

Running head: RELATIONS BETWEEN EVEN START PARENT AND CHILD

Relations Between Even Start Parent and Child Outcomes

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Abstract

Although parent education and involvement in early childhood intervention programs is believed to be crucial to successful outcomes for children, research is not clear on what type of parent involvement is most important. Even Start Family Literacy programs afford a rare opportunity to study this topic because they focus on educating parent and child simultaneously, as well as incorporating parent education and parent involvement in the child's literacy development. Using data from Even Start Family Literacy programs in a Southwestern state, this study investigated whether relations exist between a parents' educational background, program involvement, adult education outcomes and children's preschool achievement outcomes. A discussion of limitations and future research is included. Results indicated that a) parents with higher levels of prior education tended to make lower gains on adult education measures, b) greater participation was related to greater gains in adult oral and literacy outcomes, c) parent gains in oral and literacy skills were related to children's gains in problem-solving and language skills. In addition, after controlling for background factors, parent gains in literacy were predictive of children's achievement outcomes.

Chapter 1

Introduction

Early childhood education programs for low-income families have been a major focus of educational policy makers for almost five decades. Programs that focus on literacy development for children, especially those that incorporate parent education, have become more common within the past two decades. Family literacy programs seek to provide a structured version of the intergenerational literacy practices that have existed in families for decades. Morrow (1995) argued that “parents or other caregivers are potentially the most important people in the education of their children” (p. 6). It is therefore important that parents be able to support their children in literacy development. This can become difficult for families that do not speak English as their native language, especially when their children are enrolled in English-language based classes. Research shows that these families do, however, support literacy development in the home (Auerbach, 1989, as cited in Morrow). Family literacy programs provide support for these parents in their English-language acquisition, so that they are better equipped to support their children’s non-native language literacy development at home.

One challenge to researchers in this area is the fact that family literacy is a complex concept, which may have thus far prevented the development of its single, comprehensive definition. Family literacy is broadly defined as the many ways in which parents, children, and other family members engage in literacy (Morrow, 1995). These practices can be as simple as daily tasks, such as writing shopping lists, leaving notes for each other at home, drawing pictures for each other, or telling stories through writing, reading, and personal conversations (Morrow, 1995). Most of these events can occur

spontaneously, indicating that family literacy is a typical family practice, and does not require purposeful initiation by a parent or caregiver. Purposeful activities are encouraged, however, by community agencies whose goal is to support literacy development within families. Many family literacy programs encourage parents to engage their children in school-readiness practices, such as reading storybooks at home.

Family literacy organizations that encourage these practices include education centers at all levels, from preschool through adult education, religious groups, public and private corporations and industries, government agencies at the local, state, and federal levels, and human resource agencies, to name a few (Morrow). The diversity within this list of organizations indicates the strong support that is provided for these programs by their communities. One program in particular, The Even Start Family Literacy Program (Even Start), is well-supported by a wide range of organizations, due to its focus on parent and child education within one program. Further community support is evidenced through the placement of Even Start programs with Native American Indian tribes, tribal organizations, and migrant populations, all of whom are required to secure local or matching funds to ensure continued federal support for the program. Long-lasting programs are those that are best supported by, and therefore are best serving of, their local community.

Even Start was initiated under the authority of the Elementary and Secondary Education Act of 1965 (ESEA) (Gonzales et al., 1998; Quie, 2003). Even Start is similar in form to the Head Start Program, which was initially designed as a two-month summer program for preschoolers and was later implemented as a year-round program “to meet

the emotional, social, health, nutritional, and psychological needs” of children from low-income families (Administration for Children and Families [ACF], 2002, p. 1). However, in contrast to Head Start, which is child-focused, Even Start is a family-focused program. The Even Start program legislation was initiated in 1989, under an extension of the ESEA, amended in 1991 as part of the National Literacy Act, and reauthorized in 1994, 2000, and 2001 as part of the Improving America’s Schools Act, the Literacy Involves Families Together Act (LIFT), and the No Child Left Behind Act, respectively (National Center for Family Literacy [NCFL], 2003b; U.S. Department of Education [USDE], 1998).

Even Start, like Head Start, addresses goal eight of the National Goals for Education, that “every school will promote partnerships that will increase parent involvement and participation in promoting the social, emotional, and academic growth of children” (Lang, 1995, p. 7). Additionally, Even Start supports goal one, that “all children in America will start school ready to learn,” and goal six, that “every adult in America will be literate...” (Morrow, 1995, p. 156). Even Start programs not only encourage parents to learn more about their children’s education and development, but also encourage parents to become actively involved in helping their children learn during the earliest stages of their life by increasing their own skills and abilities.

Even Start provides early childhood education to children from families who live in economically disadvantaged areas and/or speak English as a second language (Morrow, 1995). Even Start programs also provide adult education to the parents of those children enrolled, including “basic [and] secondary education, English as a second language (ESL), and preparation to attain a General Education Development (GED) certificate” (Gonzales et al., 1998, p. 7). In addition, programs incorporate

preparation for employment, community service, and parenting education to both enhance the parent-child relationship and help parents better understand their child's development, especially literacy development. Family literacy program services are defined in both the Head Start and Even Start legislation as:

services that are of sufficient intensity in terms of hours, and of sufficient duration, to make sustainable changes in a family and that integrate all of the following activities: (a) interactive literacy activities between parents and their children, (b) training for parents regarding how to be the primary teacher for their children and full partners in the education of their children, (c) parent literacy training that leads to economic self-sufficiency, [and] (d) an age-appropriate education to prepare children for success in school and life experiences (NCFL, 2003a, p. 1).

A number of studies have investigated whether participation in Even Start programming is beneficial to children and parents. Researchers have found that both children and parents who participate in Even Start experience significant cognitive and social gains; despite these gains being short-term in nature, researchers also believe that these gains better prepare the children and parents for further education (Quie, 2003). Three National Evaluations of Even Start programs have been completed to date. These evaluations provide a variety of data on local Even Start projects, report findings from specific program sites, and demonstrate support for these programs to initiate local evaluations of effectiveness (Morrow, 1995; St. Pierre, Ricciuti, Tao, Creps, Swartz, et al., 2003). Similar to the general research literature, the National Evaluations have revealed mixed results.

The first National Evaluation of Even Start programs assessed programs that were in place between 1989-90 and 1992-93 and used the National Evaluation Information System (NEIS) to collect the following information: participant characteristics, program implementation, services offered, and program effects on participants (St. Pierre, Swartz, Gamse, Murray, Deck & Nickel, 1995). The strongest finding from the first National Evaluation is consistent with other research; “the more [time] spent in instruction, the more is learned” (Morrow, 1995, p. 165; Ramey & Ramey, 1992; St. Pierre et al., 2003). This Evaluation also included an In-Depth Study (IDS), a quasi-experimental investigation, which will be addressed later.

The second National Evaluation, which evaluated projects that were in place between 1993-94 and 1996-97, focused on summarizing and evaluating the first decade of Even Start program implementation, assessing the types of changes to the programs, both internal changes that had been implemented and external changes that had affected Even Start (St. Pierre, Gamse & Alamprese, 1998).

