34.5%	76.7%	53.3%	53.1%
Percent of preschoolers in home based care	19.1%	36.2%	21.7%	26.1%
Structural Quality				
Child-adult ratio	5.42:1	6.31:1	5.68:1	5.13:1
Process Quality				
Parent report of Parent-caregiver relationship (1-5)	3.99(.50)	4.26(.49)	4.10(.48)	4.04(.54)
Caregiver report of parent-caregiver relationship (1-5)	4.03(.58)	4.05(.53)	3.99(.60)	4.04(.51)
Caregiver report of child-caregiver relationship (1-5)	3.97(.41)	4.02(.40)	3.94(.40)	3.98(.43)
Caregiver interaction (1-4)	3.30(.52)	3.17(.64)	3.42(.56)	3.31(.49)
Percent of caregiver intense interactions with child	38.50 (29.28)	21.44(24.42)	33.09(30.33)	29.95(22.92)
Percent of caregiver high level talk	27.19 (16.95)	23.99(17.54)	25.19(18.56)	20.86(13.98)
Level of child cognitive activity	.97(.35)	1.07(.53)	1.14(.50)	.98(.39)

Appendix F

The following tables display the descriptive statistics of child social-emotional and cognitive competence. ANOVA tests that indicated a difference among the four communities are reported. Significant zero-order correlations and multi-level regression analyses reporting the relationships between indicators of child care quality and children's competence are also presented.

Table F1
Means, Standard Deviations, and Ranges of Children's Cognitive Competence

Cognitive Competence		M (SD)	Range	F(p)
Infants/ Toddlers (n=121)	Mullen Early Learning Composite	85.24 (15.94)	56 – 143	
	Visual Reception	42.38 (11.00)	20 – 73	
	Fine Motor	41.99 (11.63)	20 – 80	
	Receptive Language	42.48 (11.69)	20 – 72	
	Expressive Language	41.29 (10.37)	20 – 73	
Preschool Age Children (n=186)	Receptive Vocabulary (PPVT-III)	87.49 (17.20)	29 – 132	3.06 (0.03)
	Social Awareness (FACES: 1~5)	3.46 (1.38)	0 – 5	
	Color Names (FACES: 0~20)	14.50 (6.88)	0 – 20	
	Counting (FACES: 0~5)	3.86 (1.55)	1 – 5	
	Academic Competence (CBI: 1~5) – parent report	3.68 (.45)	2.46 – 4.81	
	Academic Competence (CBI: 1~5) – caregiver report	3.53 (.63)	1.88 – 5.00	

Table F2

Means, Standard Deviations, and Ranges of Children's Social-emotional Competence

Social-emotional Competence		M (SD)	Range
Infants/ Toddlers	Social Competence (BITSEA: 0~2) – parent report	1.45 (.33)	.36 – 2.00
	Social Competence (BITSEA: 0~2) – caregiver report	1.32 (.35)	0 – 2.00
	Social Competence Sum Score (BITSEA: 0~22) – parent report	14.50 (3.84)	4.00 – 22.00
	Social Competence Sum Score (BITSEA: 0~22) – caregiver report	15.99 (3.58)	0 – 22.00
	Behavior Problems (BITSEA: 0~2) – parent report	0.27 (.16)	0 - .94
	Behavior Problems (BITSEA: 0~2) – caregiver report	0.23 (.16)	.02 – 1.00
	Behavior Problems Sum Score (BITSEA: 0~98) – parent report	15.39 (7.85)	0 – 45.90
	Behavior Problems Sum Score (BITSEA: 0~98) – caregiver report	11.42 (8.08)	1.00 – 49.00
Preschool Age Children	Extroversion (CBI: 1~5) – parent report	4.14 (.49)	2.48 – 5.00
	Extroversion (CBI: 1~5) – caregiver report	3.98 (.64)	1.88 – 5.00
	Considerateness (CBI: 1~5) – parent report	3.43 (.59)	1.88 – 5.00
	Considerateness (CBI: 1~5) – caregiver report	3.56 (.69)	1.38 – 5.00
	Anger-Aggression (SCBE: 1~6) – parent report	2.27 (.71)	1.00 – 4.90
	Anger-Aggression (SCBE: 1~6) – caregiver report	1.94 (.78)	1.00 – 5.10
	Social Competence (SCBE: 1~6) – parent report	4.14 (.77)	1.70 – 5.60
	Social Competence (SCBE: 1~6) – caregiver report	3.87 (.95)	1.40 – 5.80
	Anxiety-Withdrawal (SCBE: 1~6) – parent report	1.82 (.49)	1.00 – 3.70
	Anxiety-Withdrawal (SCBE: 1~6) – caregiver report	1.85 (.71)	.90 – 4.60

Data Reduction of Competence Variables

For infants and toddlers, the Mullen Early Learning composite score was used as the cognitive competence variable. Two composite variables (one parent and one caregiver report) were created to combine Social Competence and Problem Behavior into a total measure of social-emotional competence.

