
**FINAL REPORT OF AN EVALUATION OF THE
AVANCE PARENT-CHILD EDUCATION PROGRAM**

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**AVANCE Family Support
and Education Program**

National Office

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**FINAL REPORT OF AN EVALUATION OF
THE AVANCE PARENT EDUCATION AND FAMILY SUPPORT PROGRAM**

October, 1991

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EXECUTIVE SUMMARY

Program

Avance is a parent-child education and family support program which has functioned in San Antonio for low-income, Mexican American families since 1973. In the first year of the program, mothers attend classes one morning per week for three hours for nine months and their birth to 2-year-old children accompany them and participate in the day care program. Mothers are visited in their homes monthly during the program year by trained educators. Mothers may choose to participate a second year to develop their educational and vocational skills.

Evaluation Design

The basic program evaluation design was a comparison of program and control groups at the end of the program year with pre-test scores controlled. Random assignment to groups was utilized at the Southside site, but this was not feasible at Westside and a matched group design was used there. The design also included use of two annual cohorts of subjects.

Participants were recruited through door-to-door surveys to locate low-income, Mexican American families with a child from birth to age two. The total number of families recruited who completed initial data procedures (T1) and the number of families who completed the program or were available for end-of-program data collection (T2) for the two sites and for both cohorts is shown in Table 1 and Table 6 in the body of this report. As may be seen, initial sample sizes were substantial for each group. As would be expected from the much greater demands placed upon program participants, more program families dropped out during the first year. The drop-out rates also appear in Tables 1 and 6. The program drop rates were high, but were about as expected based on the experience of similar programs. The remaining sample sizes were ample for evaluation purposes. Data were examined for evidence of differential attrition. There was no evidence that drop-out had occurred in ways that might influence interpretation of the outcome results.

Project participants were about 24 years old, had about 2.5 children, had completed approximately 9 years of education, and 60% were either married or living with a partner. Women in the Southside tended to have more education, more often to be married, and more often to live in single family dwellings than women at Westside. It is also important to note that 47% of the Southside women and 58% of the Westside women had Center for Epidemiological Studies-Depression (CES-D) scores that were in the clinically depressed range.

Results

First Year Program

Data analyses for nearly all variables consisted of examining post-test group differences with pretest scores controlled. Sites were always analyzed separately. Analyses were done for each cohort separately and for cohorts combined. Group differences mentioned were statistically significant differences, no "trends" are mentioned in this report.

Educational Stimulation Provided in the Home

Very strong program effects were found for mothers' provision of an educationally stimulating and emotionally encouraging environment for their children (HOME Total). This was true for both sites and both cohorts. In particular, the program mothers more often provided their children with educationally stimulating toys and play materials, and they also were more emotionally and verbally responsive with their children. In addition, Southside program mothers more often avoided restrictive and punishing behaviors and provided more variety in the child's daily routine. Westside program mothers were more involved with their children.

Mothers Knowledge About Community Resources

At the end of the program, participating mothers at both sites knew more about community resources for families and Southside mothers also utilized these resources more than control mothers.

Mothers' Attitudes and Beliefs About Child-Rearing

Program participation resulted in less strict attitudes about child-rearing for both sites (Questionnaire on Parental Attitudes). Southside program participants also showed program effects in being less aggravated by child behaviors and in developing more warmth in their feelings toward the children.

The program also increased positive child-rearing attitudes for the mothers at the Westside site, but similar effects did not appear at the Southside (Mothers' Developmental Expectations and Child-Rearing Attitudes Scale).

Mothers' Attitudes Toward Education and the Mother's Role as A Teacher

The program had the effect of helping mothers at both sites develop more positive attitudes toward their role as teachers of their young children (Early Learning Questionnaire). Mothers at the Southside site also developed more progressive attitudes toward education.

Mothers' Attitudes Toward Self

Program effects on the self-esteem of mothers were very limited appearing only in cohort B at the Westside.

Southside mothers in the program had a greater sense of efficacy in their role as parents than did control mothers.

There were no program effects on levels of depression experienced by the mothers.

Social Support

Program mothers were expected to develop wider social support networks as a function of program participation. At Southside, program mothers developed proportionately larger non-family networks of friends. At Westside, control mothers reported a greater need for social support and greater utilization of support.

Second Year Program

Educational Achievements

Program participants at both sites were more often than controls enrolled in and/or had completed courses for the General Equivalency Diploma (GED) or English as a Second Language (ESL). At Southside courses were taken by 77% of program mothers and 41% of control mothers. At Westside, 58% of program mothers took courses compared with 25% of control mothers.

Results for Children

Intelligence Tests

Index children ranged in age from 13 months to 36 months at the end of the program. Groups were compared on the Bayley Infant Scales of Development (infants) and on either the Kaufman-ABC or Stanford-Binet IV (30 months or older). No significant differences were found.

Child Behavior Problems

No group differences were found on the Child Behavior Problems Scale as completed by mothers.

Conclusions

An evaluation of the Avance program has demonstrated that it has had powerful effects on the ability of women participating in the program to provide an educationally stimulating and emotionally encouraging environment for their children. It has also had strong effects on the child-rearing attitudes and knowledge, and on knowledge about community resources. Evidence as to the program's effectiveness in helping participants strengthen their social support networks or enhance their self-attitudes was

mixed. In the second year, program mothers more often enrolled in courses that have potential for upgrading their prospects for employment. There was no clear evidence of group differences on such child development measures as intelligence tests and child behavior problem inventories at the program's end.

Most of the program goals were attained to an impressive degree. This is particularly important since it was the goals that received high priority ranking by the staff that were attained; goals ranked as less important received mixed support or were not supported.

The absence of group differences on the child measures is not surprising. Avance was designed primarily to assist mothers of young children to develop their own skills in child-rearing and homemaking, as well as to provide an avenue through they can continue their formal education. The expectation was that as the mothers developed their own competencies, they would be able to assist their children over the years. The program effects that were found suggest that program mothers are in a position to help their children to develop in ways that will optimize their school success. They have the necessary skills to provide an educationally stimulating environment and provide emotional support, they value education for themselves and their children, and they have a knowledge base for effective rearing of children.

It was recommended that the basic program be continued with additional attention given to improving the quality of the day care program, providing more specific training regarding cognitive and language stimulation, making training in problem solving more specific, and adding a depression prevention and intervention component.

INTRODUCTION

Parent-Child Education and Support Programs

High rates of divorce, accelerating numbers of adolescent pregnancies, increases in child abuse and neglect, and homeless families have indicated that the American family is in distress (National Academy of Sciences, 1976). Added to this is an awareness that the number of families in poverty in America is high and increasing (New York Times, 1987), and with these high levels of poverty there are many other related problems such as school failure and drop out and child behavior and emotional problems. Awareness of these problems has resulted in a surge of interest in developing programs to support families and to provide parents with the information they need to function effectively in their roles as parents.