The third National Evaluation focused on projects that ran between 1997-98 and 2000-01. It used improved data collection methods and collected a wider range of information from program participants (St. Pierre et al., 2003). One set of data was collected using the Even Start Performance Information Reporting System (ESPIRS) and another set was collected through the Experimental Design Study (EDS), both data collection systems will be described later. Results of the Evaluation showed that children and parents who participated in Even Start made gains on achievement and literacy assessments equal to those made by children and parents in the control group, as well as that children and parents who participated more intensively in early childhood

and parenting education, respectively, scored higher on literacy assessments (St. Pierre et al., 2003).

The In-Depth Study (IDS) of the first National Evaluation had one very significant and rather unique finding, that Even Start children made learning gains as a result of both their own and their parents' participation in Even Start programs (Gamse, Conger, Elson & McCarthy, 1997). This type of finding was not often reported in the literature, because very few studies had evaluated whether parent participation in the programs had a direct effect on their children's outcomes. While this relationship was investigated by the second National Evaluation, they did not find that parent participation had any significant effect on children's outcomes (St. Pierre, Gamse & Alamprese, 1998). The third National Evaluation did, however, include a similar finding. Not only do children who participate more intensively exhibit greater literacy gains, but "parents who participate more intensively in parenting education have children who score higher on literacy outcomes" as well (St. Pierre et al., 2003). The third National Evaluation also included an attempt at predicting child outcomes from parent participation (Exhibit 6.15, p. 182). These findings support what was found in the first National Evaluation, that "providing parenting education services to parents ought to be related to changes in their children" (St. Pierre et al., p. 169). The current study seeks to further investigate the possibility of relations between parents' achievement gains and children's achievement gains, as well as to test whether one can predict children's growth by measuring the growth of their parents. The current study will utilize data from a statewide evaluation of Even Start programs in the Southwest. Data on parents' educational background, parents' participation in the program, and both parents' and

children's educational outcomes will be analyzed to determine whether parents' outcomes from the Even Start program are related to, and predictive of, children's outcomes. This study is similar to the National Evaluations in that it asks similar questions. However, the sample is drawn from programs within one state, as opposed to a national sample, which provides greater consistency in the quality of the instruction and services.

Chapter 2

Review of the Literature

Even Start

Even Start was created to provide educational opportunities to low-income families through a comprehensive, integrated family literacy program that includes “early childhood education, adult literacy or...basic education, and parenting education” as its specific components (Gamse, Conger, Elson, & McCarthy, 1997; Gonzales et al., 1998, p. 1). Even Start focuses on serving children birth to age eight, as well as the pregnant mothers and the families of these children (Gamse et al., 1997). Even Start is regarded as a family-focused program, as opposed to programs that are either solely parent- or child-focused. It differs significantly, therefore, from Head Start and other early intervention programs, which are mainly child-focused.

Unlike Head Start, which does not specifically outline parent involvement requirements, Even Start legislation lists the parent involvement elements that are required of all programs. It also specifies how programs must accommodate the lifestyles of its participants, such as by providing program offerings at times that accommodate parents’ work schedules, providing child care during program participation, providing transportation for parents who participate, as well as screening eligible families to determine those families that are most in need of the program (USDE, 1994). The 1994 reauthorization of Even Start required programs to extend their services to teen parents, to involve “ineligible family members” (USDE, 1994, Section 1205) in program activities, and to provide support to enrolled families, including, but not limited to, the following services:

nutrition assistance, health care, meals, special care for a disabled family member, and referrals for mental health and counseling, services to battered women, child protective services, employment, and screening or treatment for chemical dependency (USDE, 1998, p. 4).

In addition, Even Start programs are required to provide their own curriculum and instruction for the general education and parenting education components of the program. While the general education component of some programs focuses on assisting adults in completing their GED, other programs must focus on basic education skills, including reading, writing, and math, as well as English language proficiency, due to population diversity. Parenting education most often addresses learning about child development, learning about a parent's role in educating their children, training on how to read to young children, and helping families identify learning resources that are available to them (USDE, 1998). By including parents in the learning process, these programs model the importance of education to the children involved, as well as convey the message that knowledge is an essential tool in today's society.

Since 1989, funds have also been allocated for Migrant Education Even Start programs, which are an extension of the original Even Start programs (Gonzales et al., 1998). Migrant Education Even Start (MEES) is a more challenging program due to the economic and employment constraints of the population it serves. Migrant workers comprise a significant portion of the population in farming areas that are both economically disadvantaged and dependent upon these workers to provide seasonal labor to harvest their crops. Estimates of the total migrant worker population in the United States vary between one million, seven hundred thousand and six million

(Gonzales et al., 1998). When one considers the fact that approximately 54% of these workers have families, as well as that 80% of these families live at the work sites, it becomes clear that providing education not only to migrant children, but also to their parents, is crucial in order to help these families transcend living in poverty (Gonzales et al.). While migrant families once traveled between different work sites, data from the Migrant Student Record Transfer System from 1991 shows that approximately 68% of students remain in a "home base" during the entire school year (Gonzales et al.). This indicates that some families are beginning to settle at one home site for the entire year. Due to this settling, it is important to establish year round programs to meet the specific educational needs of these families. Because these families are living in some of the most impoverished areas, it is also important to provide language and skills training to the parents, in order to help them overcome the barriers of living in poverty. For these reasons, it is crucial that families, not just individual children, become involved with both Even Start and MEES programs.

Consideration of the special needs of the migrant population is important within the context of the present study because the programs being studied include a majority of these individuals. This is of increased importance not only due to the special circumstances of the population, but also due to their lack of participation in school activities. Whereas approximately 72% of parents in higher-income areas attend school activities on a regular basis, only 28% of parents from low-income areas attend regularly (NCFL, 2003c). It is crucial to support the involvement of parents in these low-income areas because research has found that parent involvement in early intervention programs is a key indicator of program success (NCFL, 2003c).

Program Evaluations

A significant body of research exists to document the outcomes of the Even Start programs. Unfortunately, many of the studies produce conflicting results, leaving the efficacy of these programs to be further questioned. Legislation has required local and national evaluations since 1989 (St. Pierre, Ricciuti, Tao, Creps, Swartz et al, 2003). Currently, local and state evaluations are completed on an annual basis and three National Evaluations have been completed to date. The first National Evaluation focused on studying children from five project sites and comparing them to control children to evaluate short-term impact of program services (Gamse et al., 1997). For the average program, the first National Evaluation did not find significant effects of Even Start. However, the general findings of the first National Evaluation did provide evidence for the importance of parenting education and early childhood intervention as programs that support children's readiness for school (Morrow, 1995). The majority of significant findings within the first National Evaluation provided a confirmation of "a common-sense idea – the more hours spent in instruction, the more is learned" (Morrow, 1995, p. 165). Unfortunately, the first National Evaluation did not find a significant relationship between parents' participation in the program or gains in literacy skills and their children's gains in literacy skills (Morrow), a relationship that the current study will investigate further.