For older children, we identified six cognitive outcome variables (i.e., PPVT-III, FACES social awareness task, FACES color name, FACES counting, CBI academic competence – parent and provider reports) and four social outcome variables (i.e., parent and provider reports of CBI extroversion, CBI considerateness, and SCBE). Using Principal Components Analysis, four composite variables (two for cognitive competence and 2 for social competence) were created. Each composite variable has the mean of 0 and standard deviation of 1. Table F3 presents the final composites used for correlation and regression analyses.

Table F3

Preschool-Age Child Outcome Composite Variables

	Composite Variable	Components
Cognitive Competence	Early Academic Skills	PPVT-III, FACES social awareness task, FACES color name, and FACES counting
	Academic Attitude	CBI academic competence (parent & provider report)
Social-emotional Competence	Parent report	CBI extroversion, CBI considerateness, & SCBE
	Caregiver report	CBI extroversion, CBI considerateness, & SCBE

Table F4.
Means, Standard Deviations, and Ranges of Children's Competence by Community

Variables	Marion	Lake	Allen	St. Joseph
Infant/Toddler Cognitive Outcomes				
Mullen Scales of Early Learning	82.38 (15.34)	81.77(17.99)	86.23(14.73)	90.16(14.84)
Infant/Toddler Socio-emotional Outcomes				
BITSEA Problem Behavior (parent report)	.26 (.15)	.23 (.13)	.30 (.16)	.30 (.19)
BITSEA Problem Behavior (caregiver report)	.28 (.21)	.22 (.13)	.22 (.13)	.21 (.18)
BITSEA Social Competence (parent report)	1.46 (.28)	1.40 (.32)	1.44 (.37)	1.51 (.33)
BITSEA Social Competence (caregiver report)	1.43 (.23)	1.31 (.45)	1.23 (.33)	1.32 (.32)
Preschool Cognitive Outcomes				
FACES social awareness	3.30 (1.60)	3.74 (1.45)	3.09 (1.15)	3.71 (1.20)
FACES color naming	14.17 (6.99)	14.47 (7.25)	16.48 (5.30)	12.84 (7.48)
FACES Bear Counting	3.85 (1.66)	3.87 (1.51)	3.76 (1.55)	3.96 (1.54)
PPVT-III	88.04 (16.76)	81.68 (21.14)	89.04 (13.10)	92.09(15.94)
CBI Academic Attitude (parent report)	3.53 (.45)	3.80 (.47)	3.69 (.43)	3.70 (.40)
CBI Academic Attitude (caregiver report)	3.46 (.68)	3.63 (.66)	3.52 (.62)	3.53 (.56)
Preschool Socio-emotional Outcomes				
CBI extroversion (parent report)	4.11 (.48)	4.11 (.52)	4.17 (.46)	4.17 (.50)
CBI extroversion (caregiver report)	3.99 (.65)	3.99 (.62)	3.90 (.63)	4.03 (.66)
CBI considerateness (parent report)	3.32 (.59)	3.46 (.61)	3.44 (.56)	3.52 (.60)
CBI considerateness (caregiver report)	3.50 (.71)	3.62 (.72)	3.53 (.75)	3.58 (.59)
SCBE anger-aggression (parent	2.56 (.86)	2.03 (.54)	2.15 (.57)	2.32 (.71)

report)				
SCBE anger-aggression (caregiver report)	2.04 (.89)	1.81 (.72)	1.91 (.81)	2.00 (.70)
SCBE social competence (parent report)	3.95 (.78)	4.13 (.78)	4.23 (.80)	4.27 (.69)
SCBE social competence (caregiver report)	3.85 (.99)	3.96 (1.00)	3.75 (.82)	3.93 (1.00)
SCBE anxiety-withdrawal (parent report)	1.86 (.57)	1.80 (.49)	1.74 (.41)	1.90 (.49)
SCBE anxiety-withdrawal (caregiver report)	1.83 (.75)	1.82 (.47)	2.01 (.86)	1.72 (.71)

Table F5
Zero-order correlations of child competence and child care quality variables.

Child care Quality Variables	Child Cognitive and Social-emotional Skills						
	Infants/Toddlers			Preschool Age Children			
	Early Learning (Mullen)	Social Competence (parent)	Social Competence (caregiver)	Early Academic Skills	Academic Attitude	Social Competence (parent)	Social Competence (caregiver)
Global Quality (ECERS/FDCRS)	.33**			.37**			
Child-Adult Ratio							
Caregiver General Education		.26*					.16*
Caregiver Specialized Education		.18*					
Caregiver Interaction Scale	.28*			.18*			
Parent Caregiver Relationship Scale-Parent Report					.32**	.27**	
Parent Caregiver Relationship Scale-Caregiver Report							.50**
Student-Teacher Relationship Scale				.16*		.19*	.64**
Caregiver Responsiveness		-.19*					
Caregiver High Level Talk	.21*	.29*		.16*			.17*
Child Cognitive Activity							

+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Tables F6 – F11 present summaries of hierarchical regression analyses for variables predicting competence controlling for maternal education, child's age in months and type of care.

Table F6
Summary of Hierarchical Regression Analyses for Variables Predicting Infant/Toddler Cognitive Competence.