Historical Review

The nursery school studies of the late 1930s and early 1940s were among the first to employ experimental and quantitative methods to examine the role of enriched early educational experience on the development of children's cognitive abilities (Stoddard & Wellman, 1940). These early studies were based on questions about the mutability of intelligence test scores. In short, would participation in nursery school raise the IQs of children? The results were controversial, but they did direct attention to a somewhat ignored facet of the American population: families in poverty. This research suggested that children of low-income parents tended to show intelligence test score increases when exposed to well-designed and operated nursery schools.

Parent education efforts were attempted very early with "mothers' clubs" formed as adjuncts to some nurseries in 1892 to provide information on child care, sewing, and cooking. Home visits to mothers were provided in connection with some nursery schools in the 1930s (Cahan, 1989). Despite these signs of early concern with providing parents with information, there was little attention to evaluation. One of the first attempts to evaluate the effectiveness of a parent education program was carried out by Hereford (1963).

Poverty in America was rediscovered in the 1960s and a new series of independent early childhood programs were launched with the specific goal of improving the likelihood that children of low-income families would do better in school than they would without preschool training. These early programs were later consolidated for follow-up evaluation purposes into the Consortium for Longitudinal Studies (Darlington, Royce, Snipper, Murray, & Lazar, 1980; Lazar, Darlington, Murray, Royce, & Snipper, 1982).

The results of the Longitudinal Consortium demonstrated

that long-term effects of preschool programs are possible, but they also showed that programs had rather different outcomes. Some had little or no long-term effects on child academic or social functioning, but on one measure of program success, "met school requirements," there were significant results for the pooled data of 7 programs. One project (Schweinhart, L., Berrueta-Clement, J., Barnett, S., Epstein, A., & Weikart, D., 1985) had remarkably strong effects on several aspects of child performance. All of the projects placed primary emphasis on working directly with the young children, but three, those developed by Levenstein, Gordon, and Weikart, also involved mothers and attempted to enhance the teaching effectiveness of the mothers.

All of the Consortium projects required substantial time commitments of the children involved, and for the three programs just noted, of the mothers as well. Owing to the great differences in structure and procedures of the programs it was not possible to determine whether parent involvement added significantly to the school-related outcomes for the children.

At about the same time as the development of the Consortium projects, Head Start was begun (Zigler & Valentine, 1979). In the first years of Head Start, parent involvement was minimal, but more recent Head Start initiatives have included parents in the programs in many ways. An early evaluation of Head Start (Westinghouse Learning Corporation, 1969) found no significant effects as compared with a post-test only control group. Even though the evaluation was criticized by many evaluation researchers, in the eyes of some observers, Head Start was judged to be a failure. It was thought that beginning with 4-year-old children was too late to have an impact on developing cognitive skills, and ending at age 5 or 6 was thought to lack continuity (Bronfenbrenner, 1974).

The Parent-Child Development Centers (PCDCs), which grew out of Parent-Child Centers, were the first large-scale projects designed to respond to the major criticisms of Head Start and to explore the efficacy of parent education with parents of infants in reducing child school failure. The PCDCs in Birmingham, Houston, and New Orleans demonstrated that goals for mothers to improve their teaching skills and develop positive relationships with their children, and for children to show increases in intelligence were attained. Follow-ups of the children in the primary grades continued to show program effects on school performance (Andrews, Blumenthal, Ferguson, Johnson, Kahn, Lasater, Malone, & Wallace, 1982). The Houston PCDC was followed more actively, and it demonstrated that these effects persisted 5- years after program completion (Johnson & Walker, 1991). In addition, the Houston PCDC program children had fewer behavior problems in the preschool years (Johnson & Breckenridge, 1982) and 5-8 years after the program (Johnson & Walker, 1987).

A new wave of parent education programs, a "third generation," developed in the 1970s and 1980s. There are many of these, and only a few have been evaluated or even described in print. For the most part, they have benefitted from the earlier programs, and there has been borrowing of curriculum and educational ideas. Thus, they have much in common with the earlier programs, but they also differ from them in two important ways--they tend to focus on parental behaviors and they are less extensive, typically requiring fewer than 100 hours of participant time. Reviews of effectiveness have been reported in the books edited by Weiss and Jacobs (1988) and by Powell (1989). Evaluations of some of the major programs of this era (e.g., Child Survival/Fair Start Initiative) had not been completed as of this writing. Other major programs such as the Missouri program (Pfannenstiel & Seltzer, 1985) had evaluations that suggested strong program effects, but because they had utilized quasi-experimental evaluation designs conclusions about effectiveness had to be guarded.

Given the condition of American families today and the problems that many families have in rearing children, offers of help through parent education and family support programs are inherently worthy. There is little justification for requiring that all parent-education and family support programs be evaluated to assess their effectiveness, but it is essential that there be a base of evaluation knowledge about each of the various types of family interventions. Parent education and family support programs have different objectives and differ in such important ways as participant social status, characteristics, child age at time of program and follow-up, presence of handicapping conditions, type of delivery, type and training of staff, and intervention effort or amount of time and staff required to implement the program. Because of the diversity of goals, participant characteristics, and methods, the number of types of programs is relatively large and the number of needed appropriate evaluation efforts is also large. It is more important to carry out thorough evaluations of examples of the various types of programs even if all programs are not evaluated.

The Avance program is similar to a number of other parent-education and family support programs in many ways and in evaluating Avance the evaluation indirectly provides an evaluation of the class of programs. It offers parent education and family support with a relatively small commitment of family time required. Major emphasis is placed on the mother's role as parent and teacher of her child, but her own development in terms of formal education is also part of the program.

A Philosophy of Evaluation

The decision to examine whether an educational program

is effective in attaining goals carries with it a set of assumptions that rest on a fragile base of evidence.

Programs such as those designed to provide parent education and family support may be thought of as opportunity structures. Information is provided in a general way and individual program participants make use of this information in unique ways. They encounter the opportunity differently. Some will see it as trivial, because they already know or have experienced what is provided. Others will seize the opportunity and wring it dry of new information because they are ready for it. Still others will discover the opportunity when it has almost passed because they were not ready at first. Some will be so occupied with other concerns that the program will be little more than a haven of quiet in a storm of troubles. With all this variation the assumption is that the program will have more or less uniform effects on all who participate, but obviously that is not the case, the effects must vary considerably from one participant to the next. The evaluation rests on the assumption that certain kinds of expected effects will occur more commonly or to a greater extent with the program participants than with the controls.

Evaluations rest on measures that provide quantitative information on the status of individuals or groups on certain selected variables or concepts. These measures sample characteristics of respondents and do so with the expectation that they will only estimate or approximate reality. Just as a biography or autobiography of a person is in no sense the actual person, the picture of program effects presented by evaluation measures is not the same as program effects. The measures are only indices and must be assumed to carry with them a considerable amount of error.