The In-Depth Study (IDS) was a quasi-experimental element of the first Evaluation, in which five program sites volunteered to have their families randomly assigned to either participate in Even Start or in a control group. Although the initial results of the IDS were not significant, a follow-up study of the IDS families found that Even Start and comparison children, who did not attend an Even Start program, were

not significantly different in their attendance rates, grades, or achievement test scores. However, the Even Start children had a significantly lower rate of tardiness (Gamse, Conger, Elson & McCarthy, 1997).

The second National Evaluation used an improved data collection system and collected literacy skill information from ten percent of Even Start programs, approximately 60 out of 600, while participation and program information was collected from all projects (St. Pierre, Gamse & Alamprese, 1998). The focus of this study was to revisit and summarize the growth of Even Start over the past decade (1989-1997), to detail changes that had been made at the national, state, and local levels, and to measure effects on participants. The second Evaluation found that both adult and child literacy effects were uncertain.

Although parents' gains in literacy skills were equivalent or greater than those exhibited by participants in other programs, it was unknown what gains would be achieved by the same participants had they enrolled in other non-Even Start programs. Despite this uncertainty, the programs were deemed successful because adult participants demonstrated high rates of GED completion, a significant milestone in ensuring future economic security (St. Pierre et al., 1998).

Results for children were also mixed. Child participants demonstrated cognitive growth during their enrollment in Even Start. Although these gains were equalled by control group children in the long-term, the authors argued that they occurred at such an early age that Even Start children were receiving an earlier "cognitive boost" than other children. This finding could potentially be linked to the level of parent involvement in their child's school-related life, but this possibility was not investigated by the

researchers. Overall, one of the most significant findings of the second National Evaluation was the increase in parenting skills among adult participants. Even Start families demonstrated substantial gains in “the quality of cognitive stimulation and emotional support provided to children by the family” (Tao, Gamse & Tarr, 1998, p. 147, cited in St. Pierre et al., 1998), as well as increased the amounts and types of reading materials in their homes. This finding suggests a holistic, positive effect of Even Start program participation.

The third National Evaluation furthered research on the Even Start programs by incorporating new research methods (St. Pierre, Ricciuti, Tao, Creps, Swartz, Lee & Parsad, 2003). The third National Evaluation included two substudies, which produced two sets of data. One data set came from the Even Start Performance Information Reporting System (ESPIRS) and one from the Experimental Design Study (EDS). ESPIRS continued collecting the same types of data included in the previous two National Evaluations; it was collected annually between 1997 and 2001. The EDS utilized an experimental design to study specific Even Start projects. Both data collection services used the same background variables and progress indicators, such as demographic information, income, educational information, literacy skills, etc. Due to its experimental nature, the EDS study will be the focus of review in this section.

The strength of this study came from its design, which involved selection of eligible programs from the universe of Even Start projects and invitation to participate in a randomized study, including the requirement of random selection of participants for their program. Many programs were not open to the idea of random assignment (denying or delaying enrollment for some eligible families in order to use them as a

“control” group), which left the researchers with only 18 out of 115 eligible programs that were willing to participate. The researchers evaluated the experimental and control groups, following random assignment, and concluded that they were very similar. The limitations of this study stem from the fact that the programs that participated did not appropriately represent the entire Even Start program population. First, the programs involved volunteered for the study. Second, the EDS families from these programs overrepresented the number of Hispanic families involved in Even Start in general. Third, the programs included overrepresented Even Start projects as being predominantly urban.

The EDS study included a group of control children who were eligible for Even Start services but did not receive them due to random assignment. These children were measured three times; a pretest before starting their program, a posttest at the end of the program year, and at a follow-up one year after completion of the program. Despite the experimental nature of the EDS study, only a few significant differences were found between the experimental and control groups of children. This lack of results is due in part to the fact that some control group children received alternative preschool services, not offered by Even Start, which resulted in them being more similar to the Even Start participants than children who experienced no preschool at all.

The EDS study results indicated that Even Start children and parents perform as well as, but not better than, control group children and parents. Both groups of children made gains on the Peabody Picture Vocabulary Test (PPVT), which were also found to be equivalent to gains made by children in a previous Head Start study, *FACES 2000*, indicating Even Start’s equivalency as a well-developed intervention program (U.S.

Department of Health & Human Services, 2003). However, one significant difference between Even Start participants and control children is that parents involved in Even Start reported that their children participated more during early childhood education than control children and that they, as parents, participated more in adult and parenting education programs than control parents. Testing experimental and control children and parents did reveal one very significant finding; both children and parents who participated in the Even Start programs scored higher on measures of literacy than children and parents from the control group. The EDS data also suggested that greater involvement in Even Start programs, by both parents and children, resulted in better literacy outcomes for children. Positive relationships were found between children's early childhood education participation and their outcomes, parents' parenting education participation and their children's outcomes, and a negative relationship was found between parents' adult education participation and their children's outcomes. Unfortunately, the researchers found no relationship between parental participation in adult or parenting education and parents' scores on literacy assessments. The researchers did not investigate this lack of relationship further, but discussed the possibility that parental participation may not have been the factor that is truly related to outcomes. Rather, a common factor that leads to both increased participation and increased scores on literacy assessments may have been involved (St. Pierre et al., 2003).

Recently, a quasi-experimental investigation of Even Start outcomes was produced using data from a number of the programs involved in the current study. Quie (2003) utilized archival data from the 1997-1998 cohort of children in the largest unified

school district in the Southwestern state of interest. This cohort of children was of interest because they had attended the City's Even Start Family Literacy Program (FLP) and had entered into elementary school with children from a both different preschool intervention program, the City Early Learning Preschool Program (CELP), and children who did not attend either program. At the end of their third grade year, FLP program students' academic achievement outcomes and semi-academic outcomes, such as attendance, grade retention, and special education placement rates, were compared with the same outcomes for both CELP students and students who did not attend either of these programs. Quie found that, overall, students who had attended the FLP program were less likely to be placed in special education classes or experience grade retention than students who had either attended the CELP program or had not attended either program. While this is a significant finding, the history of research in this area tends to focus on academic achievement outcomes, rather than these quasi-academic outcomes.

Unfortunately, Quie's (2003) research was unable to add significant positive findings to the literature; he found mixed results, some supportive of preschool participation and some not. Quie's purpose in contrasting the FLP and CELP programs was to determine whether the parent-education component of FLP was related to greater success among children enrolled in that program, as compared to the CELP program and non-enrolled children. His results were too inconsistent to make a definitive decision on whether this is true. However, using an English Language Learner (ELL) population as the focus, Quie found that FLP ELL students performed better than their same school ELL peers on the Stanford Achievement Test Series, Ninth Edition

and Otis-Lennon School Ability Test, Seventh Edition, and equally as well as their same school peers on the school district's criterion-referenced tests. Though limited, these findings indicated that family literacy programming is especially beneficial for English Language Learners. The greater benefit of Quie's research, however, is that it made great progress towards completing experimental research with this population, in an attempt to determine whether program participation could possibly be a causal variable in the long-term outcomes of preschool students. Further research is needed in this area to determine whether parent involvement truly plays the crucial role that so many believe it fills.