Variable	Early Learning Skills			
	β	R^2	Δ R^2	F
Step 1		.08*		3.12
Maternal Education	.24**			
Child's Age in Months	-.02			
Center vs. Home-based Care (CH)	.15			
Step 2a		.17***	.09***	5.64
Global quality (GQ)	.32***			
Step 3a		.17***	.00	4.48
CH X GQ	.02			
Step 2b		.14**	.06**	4.64
Caregiver Sensitivity (CS)	.26**			
Step 3b		.15**	.01	3.76
CH X CS	.06			
Step 2c		.10*	.02+	3.20
Caregiver Talk (CT)	.17+			
Step 3c		.11*	.01	2.63
CH X CT	.06			

Note. Global quality, caregiver sensitivity, and caregiver talk were centered at their means. +p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Table F7
Summary of Hierarchical Regression Analyses for Variables Predicting Infant/Toddler Social-emotional Competence (parent report).

Variable	Social-emotional Competence (parent report)			
	β	R^2	Δ R^2	F
Step 1		.06+		2.40
Maternal Education	-.07			
Child's Age in Months	.24*			
Center vs. Home-based Care (CH)	-.01			
Step 2a		.05	.01	1.50

Variable	Social-emotional Competence (parent report)			
	β	R^2	Δ R^2	F
Caregiver Education (CE)	.12			
Step 3a				
CH X CE	.05	.06	.01	1.25
Step 2b		.09*	.03*	2.90
Caregiver Specialized Education (CSE)	.19*			
Step 3b		.10*	.01	2.36
CH X CSE	.05			
Step 2c		.08+	.02	2.40
Caregiver Responsiveness (CR)	-.14			
Step 3c		.08+	.00	2.00
CH X CR	-.07			
Step 2d		.12**	.06**	3.84
Caregiver Talk (CT)	.26**			
Step 3d		.13**	.01	3.26
CH X CT	-.09			

Note. Caregiver interaction and caregiver talk were centered at their means.
+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Table F8
Summary of Hierarchical Regression Analyses for Variables Predicting Preschool-Age Children Cognitive Competence (Early Academic Skills).

	Early Academic Skills			
	β	R^2	Δ R^2	F
Step 1		.32***		26.42
Maternal Education	.08			
Child's Age in Months	.55***			
Center vs. Home-based Care (CH)	.04			
Step 2a		.37***	.05***	24.11
Global Quality (GQ)	.25***			
Step 3a		.37***	.00	19.66
CH X GQ	-.09			
Step 2b		.33***	.02+	21.09
Caregiver Child Relationship (CCR)	.12+			
Step 3b		.34***	.01	17.07

	Early Academic Skills			
CH X CCR	.07			
Step 2c		.33***	.01+	20.89
Caregiver Sensitivity (CS)	.12+			
Step 3c		.33***	.00	16.62
CH X CS	-.01			
Step 2d		.34***	.02*	21.36
Caregiver Talk (CT)	.14*			
Step 3d		.34***	.00	17.26
CH X CT	-.07			

Note. Global quality, caregiver-child relationship, caregiver sensitivity, and caregiver high-level talk were centered at their means.
+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Table F9
Summary of Hierarchical Regression Analyses for Variables Predicting Preschool-Age Children Cognitive Competence (Academic Attitude).

	Academic Attitude			
	β	R^2	Δ R^2	F
Step 1		.01		.824
Maternal Education	.07			
Child's Age in Months	.10			
Center vs. Home-based Care (CH)	.01			
Step 2		.12***	.10***	5.46
Caregiver Parent Relationship (CPP) parent report	.32***			
Step 3		.12***	.00	4.55
CH X CPP	.08			

Note. Caregiver parent relationship was centered at its mean.
+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Table F10
Summary of Hierarchical Regression Analyses for Variables Predicting Preschool-Age Children Social-emotional Competence (parent report).

	Social-emotional Competence (parent report)			
	B	R^2	Δ R^2	F
Step 1		.01		.732
Maternal Education	-.05			
Child's Age in Months	.07			
Center vs. Home-based	.07			

	Social-emotional Competence (parent report)			
Care (CH)				
Step 2a		.05**	.04*	2.31
Caregiver Child Relationship (CCR)	.20**			
Step 3a		.05	.00	1.85
CH X CCR	-.02			
Step 2b		.09	.08***	4.13
Caregiver Parent Relationship (CPP) Parent	.28			
Step 3b		.09	.00	3.29
CH X CPP	.01			

Note. Caregiver-child relationship and parent-caregiver relationship were centered at their means.
+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Table F11
Summary of Hierarchical Regression Analyses for Variables Predicting Preschool-Age Children Social-emotional Competence (caregiver report).