Some participants may make discoveries about themselves as a function of program participation that will have profound implications for their lives, but which will never be recorded by the evaluation instruments because the discovery is quite private and personal. For example, a woman may regard herself as quiet, a follower rather than a leader, and hold her ideas in low esteem, but in the context of an educational and interactive program with a group of peers, discover that she can be a leader, that her ideas are as good or better than those of others, and that she need not be defensively shy. She becomes more assertive and manages her own life, and that of her children, more effectively. This process could be highly important, but while based on the discovery of a moment, may take months to be realized. The evaluation could not capture this discovery because it is unique, but might identify some of the consequences of the discover such as a greater sense of parental efficacy or more effective problem solving.

Given the strongly stated arguments for the need for quantitative evaluation, and the equally strongly stated reservations about evaluation, it is necessary to provide a basis for proceeding. It rests upon a belief that evaluation

can provide information that is useful in making decisions. The decision made might be as simple as to continue or to discontinue a particular evaluated program, but this should be a rare case. More likely, evaluation information will provide information that can be used to modify a program to improve its effectiveness. Evaluation should provide evidence that certain program features are strong or weak, adequate as they are, or in need of improvement.

AVANCE PROGRAM

Program Overview

Avance-San Antonio was established in 1973 by Gloria G. Rodriguez as a private non-profit, community-based organization in San Antonio, Texas, to serve predominantly low-income Hispanic families. The program was based in part upon the ecological themes developed by Bronfenbrenner (1974, 1979) and in part by the personal experiences of having lived in the barrios by the program developers. The Avance Family Support and Education Programs now serve over one thousand individuals annually throughout the western and southern quadrants of the city.

The Avance Parent-Child Education Program is one of six programs offered by Avance to mothers, fathers and children who are at-risk for school failure by virtue of their income, education, and other social characteristics. Recognizing the importance of addressing the needs of the entire family, Avance has developed an umbrella of services designed to provide education and support to all members of the nuclear family. The centers involved in the present evaluation are located in two different communities: one in a federal housing project and the surrounding neighborhood and the other in a residential low-income neighborhood. In the current evaluation, about half of the participants are married. Additionally they have about 9 years of education, have a monthly income of about \$500, have 2.5 children and many were born in Mexico.

The Avance Parent-Child Education Program is a nine-month comprehensive center-based program with an in-home component offering parenting education and family support to parents and their birth to two-year-old children. For nine months, September through May, the mothers and children are transported to weekly three-hour classes held at the facility closest to them. At the Avance Center mothers make educational toys, receive lessons in child growth and development, learn to see themselves as role models for and teachers of their children and learn about the many social services located in the community while their children are in the Avance Day Care Center. The toymaking class component provides opportunities for the development of self-confidence, socializing, and exposure to the notion of a child learning through play. In addition, parents are visited once a month at home. The parent-child dyad is observed in a play situation with an Avance toy during which time the home visitor emphasizes to the parent the importance of her role as a teacher and effective caregiver. The visit is also used to provide the mother with individual assistance and support. Periodically, home visits are videotaped by program staff. These videotapes are then shown to the participant and later to the entire class so that they can learn from each other.

Field trips and enriching experiences for the family are also provided. All of the Avance services are delivered by an understanding staff who are from the community and the majority of whom are previous Avance participants.

Transportation is provided to and from the center, and child care for preschool children is available. During the course of the program, each parent is asked to volunteer in the daycare center on twelve occasions as part of a child care practicum.

Some mothers choose to continue with the Avance program for a second year. During this time they attend courses for English as a second language, work on the high school equivalency exam (GED), take junior college courses, or otherwise develop their vocational skills. Avance assists those women who continue in the program through the provision of childcare for their infant and preschool-aged children during class time and transportation to and from classes.

Description of Sites

The Southside area consists of neighborhoods approximately bounded by South Pan Am Avenue on the east, Military Drive on the south, Quintana Road on the West, and West Glen Street on the north. A last minute move to a new service center occurred after Cohort B participants had been recruited. The new center is located about 1.5 miles east of the previous center. This change resulted in a 1 month delay in the commencement of the program. Owing to the attrition caused by the distance and the delay in start-up, some additional families were recruited in the new area. This new area was bounded by Roosevelt on the east, Petaluma on the south, Commercial Avenue on the west and Hart on the north.

Westside consists of the Mirasol Housing Project and the surrounding neighborhood. The service area is bounded by Barclay Street on the east, Jewell on the south, 36th Street on the west and Elmendorf Creek on the north.

The Casiano Housing Project is located approximately one mile southeast of Mirasol. The recruitment area was bounded by Cibolo Street on the east, Cavalier Street on the south, Barclay Street on the west, and Commerce Street on the north.

FIGURE 1

Major Elements of the Avance Program

First Year

Child age birth to two
Classes for mothers at Avance centers one morning a
week for 3 hours for 9 months
Lectures on language and cognitive development of the
child, discipline, child care, health and safety
in the home, nutrition, etc.--one hour
Toy making--one hour
Lecture/discussion of community resources--one hour
Home visits--9 times

Second Year

Assistance in enrolling in and taking classes in
High School Equivalency Exam (GED)
Community College Courses
English as a Second Language (ESL)
Citizenship Courses

Both Years

Day care provided
Transportation provided to and from center

HISTORY OF EVALUATION OF AVANCE

Project CAN

There were no evaluations of the program in its early years, as may be quite appropriate. Campbell has warned against instigating evaluations "until the program is proud," acknowledging that programs need time to develop procedures and routines before they can be thought of as "programs" as opposed to individual variations on a more-or-less coherent educational theme.

Project C.A.N. Prevent was initiated in October, 1979, as a 39-month project of Avance-San Antonio (Rodriguez & Cortez, 1988). The specific purpose of the project was to develop strategies to alleviate the problem of child abuse among low-income Mexican American families. The project was supported by a grant (No. 90-CA-2143/02) from the National Center on Child Abuse and Neglect, Children's Bureau, Administration for Children, Youth, and Families, Office of Human Development Services, Department of Health and Human Services.

Guiding the conduct of the study were two major questions: 1) What sociocultural, economic and contextual factors predict physical child abuse, and 2) does participation in a parenting education program result in lowered severity of discipline among participating parents? It was expected that the program would result in reduced severity of discipline and increased knowledge and skills pertaining to child-rearing.

The project was conducted in three phases. During the first phase (Survey) demographic, child-rearing, and child care information was collected to identify variables associated with child abuse. During the second phase (Program Development) survey data were used to modify the Avance Parenting Education Program. In the third phase (Program Evaluation) the program was implemented in parenting class settings and program effectiveness was evaluated using a pre-post matched group design. A total of 46 program and 21 control mothers participated in the project.

