

CHAPTER 2. REVIEW OF THE LITERATURE

The adequate cognitive and social development of children is essential for the survival of society. Dramatic negative changes in current society have increased the number of disadvantaged children and the severity of their disadvantage, thus threatening such children's adequate development and the achievement of stability and productivity within society. Disadvantage, often indexed by family circumstances, child characteristics, or a combination of family and child factors, is used interchangeably with the concept of "high risk" to denote a high likelihood that a child will not meet minimal expectations for successful performance, particularly in school (Bronfenbrenner, 1975).

Some intervention programs that have focused on the child, the family, and the community have reported positive effects on the child's cognitive and socioemotional development (Beller, 1983; Bronfenbrenner, 1975). Indeed, many intervention programs have sought to enhance parent-child interaction and to improve the child's ongoing home environment by increasing parents' coping skills, confidence, resources, and support systems. Certain proponents of early childhood intervention believe such comprehensive programs better prepare children at risk of school failure both intellectually and socially and, in turn, also probably help them to achieve greater school success and greater life success in adolescence and adulthood.

At the level of the child, there is some evidence supporting the idea that negative outcomes can be prevented in certain circumstances and/or by specialized interventions (Woodhead, 1985). Various well-planned, carefully researched intervention projects have claimed to produce positive, long-term cognitive and socioemotional effects for children of low-income families (Beller, 1983; Bronfenbrenner, 1975; Copple, Cline, & Smith, 1987; Gray, Ramsey, & Klaus, 1983; Jester & Guinagh, 1983; Palmer, 1983; Schweinhart & Weikart, 1983;). Over and above the fact these studies were designed to counter the destructive effects of poverty on the development of low-income children, these intervention programs were similar in a number of other ways. For example, the interventions applied in all of the studies, except the study conducted by Copple, Cline, and Smith (1987), were characterized by careful monitoring, curriculum development, intensive training of staff, and evaluation-based feedback. The families involved in these studies were selected from those who were willing to commit to an extended research project so that parental involvement was particularly high in these studies. Further, in many of these projects, staff maintained contact with the families even after the children had left the program.

There were, however, several differences among these intervention studies. One major difference was that these studies did not apply a consistent type of intervention; that is, only some of the interventions included home visitation by project staff, parent education, or the provision of social services. Another major difference among these studies was that they often measured different aspects of socioemotional development. For example, some studies examined retention in grade and placement in special education (Levenstein, O'Hara, & Madden, 1983), others examined absence from school and failure to take tests (Copple, Cline, & Smith,

1987), and still others examined parental expectations of their children (Schweinhart & Weikart, 1983).

Findings from early intervention research have been inconclusive as to the type of intervention that provides optimum benefit for children of low-income families. For the most part, the reasons behind these inconclusive findings are because there has been no clear, consistent definition of socioemotional development and there has been no universally accepted way to measure socioemotional development.

Although some of the major problems in our society are linked to socioemotional issues, much of the research associated with the evaluation of early education intervention has focused on its effect on intellectual development and has neglected its impact on socioemotional development. Numerous studies indicate immediate effects on intellectual development, but these effects do not appear to have a long-term impact. It is important to recognize that the failure of preschool intervention to increase or maintain levels of intelligence or school achievement does not mean that such programs are not contributing in important ways to the socioemotional development of the child. Both intellectual and socioemotional development must be examined to obtain a more accurate assessment of the impact that early intervention has on disadvantaged children. This chapter focuses on how child, family, and neighborhood characteristics have affected the socioemotional development of children from disadvantaged families.

Child Characteristics

Characteristics of the individual child have been reported by some researchers to have influenced that child's socioemotional development. Indeed, results of early intervention research have shown differences in the cognitive (Jester & Guinagh, 1983; Schweinhart & Weikart, 1983) and socioemotional development of boys and girls (Beller, 1983; Copple, Cline, & Smith, 1989; Gray, Ramsey, & Klaus, 1983), and differences in the development of children from different ethnic backgrounds (Woolman, 1983).

Gender

The Early Training Project (Gray, Ramsey, & Klaus, 1983) was a study conducted from 1962-1980 that examined school performance of black children from small towns in the Southeast. The study included two experimental groups, one local control group, and one distal control group matched on similar socioeconomic characteristics. Results from this study indicated significant gender differences were found; that is, differences were found to be significant for girls but not for participating boys. For example, females in the experimental group tended to maintain a higher GPA. Also, all but one of the local control females who became pregnant dropped out of high school; however, all but one of the pregnant experimental females graduated from high school.

Also in support of gender differences, Hare (1979) reported that black females outperformed their male 10-11 year old counterparts on social studies, science, math, and reading achievement tests as well as achievement motivation and career/occupational development. Gray and her associates (1983) also observed sex differences; however, the differences were noted to have emerged primarily in later adolescence. Further research is needed to clarify why one intervention affected some children at an earlier age while another intervention affected certain other children at a later age.

Gender differences in school grades were found in a study conducted by Beller (1983). Overall findings from this study indicated that 1 or 2 years of preschool had a prolonged effect on the school grades of girls, and a less marked and less consistent effect on the school grades of boys. The sample used in this study consisted of children from four public schools located in an urban slum area of North Philadelphia and involved three school entrance groups (i.e., nursery, kindergarten, and first grade). Overall findings revealed that girls with earlier and longer preschool tended to receive better grades than girls with less or no preschool. Significant differences were found among the three groups of girls from grades 2 through grade 4 in reading, spelling, science, and social studies; however, the differences among the three groups of girls were no longer significant by the fourth grade. For the three groups of boys, boys who had attended preschool differed significantly from boys without preschool in spelling (the difference approached significance in reading and social studies).

Beller (1983) also reported differences between girls and boys on various social, motivational, and emotional measures. On a measure of moral judgment, there was a substantial and significant effect for girls but only a marginally significant effect for boys. Length of preschool had a significant effect on girls' self-concept; however, none of the effects of preschool on the self-concept of boys reached significance. Additionally, length of preschool had a significant effect on girls in that those who had had 2 years of preschool reported significantly higher measures of nurturance, achievement motivation, and endurance than did females with one or no years of preschool. On a measure of reflective-impulsive style, the effect of preschool was significant in the fourth grade for males and approached significance for females; however, the effect was significant for males only in the tenth grade. Finally, preschool experience was associated with a significantly higher level of ego development in girls but not so in boys.

Significant gender differences were also found in an evaluation of the long-term effects of Head Start in the Philadelphia school district (Cline, 1988). The database used in this study included data collected on four cohorts of children. Data for the first two cohorts were collected when the children were in Follow Through classes (kindergarten through third grade); data for the two later cohorts were collected after students completed Follow Through grades and included data from system-wide testing programs. Overall, this study showed strong gender effects from third to sixth grade. Also, for children in the two later cohorts, retention in grade was markedly higher for Head Start boys than Head Start girls. The researcher in this study noted that further research was needed to clarify the differences in the way Head Start boys and girls performed and the way the children were perceived by their teachers.

There is also evidence that supports a lack of gender differences. The Consortium for Longitudinal Studies (1983) combined samples from 11 different projects and found no gender differences in IQ scores, school competence measures, and high school completion. Both the Early Training Project (Gray, Ramsey, & Klaus, 1983) and the Philadelphia Study (Beller, 1983) were part of the Consortium's sample and, although these two studies found support of gender differences, the differences were not robust enough to produce overall gender differences when combined with the rest of the sample. Further research is needed to clarify why some interventions applied in the Consortium studies affected only certain children, and why other interventions had no effect at all.