Parent Involvement

The hallmark of Even Start programs, which sets them apart from many other early intervention programs, is the purposeful incorporation of parental involvement. The point of early intervention programs is to assist disadvantaged children in attaining significant growth in their cognitive, socio-emotional, and psychological development, in order to place them at a level of school readiness equal to their non-disadvantaged age peers. Lillie (1975) argued that parent involvement in early childhood education is key, especially in family situations where multiple languages are involved. A significant portion of the children enrolled in early intervention programs in the Southwest are members of ethnic minority groups, have families that do not speak English as their primary language, and may live at or below the poverty level (Sontag & Schact, 1994). Parent education and involvement in these programs is crucial to continuing the children's education at home, because "unless there is planned consistency between the...program and the experiences taking place in the home environment, [what is

gained from the] program may have little effect on the child's development" (Lillie, 1975, p. 8). Parent education, especially for families who are learning English as a second language, is especially important in order to provide continued learning experiences in the home and to help both parent and child learn the new information together.

Many studies have been completed to determine whether early intervention programs, other than Even Start, have enhanced cognitive development, as well as social adjustment and/or school readiness, including social and emotional growth. Reynolds (1999) cites an extensive list of studies that address a range of academic and semi-academic outcome measures, including academic achievement, grade retention, special education placement, school dropout, and delinquent behavior. For example, Miedel and Reynolds (1999) examined whether parental involvement benefited disadvantaged children in the Chicago Perry Preschool program. They found that increased parental participation in activities with their children during the preschool and kindergarten years was significantly related to increased reading achievement scores, decreased rates of grade retention through age 14, and decreased special education placement. However, a large-scale, consistent pattern of findings has not yet been found to substantiate the importance of incorporating parental involvement in early intervention programs (White, Taylor & Moss, 1992).

White, Taylor, and Moss (1992) analyzed twenty studies in an attempt to determine if early intervention programs that involve parents provided benefits over and above the benefits of those programs that did not incorporate parent involvement. Unfortunately, their analysis yielded a lack of convincing evidence for the benefits of parental involvement. The researchers were unable to conclude that parental

involvement made a significant difference for the children involved in these programs. White and colleagues recommended further research on early intervention programs involving parents due to poor methodology and a paucity of high-quality data, a lack of experimental studies including parents as educators (rather than interveners) for their children, and a neglect for the issues of program cost and long-term benefits for children and families. They suggested that such research should focus specifically on evaluating equivalent groups of children, rather than comparing disadvantaged children with nondisadvantaged children, and evaluating groups that differ only in the amount of parent involvement required by their early intervention program.

Summary

Even Start programs differ from other preschool intervention programs due to their purposeful inclusion of adult education practices. Although a large body of literature exists to support the function and feasibility of Even Start programming, research has not yet shown that Even Start provides greater benefits to parents and children than other preschool intervention programs. The current study will contribute to the existing literature by exploring whether involvement in family literacy programs and gains in adult education outcomes are related to children's preschool outcomes.

Research Questions

The purpose of the current study is to complete secondary data analysis of statewide Even Start program data from a wide range of programs in a Southwestern state. The current study will examine whether parent education and involvement is related to different outcomes for the children enrolled in the programs. Specifically, the study will focus on the following variables: children's problem-solving and language

skills and adults' oral language and literacy skills. Based on the correlational relationships that have already been found between these and other variables in previous research, the current study will attempt to replicate those relationships, as well as determine whether one or more predictive relationships exist between parent outcomes and child outcomes. The study will focus on answering questions in the following three areas: adult background variables and family literacy factors; adult education and child outcomes; and predictive relationships. The following research questions will be investigated:

1. What background factors are related to adult education outcomes?

- a. Are level of parents' prior education, age, and/or annual income level related to their achievement outcomes in oral and/or literacy skills?
- b. Is parental participation, measured as program hours attended, related to parents' oral and/or literacy skill outcomes?

2. Are parents' gains in oral and/or literacy skills related to children's preschool outcomes?

- a. Are parents' gains in oral language ability related to children's gains in language ability?
- b. Are parents' gains in oral language ability related to children's gains in problem-solving skills?
- c. Are parents' gains in literacy skills related to children's gains in language ability?
- d. Are parents' gains in literacy skills related to children's gains in problem-solving skills?

3. Are parents' gains in oral and/or literacy skills significant predictors of children's gains in language or problem-solving, even after controlling for parent age, family income, parent's prior education, and the total hours attended in the program?

a. Do parents' gains in oral language ability predict children's outcomes in language skills and/or problem solving, over and above parental background factors and total hours in the program?

b. Do parents' gains in literacy skills predict children's outcomes in language skills and/or problem solving, over and above parental background factors and total hours in the program?

Chapter 3

Methods

Sample

The sample for this study consists of Even Start Family Literacy program participants, both children and adults, from a Southwestern state. Participants were enrolled in the Even Start Family Literacy program during either the 2003-2004 or 2004-2005 school year. Children and adults enrolled in the Even Start Family Literacy programs within the state were tested by their program administrators as part of federal and state requirements for monitoring the progress of participants. Demographic and background data for the sample is reported below. Significant inconsistency exists within the sample data due to differences in variable reporting across programs; not every variable was reported for every parent and/or child.

The sample originally included 1,172 parent-child dyads. Of these dyads, 41 included a parent who was enrolled in both the 2003-2004 and 2004-2005 school years. In order to examine the growth of parents and children in one year of the program, those dyads with duplicated parents and/or children were eliminated for the 2004-2005 school year, resulting in a usable sample of 1,131 parent-child pairs.

Parent participants included in this sample ranged in age from 17 to 65 years of age, representing a 48 year age range (see Table 1 for sample demographics). The mean parent age was 30.24 years, with a median and mode of 29 years. Child participants included in the sample ranged in age from 32 to 67 months, or two years, eight months to five years, seven months, representing a 35 month, or two year, 11 month, age range. The mean child age was 50.33 months, or four years, two months,

ten days, with a median of 51 months and a mode of 50 months. Therefore, a typical child participant was approximately four years old. Please note that one child was eliminated from the age calculations due to a typographical error in birthdate entry, resulting in their computed age being negative one month.

Table 1

Participant Background Variables

	<i>Parent Age (years)</i>	<i>Child Age (months)</i>	<i>Total Adult Education Hours</i>	<i>Parent Prior Education (Years)</i>	<i>Family Annual Income (Thousands)</i>
<i>Minimum</i>	17	32	3	1	0
<i>Maximum</i>	65	67	766	20	50
<i>Range</i>	48	35	763	19	50
<i>Mean</i>	30.24	50.33	350.50	10.55	14.49
<i>Median</i>	29	51	373.50	11	15
<i>Mode</i>	29	50	440*	12	15
<i>Standard Deviation</i>	6.08	6.75	171.37	4.17	7.83
<i>N**</i>	972	971	1113	912	968

* Multiple modes exist. The smallest value is reported.