Participation in the Avance Parenting Program resulted in significant increases in knowledge about child-rearing, parental perception of role as a teacher, more liberal attitudes toward punishment and punishment severity, increased usage of social service agencies and greater ability to negotiate social support in times of stress. Differences in parent-reported levels of physical punishment were not significant.

Present Evaluation

Although the results of the Project C.A.N. evaluation

were generally positive, generalization from the results was restricted by evaluation design limitations. The design utilized matched groups rather than randomization, the sample size was relatively small, and the effectiveness of the program was assessed with a single interview. Nevertheless, even with these methodological shortcomings, the project did prepare the way for a more comprehensive evaluation, and in particular, provided the essential features of an evaluation interview that could be used in another evaluation study.

In October of 1986 the Avance administrative staff assembled an advisory committee to assist in developing a proposal. This proposal was submitted to the Carnegie Corporation in October of 1986 and approved on April 9, 1987. A research advisory committee was formed comprised of Robert Halpern, Manuel Ramirez III, and Heather Weiss. Dale L. Johnson was brought in as Senior Researcher and Todd Walker joined the project as Research Coordinator. Alan Holden continued as statistical consultant.

The evaluation plan that emerged from the advisory group meetings was for a comprehensive evaluation of the major Avance program. Both summative and formative evaluations would be included. A decision was made to include two program sites and to carry out the evaluation with two cohorts of participants.

A decision was also made that the evaluation should be directed by a person who has had considerable experience in this form of program evaluation and who was external to Avance. Dale Johnson, professor of psychology at the University of Houston and director of the Houston Parent-Child Research Center was selected to direct the evaluation. He had been director of the Houston Parent-Child Development Center project and had been involved in other evaluation efforts. He chose Todd Walker, then an ABD in developmental psychology at the University of Houston, to be the full-time on-site coordinator of the project. Walker was picked because of his developmental research training, his experience in managing research projects in Mexico and Texas and because of his fluency in the Spanish language.

During June, evaluation project staff were hired jointly by the Senior Researcher and Avance Director. They were trained in data collection and management techniques by Walker beginning in July.

After notification of the research award, measures were selected, staff were hired, translations were carried out, and recruitment of families in the first cohort was begun in July, 1987, for program participation beginning in September.

EVALUATION RATIONALE

Avance Goal Priorities

The general goals for Avance had been stated in several publications prior to the Carnegie Evaluation. However, they were stated in general terms, and they had not been ranked by order of importance. In preparing for the evaluation, key staff members were asked to list goals for Avance as they understood them to be and then to discuss their lists together and arrive at a single list. The staff then assigned priority values to each goal on the list. Goals were thus placed in high (H), medium (M), and low (L) categories for mothers and for children. In addition, after a review of these priorities and an examination of Avance structures and procedures the evaluation staff added several additional goals which seemed implicit in the Avance program (A). The goals are listed in Figure 2 in sets of goals that are conceptually related.

Program Evaluation General Considerations

Goal related

The first step in the evaluation of an intervention program was to define the goals of the program. That was done and the goal priorities appear above. The next step was to make sure that program elements; e.g., curriculum, training procedures, were in accord with the goals. This examination was part of the Formative Evaluation (See Volume II: Formative evaluation of the Avance Program). The third step was to link goals to program evaluation measures. An assessment of the attainment of all goals was not attempted, but goals rated as having high priority and being measurable within the time frame of the valuation were assessed.

Relevant for Parents

The evaluation measures must be meaningful to the project participants. With that in mind, all measures are made available in English and Spanish and measures were selected that were written in language that was comprehensible to persons with limited education. Finally, in selecting or writing measures, the life experiences of the participants were considered. In part, that meant making the items culturally sensitive, but in addition to this general concern, items had to be meaningful for this specific group of women participants who live in San Antonio, and who, with limited resources, are rearing young children.

FIGURE 2**Avance Program Goals and Priorities****Educational Stimulation Provided in the Home**

- Mother's positive interaction with her child (H)
- Mother's greater responsiveness to child (H)
- Mother's nurturance with child (H)

Mothers Knowledge About Community Resources

- Mother's increased knowledge of community resources (A)
- Mother's increased usage of community social services resources (H)

Mothers Knowledge About Child-Rearing

- Increased knowledge about child-rearing (H)

Mothers Attitudes and Beliefs About Child-Rearing

- Decreased attitudes toward severity of punishment (H)

Mothers Attitudes Toward Education and The Mothers Role As Teacher

- Mother perceives herself as a teacher of her children (H)
- Mother's receptivity to adopting positive attitudes toward education (H)

Mothers Motivation for Achievement

- Mother's higher aspiration level (M)

Mothers Attitudes Toward Self

- Mother's increased self-esteem (M)
- Mother's greater self-confidence (M)
- Mother's increased sense of parenting efficacy (A)
- Mother's decreased depression (A)
- Mother becomes more hopeful (M)
- Mother's greater energy levels (M)

Social Support

- Increased social support network (H)
- Increased social support network of friends (A)

Coping Skills

- Mother's more effective coping behaviors (M)

Priority: H - High; M - Medium; L - Low;
A - set by evaluation staff

Figure 2 con't

Family Harmony

Strengthened and stabilized personal family functioning
(long-range goal) (H)

Effects On Children

Child's increased cognitive competence (H)
Child's increased social competence (L)
Child's developmentally appropriate verbal skills (H)
Child's developmentally appropriate physical
development (H)
Child's good health (H)

Mothers Improved Employment Prospects

Mother's enhanced employability (long-term) (H)
Mother's increased educational attainment (long-term)
(H)

Participant Satisfaction

Mothers should like the program (A)

Priority: H - High; M - Medium; L - Low;
A - set by evaluation staff

Appropriate for Child Age

Greater emphasis was given to assessment of the mothers in the project than to their children because of the very young age of the children and because the first year of the project is seen as initiating effects upon the children which will be measurable later. Nevertheless, some goals do address expected program effects upon children and they were measured in the evaluation. The main consideration for the children was the developmental level, indexed here for the group as a whole as chronological age. The greatest problem was that of finding developmentally and program sensitive measures that are suitable for children across a wide age range. Avance typically functions with children from birth to age 3. Prior research by the Senior Researcher found that mother-child interaction procedures making use of coded observations of free play or structured tasks are highly sensitive to child age effects. We also had found that such measures offer a great deal of rich evaluation information and wanted to retain them for this evaluation. Therefore, we adopted the following practice: 1) The child age range was reduced from birth to 3 to birth to 2. This concentrated the number of children at a given age available for assessment, but still approximated the standard Avance practice. 2) Assessment was done at post-program evaluation only because it would be of little use to attempt interaction assessments of neonates. 3) Assessment was conducted within two weeks of the child's 12 month, 18 month, 24 month, 30 month, or 36 month birthday. This required dividing the total sample into rather small sample sizes, but there seemed to be no acceptable alternative. Data were accumulated over two project cohorts to yield adequate sample sizes for analysis.