There is an inconsistency in findings regarding the existence of gender differences as a result of the interventions applied in the various studies. In some cases, studies reported that the intervention resulted in gender differences while other studies failed to find evidence that the intervention resulted in significant differences between boys and girls. What is not clear is why the interventions affected some boys and girls differently than other boys and girls. In some families, indeed in a large segment of society, traditional stereotypes result in certain differences between males and females. It may be reasonable that one explanation for these inconsistent findings is the influence of certain family characteristics; that is, perhaps traditional male and female stereotypes were emphasized in some families, but were not emphasized in other families. An alternative explanation may be that, given the studies generally reported girls performed better than boys, girls may have received more reinforcement from parents, teachers, and peers than did the boys which, in turn, had a positive influence on the girls' performance and/or development.

Race/Ethnicity

The Micro-Social Learning Environment (Woolman, 1983) examined the extent to which Hispanic-surnamed children from migrant families showed improved elementary school readiness after being provided 2 years of stimulating educational learning experiences. The sample in this study consisted of children of agricultural workers who were classifiable as New Jersey State migrants. There was no equivalent control group used in this study, rather a random sample of children who had entered first grade a year earlier than the program children was selected as the comparison sample (i.e., general school population). The study operationalized school competence in terms of whether the children had been retained in grade between entry into elementary school and completion of the fifth or sixth grade; no significant difference was found between program and comparison children (i.e., 32.0% and 34.7%, respectively). However, a second comparison was conducted in which Hispanic-surnamed program children were compared with a random sample of only Hispanic-surnamed children. Results of this comparison were significant – 32.8% of the Hispanic-surnamed program children had been retained as compared to 62.9% of the sample of Hispanic-surnamed children in the general school population. An implication from these findings is that this type of intervention may differentially impact children from different ethnic backgrounds. One purpose of the current

research was to examine how demographic characteristics in the available database contributed to the socioemotional development of children.

Intellectual and Academic Performance

One of the most commonly quoted earlier findings of intervention research was that cognitive benefits identified at the end of the intervention program tended to “wash out” during the early years of schooling. The fading of initial cognitive gains was reported by The Consortium for Longitudinal Studies (1983) when children in all of the studies were over 10 years old – only two of the projects (i.e., The Gordon Parent Education Infant and Toddler Program, Jester & Guinagh, 1983; and The Philadelphia Study, Beller, 1983) suggested long-term effects on IQ. Although the Consortium authors found little substantial evidence for intellectual long-term effects, they believed there to be other outcomes of significance to suggest positive, long-term socioemotional effects.

The Gordon Parent Education Infant and Toddler Program (Jester & Guinagh, 1983) based much of its intervention on Piaget’s theory that intelligence is developed only in interaction with the environment. The purpose of this study was to determine if a parent education approach to intervention would have a measurable and lasting effect on the intelligence of disadvantaged children. The study included eight experimental groups that, after testing at ages 1 and 2, there were no significant differences among the groups. However, when the children were tested at age 3, there were significant differences between the treatment and control groups and these differences were maintained until the children reached age 10.

In addition to evidence of long-term intellectual effects, the study by Jester and Guinagh (1983) also provided evidence of some long-term socioemotional effects. When examining placement of children in special classes, fewer program children were assigned to special education than were control children, and this effect remained significant up to 7 years after intervention had stopped. There was also evidence of positive effects in the home environment. During the early phases of the project, mothers of program children reported more books and educational materials in the home, used more positive rewards, were more aware of their children’s development, and had higher expectations for their children than did mothers of control children.

In his Philadelphia Study, Beller (1983) examined the impact of length of preschool on the intellectual and socioemotional development of disadvantaged children. On measures of intellectual aptitude, which was assessed annually from preschool to the fourth grade, significant preschool effects were found using three different intelligence tests. During each testing situation from first to third grade, the children’s attitudes were rated by the testers in terms of cooperation, involvement, and persistence. Findings showed that children with preschool experience were significantly more cooperative, more involved, and more persistent in their efforts in the testing situations than were children without preschool experience. A similar finding of perseverance was found by Copple, Cline, and Smith (1987) in a study that showed

Head Start graduates, even when having academic difficulties, more often persevered than did non-Head Start graduates. Overall, these results imply that preschool experience may provide long-term effects associated with helping these children as they get older to function in the job market and other “real life” responsibilities outside of an academic setting.

Findings from the Perry Preschool Project (Schweinhart & Weikart, 1983) also provided support for immediate intellectual gains and a tendency for those gains to fade over the years. The study began in 1962, and was designed to test the hypothesis that early intervention has a positive effect on how disadvantaged children perform in school. The longitudinal sample consisted of the poorest children in the neighborhood surrounding the Perry Elementary School located in Ypsilanti, Michigan. When comparing scores from an IQ test for program and control children, the program children exceeded the control children by 12 IQ points after 1 and 2 years of preschool, by 6 points at the end of kindergarten, and by 5 points at the end of first grade. However, by the end of the second grade, IQ test scores for program and control children were equivalent and, when tested again at the eighth grade, there remained no group differences in the children’s IQ scores.

While findings from the Perry Preschool Project did not provide support for long-term intellectual effects, the findings did provide evidence that children who attended preschool were less likely to engage in antisocial behavior in the classroom or in the community. Self-reports from the children at age 15 showed that program children placed a higher value on schooling, had higher aspirations for college, showed a greater willingness to talk to parents about school, spent more time on homework, and had a higher self-rating of school ability than did the control children. Additionally, ratings collected from the children’s elementary teachers showed that children who had preschool experience were rated higher on classroom conduct and personal behavior. The study also provided evidence that preschool experience led to lower occurrences of teenagers’ delinquent behavior. That is, 43% of children with preschool experience reported none or one offense while the same was true for 25% of the control children; 36% of children with preschool experience were chronic offenders (i.e., five or more offenses) compared to 52% of control children.

The basic premise of the Mother-Child Home Program (Levenstein, O’Hara, & Madden, 1983) was that “cognitive and socioemotional growth is fostered, and future educational and emotional problems prevented, by the preschooler and mother exchanging language and other positive interactions, around interesting, conceptually rich materials” (p. 239). The program was intended to support the mother, and through her the family, in fostering the intellectual and socioemotional development of the child. This study involved children who participated in the program for 1 and 2 years, and children in a control group (i.e., did not participate in the program). The ultimate goal of this program was not to change IQ, but rather to prevent school problems. Indeed, no significant difference was found between the mean IQ of children in the treatment and control groups (i.e., there was less than four points between the mean IQ of children in the treatment and control groups). However, the study did show positive effects for certain aspects of the child’s socioemotional development. While not statistically significant,

teacher ratings of the child's socioemotional competence (e.g., whether the child was organized in work and play, tolerated necessary frustration, accepted or asked for help when necessary, refrained from physically aggressive behavior toward others) at the end of third grade were higher for program children than those for control children. Teacher ratings of academic competence revealed a significant effect of the 2-year program on severe academic problems and on grade failures, but no difference in special class placement. The lack of significance in terms of special class placement is opposite to the findings reported by Schweinhart and Weikart (1983) in the Early Training Project. The reason for the lack of significance in this study may be due to the large amount of missing data and the considerable variation of groups within treatment classifications.

The Carolina Abecedarian Project (Ramey & Haskins, 1981), which began in 1972, sought to help children at high risk for school failure achieve and behave like average children. This study involved four cohorts of families between 1972 and 1977 who were randomly assigned to experimental and control groups. The experimental children began attending the day care program by 3 months of age and attended for about 6-8 hours a day, 5 days a week, 50 weeks a year until they entered public kindergarten. Significant differences were found for intellectual development at every point after beginning testing at 12 months of age. When the children were 4 years old, the mean IQ for experimental children was 96.48 while there was a significant decline in IQ for the control children – their mean IQ dropped to 84.25. One implication of these findings is that the effects of the environment provided by high-risk families were to some degree cumulative and negative for intellectual development, as measured by standardized tests.