** Entire sample: N = 1131.

Parent participation in the program, as measured by total adult education hours, varied greatly across the sample (see Table 1). The total adult education hours for parents ranged from three to 766, representing a 763 hour difference. The mean number of hours was 350.50, with a median of 373.50 and a mode of 440 hours. Based on these values, the average Even Start participant in this sample received between 29 and 37 hours of adult education per calendar month. It is important to note that these totals represent a summary of all hours in Family Literacy programming, i.e. adult education, parenting education, interactive literacy activity time, and community service hours. Programs did not report hours of participation for these activities separately.

Parent's level of prior education also varied greatly, ranging from one year to 20 years and representing a 19 year range. The mean number of years of prior education was 10.55, with a median of 11 years and a mode of 12 years, indicating that the average Even Start participant in this sample had either completed some high school coursework or graduated from high school. Family annual income ranged from zero to \$50,000 yearly, with a mean of \$14,490 and a median and mode of \$15,000. These numbers indicated that the average family in this sample was of very low socioeconomic status.

Parent ethnicity was diverse, including American Indians, Caucasians, African Americans, and Asians, but the majority of the sample was Hispanic (93.2%; see Table 2). The majority of parents were female (98.6%; see Table 3); specifically, of 1108 reporting parents, only 16 were male (1.4%). The majority of children, however, were male (51.9%; see Table 3). The majority of parents reported that the language spoken at home was Spanish (71.9%; see Table 4), while approximately 16 percent of parents reported speaking English at home and approximately 12 percent reported speaking a language other than Spanish or English at home.

Table 2

<i>Parent Ethnicity (N=1131)</i>	
	<i>Percentage</i>
<i>Hispanic</i>	93.2
<i>American Indian/Alaskan Native</i>	01.7
<i>Caucasian</i>	00.9
<i>Black/African American</i>	00.5
<i>Asian</i>	00.4
<i>Other</i>	00.1
<i>Not reported</i>	03.2
<i>Total</i>	100

Table 3

Participant Gender

	<i>Parent (N=1131)</i>		<i>Child (N=1131)</i>	
	<i>Reported Percentage</i>	<i>Total Percentage</i>	<i>Reported Percentage</i>	<i>Total Percentage</i>
<i>Male</i>	1.4	1.4	51.9	22.7
<i>Female</i>	98.6	95.4	48.1	21.0
<i>Reported total</i>	100.0	96.8	100.0	43.7
<i>Not reported</i>		3.2		56.3
<i>Total</i>		100.0		100.0

Table 4

Language Spoken at Home (N=1131)

	<i>Reported Percentage</i>	<i>Total Percentage</i>
<i>Spanish</i>	71.9	34.1
<i>English</i>	16.0	7.6
<i>Other</i>	12.1	5.7
<i>Reported total</i>	100.0	47.5
<i>Not reported</i>		52.5
<i>Total</i>		100.0

Measures

Data were collected by individual program sites and entered into a statewide on-line database to be used as part of the statewide Even Start program evaluation.

Measures used with the adult participants include the Basic English Skills Test (BEST) and the Tests of Adult Basic Education (TABE). The BEST is an assessment used to measure gains in English language skills for English Language Learners. The TABE is an assessment used to measure achievement in basic skill areas commonly taught in adult basic education programs. The Pre-K Success (PKS) measure was used to collect

information from the child participants. The PKS is typically used as a pre- and post-test to measure children's general cognitive abilities.

Adult education measures. The Basic English Skills Test (BEST) is a criterion-referenced, elementary-level test for adults who have limited English speaking skills. It is designed to evaluate "listening comprehension, speaking, reading, and writing skills at a basic level" (Center for Applied Linguistics (CAL), 1988, p. 1). The BEST has good face validity; it was developed by the Center for Applied Linguistics (CAL), an authority in the second-language field, under a U.S. government contract (CAL, 1988, p. 3). The BEST also has good content validity; it focuses on English language survival skills, including basic grammar and using verbal information in a U.S. cultural context (Garfinkel, 1992). The test is comprised of two subtests, the individually-administered Oral Interview Section and the individual- or group-administered Literacy Skill Section. The reliability quotient for each subtest exceeds the .90 reliability standard (.911 and .966, respectively) (Jaynes, 1992). Similarly, inter-rater reliability rates are high, ranging from .842 to .999 for BEST Form B (CAL, 1988).

The BEST test is useful in providing data for ESL programs, such as for screening participants, making placement decisions, assessing student achievement, and determining program-exit readiness (CAL, 1988). In Even Start programs in the state of interest, the BEST is often taken multiple times by a participant, based upon his/her hours of participation. For the purposes of this study, the first and last oral and literacy subtest administration scores were used as pre- and post-intervention measures. These scores were used to create a gain score for each subtest, indicating parents' growth in each area due to program participation.

The Tests of Adult Basic Education (TABE) is a normed and criterion-referenced test used to measure the achievement of adult education students in basic skill areas. The TABE was designed for assessment of achievement in Language, Mathematics, Reading, and Spelling (Lissitz, 1992). The test was originally developed from the California Achievement Test and was later revised to reflect the needs of an adult population. There are two versions, a Survey and a Complete Battery. The Survey is regarded as a shorter, global assessment of functioning, while the Complete Battery provides more specific information. The two versions can be used together in a pre- and post-test format. Each version includes three subtests, Reading, Language, and Mathematics, with an additional Spelling subtest that is optional. Reviews of the test do not provide specific information regarding its reliability or validity, but the TABE Technical Report manual does include such information (see CTB/McGraw Hill, 1996). Reviewers state that the reliability data are consistent with data “reported for other soundly developed tests” and that although very little data is presented to support the statements, the TABE Technical Report does include “several assertions concerning TABE validity” (Beck, 1998; Rogers, 1998).

In Even Start programs in the state of interest, the TABE is often taken multiple times by a participant, depending on his/her hours of participation. For the purposes of this study, the first and last reading and language subtest administration scores were used as pre- and post-intervention measures. These scores were used to create a gain score for each subtest, indicating parents’ growth in each area due to program participation.

Preschool outcomes measure. The Pre-K Success (PKS) measure was used to assess children's pre- and post-intervention cognitive and language abilities. The PKS includes a total of 46 items, which measure three domains of ability: language (11 items), motor skills (9 items), and problem-solving (16 items). The remaining ten items assess multiple ability domains, resulting in three overlapping subscales. The test items utilize parquetry (shape), blocks, paper and pencil items, and assorted objects and pictures. A pre-test and post-test are usually administered by the child's teacher, who has been trained to administer the PKS. Children may take the test in either English or Spanish. The PKS manual includes psychometric information about the test, including an internal consistency range of .88 to .90 (Nelsen, Dingh, Nakagawa, & Weiner, 2002). For the purposes of this study, the first and last language and problem-solving administration scores were used as pre- and post-intervention measures. These scores were used to create a gain score for each subtest, indicating children's growth in each area due to program participation.