Efficiency--Length of Time

A desire to measure goal attainment for all of the goals described led to the assembling of a large battery of evaluation measures. However, this desire for comprehensive measurement was balanced by an awareness that participants should not be over-burdened by the assessment process. Thus, it was necessary to create a highly efficient set of research instruments. This was done by selecting measures that had a history of being sensitive to the issues in question and being quite brief. In some instances, we utilized ready-made measures, but reduced them in length by paring away redundant items. For example, if a factor analysis had been conducted with a measure, we dropped items that did not load highly on factors of interest.

The process of evaluation was also considered. A decision was made to divide the pre-post section of the evaluation into two parts, an interview to be conducted in the home of each participant, and a session with a fairly

large number of participants to complete questionnaires in the research offices.

Acceptable to Mothers

All items had to be acceptable, ethically and morally, to the participants. To make sure that this was the case all measures were reviewed by experienced Avance staff, some of whom were Avance graduates and were in close contact with the community of participants. In addition, participants were informed that they could discontinue interviews or questionnaires at any time.

Ethically Sound

Research with human subjects must be reviewed by a committee of citizens and experts to assure that the civil rights of participants are not violated and that they not be harmed in any way. Since a review committee for Avance, as a free-standing, nonprofit organization did not exist, a request was made to the Senior Researcher's home institution, the University of Houston, that their Institutional Review Board review the project. The research design was reviewed and approved by the University of Houston's Committee for the Protection of Human Subjects.

True to Avance Theory and Practice

In addition to assuring that program evaluation measures were in accord with program goals and practices, it is important that the evaluation process be in harmony with the spirit of the program. This includes such matters as treating the participants with respect, explaining the purposes of procedures, obtaining informed consent, and providing answers to questions to the extent that this would be of use to the participants, but would not jeopardize the objectivity of the evaluation. These steps were checked by keeping in contact with program administrators throughout the evaluation process.

Validity and Reliability of Measures

Measure selection also considered the psychometric characteristics of measures available. Details are available in Volume IV: Avance Evaluation Technical Manual. Measures were selected only if they met conventional standards for appropriate reliability. Similarly, measures were selected if there was evidence that they actually measured what they purportedly measured, that is, if validity had been demonstrated. As this was an infant and early childhood

program with expectations that interventions at this time would have lasting or delayed effects, we were especially interested in predictive validity. We found little information on this for most of the relevant measures; unfortunately much research still lacks longitudinal perspective. An exception is the Home Observation of the Measured Environment (HOME; Caldwell & Bradley, 1984). Bradley and Caldwell (1984) found correlations ranging from .4 to .6 between 12- and 24-month HOME scores and first and second grade achievement test scores. In another follow-up, Bradley, Caldwell, and Rock (1988) continued to find significant correlations between 24-month HOMEs and school performance at age 11.

Another exception, for which there are many examples, is in the measurement of child intelligence. For example, Werner and Smith (1982) found intelligence test scores of two-year-olds were the single best predictor of later psychological functioning of their large sample of Hawaiian children.

There is also research showing links between early mother-child interaction (MCI) results and later behavior of the child. For example, Breckenridge (1981) obtained significant correlations between MIC ratings at age 2 and preschool ratings of behavior problems. Carrillo (1987) found similar associations between age 3 MCI ratings and behavior problems in school. Both of these studies were done with low-income Mexican American families similar to those in the Avance program.

Within the set of measures selected there were substantial differences in the evaluation history of the measures. That is, some measures, such as HOME, had been used in evaluations many times and it is possible to have some sense of their value as research instruments. Obviously, it is important to know how sound the measures are for evaluation purposes for final assessment of the program's effectiveness. If different measures yield different outcome results, we could be left not knowing which results are most important. In response we chose to proceed in an a priori way and rank order the outcome measures according to the following criteria:

1. Relevance for Avance goals
2. History of use in evaluation of similar programs

In selecting measures, we looked for measures that had been used in prior evaluation research.

3. Psychometric properties of the measure

Measures were selected if they had been demonstrated to be reliable and valid.

4. Accessibility and meaningfulness of measure

Participants find the measure is relevant to their own life experiences and have no difficulty in responding; e.g., not limited by such language requirements as having to respond in English if one's own preferred language is Spanish.

5. Behavioral vs verbal attitudinal measures

Our preference was for measures that identify actual behaviors of participants rather than for beliefs, or ideas about the behaviors. We place greater weight on an objective rating of the degree of sensitivity a mother has for her child's behavior than her self-report that she behaves in a sensitive way with her child.

Self-reports are of great value in some evaluation areas, and cannot be entirely replaced with behavioral measures. For example, it is difficult to imagine the kinds of behaviors that would be used to replace the participant's report of her feelings of self-esteem.

The measures which were used to assess goal attainment are listed in Figure 3. The measures along with their characteristics are listed in Figure 4. The measure characteristics are ranked in four categories, High, Medium, Low, and Unknown. High means that the characteristic is clearly expressed in this measure and that research evidence exists to support this classification. Medium means that the measure has the characteristic to some extent, but is not a strong representative of the category. Low means that the characteristic is absent or poorly represented. Unknown means that the evidence is not clear or there is an insufficient basis for making a classification. As an example of the use of the system, HOME was classified as High in the Behavioral category because data are the result of observations of the mother interacting with her child. The measure of Family Planning was classified as Medium because it is largely Verbal/Attitudinal, but the questions about number of children in family at present (T1), number of children desired, and number of children at T3 are not attitudinal, they are behavioral.

Measurement Considerations

Whenever possible within the limits of efficiency, multiple measures were used for evaluation of each goal attainment. A multimeasure/multitrait design to the extent that it was possible given limitations on time available, measure appropriateness, and budget.