	Social-emotional Competence (caregiver report)			
	B	R^2	ΔR^2	F
Step 1		.00		.169
Maternal education	.04			
Child's age in months	.04			
Center vs. Home (CH)	.00			
Step 2a		.00	.00	.27
Caregiver General Education (CE)	.01			
Step 3a		.03	.03+	1.00
CH X CE	-.16+			
Step 2b		.54***	.54***	50.03
Caregiver Child Relationship (CR)	.74***			
Step 3b		.54***	.00	39.86
CH X CR	-.03			
Step 2c		.30***	.30***	17.76
Caregiver Parent Relationship (CPC) Caregiver	.56***			
Step 3c		.30***	.00	14.66

	Social-emotional Competence (caregiver report)			
CH X CPC	.10			
Step 2d		.03	.03	1.07
Caregiver high level talk (CT)	.15+			
Step 3d		.05	.02	1.75
CH X CT	-.17*			

Note. Caregiver-child relationship, caregiver-parent relationship, and caregiver high-level talk were centered on their means.
+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Tables F12 – F17 present summaries of hierarchical regression analyses for variables predicting competence examining the interaction effect of community while controlling for maternal education and child's age in months.

Table F12
Summary of Hierarchical Regression Analyses for Variables Predicting Infant/Toddler Cognitive Competence.

Variable	Early Learning Skills			
	β	R^2	Δ R^2	F
Step 1		.05*		3.31
Maternal Education	.23*			
Child's Age in Months	-.01			
Step 2a		.17***	.11***	7.49
Global Quality (GQ)	.34***			
Step 3a		.20***	.04	4.72
Dummy 1 (M)	-.23*			
Dummy 2 (A)	-.14			
Dummy 3 (L)	-.14			
Step 4a		.24**	.04	3.84
GQ X M	.16			
GQ X A	.10			
GQ X L	.30*			
Step 2b		.13***	.07**	5.68
Caregiver Sensitivity (CS)	.28**			
Step 3b		.18***	.05	3.91
Dummy 1 (M)	-.24*			
Dummy 2 (A)	-.16			
Dummy 3 (L)	-.18			
Step 4b		.20**	.03	3.02
CS X M	.22+			

Variable	Early Learning Skills			
	β	R^2	Δ R^2	F
CS X A	.13			
CS X L	.14			
Step 2c		.09+	.04*	3.84
Caregiver Talk (CT)	.19*			
Step 3c		.15***	.06+	3.25
Dummy 1 (M)	-.26*			
Dummy 2 (A)	-.17			
Dummy 3 (L)	-.23*			
Step 4c		.18*	.03	2.54
CT X M	.18			
CT X A	.12			
CT X L	.26+			

Note: Community was represented by three dummy variables with St. Joseph County serving as the reference group. M = St. Joseph County vs. Marion County; A = St. Joseph County vs. Allen County; L = St. Joseph County vs. Lake County.
+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Table F13
Summary of Hierarchical Regression Analyses for Variables Predicting Infant/Toddler Competence.

Variable	Social-emotional Competence (parent report)			
	β	R^2	Δ R^2	F
Step 1		.06*		3.62
Maternal Education	-.07			
Child's Age in Months	.24*			
Step 2a		.11**	.07**	4.49
Caregiver General Education (CE)	.27**			
Step 3a		.19***	.08**	4.19
Dummy 1 (M)	-.134			
Dummy 2 (A)	.07			
Dummy 3 (L)	-.26*			
Step 4a		.22**	.03	3.16
CE X M	-.52+			
CE X A	-.20			
CE X L	-.19			
Step 2b		.09*	.03*	3.87
Caregiver Specialized Education (CSE)	.18*			

Variable	Social-emotional Competence (parent report)			
	β	R^2	Δ R^2	F
Step 3b		.16**	.07*	3.56
Dummy 1 (M)	-.11			
Dummy 2 (A)	.02			
Dummy 3 (L)	-.28*			
Step 4b		.19**	.03	2.88
CSE X M	-.20			
CSE X A	-.04			
CSE X L	-.32*			
Step 2c		.08*	.02	3.22
Caregiver Responsiveness (CR)	-.14			
Step 3c		.13*	.05	2.67
Dummy 1 (M)	-.09			
Dummy 2 (A)	-.04			
Dummy 3 (L)	-.25*			
Step 4c		.20**	.07*	2.90
CR X M	.11			
CR X A	-.22			
CR X L	.11			
Step 2		.12**	.06**	4.88
Caregiver Talk (CT)	.24**			
Step 3		.15**	.03	3.34
Dummy 1 (M)	-.13			
Dummy 2 (A)	-.03			
Dummy 3 (L)	-.22			
Step 4		.24***	.08*	3.70
CT X M	.45***			
CT X A	.34*			
CT X L	.35*			

Note: Community was represented by three dummy variables with St. Joseph County serving as the reference group. M = St. Joseph County vs. Marion County; A = St. Joseph County vs. Allen County; L = St. Joseph County vs. Lake County.
+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Table F 14
Summary of Hierarchical Regression Analyses for Variables Predicting Preschool-Age Children Cognitive Competence.