Procedures

Research question one was answered using correlational analyses. Parents' prior education, parent age, family annual income, and total program hours attended were correlated with parents' achievement outcomes in both oral and literacy skills, as measured by both the BEST and TABE subtests.

Research question two was also answered using correlational analyses. Parents' gains in oral language ability, as measured by the BEST oral and TABE language, and literacy skills, as measured by the BEST literacy and TABE reading, were correlated with children's gains in PKS problem-solving ability and language skills.

Research question three was answered using multiple regression analyses. Parental background factors and hours of participation were entered into each linear regression model as block one. The individual predictive variables of BEST oral gain, BEST literacy gain, TABE language gain, and TABE reading gain were entered individually as block two, to create four separate models for each dependent variable, PKS problem solving gains and PKS language gains.

Chapter 4

Results

Research Question One: What background factors are related to adult education outcomes?

Parental background factors, such as level of prior education, age, and family annual income, were correlated with adult education outcomes, specifically the BEST literacy and oral gains and the TABE language and reading gains; these correlations are included in Table 5. No significant relations were found between parent prior education and TABE language or reading gains. Parent prior education was, however, significantly negatively correlated with BEST oral gains, $r = -.097$, $p < .05$, and BEST literacy gains, $r = -.094$, $p < .05$. Parent age was not significantly related to gains on either of the TABE subtests. Parent age was, however, significantly negatively correlated with both BEST oral gains, $r = -.119$, $p < .005$, and BEST literacy gains, $r = -.145$, $p < .005$. Family annual income was not significantly related to BEST literacy gains, nor with TABE language or reading gains (see Table 5). Family annual income was, however, significantly positively correlated with BEST oral gains, $r = .134$, $p < .001$.

The parental participation variable of total hours enrolled was correlated with BEST and TABE outcomes. A significant positive correlation was found between total adult education hours and both BEST oral gains, $r = .103$, $p < .005$, and BEST literacy gains, $r = .191$, $p < .001$. No significant relations were found between total adult education hours and gains on either of the TABE subtests (see Table 5).

Table 5

Parent Background Factors and Achievement Outcomes

		<i>BEST Oral Gain</i>	<i>TABE Language Gain</i>	<i>BEST Literacy Gain</i>	<i>TABE Reading Gain</i>
Parent prior education	<i>r</i> (N)	-.097* (656)	-.049 (152)	-.094* (456)	.053 (109)
Parent age	<i>r</i> (N)	-.119*** (703)	.030 (167)	-.145*** (501)	-.013 (109)
Family Annual Income	<i>r</i> (N)	.134*** (693)	.144 (166)	.004 (486)	.045 (116)
Total Adult Education Hours	<i>r</i> (N)	.103*** (804)	.130 (205)	.191*** (590)	.092 (143)

* $p < .05$, ** $p < .01$, *** $p < .005$

Research Question Two: Are parents' gains in oral and/or literacy skills related to children's preschool outcomes?

Parents' gains in oral language ability and literacy skills were correlated with their children's specific preschool outcomes to determine whether they were related; these results are included in Table 6. Parents' gains in oral language ability, as measured by the BEST oral subtest, were significantly positively correlated with children's gains on the PKS problem solving subtest, $r = .146$, $p < .001$. The TABE language subtest gains were not significantly correlated with gains on the PKS problem solving subtest (see Table 6). Parents' gains in oral language ability, as measured by the BEST oral subtest, were significantly positively related to children's gains on the PKS language subtest,

$r = .102, p < .01$. Parents' gains on the TABE language subtest were not significantly correlated with children's gains on the PKS language subtest (see Table 6).

Parents' gains in literacy skills, as measured by the BEST literacy subtest, were significantly positively correlated with children's gains in problem solving skills, $r = .147, p < .005$. Gains on the TABE reading subtest were not significantly correlated with children's gains in preschool problem solving (see Table 6). Parents' gains in literacy skills, as measured by both the BEST literacy and TABE reading subtests, were also significantly positively related to children's gains in language skills, $r = .113, p < .05$, and $r = .217, p < .05$, respectively.

Table 6

Parent Achievement Outcomes and Child Preschool Outcomes

		<i>BEST Oral Gain</i>	<i>TABE Language Gain</i>	<i>BEST Literacy Gain</i>	<i>TABE Reading Gain</i>
Pre-K Success Problem Solving Gain	<i>r</i> (N)	.138*** (633)	-.080 (175)	.147*** (492)	.063 (126)
Pre-K Success Language Gain	<i>r</i> (N)	.091* (638)	.024 (176)	.113* (493)	.217* (126)

* $p < .05$, ** $p < .01$, *** $p < .005$

Research Question Three: Are parents' gains in language and/or literacy skills significant predictors of children's gains, after controlling for parent age, family income, parent's prior education, and the total hours attended in the program?

Multiple regression analyses were completed to predict children's language gains from parental background factors and parental gains on the BEST and TABE subtests.

Models were computed independently for each set of predictive variables and each of the dependent variables, the PKS language and problem solving subtests. Within this section, the initial model varies for each set of analyses. This is due to the variations in sample size for each pair of variables, e.g. PKS language and BEST oral, PKS language and BEST literacy, PKS problem solving and TABE language. Only three of the eight models computed were significant, but additional findings included models that were approaching significance, significant individual contributions and individual contributors that were approaching significance.

Predicting Children's Language Gains. Analysis including parental background factors, time in program, and the BEST oral subtest as predictors for PKS language gains found no significant relations. However, the model including background factors and time in program alone was approaching significance, $F(434, 4) = 2.107, p = .079$. One unexpected finding within this model was that total adult education hours was a significant individual contributor, $t = -1.989, p < .05$. Analysis including parental background factors, time in program, and the BEST literacy subtest as predictors for PKS language gains was significant. The first regression model predicted PKS language gains from parental background factors and total hours of program participation. The results indicated that parent background and total hours of program participation explained approximately four percent of the variability in children's language gains, $R^2 = .041$. This model was significant, $F(306, 4) = 3.255, p < .05$. Additionally, parent age was a significant individual contributor within this model, $t = 3.171, p < .005$. The second model included parents' gains in literacy (as measured by the BEST literacy subtest). Although the model maintained significance, $F(306, 5) =$

2.596, $p < .05$, there was not an increase in the R^2 value. This lack of increase may be due to the fact that the BEST literacy subtest gain was not a significant individual predictor, $t = .045$, $p = .964$. Parent age remained a significant individual contributor, $t = 3.154$, $p < .005$.