FIGURE 3

Measures Used To Assess Goal Attainment

Goal	Measure
<u>Educational Stimulation</u>	
<u>Provided in the Home:</u>	
Mother's positive interaction with her child	Mother Child Interaction
Mother's nurturance with child	Questionnaire on Parental Attitudes (QPA)-Warmth Home observation for Measurement of the Environment (HOME)
Mother's greater responsiveness to child	HOME MCI
<u>Mothers Knowledge about Community Resources:</u>	
Mother's increased usage of community social services resources.	Utilization of Community Services
<u>Mothers Knowledge about Child-Rearing:</u>	
Increased parental knowledge and skills	Maternal Developmental Expectations and Child-Rearing Attitudes Scales (MDECAS) HOME
<u>Mothers Attitudes and Beliefs About Child-Rearing:</u>	
Decreased attitudes toward severity of punishment	QPA
<u>Mothers Attitudes Toward Education and Her Role as a Teacher:</u>	
Mother perceives herself as a teacher of her children	Early Learning Questionnaire (ELQ)
Mother's receptivity to adopting positive attitudes toward education	Years of education desired for child Years of education expected for child

Goal	Measure
<u>Mother's Increased Motivation to Achieve:</u> Mother's higher achievement motivation	Thematic Apperception Test
<u>Mothers Attitudes Toward Self:</u> Mother becomes more hopeful Mother's increased self-esteem Mother's greater self-confidence Mother's decreased depression Mother's greater energy levels	Not Evaluated Rosenberg Self-Esteem Scale Not Evaluated Center for Epidemiological Studies-Depression (CES-D) CES-D Total Score
<u>Social Support:</u> Increased social support network	Arizona Social Support Interview Schedule (ASSIS)
<u>Coping Skills:</u> Mother's more effective coping behaviors	Social Problem Solving
<u>Effects on Children:</u> Child's developmentally appropriate verbal skills Child's increased social competence Child's developmentally appropriate physical devel. Child's good health	Bayley Kaufman-ABC Stanford-Binet IV Child Behavior Rating Scale--Total Problem Score = low social competence Not Evaluated Not Evaluated
<u>Participant Satisfaction:</u> Mothers should like program	Consumer satisfaction Interview
<u>Long Range Goals:</u> Strengthened and stabilized personal family functioning Mother's enhanced employability Mother's increased educational Mother's desire to change her situation Mother's motivation to change personally Mother's improved physical appearance	Not Evaluated Family Update Family Update Social Problem Solving-- What can a woman do to change her lot in life? Not Evaluated Not Evaluated

FIGURE 4

Program Goals and Measurement Considerations

Measure	Relevance	History	Psycho- metric	Meaning	Behavioral
Home	Hi	Hi	Hi	Hi	Hi
MCI	Hi	Hi	Hi	Hi	Hi
QPA	Hi	UK*	UK	Med	Lo
Education	Hi	UK	UK	Hi	Hi
RSE	Hi	Hi	Hi	Med	Lo
PSE	Med	Med	Med	Med	Lo
Utilization	Hi	Lo	UK	Hi	Lo
Family Planning	Hi	Med	UK	Hi	Med
CES-D	Med	Lo	Med	Med	Lo
MDECAS	Hi	Lo	UK	Med	Lo
ELQ	Hi	Lo	UK	Med	Lo
Education-child	Med	Lo	UK	Hi	Lo
Support	Med	Lo	UK	Med	Med
Problem Solving	Med	Med	UK	Lo	Lo
Modernity	Med	Lo	UK	Med	Lo
TAT-Ach	Med	Lo	Lo	Lo	Lo
SB	Hi	Hi	Hi	Lo	Hi
KABC	Hi	Hi	Hi	Lo	Hi
Bayley	Hi	Hi	Med	Lo	Hi
CBRS	Med	Med	Med	Med	Hi
Consumer Satis	Hi	Hi	UK	Hi	Hi

* UK - Unknown

Abbreviations:

HOME = Home Observation For Measurement of the Environment
MCI = Mother-Child Interaction
QPA = Questionnaire on Parental Attitudes
RSE = Rosenberg Self-Esteem
PSE = Parental Self-Efficacy
CES-D = Center for Epidemiological Studies-Depression
MDECAS = Maternal Developmental Expectations and
Child-Rearing attitudes Scale
ELQ = Early Learning Questionnaire
TAT-Ach = Thematic Apperception Test-Achievement Motivation
SB = Stanford-Binet IV
KABC = Kaufman-Adaptive Battery for Children
Bayley = Bayley Infant Scales of Development
CBRS = Child Behavior Rating Scale

METHODS

Research Design

The evaluation included two consecutive cohorts of two program and two control groups each. Figure 5 contains a summary of the major elements of the design.

Avance serves two distinct, primarily Hispanic, target populations. The first, Westside, resides within the Mirasol Public Housing Project and the neighborhoods surrounding it in west San Antonio. The second, Southside, is located in a low income residential neighborhood in south San Antonio.

After consultation with the Research Advisory Board, it was decided that the two programs should be evaluated separately. Based on the ability to control for extraneous variables, random assignment was judged to be the best possible design for the evaluation, but it was considered to be feasible only for the Southside Center. The Southside community from which Avance recruits participants is sufficiently large and dispersed to allow for the assumption that any diffusion of effects from program participants to control participants would be minimal and unlikely to have an effect on evaluation results.

Based on the high density of the population and the extensive history of the Avance program at the Mirasol Housing Project and the surrounding community, random assignment to experimental condition was thought to be unacceptable on the Westside. The likelihood of a diffusion of information between the program and control groups was believed to be too great to justify the assumption of an uninformed control sample. The matched group design with participants coming from two separate sites controls for the diffusion of effects which otherwise could occur. The control group for the Westside sample was selected from a public housing project (Casiano Homes), an adjacent neighborhood with similar population characteristics. The control group was matched on the basis of child age, child sex, mother's age, mother's marital status, number of children, mother's level of education, annual income and mother's country of origin.

The control group participants did not participate in the Avance Parent-Child Education Program nor did they receive any ancillary services which are offered at Avance. They were offered referral to other agencies if they so desired or a special need was identified by a member of the research staff. In addition, control participants were paid \$10.00 for each interview completed.

Data collection for summative measures was scheduled at three time periods for both Cohort A and Cohort B (pretest or T1, posttest or T2, and one year follow-up or T3). Data collection at each time period consisted of two contacts with each participant. An interview was conducted in the

mother's home, and a series of questionnaires were administered in a small group setting (maximum of 6 mothers per group) at a central location. In addition, during both the posttest interval and the follow-up interval for each cohort, all program participants and a matched group of controls from each site were videotaped during a semi-structured mother-child interaction session at a central location. At the same time, the index child (youngest child at the time of program commencement) was administered a developmental assessment scale.

In addition, some measures used to compare groups at Time 1 for success in matching or random assignment or measures to be used as mediator variables (e.g., acculturation) were collected at Time 1 only.

Because of problems with child assessment, described above, child-oriented or mother-child interaction measures were collected at Times 2 and/or 3 only.

FIGURE 5

Major Elements of the Evaluation Design

Large sample size
Experimental design: Random assignment of groups--Southside;
Matched groups--Westside
Replication
Follow-up
Multimeasure assessment
Behavioral and Verbal/attitudinal measures used
Cultural-appropriate measures
Language appropriate measures
Coders blind to group status (Mother-Child Interaction)

Participants

Recruitment of research participants was carried out through a door-to-door canvass of the respective neighborhoods. Families were sought who met the following criteria: 1) a child under the age of two, 2) mother not employed full-time or during Avance hours, and 3) mother had not attended the program previously.