	Early Academic Skills			
	β	R^2	Δ R^2	F
Step 1		.32***		39.61

	Early Academic Skills			
Maternal Education	.08			
Child's Age in Months	.56***			
Step 2a		.36***	.04***	31.62
Global Quality (GQ)	.21***			
Step 3a		.38***	.02	16.58
Dummy 1 (M)	-.03			
Dummy 2 (A)	-.13			
Dummy 3 (L)	-.11			
Step 4a		.38***	.00	11.09
GQ X M	-.10			
GQ X A	.01			
GQ X L	.00			
Step 2b		.33***	.02*	28.17
Caregiver Child Relationship (CCR)	.12+			
Step 3b		.34***	.01	14.61
Dummy 1 (M)	-.02			
Dummy 2 (A)	-.09			
Dummy 3 (L)	-.12			
Step 4b		.35***	.01	9.93
CCR X M	-.09			
CCR XA	-.07			
CCR X L	.02			
Step 2c		.33***	.01	27.94
Caregiver Sensitivity (CS)	.12+			
Step 3c		.35***	.02	14.74
Dummy 1 (M)	-.01			
Dummy 2 (A)	-.13			
Dummy 3 (L)	-.10			
Step 4c		.37***	.02	10.69
CS X M	-.22+			
CS X A	-.11			
CS X L	-.06			
Step 2d		.34***	.02*	28.50
Caregiver Talk (CT)	.14*			
Step 3d		.35***	.01	14.94
Dummy 1 (M)	-.05			
Dummy 2 (A)	-.12			
Dummy 3 (L)	-.13			
Step 4d		.37***	.02	10.42
CT X M	-.12			

	Early Academic Skills			
CT X A	-.19+			
CT X L	-.10			

Note: Community was represented by three dummy variables with St. Joseph County serving as the reference group. M = St. Joseph County vs. Marion County; A = St. Joseph County vs. Allen County; L = St. Joseph County vs. Lake County.
+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Table F15
Summary of Hierarchical Regression Analyses for Variables Predicting Preschool-Age Children Cognitive Competence.

	Academic Attitude			
	β	R^2	Δ R^2	F
Step 1		.01		1.24
Maternal Education	.07			
Child's Age in Months	.10			
Step 2		.11***	.10***	6.99
Caregiver Parent Relationship (CPP) parent report	.31***			
Step 3		.14***	.03	4.35
Dummy 1 (M)	-.15+			
Dummy 2 (A)	-.02			
Dummy 3 (L)	.02			
Step 4		.15***	.01	3.24
CPP X M	-.01			
CPP X A	.03			
CPP X L	-.14			

Note: Community was represented by three dummy variables with St. Joseph County serving as the reference group. M = St. Joseph County vs. Marion County; A = St. Joseph County vs. Allen County; L = St. Joseph County vs. Lake County.
+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Table F 16
Summary of Hierarchical Regression Analyses for Variables Predicting Preschool-Age Children Social-emotional Competence.

	Social-emotional Competence (parent report)			
	β	R^2	Δ R^2	F
Step 1		.01		.74
Maternal Education	-.04			
Child's Age in Months	.09			
Step 2a		.05*	.04**	2.91
Caregiver Child Relationship (CCR)	.20**			

	Social-emotional Competence (parent report)			
Step 3a		.09*	.04+	2.66
Dummy 1 (M)	-.17+			
Dummy 2 (A)	.06			
Dummy 3 (L)	-.01			
Step 4a		.10+	.01	1.93
CCR X M	-.01			
CCR X A	.11			
CCR X L	.06			
Step 2b		.08**	.07***	4.65
Caregiver Parent Relationship (CPP) Parent	.26***			
Step 3b		.10**	.02	3.18
Dummy 1 (M)	-.16+			
Dummy 2 (A)	.03			
Dummy 3 (L)	-.05			
Step 4b		.13**	.03	2.83
CPP X M	.12			
CPP X A	.12			
CPP X L	-.11			

Note: Community was represented by three dummy variables with St. Joseph County serving as the reference group. M = St. Joseph County vs. Marion County; A = St. Joseph County vs. Allen County; L = St. Joseph County vs. Lake County.
+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001.

Table F 17
Summary of Hierarchical Regression Analyses for Variables Predicting Preschool-Age Children Social-emotional Competence.

	Social-emotional Competence (caregiver report)			
	β	R^2	ΔR^2	F
Step 1		.00		.26
Maternal Education	.04			
Child's Age in Months	.04			
Step 2a		.03	.02+	1.65
Caregiver General Education (CE)	.15+			
Step 3a		.04	.01	1.03
Dummy 1 (M)	-.04			
Dummy 2 (A)	-.09			
Dummy 3 (L)	-.01			
Step 4a		.07	.03	1.24
CE X M	.33			

	Social-emotional Competence (caregiver report)			
CE X A	-.30			
CE X L	.41			
Step 2b		.54***	.54***	66.89
Caregiver Child Relationship (CCR)	.73***			
Step 3b		.54***	.00	32.92
Dummy 1 (M)	-.02			
Dummy 2 (A)	-.03			
Dummy 3 (L)	-.01			
Step 4b		.55***	.01	22.06
CCR X M	.06			
CCR X A	.07			
CCR X L	.10			
Step 2c		.29***	.29***	22.57
Caregiver Parent Relationship (CPC) Caregiver	.54***			
Step 3c		.29***	.00	11.32
Dummy 1 (M)	.04			
Dummy 2 (A)	-.04			
Dummy 3 (L)	.01			
Step 4c		.31***	.02	8.19
CPC X M	-.16			
CPC X A	-.17			
CPC X L	-.21			
Step 2d		.03	.03+	1.44
Caregiver Talk (CT)	.15+			
Step 3d		.04	.01	1.08
Dummy 1 (M)	-.05			
Dummy 2 (A)	-.12			
Dummy 3 (L)	.01			
Step 4d		.04	.00	.76
CT X M	.00			
CT X A	.02			
CT X L	.06			