Family Characteristics

Family characteristics are viewed by some researchers to be the most powerful predictors of a child's development and the most effective system for fostering and sustaining the child's development (Coleman, 1966). A transactional model of development (Woodhead, 1985) is used to explain the impact of family characteristics in much of the research concerning the socioemotional development of children. This model recognizes that initial effects of preschool on the child are set within a broad social context and interact with later life experiences to produce a long-term pattern of change. The implication of this model is that early intervention research needs to look not only at the characteristics of the intervention program and the population to whom the intervention is applied, but also at the social context of family processes both during intervention and during later stages of education.

Income

The primary criterion traditionally used to determine whether a family is disadvantaged, or at high risk, has been family income. Most early educational interventions relied on family socioeconomic status, parental variables, or combined risk indices to indicate disadvantage and eligibility to participate. In terms of disadvantaged, some studies suggest that the effects of being

raised as a member of a disadvantaged family become progressively greater as the child gets older (e.g., Bronfenbrenner, 1975). For example, prior to 2 years of age, children from disadvantaged families were reported to obtain normal scores on tests of mental development; however, thereafter the level dropped rather suddenly and tended toward a continued decline in environments that were especially impoverished. As the child got older and entered school, that child tended to fall farther behind classmates. Thus, the implication of these findings is that children from particularly deprived environments may decline in IQ as they get older, regardless of whether the child received the intervention.

There is also some evidence that intervention may be less effective with children who come from the most disadvantaged homes. Herzog and colleagues (Herzog, Newcomb, & Cisin, 1972) examined how the child's response to intervention was influenced by the degree of deprivation in his/her environment. Based on the number of years of the mother's education and the ratio of persons per room in the home, children in this study were divided into groups of low and high deprivation. Findings from this study indicated that children from relatively less deprived homes showed higher IQ gains from the intervention, and retained a larger proportion of their IQ gains, than did children from highly deprived homes.

One purpose of the Harlem Study (Palmer, 1983) was to determine whether the effects of intervention were more discernible among lower-class children than among middle-class children. Although less than 10% of the original sample of Harlem boys who participated in this study would have been classified as middle-class by national norms, strong and persistent differences were found by social class on every measure. Middle-class children scored significantly higher than lower-class children on IQ tests. The middle-class children also scored significantly higher in arithmetic and reading as well as on the vocabulary and comprehension subscales of the Metropolitan Achievement Test than did the lower-class children. Particularly interesting are the results of the retained-in-grade measure and what it reveals about the relationship between social class and training. When tested at grade 8, the middle-class program children outperformed the middle-class control children, but there was no difference in performance between the lower-class program and the lower-class control children. The same pattern of results was found the following year when the children were tested in grade 9.

The Harlem Study primarily emphasized the child and ignored the family and community in which the child lived. While the researchers of this study argue that this program had durable effects, the effects were clearly more durable in terms of IQ and school achievement for middle-class children than for lower-class children. The current research determined the contribution that income had on the children's social skills and problem behaviors indirectly through examination of the family's socioemotional status (SES).

Maternal IQ/Education Level

The primary caretaker for most children is the mother; thus, the mother's schooling experiences are especially important in structuring the educational environment of the home. In general, children of poorly educated mothers do worse in school, and leave school earlier, than children of better educated mothers (Pallas, Natriello, & McDill, 1989). It has been proposed that this situation is, in part, because better educated mothers have more knowledge of their children's schooling and associated activities, have more social contact with teachers and other staff within the school, and are more competent to manage their children's academic futures.

The Milwaukee Project (Garber & Heber, 1977) sought to examine whether intervening with the family early in the life of a high-risk child with a comprehensive family rehabilitation program could mitigate depressing environmental events and permit normal intellectual development, at least through the child's first year of public school. Children in this study were separated by IQ into categories of above 80 and below 80 as a function of the mother's IQ. Upon early infant intelligence testing, children in both categories performed equally well; however, later testing showed that children whose mothers had IQs above 80 appeared to maintain a fairly steady level while children whose mothers had IQs below 80 had a marked, progressive decline in measured IQ. Follow-up assessment at age 10 showed that a differential of about 20+ IQ points on the Wechsler Intelligence Scale for Children (WISC) had been maintained over a 4-year period (i.e., experimental group had a mean IQ of 105 compared to a mean IQ of 85 for the control group). Findings from this study suggest that, as a function of the mother's IQ, children at risk for school failure can benefit from early intervention when that intervention includes rehabilitation of the family, with particular focus on rehabilitation of the mother and the child. The current research determined the contribution of parents' education to the children's socioemotional development indirectly through examination of the family's SES.

Employment Status

The Philadelphia Study (Beller, 1983) collected ratings about attitudes toward self and attributes related to popularity, anxiety, happiness, and satisfaction from program and control children in the fourth and tenth grades. Findings from this study provided evidence in support of both intellectual and socioemotional differences between children whose parents were employed and children whose parents were unemployed. In terms of intellectual development, results from the study indicated that more preschool experience tended to result in less frequent retention. However, this linear negative relationship was found to be significant only for certain subgroups, including the subgroup of children whose parents were employed. That is, for children from parent-employed families, retention in grade decreased significantly as length of preschool experience increased.

Beller (1983) also found certain socioemotional effects between children whose parents were employed and children whose parents were unemployed. The study found that employment status of the parents had no effect on self-concept composite scores when children were assessed

in the fourth and tenth grades. However, when looking at the subscales associated with self-concept, several differences were noted. When examining the subscale associated with happiness-satisfaction, it was found that children of unemployed parents who had 2 years of preschool experience, compared to children who had one or no years of preschool experience, tended to rate themselves as less happy. In an examination of the subscale associated with popularity, it was found that the children of unemployed parents who had 1 or 2 years of preschool experience tended to rate themselves as more popular.

Beller's (1983) findings on measures of attitudes toward sex and family roles revealed that, for children of parent-employed families, those with the longest preschool experience reported significantly more contemporary attitudes overall, as well as for clustered attitudes concerning home versus career for women and sex roles within the home, and approached significance for clustered attitudes concerning equality in jobs and education. The findings further revealed significant differences in mature attitudes toward work for children of parent-employed families. Together these results suggest that the family background of employed parents may enhance the likelihood that longer preschool experience will result in the development of more contemporary rather than traditional attitudes toward sex and family roles, and toward equality in jobs and education among economically disadvantaged youth.

The Philadelphia Study (Beller, 1983) also reported differences in motivation between children of employed and unemployed parents. Children were assessed on four motivational variables (i.e., dependent striving, dependency conflict, autonomous achievement striving, and aggression) in the first grade and three motivational variables (i.e., nurturance, achievement, and endurance/persistence) in the eleventh grade. Results of the first grade assessment indicated that children of employed parents who had the longest preschool experience were significantly elevated on measures of aggression and marginally higher on dependent striving. Results of the eleventh grade assessment indicated that, for children of parent-employed families, 2 years of preschool was related to higher achievement. The current research determined the contribution that parents' employment status had on the children's socioemotional development indirectly through the examination of the family's SES.