On the Southside, potential participants were given a verbal explanation of the two research conditions and what their participation would entail. The method of assignment was described to them, and they were asked if they would like to participate regardless of the group to which they were assigned. Assignment was conducted with computer generated random numbers. Once assignment was completed,

mothers were recontacted and informed of their group assignment. At this time they were also reminded of the participation requirements of their group.

Recruitment of participants for both the program and control groups was more straight forward on the Westside. The recruiters were able to inform potential participants of their group assignment during the first contact since assignment was determined by geographic area. The mothers contacted were given an explanation of the research condition for which they were being recruited and what would be required of them.

Before mothers were interviewed in the home, they were informed of what their role in the research would entail and that their participation was completely voluntary. At this time a consent form was read to the mothers, and if they were in agreement, they were asked to sign two copies of the consent form. One copy was left with the mother, and the second was kept for the research files.

Procedures

The results of recruitment and retention for each cohort and each site are discussed below taking each cohort separately. The analyses dealt with two general issues: the success of randomization (Southside) or group matching (Westside), and evidence of differential attrition.

Attrition

Attrition is a multi-faceted, complex, issue and one that is always of great concern to researchers. One area of specific concern in the present study is differential attrition which might effect the comparability of the experimental and control participants who elect to continue to be involved in the research beyond the point of recruitment. Owing to the effects of differential attrition, groups which were once comparable in areas believed to be significant to the intervention may no longer be similar on those dimensions. In order to analyze attrition and to determine if it had any impact on the equivalence of the experimental groups, a series of analyses were conducted.

Three time markers were established and utilized in the analyses of attrition effects which are presented here: Recruitment, Time 1 (pretest) and Time 2 (posttest). Statistical analyses were conducted to examine any effects on the comparability of the experimental groups owing to attrition between Recruitment and Time 1 and also between Time 1 and Time 2. In addition to the differential attrition analyses, the experimental groups were compared at T1 on all available measures.

At the time of recruitment, a short demographic survey

was completed with all families who were eligible and expressed a willingness to participate in the study. The following information was obtained on both the mother and her husband or live-in partner: marital status, number of children, age, years of formal education, employment status, country of birth and preferred language. These variables were included in the statistical analyses which were conducted.

The analytic strategy employed consisted of two basic techniques; 2 by 2 analysis of variance (ANOVA) with noncategorical data and crosstabulation using the Chi Square statistic with categorical data. The two factors used were experimental condition (experimental, control) and attrition status (stay, drop). Differential attrition is evidenced in the ANOVAs when the F ratio for the experimental condition by attrition status interaction is significant. When this is the case, analyses of simple effects comparing the experimental and control groups for both the stays and the drops are conducted to identify if the differential attrition affected group comparability. In addition, the experimental condition main effect was evaluated to determine if the groups were comparable at T1.

Cohort A

Data Collection

A total of 488 mothers were recruited for participation in Cohort A. From this group initial attrition was high with 214 (44%) mothers declining to participate further before they had completed all of the pretest measures. Complete pretest data were collected from 274 (56%) participants. Table 1 gives the breakdown by site and experimental condition of the number of mothers recruited, the number who completed pretest data, and the number who eventually graduated from the program and completed posttest data.

TABLE 1
Recruitment and Drop-out Results: Cohort A

Location	Group	Recruited	Complete Pretest	Complete Posttest
Southside				
	Program	140	55	30
	Control	111	77	69
	Total	251	132	99
Westside				
	Program	121	66	27
	Control	116	76	68
	Total	237	142	95
Combined				
	Program	261	121	57
	Control	227	153	137
	Total	488	274	194

Data Analyses

Pretest. The assignment to experimental condition was successful at both sites for Cohort A. Except for scattered differences, the program and control groups were similar on the demographic characteristics and on all pretest measures at both the Southside and the Westside sites (See Table 2 for demographic data and Table 3 for results of group comparisons on pretest measures).

Southside program and control families differed significantly on the length of time that the mother had lived in the United States, mother's language preference, and the mother's level of self-esteem. The control mothers had lived in the United States for four more years, were more likely to prefer English, and scored higher on the Rosenberg Self-Esteem Scale than the program mothers.

Three significant differences were found on the Westside between program and control families. Control mothers were three years older, had lived in the United States for three more years, and desired more years of education for their child.

Considering the large number of comparisons (42 per site) that were made for each site, the few group differences obtained do not appear to be serious threats to the validity of analyses of program effects. In terms of

outcomes, all of the differences found seemed to favor the control group in terms of reducing risk factors.

Evidence of Differential Attrition

All variables included in the randomization and matching analyses were included in an analysis of evidence of differential effects of dropping out of the project between Time 1 and Time 2. This analysis was conducted to determine whether characteristics of participants in the program and control groups differed for those who dropped or stayed. A series of ANOVAs were run and the interaction of group and drop/stay status was examined. If a significant interaction was found, group differences were examined for those who stayed and those who dropped (See Tables 4 & 5).

For the Westside sample there was one significant interaction. On the Coupled variable (living with a partner or married) 7 of the 8 control drops were coupled.

On the Southside, there was a significant interaction between group and drop/stay status on Utilization of Community Services and on Rosenberg Self-Esteem. However, on both of these variables, the program and control group participants who stayed did not differ. Those who dropped did differ significantly. Program mothers who dropped demonstrated higher Utilization of Community Services and higher Self Esteem than the control mothers who dropped.

In view of the large numbers of comparisons made, the few significant results obtained were no more than expected by chance.

TABLE 2
Demographic Characteristics at Pretest: Cohort A

Characteristics	Westside		Southside	
	Program	Control	Program	Control
Number of Families	65	76	55	77
Sex of Child (%)				
Female	47.0	43.4	51.8	53.2
Male	53.0	56.6	48.2	46.8
Mother Information				
Age	22.7 (5.2)	25.5 (6.1)	26.0 (6.5)	25.7 (6.7)
Place of Birth (%)				
U.S.	74.4	81.6	55.9	55.3
Mexico	24.2	17.1	42.6	40.8
Other	1.4	1.3	1.5	3.9
Language Preference (%)				
English	39.7	40.8	38.2	51.3
Spanish	28.2	26.3	32.6	22.3
Both	32.1	32.9	19.1	26.3
Years of Education	9.4 (2.1)	9.5 (2.4)	9.1 (3.1)	9.7 (2.3)
Employment Status (%)				
yes	6.2	2.6	1.8	14.3
no	93.8	97.4	98.2	85.7
Marital Status (%)				
single	23.1	30.3	9.1	11.7
married	41.5	35.5	69.1	63.6
separated	29.2	15.8	9.1	9.1
divorced	3.1	10.5	1.8	3.9
widowed	0.0	1.3	0.0	0.0
living with partner	3.1	6.6	10.9	11.7
Husband/Partner Information				
Number	33	30	41	55
Age	26.0 (5.7)	27.2 (5.4)	29.4 (6.5)	29.5 (8.9)