Note: Community was represented by three dummy variables with St. Joseph County serving as the reference group. M = St. Joseph County vs. Marion County; A = St. Joseph County vs. Allen County; L = St. Joseph County vs. Lake County.
+p<.10. *p≤ .05. **p≤ .01. ***p≤ .001

Appendix G

PARENT EMPLOYMENT AND EDUCATION OUTCOMES

The following tables display the descriptive statistics of parent employment and education outcome variables. ANOVA and chi-square tests were completed to identify differences among communities on the variables when applicable. Significant zero-order correlations and multi-level regression analyses reporting the relationships between indicators of child care quality and parent employment are also presented.

Table G1. Male head employment outcomes (N = 116).

	M(SD)	*N(%)*	*F(p)*	*χ2 (p)*
Employment				2.06
Yes		103(88.8)		(.56)
No		11(9.5)		
Not reported		2(1.7)		
Hrs/wk working or in school/training (n = 92)	37.99 (12.74)		1.16 (.331)	
Work hours (n = 102)				10.22
Full-time (>35 hrs/wk)		88 (86.27)		(.02)
Part-time (<30 hrs/wk) or Temporary		14 (13.73)		
Work shift (n = 100)				5.38
Daytime		72 (72.00)		(.15)
Evening/night/shift change		28 (28.00)		
Months working for current employer (n = 95)	53.41 (67.12)		3.29 (.024)	
Work being interrupted due to illness or child care problems (n = 103)				2.65 (.45)
Yes		49 (47.57)		
No		54 (52.43)		
Raise/Promotion (n = 103)				3.67
Yes		28 (27.18)		(.30)
No		75 (72.82)		

Table G2. Female head employment outcomes (n=302).

	M(SD)	*N(%)*	*F(p)*	*χ2 (p)*
Employment				4.63
Yes		256(83.4)		(.20)
No		47(15.3)		
Not reported		4(1.3)		
Hrs/wk working or in school/training	32.62(12.59)		.42 (.74)	
Work hours (n = 253)				1.78
Full-time (>35 hrs/wk)		182(71.94)		(.62)
Part-time (<30 hrs/wk) or Temporary		71(28.06)		
Work shift (n = 248)				3.82
Daytime		196(79.03)		(.28)
Evening/night/shift change		52(20.97)		
Months working for current employer	38.03(46.78)		2.06 (.11)	
Work being interrupted due to illness or child care problems (n = 256)				1.53 (.68)
Yes		175(68.36)		
No		81(31.64)		
Raise/Promotion (n = 256)				6.77
Yes		60(23.44)		(.08)
No		196(76.56)		

Table G3. Male head employment outcomes of families using home and center care.

	Home (n=47)		***Center (n=69)***	
	M(SD)	***N(%)***	***M(SD)***	***N(%)***
Employment				
Yes		42(89.4)		61(88.4)
No		5(10.6)		6(8.7)
Not reported				2(2.9)
Hrs/wk working or in school/training	35.53(14.67)		39.65(11.09)	
Work hours				
Full-time (>35 hrs/wk)		35(85.4)		53(86.9)
Part-time (<30 hrs/wk) or Temporary		6(14.6)		8(13.1)
Work shift				
Daytime		26(66.7)		46(75.4)
Evening/night/shift change		13(33.3)		15(24.6)
Months working for current employer	58.04(74.49)		50.46(62.47)	
Work being interrupted due to illness or child care problems				
Yes		15(35.7)		34(55.7)
No		27(64.3)		27(44.3)
Raise/Promotion				
Yes		11(26.2)		17(27.9)
No		31(73.8)		44(72.1

Table G 4. Female head employment outcomes of families using home and center care

	Home (n=114)		*Center (n=193)*	
	M(SD)	***N(%)***	***M(SD)***	***N(%)***
Employment				
Yes		94(82.46)		162(83.9)
No		18(15.79)		29(15.0)
Not reported		2(1.75)		2(1.0)
Hrs/wk working or in school/training	33.08(13.76)		32.37(11.92)	
Work hours				
Full-time (>35 hrs/wk)		72(63.2)		110(68.3)
Part-time (<30 hrs/wk) or Temporary		20(17.5)		51(31.7)
Work shift				
Daytime		71(78.9)		125(79.1)
Evening/night/shift change		19(21.1)		33(20.9)
Months working for current employer	36.78(42.3)		35.59(49.28)	
Work being interrupted due to illness or child care problems				
Yes		59(62.8)		116(71.6)
No		35(37.2)		46(28.4)
Raise/Promotion				
Yes		19(20.2)		41(25.3)
No		75(79.8)		121(74.7)

Table G5. Male head employment outcomes for families with infants/toddlers and preschool-age children.