Single/Dual Parent Family

Beller (1983) reported effects of intervention on the self-image of children, based on the length of preschool experience and whether the father was present. Children from single-parent families who had 2 years of preschool experience were found to be less happy with themselves, while children of the same family configuration who had 1 or 2 years of preschool experience tended to have a more positive self-image with regard to their physical appearance. Similar to results associated with children of employed parents, children from father-present families who had the longest preschool experience reported more contemporary attitudes overall, as well as for clustered attitudes concerning home versus career for women and sex roles within the home, and approached significance for clustered attitudes concerning equality in jobs and education. Children from father-present families also reported significantly more mature attitudes toward

work than did children of single-parent families. These results suggest that the family background of an intact family may enhance the likelihood that longer preschool experience will result in the development of more contemporary rather than traditional attitudes toward sex and family roles, and toward equality in jobs and education among economically disadvantaged youth.

Several additional socioemotional differences were reported by Beller (1983) between children from single- and dual-parent families. Children from dual-parent families gave significantly more mature responses on total moral judgment and more responses concerning expiatory versus restitutive punishment. When assessed in first grade on four measures of motivation, children from single-parent families with the longest preschool experience were significantly elevated on measures of aggression and dependent striving, while children of father-present families with the longest preschool experience were significantly elevated on measures of autonomous achievement striving and lower dependency conflict. When later assessed on three motivational variables in eleventh grade, 2 years of preschool was related to higher nurturance and achievement for children from father-present families.

It is reasonable that children may be affected by whether the family is intact and that preschool experience may interact with this family characteristic to impact the child's socioemotional development. As was reported by the Philadelphia Study (Beller, 1983), there is some evidence that length of preschool experience may have long-term effects on certain aspects of socioemotional development of children from low-income families. The available database included information about the number of adults in the family, which allowed the current research to examine the extent to which the socioemotional development of low-income children was affected as a result of having one or more adults present in the family.

Parental Aspirations

The Consortium for Longitudinal Studies (1983) found evidence of higher achievement orientation among program children was closely linked to a set of effects of preschool on parental attitudes to children's achievements and prospects. As part of an initial follow-up, mothers were asked about their satisfaction with their child's school progress. Even when controlling for the two school competence indicators of referral and retention, mothers of program children were found to be significantly more satisfied with their children's progress than were mothers of control children. Additionally, in terms of the kind of job they would like their children to have later in life, mothers of program children also had consistently higher aspirations for their children than did control mothers. These aspirations are in contrast to their children's; that is, when the children were asked about their aspirations, there was no overall difference between program and control children. For educational attitudes, there was evidence of a stronger effect on program parents' attitudes to their children's prospects than on the children's own attitudes.

There is some evidence (Consortium, 1983) that parental encouragement may play a role in the process of long-term effects on the child's attitudes and development. The Consortium for Longitudinal Studies found that, compared with the control group, program parents were both significantly more consistent with their children and more optimistic about their occupational aspirations. By the time the children were followed up 4 years later, the occupational aspirations and expectations of the program children were significantly higher than those of control children. However, there were still no clear differences in children's educational aspirations and expectations. These findings provide a certain degree of evidence that parents' attitudes influenced those of their children which, in turn, led to the children's increased effort, performance, and self-satisfaction.

The Perry Preschool Program (Schweinhart & Weikart, 1983) reported differences in satisfaction and aspirations between parents of program and control children. When the children were 15 years old, their parents were asked to rate their satisfaction with the school performance of their children. Approximately half (51%) of program parents were satisfied with the school performance of their children, whereas only slightly more than one-quarter (28%) of control parents felt the same way about their children's school performance. In this study, researchers reported that the difference in program and control parents' satisfaction may have been because the program children were indeed doing better in school than control children and perhaps were more willing to communicate this fact to their parents.

Differences were also noted by the Early Training Project in terms of parents' educational and occupational aspirations for their children (Gray, Ramsey, & Klaus, 1983). When interviewed at the end of the preschool program (but before school entry), mothers of program girls reported greater pride than did mothers of boys in the child's cognitive, language, and perceptual development, or in the child's motivation around these areas. Mothers generally maintained these perceptions as their children developed into adolescents; that is, mothers whose daughters had attended preschool saw their adolescents more positively. Researchers reported that, in general, the mothers' aspirations were not affected by their children's actual achievements. Findings from this study imply that the program mothers' aspirations for their children may have been because they wished their children were doing better in school, more so than did control mothers' wishes about the performance of their children.

Findings from the Syracuse University Family Development Research Program (Lally, Mangione, & Honig, 1988) revealed that, compared to parents of control children, parents of children in the program were proud of the prosocial attitudes and behavior of their children and the quality of family unity in their homes. Parents of program children were also more likely to advise their children to strive to become all they could be, whereas parents of control children were more likely to tell their children not to have high expectations but to try and get by.

Based on the research, there is some evidence that preschool experience has an impact on parent's expectations of and/or aspirations for their children. However, these findings are unclear. On the one hand, program children may have been doing better which, in turn, led their

parents to have higher aspirations and expectations for them. On the other hand, parents of program children may have only thought their children were doing better so that they then developed higher aspirations and expectations for them. It is also possible that program parents merely had better relationships with their children and that, because of this relationship, the parents hoped their children would do well in life.

Parental Involvement

Some research suggests that parental involvement enables the child to adopt and support the same behavioral goals as the parent which, in turn, promotes sound intellectual and socioemotional development in the child. Regardless of various family characteristics, involved parents typically have high aspirations for their children and recognize the important role that education can play in their children's lives (Schweinhart & Weikart, 1983). Thus, the potential exists that involving parents in their child's education can build and reinforce those attitudes, as well as provide the parents with concrete skills for them to help their children achieve both intellectually and socially.

The Perry Preschool Project (Schweinhart & Weikart, 1983) included a preschool program for children as well home visitation with both the child and his/her mother. Overall, the Perry Preschool Program was found to have a significant and long-term impact on children's school performance and social behavior in the classroom and community. Interpretation of the findings by project researchers was that the effects of the preschool resulted in greater school readiness, which resulted in a more positive reaction by kindergarten teachers, which led to a stronger commitment to school, followed by better academic performance in later grades. However, an alternative explanation is offered by Seitz (1990). She proposed that, as a result of their involvement, parents became better socializers of their children and also gained experience in building positive relationships with teachers. Thus, parental involvement in the preschool program may have helped establish a supportive home environment as well as helped establish effective linkages between home and the school.

The Yale Child Welfare Research Program (Provence & Naylor, 1983) reported that mothers of program children appeared to be more involved in their children's education than did mothers of control children. This study also reported that mothers of program children were more likely to seek out information from teachers, and they maintained closer surveillance of their children's school performance than did mothers of control children.

In a review of several studies involving early childhood intervention, Bronfenbrenner (1975) concluded that parent intervention functions as a kind of fixative, which stabilizes effects produced by other processes. This researcher further concluded that intervention is effective to the extent that the target of intervention is neither the child nor the parent, but rather the parent-child system. Bronfenbrenner believed the parent-child system was important for two reasons: (1) especially for the first three years of life, it is the major source or force that affects both the rate and stability of the child's development; and (2) at least through the preschool years, the

parent-child system retains its power to sustain and enhance whatever development the child achieves within or outside the family setting.

Gilmer (1970) reported that parent intervention positively affected the attitudes and feelings of parents which, in turn, provided benefits that extended to younger siblings. In this study, families consisting of at least two preschool children were included in the sample so that the progression of IQ scores could be examined for the target children as well as for their younger siblings (for program and control groups). The intervention consisted of three treatment groups and one control group. For the Maximum Impact Group, both the mother and the target child came to the center training sessions. For the Curriculum Group, the target child attended the same preschool as the child in the Maximum Impact Group; however, no program was provided for the mother. The Home Visitor Group had no direct contact with the center but were visited weekly in the home by a staff member who worked with the mothers and children consistent with the classroom programs. Results of the study showed that the younger siblings whose mothers had participated in the intervention program (i.e., Maximum Impact or Home Visitor Groups) obtained higher IQs both during and after the program than the younger siblings of children in the Curriculum or control groups.