Analysis including parental background factors, time in program, and the TABE language subtest as predictors for PKS language gains found no significant relations. The TABE reading subtest, however, was found to be a significant predictor for PKS language gains. The first regression model, which predicted children's gains in PKS language skills from parental background factors and time in program was found to be significant, $F(74, 4) = 2.558$, $p < .05$. The parental background factors accounted for 12.8 percent of the variability in children's gains on the PKS language subtest, $R^2 = .128$. When TABE reading gain was added as an additional predictor to create a second model, significance of the model increased, $F(74, 5) = 3.335$, $p < .01$. Addition of the TABE reading gain as a predictor increased the amount of variance accounted for by approximately seven percent, $R^2 = .195$, with the TABE reading gain a significant individual contributor to the model, $t = 2.398$, $p < .05$.

Predicting Children's Problem-Solving Gains. Analysis predicting children's gains in PKS problem solving skills from parent background factors, time in program, and the BEST oral gains found no significant relations. However, the BEST oral gain was a significant individual predictor within the second model, $t = 2.236$, $p < .05$. Analysis to predict children's gains in PKS problem solving skills from parent background factors and time in program accounted for approximately five percent of the variability in children's gains on the PKS problem solving subtest, $R^2 = .051$, and was a significant

overall model, $F(305, 4) = 4.080$, $p < .005$. Once again, parent age was a significant individual contributor, $t = 2.797$, $p < .01$. When BEST literacy gain was added as an additional predictor, the second model maintained significance, $F(305, 5) = 3.267$, $p < .01$, but the addition of BEST literacy gain as a predictor did not cause a significant increase in the amount of variance accounted for by the model, $R^2 \text{ change} = .001$. Parent age maintained its significance as an individual predictor, $t = 2.751$, $p < .01$. Additionally, this model produced another unexpected finding; the contribution of total adult education hours, or total time enrolled in the program, was once again a significant individual predictor, $t = 2.691$, $p < .01$, as it was in the model predicting PKS language gains from parental background factors and time enrolled in the program.

Analysis to predict children's gains in PKS problem solving skills from parental background factors, time enrolled in program, and TABE language gains found no significant relations. An analysis to predict children's gains in PKS problem solving skills from parental background factors, time enrolled in program, and TABE reading gains produced similar, non-significant findings. However, the model including TABE reading gains as an additional predictor was approaching significance, $F(74, 5) = 2.041$, $p = .084$, and total adult education hours, or total time enrolled in the program, was approaching significance as an individual predictor within both the first and second models, $t = 1.921$, $p = .059$ and $t = 1.701$, $p = .093$, respectively.

Chapter 5

Discussion

The main questions this study addressed focused on what factors were related to parent gains in an Even Start family literacy program, and, in turn, whether parent gains were related to gains in children's preschool outcomes. Parental background factors such as income and prior education, as well as hours of participation in Even Start, were generally found to be significantly related to gains in parents' scores on the BEST oral and/or literacy subtests. Parents' gains on these tests were similarly supportive of children's education. For the most part, parents who achieved higher gains on the BEST oral and literacy subtests and the TABE reading subtest had children who achieved higher gains on the PKS problem solving and language subtests.

In addition, although the predictive relationships between parents' and children's gains are not as strong as their correlational relationships, some predictive value was found within this study. Background factors and time in program appear to be consistent predictors of children's gains on the PKS subtests, with varying contributions as individual predictors as well. Parents' gains on the BEST and TABE subtests also proved to be significant predictors of some children's gains, above and beyond background and hours in program.

As with prior studies of family literacy programs, the findings from the present study are mixed. However, when considering the results in light of recent work on Even Start, this study does confirm the importance of parent involvement and education to children's outcomes. Due to the similarities between this study and the National Even

Start Evaluations, specifically the third National Evaluation, these studies will be the focus of discussion in this section.

The Role of Parental Background Factors

While most results were in the expected direction, a few were surprising. First, the negative relationship between parent prior education and parent gains on the BEST oral and literacy subtests indicates that parents with higher levels of education achieve smaller gains. This indicates that a ceiling effect may be present, where individuals with greater levels of prior education are topping out at the highest achievement levels on these subtests. Similarly, the negative relationship between parent age and BEST oral and literacy gains suggests that older parents achieve smaller gains. This may also be explained by a ceiling effect, in which older parents have had more experience with the English language, therefore they had higher scores upon enrollment and, therefore, a decreased opportunity for growth during their enrollment in the adult education program. The opposite may also be true, that parents who immigrated to the United States at an older age were afforded a decreased opportunity to learn the language and therefore their learning was inhibited by age effects.

As expected, there was a positive relationship between family annual income and parents' gains on the BEST oral subtest. This could be due to the fact that families with greater income have an increased opportunity for enrollment in the adult education programs. This hypothesis was supported by the fact that most of the adult participants in these programs were female (1,079 of 1,131 total participants), as well as that the mean reported family annual income was higher among females (approximately \$14,000 yearly) than males (approximately \$9,000 yearly) suggesting that in families

with a higher family annual income, mothers are able to participate in these programs more freely. This is supported by findings from the third National Even Start Evaluation, that “in most families one parent (usually the mother – the child’s primary caregiver) participates in Even Start while the other parent [the father] often is a wage earner” and that “there are many households in which most of the income comes from wages but the parent participating in Even Start is not a wage earner” (St. Pierre et al., 2003, p. 118). However, the number of male parents in this sample was very low (16), as compared to the number of female parents in the sample (1079), which may skew the family annual income information in favor of the mothers.

Alternatively, the programs used within the current study may not be representative of the universe of Even Start projects. Even Start, in general, tends to have high percentages of single-parent families. In 1990-1991, 40 percent of Even Start families were classified as single-parent (St. Pierre et al, 2003). That percentage had decreased to 25 percent in 2000-2001. St. Pierre and colleagues argued that this substantial decrease was likely related to the increased enrollment of both teenage parents and Hispanic families. That is, teenage parents are more often categorized as having an extended family situation, since they typically live with their own parents, and Hispanic families are less likely than families of other ethnicities to be headed by a single parent (St. Pierre et al.) Although family structure was not reported for this sample, a very high percentage (93%) reported their ethnicity as Hispanic. In comparison, the third National Even Start Evaluation reported that in 2000-2001, approximately 46% of Even Start participants were Hispanic (St. Pierre et al.). Due to the high percentage of Hispanic families in the current sample, it is possible that the

sample has a higher-than-normal representation of two parent families and therefore under-represents single-parent and/or extended families. If the program data utilized within the current study over-represents two-parent households, it is possible that the increased participation by mothers is due to this difference.

Total hours enrolled in the program was used as a proxy variable for program participation and was significantly positively correlated with both BEST oral and literacy gains. This suggests that individuals who participate longer experience greater growth, which was to be expected. The combined presence of significant relations between hours enrolled and the BEST subtests and lack of significant relations between hours enrolled and gains on the TABE subtests could be due to the fact that the BEST and TABE measures are typically used with qualitatively different groups of parents. That is, parents who complete the BEST literacy subtest generally have weaker English language skills, while parents who complete the TABE reading subtest generally have stronger English language skills, affording less chance for significant improvement during the course of the program, regardless of the participants' length of enrollment and total program hours.