	Infants/Toddlers (n=50)		*Preschool Age Children (n=60)*	
	M(SD)	***N(%)***	***M(SD)***	***N(%)***
Employment				
Yes		44(88)		59(86.4)
No		6(12)		5(7.5)
Not reported				
Hrs/wk working or in school/training	39.22(13.03)		37(12.53)	
Work hours				
Full-time (>35 hrs/wk)		37(84.1)		51(87.9)
Part-time (<30 hrs/wk) or Temporary		7(15.9)		7(12)
Work shift				
Daytime		11(76.7)		
Evening/night/shift change		33(23.3)		
Months working for current employer	38.41(48.21)		64.79(77)	
Work being interrupted due to illness or child care problems				
Yes		18(40.9)		31(52.5)
No		26(59.1)		28(47.5)
Raise/Promotion				
Yes		12(27.3)		16(27.1)
No		32(72.7)		43(72.9)

Table G6. Female head employment outcomes for families with infants/toddlers and preschool-age children

	Infants/Toddlers (n=121)		*Preschool Age Children (n=186)*	
	M(SD)	***N(%)***	***M(SD)***	***N(%)***
Employment				
Yes		102(84.3)		154(82.8)
No		19(15.7)		28(15.1)
Not reported				4(2.2)
Hrs/wk working or in school/training	31.51(13.59)		33.39(11.83)	
Work hours				
Full-time (>35 hrs/wk)		76(62.8)		106(69.7)
Part-time (<30 hrs/wk) or Temporary		25(20.6)		46(24.7)
Work shift				
Daytime		75(75)		121(81.8)
Evening/night/shift change		25(25)		27(18.2)
Months working for current employer	36.13(47.03)		35.96(46.77)	
Work being interrupted due to illness or child care problems				
Yes		70(68.6)		105(68.2)
No		32(31.4)		49(31.8)
Raise/Promotion				
Yes		27(26.5)		33(21.4)
No		75(73.5)		121(78.6)

Table G7. Male head employment outcomes by marital status.

	Single/Divorced (n=27)		*Married/Living with partner (n=89)*	
	M(SD)	***N(%)***	***M(SD)***	***N(%)***
Employment				
Yes		22(81.5)		81(91.0)
No		4(14.8)		7(7.9)
Not reported		1(3.7)		1(1.1)
Hrs/wk working or in school/training	36.05(15.39)		38.53(11.96)	
Work hours				
Full-time (>35 hrs/wk)		20(90.9)		68(85)
Part-time (<30 hrs/wk) or Temporary		2(9.1)		12(15)
Work shift				
Daytime		15(68.2)		57(73.1)
Evening/night/shift change		7(31.8)		21(26.9)
Months working for current employer	78.02(103.2)		47.26(53.84)	
Work being interrupted due to illness or child care problems				
Yes		12(54.5)		37(45.7)
No		10(45.5)		44(54.3)
Raise/Promotion				
Yes		6(27.3)		22(27.2)
No		16(72.7)		59(72.8)

Table G 8. Female parent outcomes by marital status.

	Single/Divorced (n=208)		***Married/Living with partner (n=96)***	
	M(SD)	***N(%)***	***M(SD)***	***N(%)***
Employment				
Yes		172(82.7)		83(86.5)
No		35(16.8)		12(12.5)
Not reported		1(.5)		1(1.0)
Hrs/wk working or in school/training	32.06(12.5)		33.79(12.83)	
Work hours				
Full-time (>35 hrs/wk)		121(71.2)		60(73.2)
Part-time (<30 hrs/wk) or Temporary		49(28.8)		22(26.8)
Work shift				
Daytime		131(78)		64(81)
Evening/night/shift change		37(22)		15(19)
Months working for current employer	36.13(47.03)		45.6(57.9)	
Work being interrupted due to illness or child care problems				
Yes		113(65.7)		62(74.7)
No		59(34.3)		21(25.3)
Raise/Promotion				
Yes		37(21.5)		23(27.7)
No		135(78.5)		30(72.3)

Table G 9. Female parent outcomes of families with no male present and male present in the household.

	No male present (n=183)		***Male present (n=116)***	
	M(SD)	***N(%)***	***M(SD)***	***N(%)***
Employment				
Yes		153(83.6)		97(83.6)
No		30(16.4		17(14.7)
Not reported				2(1.7)
Hrs/wk working or in school/training	32.24(12.52)		33.42(12.55)	
Work hours				
Full-time (>35 hrs/wk)		106(70.2)		71(74.0)
Part-time (<30 hrs/wk) or Temporary		45(29.8)		25(26.0)
Work shift				
Daytime		116(77.9)		76(81.7)
Evening/night/shift change		33(22.1)		17(18.3)
Months working for current employer	28.89(38.18)		46.77(56.7)	
Work being interrupted due to illness or child care problems				
Yes		97(63.4)		73(75.3)
No		56(36.6)		24(24.7)
Raise/Promotion				
Yes		33(21.6)		27(27.8)
No		120(78.4)		70(72.2)

Table G 10. Zero order correlations among child care quality indicators and parent education and employment outcomes