One of the most frequently debated issues in early intervention surrounds the role of parents, in part because of the variation in the extent to which the intervention includes and/or focuses on the family. Indeed, in certain interventions, involving parents was part of the intervention while for other interventions involving parents was supplementary to the preschool program. Findings from research in this area are unclear as to whether the socioemotional development of children is best initiated by direct intervention with parents as well as with the children, and whether any benefits extend to younger siblings when parents are involved in the intervention program.

Neighborhood Characteristics

It seems reasonable to examine the social environment provided by the child's neighborhood as a source of information about potential differential preschool social experience. As part of the Carolina Abecedarian Project (Ramey & Haskins, 1981), neighborhood observations were conducted of the experimental and control children as well as several children from middle-income families from the general population. The children were approximately 5 years old, and each was scored on 30 predetermined behavioral categories (e.g., positive categories included talk, play, attempts to modify another person's behavior, give, show; negative categories included strike, take, argue, threats). Results indicated no differences in behavior between children from middle-class and low-income families. That is, the low-income children did not behave more negatively nor were they exposed to more negative behavior from peers than the middle-class children. However, there was a significant difference between low-income and middle-class children in their use of language (i.e., categories involving talk) and the amount of time they spent playing with other children. The middle-class children talked more as well as had more talk directed toward them than did the low-income children. Also, the middle-

class children spent significantly more time in play with others than did the low-income children. The database used in the current research included information on the family's attitudes towards various aspects of the neighborhood, such as cohesiveness, barriers to services, negative affects, social control in the neighborhood, and probability of success for children in the neighborhood. The current research determined the contribution of parents' ratings concerning certain neighborhood characteristics to the development of the children's social skills.

Head Start Research

The Head Start Program was established in 1965 as a compensatory educational program for low-income children and their families. Head Start continues to be a comprehensive and multifaceted full-year intervention that supports and enhances the capacities of children, families, and communities (U.S. Department of Health and Human Services, 1993). Overall, the program is designed to bring about a greater degree of social competence in children of low-income families; that is, increase the child's everyday effectiveness in dealing with both present environment and later responsibilities in school and life. The goals of the Head Start Program include the stimulation of the children's social and cognitive development, the provision of health services, and the encouragement of parental involvement with their children and in the community.

Although it is funded and directed by the Federal government, at the time of many early evaluations, Head Start was a decentralized program administered through 11 regional offices by over 1300 grantees (Brown & Grotbert, 1980). A certain degree of quality control was, and continues to be, maintained by a set of Head Start performance standards that require each grantee to meet program components of education; parent involvement; medical, dental, mental health, and nutrition services; and social services. Yet, there have been variations in the levels to which the grantees have met the various performance standards (e.g., staff training, program supervision) that, in turn, may have affected the degree to which the programs were effective in enhancing the social competence of disadvantaged children (McKey, et al., 1985).

Many evaluations have been conducted on the Head Start Program and its effects on the development of disadvantaged children (Copple, Cline, Smith, 1989; Haskins, 1989; Holden, 1990; Slaughter & Oyemade, 1988; U. S. Department of Health, Education, and Welfare, 1966-1969; U.S. Department of Health and Human Services, 1990; Zigler, 1994). Although one of the earliest evaluation reports, the Westinghouse/Ohio evaluation report (Westinghouse Learning Corporation, 1969), presented disappointing findings in terms of program effects, others have found that Head Start programs have had positive immediate and/or long-term effects for disadvantaged children (Copple, Cline, & Smith, 1989; Cawley, Goodstein, & Burrows, 1966).

Gender

In one of the early reviews of Head Start effects, there were no performance differences found between Head Start girls or boys on any of the intellectual or socioemotional measures

(U.S. Department of Health, Education, and Welfare, 1966-1969). These findings are in contrast to later findings concerning effects of Head Start programs. For example, in a review of the long-term effects of Head Start, girls performed at a higher level on reading achievement than did boys in all groups (Copple, Cline, & Smith, 1989). The early review offered the explanation that differences may not have been found between girls and boys because certain variables that potentially contributed to performance were not analyzed separately (e.g., use of male volunteers, teacher aides from the community).

Race/Ethnicity

There is some evidence that Head Start programs have a differential impact on the performance of children from different ethnic backgrounds (U.S. Department of Health, Education, and Welfare, 1966-1969). In general, the relationships between ethnicity and performance gains were different for different measures, and presented no consistent pattern. For example, Black children made the greatest gains on the Stanford-Binet while Hispanic children made the smallest gains. On measures of school readiness, Asian children made the greatest gains. These findings were reported with caution since the samples of Asian and Hispanic children were small.

Intellectual

In general, there is clear evidence that Head Start has produced immediate effects on intellectual performance; however, these effects have been reported to last no more than three years. In a meta-analysis conducted by McKey et al. (1985), results showed overwhelmingly that Head Start had a positive immediate effect on the cognitive development of children. Testing at the end of the program year showed that children had sizeable gains on all types of cognitive measures or that the Head Start children scored significantly higher than control children. For the global cognitive measure, all but one of the 37 pre-post studies that examined immediate effects had positive effect sizes; the average effect size was .48 with a standard deviation (SD) of .36. The immediate effects for the global measure was similar for the 21 treatment-control studies; the average effect size was .52 (SD = .40) for the immediate posttest. Each individual outcome measure also showed positive effects for Head Start. IQ tests showed an effect size of .59 (SD = .42) for 12 treatment-control studies and an effect size of .43 (SD = .29) for 29 pre-post studies. Readiness tests showed effect sizes of .31 (SD = .37) and .59 (SD = .48) for seven treatment-control and 29 pre-post studies, respectively.

While there appeared to be an immediate effect of Head Start, the initial advantage that Head Start children had over their control counterparts appeared to quickly diminish. In the McKey et al. (1985) meta-analysis of treatment-control studies, one year after the end of Head Start, the effect size for the global measure involving 21 studies dropped from .52 (SD = .40) to .10 (SD = .33) involving 15 studies, and remained only slightly above zero in succeeding years. Once the children entered school, little difference in scores of Head Start and control children was reported. Findings for the individual cognitive measures (i.e., intelligence, readiness, and

achievement) followed the same pattern as that of the global measure. Intelligence effect sizes for 12 studies dropped from .59 (SD = .42) to .09 (SD = .40) involving 9 studies; readiness effect sizes involving seven studies dropped from .31 (SD = .37) to .21 (SD = .27) involving six studies; and achievement effect sizes involving six studies dropped from .54 (SD = .51) to .20 (SD = .22) involving five studies.

The meta-analysis by McKey et al. (1985) concerning long-term effects of Head Start in pre-post studies was limited to the first year after Head Start, and achievement measures were not examined because none of the studies used these tests in the first year. For the pre-post studies, a strong, persistent effect for Head Start up to one year after the end of the program was found for measures of IQ (i.e., effect size of .65 and SD of .48 involving three studies); readiness (effect size of .69 and SD of .24 involving two studies); and global outcome (effect size of .65 and SD of .30 involving four studies). These first year effects were slightly higher than those found immediately after the program and were considerably stronger than those found in the first year by treatment-control studies. However, the effect sizes for the pre-post studies may have been inflated because there was insufficient control for maturation in the method used for computing effect sizes in these studies.