The Role of Parents' Achievement

Generally, parents who achieved greater gains on the BEST and TABE measures had children who achieved greater gains on the PKS measure. For example, parents whose BEST oral and literacy subtest scores increased were likely to have children whose PKS problem solving and language scores increased. This indicates that as parents became better able to communicate with their children, in English, children became better able to complete analytic tasks and communicate using the

English language as well. Similarly, parents whose scores on the TABE reading subtest increased were likely to have children whose PKS language subtest scores increased. This also indicates that as parents become more literate in English, they are better able to support the simultaneous development of their child's literacy in English as well. These findings fill the void left by the lack of results from the first and second National Evaluations, as well as validate the third National Evaluation's finding that parent involvement was related to better child outcomes.

Predictive Relationships

Regression analyses were completed to determine whether parents' gains in oral language ability and/or literacy skills acted as significant predictors of children's problem solving and/or language skills, over and above the effects of parental background factors. Each model provided interesting information about the influence of parent gains in oral language ability and literacy skills on children's gains in problem solving and language skills. Taken together, the regression findings indicated that growth in parents' literacy skills, as measured by the BEST and TABE subtests, served as a fairly consistent predictor of children's gains in language and problem-solving skills.

The BEST literacy subtest was predictive of gains on both the PKS language and problem-solving subtests. This indicates that when parents gain skills in reading in English, they are better able to support their children in not only learning to use the English language, but also in learning how to reason and problem-solve. Additionally, the TABE reading subtest predicted gains on the PKS language subtest, as well as was a significant individual predictor within the regression model. This finding indicates that parents who begin the program with greater English language skills and make

significant gains in their English language literacy skills are better able to support their children's cognitive growth; therefore these parents have children who achieve greater gains in their English language skills.

And, although not as strongly related as the literacy gains, the BEST oral subtest gain was a significant individual predictor for children's gains on the PKS problem-solving subtest. Overall, these results suggest that even beyond time in program, the gains that parents make in literacy skills in particular are important to children's outcomes.

Limitations

The current study was limited in a number of ways. First, the sample was decreased significantly due to missing or incomplete background data. The original potential data set included approximately 1,500 participant pairs, of which only 1,131 were usable. Further decreases in sample size were caused by differences in collection of or reporting of certain variables, such as background factors for parents and children. For example, of the 1,131 participant pairs, only 972 parents had a reported age, only 971 children had a reported age, only 1,113 had total adult education hours reported, only 912 had a reported level of prior education, only 968 had a reported family annual income level (see Table 1), only 1,095 had a reported ethnicity (see Table 2), and only 1,095 parents and 494 children had a reported gender (see Table 3).

Second, and similar to the first limitation, data for the measures used in the study varied dramatically across program sites. Programs used different measures to collect parent achievement information and some programs did not enter complete outcomes information for many participants. This inconsistency resulted in low numbers for some

of the calculations or incomplete measure outcome correlations. For example, in Tables five and six, the sample sizes for the various correlations range from 109 to 804. These differences may have impacted not only the strength and/or significance of correlational relations, but also the regression analyses.

Third, the two measures used to collect information on parent achievement have different psychometric purposes, as was mentioned previously. The Basic English Skills Test (BEST) was designed to be used with a population that has limited English skills, while the Tests of Adult Basic Education (TABE) was designed for a population with stronger English skills. Those parents tested using the TABE have skills that make them distinctly different from parents tested using the BEST, so it is inappropriate to compare achievement gains measured using the TABE to gains measured using the BEST, due to the difference in the general skill level of each group of parents. This, however, was the only method of comparison available within the current study.

Implications

The substantial variability of reported data within the current sample limited the practical use of the data to fully address each of the research questions. Improvements in data collection and reporting would increase the usability of the data for future researchers and would ensure more accurate reporting of findings. Variables that require improvement in consistency of reporting include, but are not limited to: parent and/or child age, parent's level of prior education, parent ethnicity, parent and/or child gender, family annual income level, and parent's total adult education hours. Similarly, data for the BEST and TABE measures was not only inconsistent, i.e. parents would have either pre- or post-measure outcomes, not both, but was also incomparable. It

would benefit the universe of Even Start programs to find a single measure that is useful with parents who begin the program at all levels of English language ability. This would not only streamline procedures across programs, but, along with consistency in reporting, would provide a much more comprehensive data set with which researchers could analyze the growth, utility, and success of the Even Start family of programs. However, we recognize the difficulties in accurately measuring such a wide range of abilities with a single instrument, as well as acknowledge the challenges associated with creating such an instrument, so therefore do not anticipate this suggestion will be fulfilled.

The findings from this research support continuation of Even Start programming, especially for particular groups within the current study. The results of this study indicate that parents who participate in more hours of programming achieve better and have children who make greater gains, particularly for parents who enter with fewer English language skills. Perhaps programs could institute more supportive structures to encourage continued parent participation. Even Start programs are already required to provide such services as flexible scheduling, child care, transportation, and often ancillary services such as “nutrition assistance, health care, meals,...referrals for mental health and counseling...” and many others (USDE, 1998, p. 4). It is unclear, then, exactly what further services would be of use. Future research might explore this area by surveying Even Start parent participants to see which of these provided services are most useful, as well as what additional services they feel would be supportive of their continued participation in Even Start.

Based on the nature of the predictive relationships that were found, it is evident that parents' skills in English language literacy are important in supporting children's growth in both English language and problem-solving skills. It is possible that as parents are gaining English language skills they are able to more effectively support their child's English language learning. In addition, they may feel more comfortable interacting with the school on behalf of their child, thus improving their child's opportunities for education. However, the importance of communicating in the family's native language should not be overlooked. Since most activity within the home takes place using the language that is most comfortable for the parent, which is most likely their native language, it is this communication that is improved through parenting education and similar skill developments. Therefore it is not just increased skills in the English language that are most beneficial to parents, but increased skills in communicating with, advocating for, and parenting their child, as well.

Based upon the specific findings for the BEST and TABE measures, it appears that different recommendations are needed for these qualitatively different groups of parents. As was mentioned previously, parents who are tested using the BEST have lower levels of English language proficiency than parents who are tested using the TABE. It appears that for parents with lower English proficiency, increased participation in and of itself, as evidence by increased hours of programming, is important. Increased support through improved program services, as mentioned previously, might help parents achieve this goal.

Parents with lower English proficiency benefited equally from both the literacy and language portions of their instruction. In contrast, parents with greater English

proficiency were able to help their children more when making gains in reading skills. Therefore, it appears that these two groups of parents might be best served by slightly different curricula. Although it should not be argued that more emphasis should be placed on one component, such as reading, to the detriment of other program elements, it may be necessary to investigate the best methods of educating these distinctly different groups of parents. Adjustments to curriculum, teaching methods, or instructional materials might assist program administrators in ensuring that literacy skills are a greater focus of the program for parents with greater English skills upon program entry, while those parents with fewer English skills should be encouraged to participate as much as possible in both language and literacy skill development. The findings from this study support the idea that parent development is critical to children's development – improving parents' language and reading skills might be one means of improving children's outcomes.

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