Quality Variable	Parent Employment and Education Outcomes													
	Female Heads (N=307)							Male Heads (N=114)						
	Employed?	Hrs work/school	Full Time?	Months with Employer	Shift worked	Recent Raise?	Work interrupted?	Employed?	Hrs work/school	Full Time?	Months with Employer	Shift worked	Recent Raise?	Work interrupted?
Global Quality (ECERS/FDCRS)														
Child-Adult Ratio									.25*					.26**
Caregiver General Education							.13*							
Caregiver Specialized Education						.14*								
Caregiver Interaction Scale														
Parent Caregiver Relationship Scale-Parent Report														
Parent Caregiver Relationship Scale-Caregiver Report												.24*		
Student-Teacher Relationship Scale														
Caregiver Responsiveness														
Caregiver High Level Talk														
Child Cognitive Activity				.14*								.28**		

Table G11
Descriptive statistics of parent employment by community

Variables	Marion	Lake	Allen	St. Joseph
Percent of female heads of household employed	78.7%	89.3%	81.6%	88.3%
Percent of male heads of household employed	88.5%	93.9%	93.3%	84.0%
Number of hours female works or in school/training	33.66(12.00)	32.57(13.20)	31.29(14.65)	32.88(10.48)
Number of hours male works or in school/training	38.91(11.43)	35.37(16.02)	41.5(10.63)	36.21(11.02)
Percent of female heads who work full-time	66.1%	76.1%	74.2%	70.8%
Percent of male heads who work full-time	91.3%	96.8%	85.2%	66.7%
Number of months female has been employed with current employer	34.41(43.95)	48.00(60.04)	31.02(36.18)	29.88(40.80)
Number of months male has been employed with current employer	57.5(77.35)	82.07(85.10)	40.28(42.55)	26.43(31.36)
Female head work shift				
Daytime shift	84.5%	76.9%	71.7%	83.1%
Evening/night/shift change	15.5%	23.1%	28.3%	16.9%
Male head work shift				
Daytime shift	73.9%	56.7%	81.5%	80.0%
Evening/night/shift change	26.1%	43.3%	18.5%	20.0%
Female has had recent raise/promotion	25.4%	23.9%	32.2%	13.2%
Male has had recent raise/promotion	39.1%	19.4%	32.1%	19%
Female's work has been interrupted by child illness or child care problem	72.9%	70.1%	62.9%	38.1%
Male's work has been interrupted by child illness or child care problem	60.9%	48.4%	42.9%	38.1%

Table G 12
Summary of Binary Logistic Regression Analyses for Variables Predicting Parent Employment Controlling for child's age and type of child care.

Variable	Male work interrupted			
	β	R^2	Δ R^2	Chi-square
Step 1		.06		4.49
Child's age in months	.00			
Center vs. home	.90*			
Step 2		.14	.08*	10.45
Child-Adult ratio (CA)	.20*			
Step 3		.16+	.02	12.23
Dummy 1 (M)	.83			
Dummy 2 (A)	.17			
Dummy (L)	.31			
Step 4		.16	.00	12.72
CA X M	.20			
CA X A	.07			
CA X L	.12			
	Male shift worked			
	B	R^2	Δ R^2	Chi-square
Step 1		.05		3.14
Child's age in months	-.02			
Center vs. home	.70			
Step 2		.06	.01	4.17
Parent-caregiver relationship (PCP) parent report	-.43			
Step 3		.11	.05	7.72
Dummy 1 (M)	-.41			
Dummy 2 (A)	.06			
Dummy (L)	-.97			
Step 4		.13	.02	8.99
PCP X M	-.57			
PCP X A	-.98			
PCP X L	-1.55			
	Male shift worked			
	B	R^2	Δ R^2	Chi-square
Step 1		.05		3.45
Child's age in months	-.03			

Center vs. home	.70			
Step 2		.12*	.07*	8.55
Child Cognitive activity (CCA)	-1.14*			
Step 3		.19*	.07	13.86
Dummy 1 (M)	-.52			
Dummy 2 (A)	.42			
Dummy (L)	-1.00			
Step 4		.25*	.06	19.10
CCA X M	2.90			
CCA X A	4.88			
CCA X L	5.24			
	Female work interrupted			
	B	R^2	ΔR^2	Chi-square
Step 1		.01		2.56
Child's age in months	-.01			
Center vs. home	.46			
Step 2		.04	.03*	7.22
Caregiver general education (CE)	-.36			
Step 3		.05	.01	9.29
Dummy 1 (M)	.11			
Dummy 2 (A)	-.33			
Dummy (L)	.21			
Step 4		.06	.01	10.21
CE X M	-.09			
CE X A	.22			
CE X L	-.22			
	Female Recent Raise			
	B	R^2	ΔR^2	Chi-square
Step 1		.01		1.36
Child's age in months	-.01			
Center vs. home	.36			
Step 2		.04	.03*	7.00
Caregiver specialized education (CSE)	.75*			
Step 3		.07*	.03	12.71
Dummy 1 (M)	.61			
Dummy 2 (A)	1.06*			
Dummy (L)	.614			
Step 4		.08	.01	13.45
CSE X M	-.31			
CSE X A	.16			
CSE X L	.40			