For the longitudinal studies included in the meta-analysis by McKey et al. (1985), the average effect size for the global cognitive measure at immediate posttest involving three studies was .33 (SD = .25). This dropped to -.06 (SD = .29) for four studies at 1 year, rose slightly at 2 years involving four studies to .10 (SD = .36), and dipped to -.01 (SD = .30) involving five studies at three years. Intelligence tests showed an immediate positive effect (effect size of .23 with SD = .13 for one study) followed by a sharp drop (effect size of -.20 with SD = .22 for two studies) as control children slightly surpassed the performance of Head Start children. None of the longitudinal studies examined immediate effects using achievement measures; however, positive effects were found using achievement measures in the first year (effect size of .31 with SD = 0 for one study) and second year (effect size of .23 with SD = .36 for three studies) after Head Start. Little difference was reported using achievement measures at the end of the third year. Readiness measures showed positive effects at all three points in time; that is, the immediate effect was .47 (SD = .26) for three studies; the first year effect was .20 (SD = .16) for one study; and the second year effect was .25 (SD = .31) for two studies.

There is some evidence, however, that Head Start children may have developed the desired social competence they needed to progress in school, stay in the mainstream, and satisfy teachers' requirements better than did their control peers. McKey et al. (1985) examined three studies in a meta-analysis database with information on grade retention and special education placement (i.e., Cawley, Burrow, & Goodstein, 1966; McDonald & Monroe, 1981; and Bee, 1981). Only effect sizes were reported for these studies; sample size and standard deviations were not reported. For the study by Cawley, Burrow, and Goodstein (1966) that involved a primary and a secondary sample, effect sizes of .63 and .45 for grade retention, and effect sizes of .45 and .12 for special education placement, were found at 64 months after Head Start. In the study conducted by McDonald and Monroe (1981), an effect size of .31 for grade retention, and

an effect size of .56 for special education placement, was found at 168 months (14 years). In the study conducted by Bee (1981), effect sizes of 0, 1.12, and -1.29 for grade retention, and -.19, .65, and .29 for special education placement, were found at 10, 22, and 34 months, respectively. The general trend of these results suggests that participation in Head Start was related to progress in school, as measured by grade retention and placement in special education.

It is important to note that the findings from the meta-analysis by McKey et al. (1985) are based on small samples of studies. Further, McKey et al. did not report results separately for high- and low-quality studies. Therefore, it is likely that the large effect sizes reported, as well as the large standard deviations, are in response to the relatively few studies involved and the inclusion of both high- and low-quality studies.

Socioeconomic Status

Socioeconomic status (SES) has been found to be a powerful predictor of classroom achievement (Bronfenbrenner, 1975; Herzog, Newcomb, & Cisin, 1972; Palmer, 1983). Head Start was established to help provide disadvantaged children an equal footing for entry into the public schools and, thus, there has been relatively little variance in the socioeconomic status among families participating in Head Start programs. However, using various indicators, disadvantaged families can be grouped into those who are more and those who are less advantaged. For example, McKey et al. (1985) created two groups in order to examine the effects of Head Start on lower and higher SES among disadvantaged families. The families were grouped according to the following SES indicators: mean educational attainment of mothers of children in Head Start, mean number of people in the family, mean number of children in the family, and percentage of children from single-parent homes. Immediately after Head Start, the higher SES group had greater cognitive gains in treatment-control studies; that is, the mean effect size for the higher SES group involving two studies was .70 (SD = .34) compared to .40 (SD = .24) for the lower SES group involving three studies. Results for the pre-post studies showed little difference between the two groups; that is, the mean effect size for the higher SES group involving eight studies was .41 (SD = .39) compared to .50 (SD = .41) for the lower SES group involving three studies.

The long-term cognitive effects could not be examined by McKey et al. (1985) because none of the studies included children from the higher SES group after the first year. After the first year, the three studies making up the lower SES group showed an immediate drop to an effect size of -.10 (SD = .43), with effects essentially zero for the next two years. The three studies making up the higher SES group also declined, but the effect size remained positive (.21, SD = .38). Although it was not possible to draw conclusions from these findings, the results suggested that children from the lowest SES groups did not perform as well in Head Start as their peers who were somewhat more advantaged.

McKey et al. (1985) also examined the immediate and long-term effects of SES on the child's socioemotional development. Children in the higher SES group showed an immediate

gain in achievement motivation after completing Head Start (effect size of .28 and SD of .32 involving three studies). This effect remained relatively stable after the first year (effect size of .22 and SD = .51 involving three studies) and second year (effect size of .24 and SD = .24 involving one study) and, although there was a decline, the effect was still positive by the end of the third year (effect size of .13 and SD = .18 involving one study). None of the studies compared the immediate effect of Head Start on achievement motivation for the lower SES group, but by the end of the first year these children scored well below the control group (effect size of -.41 and SD = .17 involving two studies). At the end of the second year, the lower SES Head Start children were slightly ahead of control children (effect size of .05 and SD = 0 involving one study), but had fallen again below their control counterparts (effect size of -.10 and SD = 0 involving one study) after the third year.

The findings for measures of achievement motivation and SES parallel those found for cognitive measures and SES – children from the lower SES group were found to score lower than children from the higher SES group on cognitive and achievement motivation measures. It is possible there is a relationship between cognitive development and achievement motivation. It also is possible that a lack of success in cognitive skills led to a lower expectation and motivation to achieve in children (or vice versa).

Socioemotional

In a study of the effects of Head Start, Copple, Cline, and Smith (1989) found evidence that Head Start children tended to avoid school less, as measured by fewer absences and a tendency to miss fewer tests, than their comparable peers. In this study, a consistent pattern of lower absence rates was found for Head Start graduates across grades (kindergarten through fifth grade) and cohorts (four). Further, children who had attended Head Start were found to have missed fewer standardized tests than did comparison children without preschool experience. That is, even Head Start children who were poor performers tended to maintain an above-average level of attendance, including days when tests were given. These findings led to the suggestion that, whether the higher absence levels and missed test-taking were reflective of a stronger aversion to school, a lesser commitment, or both, staying out of school was acceptable for non-Head Start children and their families. It was concluded that Head Start children may have learned the valuable lesson that showing up is the first step towards achieving success.

McKey et al. (1985) examined through meta-analysis the general categories of self-esteem, achievement motivation, and social behavior to determine the effects that Head Start had on the child's self-image, interactions with other people, and motivation to achieve. In terms of immediate effects, a positive effect was found for each measure. That is, a meta-analysis involving two studies showed an effect size of .17 and SD = .79 for self-esteem; six studies showed an effect size of .22 and SD = .28 for achievement motivation; and five studies showed an effect size of .35 and SD = .27 for social behavior. There also was evidence of long-term effects of Head Start on the child's socioemotional development. One year after the end of Head Start, a meta-analysis involving two studies showed that self-esteem fell to an effect size of -.20

(SD = .26), so that Head Start children had lower self-esteem than children who did not participate in the program. By the second year, self-esteem increased (effect size of .01 with SD = .19) so that there was essentially no difference between children who had participated in Head Start and those who did not. However, self-esteem dropped again (effect size of -.14 and SD = 0) after the third year.

Achievement motivation was the most commonly used socioemotional measure in the studies examined by McKey et al. (1985). A meta-analysis of six studies showed that Head Start had an initial positive effect (effect size of .22 and SD = .28) on achievement motivation. However, a meta-analysis involving seven studies showed a drastic drop (effect size of -.11 and SD = .52) after one year. Then, at years two and three, three studies showed that Head Start children were once again slightly above control children (effect size of .06 and SD = .28 at 2 years and effect size of .08 and SD = .18 at 3 years). Although the basis for both the self-esteem and achievement motivation findings is unknown, it was offered that Head Start children may have become discouraged upon entering school when they had to compete with more advantaged children. The supportive atmosphere of the Head Start program may not have prepared the children for the relatively harsh normal school environment, thus, Head Start children performed worse during their first year in school. In subsequent years, the Head Start children adjusted to school and recovered to perform similarly to control children on self-esteem and achievement motivation measures.

Findings from McKey et al. (1985) indicate that Head Start is highly successful in promoting positive social behavior. A meta-analysis involving five studies showed an immediate positive effect (effect size of .35 and SD = .27). However, the effect size at the end of the first year fell (effect size of .16 and SD = .20 involving three studies), but increased dramatically (effect size of .63 and SD = 1.12 involving two studies) at year two. Only after the third year did the effect of Head Start appear to fade (effect size of -.10 and SD = .14 involving two studies).

It is important to recall that the meta-analysis conducted by McKey et al. involved small samples of studies and included both high- and low-quality studies. As was the case earlier, it is likely that the relatively large effect sizes and standard deviations reported here are in response to the small samples used as well as the fact that results were not reported separately for the high- and low-quality studies.

Parental Involvement

From the beginning, the Head Start Program has emphasized parent education and involvement. In general, research has shown that Head Start children of parents who were actively involved in their development performed best on cognitive measures (Copple, Cline, & Smith, 1989; McKey et al., 1985). It is important to note that the comparison of children of highly involved parents to those of less involved parents was done at the end of the program. Thus, there was no assurance that these children and families were equivalent at the beginning of the program. Also, for the most part, the parents themselves controlled their degree of

involvement, so that other factors may have been at work which could have contributed to these outcomes. That is, the more highly involved parents may have been more interested in their children's performance than the less involved parents and provided more encouragement and educational assistance to the child. It is also reasonable that the parent education, as well as various other services, provided by Head Start had some effect in reducing the stress experienced by the families so they were able to function more adequately which, in turn, improved the family environment and boosted the child's own functioning and development.

Community

Head Start is a community-based program designed to place control in the hands of local people in order to be responsive to community needs. Overall, Head Start programs were found to have positive impacts on the communities in which the programs were located (McKey et al., 1985). Some of the positive effects felt by the communities included an increased use of paraprofessionals; greater attention to the needs of its poor-performing students; greater involvement of parents in the local schools; more available mental health clinics; and an infusion of money into the local economy, primarily because of the jobs provided by the Head Start Program, over half of which were held by minorities.

Consortium for Longitudinal Studies

During the mid-1970s, Irving Lazar organized 11 early education projects that had originated between 1962 and 1972 into a consortium (Consortium for Longitudinal Studies, 1983). Upon joining the consortium, each agreed to find as many of their original children as possible and to collect a standard set of information on the children's subsequent development and performance. Most noteworthy of the Consortium studies is the long-term nature of its follow-up – four of the Consortium projects reported results 10 years or more after the end of preschool intervention.

School Performance

Consortium investigators (The Consortium for Longitudinal Studies, 1983) reasoned that an important criterion of effectiveness would be whether children coped with the basic demands of schooling. Evidence of school competence was taken to be that children had not been either referred to a special education class or held back a grade during their school careers (up to 1976). In the control group, the median rate for children who failed to meet these two indicators across eight projects was 44.1% compared with 25.4% of program children (i.e., median rate of assignment to special education was 28.6% for control and 13.8% for program children; median rate for grade retention was 30.5% for control and 25.4% for program children). By 1980, for the children who had reached the age of high school completion, the proportion of children graduating from high school was highest for program children (i.e., 64.8% program and 52.5% control). Based on these findings, the Consortium researchers concluded that high-quality early

education intervention can in some way serve to protect children from special education referral or grade retention throughout their schooling.

Crime and Delinquent Behavior

The Perry Preschool Project was a longitudinal study conducted by Schweinhart and Weikart (1983) that examined the effects of intervention on disadvantaged children in Ypsilanti, Michigan. Data were collected on teenagers' delinquent behavior and, based on self-reports, findings revealed that preschool education led to a decrease in teenagers' delinquent behavior. In terms of acts of crime, 31% of program children had been arrested or detained by the time they reached age 19, whereas 51% of control children had been arrested or detained by the same age. Further, only 12% of program children as compared to 25% of control children had been arrested three or more times. Also, program children had 42 arrests for nonminor crimes while control children had 80 such arrests. The researchers suggested that these findings were a result of the program strengthening the children's bonds to schooling and, thus, led to more prosocial behavior and success beyond the classroom.

Use of Welfare Programs

Two of the Consortium projects collected data on use of social services and welfare. The Perry Preschool Project (Schweinhart & Weikart, 1983) found strong evidence that participation in a preschool program decreased use of public services. Specifically, 18% of program adolescents compared with 32% of control adolescents were receiving welfare payments at age 19. Further, the average payments for program participants was lower than that received by control participants (i.e., \$633 and \$1,509, respectively).

The Early Training Project (Gray, Ramsey, & Klaus, 1983) also found evidence, although minimal, that program participants were more likely to be supported by nongovernment sources of income. This project collected data on the primary mode of economic support at age 21. Findings from this project revealed that 88% of program male participants compared to 91% and 100% of the males in the study's two control groups (i.e., one local control group and one distal control group) were supported by themselves, their spouse, or their parents. Approximately 73% of female program participants compared with 80% and 77% of female control participants were supported by themselves, their spouse, or their parents.

Employment

Information about the effects of preschool intervention on employment were available and examined for four Consortium projects. In general, the Consortium investigated whether young people 19-22 years of age, who had attended preschool 15 years earlier, differed in any measurable ways from their counterparts who had no preschool experience. For three of the Consortium projects (i.e., Beller, 1983; Gray, Ramsey, & Klaus, 1983; Karnes, Shwedel, & Williams, 1983), there were no differences between program and control participants in terms of

their rates of unemployment and labor force participation, and the employment/population ratio. There also were no program-control differences on other labor market measures such as earnings, hours worked, or type of job.

The Consortium (The Consortium for Longitudinal Studies, 1983) hypothesized that two important antecedents of employment would be high school completion and school competence. They used the samples from the above three studies to examine two indirect paths from preschool to employment through the mediating variables of school competence (never assigned to special education and never retained) and high school completion. For all three samples, a higher percentage of those who met school requirements as of grade 12 held jobs compared to those who failed to meet these school requirements. For the median project, 66% of the students who had met school requirements were employed compared to 41% of students who had not. When looking at the role of high school completion as a mediating variable, the Consortium (1983) found that preschool attendance and school competence were significant antecedents of high school completion. For the three samples (Beller, 1983; Gray, Ramsey, & Klaus, 1983; and Karnes, Shwedel, & Williams, 1983), high school completion influenced to a great extent whether a person was employed (in 1980) regardless of the person's background characteristics and preschool attendance.

The Consortium (1983) sought to establish whether high school completion or preschool attendance played a more important role in employment than the other. They found that the association between employment and high school graduation was significant after controlling for school competence at grade 12, background variables, and preschool attendance. They also found that the association between employment and school competence was significant regardless of high school completion, background characteristics, and preschool attendance. Thus, among the young people who completed high school in the three projects (Beller, 1983; Gray, Ramsey, & Klaus, 1983; and Karnes, Shwedel, & Williams, 1983), those who progressed through school without repeating a grade or receiving any special education services had a better chance of being employed than did high school graduates from the same background, but who did not meet this standard. Finally, the Consortium separated the effects of the two components of school competence (i.e., grade retention and special education placement) and found that grade retentions had stronger effects on later outcomes than did placement into special education. Given these findings, the Consortium concluded that preschool programs help children do better in their later school careers, and that children with better school careers do better in the job market.

The Perry Preschool Project (Schweinhart & Weikart, 1983) also found support for the effects of preschool intervention on employment. In this study, 50% of program participants compared to only 32% of control participants were working at age 19. Further, since leaving school, program participants had been without work for an average of 4.9 months compared to 10.3 months for control participants. Finally, the median earnings for program participants at age 19 was \$2,772 compared to \$1,070 for control participants.

Limitations of Previous Research

Although previous research provides valuable information about the effects that early intervention has had on various types of disadvantaged children, there are certain limitations to interpreting and using the results from some of these studies. For example, some of the studies failed to use random assignment of children to experimental and control groups. Also, some studies collected their data using instruments with less than impressive psychometric properties. Additionally, it is unclear whether some studies collected their data using standard procedures across children. Still other studies failed to account for bias in their findings as a result of selective attrition. These, among other issues, necessitate the use of caution when interpreting the results of certain previous studies.

Research Design

In general, samples used in much of the research on early intervention tended to include the most disadvantaged children. The phenomenon of regression to the mean may explain the finding commonly reported in intervention studies that the children in the program who show the largest IQ gains are those with the lowest initial IQ scores (Bronfenbrenner, 1975). Results of this kind suggest the optimistic conclusion that, among disadvantaged children, it is those with the lowest IQ scores who can benefit most from early intervention. Such a conclusion is warranted only if there has been adequate control for spurious gains produced by regression to the mean.

Another issue concerning the design used by much of the research conducted on early intervention programs is the noncomparability between program children and their controls (Zigler, 1994; Zimiles, 1986). It was virtually impossible for much of this type of research to achieve random assignment of children to experimental and control groups, a condition necessary to determine the suitability of comparison groups. Another complicating factor is that few, if any, communities had enough money to offer the intervention to all eligible children so only the most disadvantaged children were selected to participate. Thus, comparison samples were often selected from children who remained on a wait list – children who were obviously less disadvantaged than the children who were selected to participate in the program. If this situation actually occurred, then many studies may underestimate the actual impact of participation in early childhood intervention programs.

The conclusions about some of the research on early intervention programs also might be disputed because they are based on averages across both high-quality and low-quality studies. For example, Schweinhart and Weikart (1986) proposed that reviews that focused on high-quality studies reported more optimistic conclusions than those reported by low-quality studies. In general, high-quality studies were those that were carefully planned, well-run, and monitored. That is, high-quality studies (a) used designs with random or near random assignment to experimental and control groups, (b) analyzed attrition patterns to ensure bias-free results, (c) employed valid and reliable data collection instruments, and (d) conducted appropriate statistical

analyses. In contrast, low-quality studies typically did not meet these standards and, thus, one may have less confidence in the results from low-quality studies than the results from high-quality studies.

Limitations of the Data

Much of the data available concerning research in early childhood intervention is limited to the cognitive area and consists of IQ scores and/or measures of academic achievement. The restriction of available data to these types of measures sets important limitations to the conclusions that can be drawn (The Consortium for Longitudinal Studies, 1983). First, there are many important ways that a child develops besides the intellectual, especially the particular kinds of cognitive skills measured by standardized tests. In terms of the child's fulfillment as a person, emotional security and self-esteem may be no less important than intellectual performance. In terms of society, such qualities as generosity, cooperativeness, responsibility, and compassion may be of greater importance than the ability to perform well on cognitive tasks.

Another limitation of the data on early intervention concerns the selective sampling of sites and/or participants. For many studies on early intervention, the most effective preschool programs were chosen and the most caring families made themselves available (Zimiles, 1986). Such conditions place limitations on the generalizability of findings from these studies.

Finally, most of the studies focused on measuring the impact of intervention have been biased in favor of children who attended preschool. A problem associated with this situation is that the children who attended preschool may feel more comfortable and at ease being played with or questioned by a strange adult, so that the results may be biased in favor of these children (Zimiles, 1986).

Attrition

Attrition can influence the results of a study (a) during the selection of subjects and (b) from the beginning of a program to the time that assessment occurs (Palmer, 1983). Data related to attrition during selection of subjects is important for defining the population that was studied. Attrition from the beginning of a program to the time of assessment can result in biased data when comparing experimental and control groups if one group lost more subjects than the other. In these instances, it is important for the researcher to demonstrate that the disproportionate loss did not result in a bias of the results. That is, evidence must be presented showing that any persistent gains were not simply attributable to selective factors of attrition that served to reduce the experimental groups to children from the most caring and stable families (Zimiles, 1986).

Reliability of Measures

Many studies in the area of early intervention have used standardized cognitive measures such as IQ against a criterion of school success. The widespread use of such measures is perhaps

due to their relatively high psychometric reliabilities as well as the historical influences of some of the more well known studies in this area (e.g., Head Start Program, work by the Consortium). Although such measures have been used in many studies, there has been much dissatisfaction with them. Among the many reasons for dissatisfaction is that poor and minority children score less well on the tests than other children, leading to charges of cultural bias (Zimiles, 1986). Another reason is that some of these tests do not measure creativity, persistence, flexibility, and resourcefulness in problem solving or many other aspects of cognitive skills that may provide information about a child's potential. Unfortunately, instruments used to measure these aspects have not generally demonstrated the reliabilities and predictive validities of the general ability measures. Additionally, they have not gained the public acceptance and widespread use as have measures of cognitive development.

There is also a wide array of potential measures available for measuring a child's socioemotional development. However, their psychometric properties have been less than impressive, especially in field settings (Zimiles, 1986). Indeed, in this area there has not been a single instrument, let alone a battery of instruments, that has gained widespread use and acceptance. In part, this has been due to the lack of a universally accepted definition of socioemotional development and to the relative difficulty in testing young children. Various instruments were used to collect information included in the current database, some of which had less than impressive psychometric properties. Careful attention was paid to using only the data that were most appropriate and reliable in the current research.

Summary

There is clear evidence that preschool experience tends to have a positive, short-term effect on the cognitive development of disadvantaged children, but there is some question as to how long this effect lasts. Some of the more enduring effects of preschool experience appear to have been associated with the socioemotional development of the child. Findings from a number of studies showed that disadvantaged children with preschool experience were retained in grade and placed in special education classes less often than their control counterparts. When associating these two factors with employment, it appeared that students who had attended preschool and completed high school, were more likely to have been employed. The same result was found for students who had attended preschool and had not been retained in grade or placed in special education – these types of students were more likely to have been employed. Overall, the findings suggest that preschool experience helped disadvantaged children do better in the classroom as well as later in life.

Yet, preschool experience did not affect all disadvantaged children in the same ways. Various child, family, and community characteristics interacted with each other and with preschool experience which resulted in differential impacts among children. For example, in some studies, girls with preschool experience performed better than boys with preschool experience. In other studies, preschool experience appeared to have a differential impact on disadvantaged children from different ethnic backgrounds. Some studies reported differences in

children's performance and behavior, based on the degree to which parents were involved with their children; the children whose parents were more involved tended to outperform and have fewer social behavior problems than did children whose parents were less involved. Still other studies showed no effects at all.

The present database included a restricted range of child and family variables, thus limiting the generalizability of results from the current research. The purpose of the current research was to determine how certain child and family characteristics available within the present database contributed uniquely to the socioemotional development of low-income children.