Table 2 con't

<u>Characteristics</u>	<u>Westside</u>		<u>Southside</u>	
	<u>Program</u>	<u>Control</u>	<u>Program</u>	<u>Control</u>
Place of Birth (%)				
U.S.	46.3	53.7	57.6	73.3
Mexico	53.7	40.0	39.4	26.7
Other	0	6.3	3.0	0
Language Preference (%)				
English	39.4	26.7	53.7	40.0
Spanish	57.6	73.3	46.3	60.0
Education	9.7 (3.1)	10.1 (2.8)	8.5 (3.5)	9.3 (3.5)
Employment Status (%)				
yes	86.2	75.0	86.4	86.2
no	13.8	25.0	13.6	13.8
Family Information				
Annual Income	4828.6 (4185.3)	5336.8 (6329.6)	8741.5 (5965.6)	8656.6 (6734.5)
AFDC (%)	49.2	53.9	12.7	16.9
Food Stamps (%)	53.8	73.7	38.2	29.9
Socioeconomic Status ¹	20.7 (19.2)	18.2 (12.8)	22.6 (17.2)	20.0 (7.3)
Number of Children	2.7 (2.0)	2.7 (1.6)	2.5 (1.5)	2.3 (1.4)
Number of People	5.5 (2.3)	5.5 (2.4)	5.2 (1.8)	5.5 (1.9)
Number of Rooms	4.6 (1.1)	5.0 (1.3)	4.4 (1.1)	4.6 (1.3)
Crowding # of rooms/person	1.2 (.4)	1.1 (.4)	1.3 (.6)	1.3 (.4)

¹ - Hollingshead 4-factor score

TABLE 3

**Program and Control Group Equivalence on Pre-Tests:
Cohort A**

Measure	Site		Comment
	Westside	Southside	
Early Learning Questionnaire	ns ¹	ns	
Maternal Developmental Expectations and Child-Rearing Attitudes Scale	ns	ns	
Questionnaire on Parental Attitudes	ns	ns	
Parental Modernity Scale	ns	ns	
Parental Self-Efficacy Scale	ns	ns	
Education Desired for Child	p<.05	ns	Exp = 3.27 Con = 3.69 Con mothers want more education
Education Expected for Child	ns	ns	
Community Services	ns	ns	
Rosenberg Self-Esteem Scale	ns	p<.00	Exp = 34.20 Con = 35.92 Con mothers had higher self-esteem
Center for Epidemiological Studies-Depression Scale	ns	ns	
Life Events Schedule	ns	ns	
HOME Interview Total	ns	ns	
Social Support			
Available Network	ns	ns	
Utilized Network	ns	ns	
Satisfaction Score	ns	ns	
Need Score	ns	ns	
Acculturation Scale	ns	ns	

¹ - Difference between program and controls was not statistically significant

TABLE 4

**Cohort A Analyses for Differential Attrition Between Time1 and Time 2:
Westside**

	Interaction	Comment
CES-D	ns	
Community Services:		
Knowledge	ns	
Utilization	ns	
Early Learning	ns	
HOME Total	ns	
MDECAS:		
Developmental Milestones	ns	
Child-Rearing Attitudes	ns	
Parental Modernity:		
Progressive	ns	
Traditional	ns	
Parental Attitudes:		
Strictness	ns	
Aggravation	ns	
Warmth	ns	
Parental Self Efficacy	ns	
Rosenberg Self Esteem	ns	
Acculturation Mean	ns	
Life Events	ns	

Table 4 con't

	Interaction	Comment
Social Support:		
Available Network	ns	
Utilized Network	ns	
Satisfaction Mean	ns	
Need Mean	ns	
Mother's Age	ns	
Mother's Time in the U.S.	ns	
Mother's Education	ns	
Coupled	.043	No difference between the Program and Control Groups for Stays
Number of People in Home	ns	
Number of Mother's Children	ns	
Hollingshead Score	ns	

TABLE 5

**Cohort A Analyses for Differential Attrition Between Time1 and Time 2:
Southside**

	Interaction	Comment
CES-D	ns	
Community Services:		
Knowledge	ns	
Utilization	.04	No difference between the Program and Control Groups for Stays
Early Learning	ns	
HOME Total	ns	
MDECAS:		
Developmental Milestones	ns	
Child-Rearing Attitudes	ns	
Parental Modernity:		
Progressive	ns	
Traditional	ns	
Parental Attitudes:		
Strictness	ns	
Aggravation	ns	
Warmth	ns	
Parental Self Efficacy	ns	
Rosenberg Self Esteem	.001	No difference between the Program and Control Groups for Stays
Acculturation Mean	ns	
Life Events	ns	

Table 5 con't

	Interaction	Comment
Social Support:		
Available Network	ns	
Utilized Network	ns	
Satisfaction Mean	ns	
Need Mean	ns	
Mother's Age	ns	
Mother's Time in the U.S.	ns	
Mother's Education	ns	
Coupled	ns	
Number of People in Home	ns	
Number of Mother's Children	ns	
Hollingshead Score	ns	

Cohort BData Collection

A total of 412 families, 199 at Westside and 213 at Southside, were recruited for participation in Cohort B research activities. Complete pretest data (both the home interview and the questionnaire packet) were collected on 124 program mothers and 126 control mothers. Posttest data were collected on 51 program mothers and 110 control mothers. In addition, 15 program participants who did not complete the program also were interviewed. A breakdown of data collection at pretest is provided in Table 6.

The rate of attrition between recruitment and commencement of the classes at Southside was affected by an unexpected relocation of the center which was necessitated by physical problems with the original building. The decision to move to a building three miles distant was made after recruitment had been completed. The start of classes was delayed one month, which combined with the added travel distance made it more difficult to fill the enrollment. An additional 35 families were recruited during November in order to increase the sample size. The new families also were assigned randomly to either the program or the control group.

TABLE 6**Recruitment and Drop-out Results: Cohort B**

Location	Group	Recruited	Complete Pretest	Complete Posttest
Southside				
	Program	118	57	25
	Control	95	69	62
	Total	213	126	87
Westside				
	Program	125	67	27
	Control	74	57	50
	Total	199	124	74
Combined				
	Program	243	124	51 ^a
	Control	169	126	110
	Total	412	250	161

^a 15 additional interviews were conducted with program participants who did not complete graduation requirements

Data Analyses

Pretest. As with Cohort A, the program and control groups at both sites were comparable on demographic characteristics and pretest instruments indicating that the assignment to condition was successful. (See Table 7 for demographic data and Table 8 for results of group comparisons on pretest measures).

On the Southside, no differences were found between groups on any of the demographic characteristics or the pretest measures.

Only three significant differences were found on the Westside. One pertained to Socioeconomic Status (SES). The program group had a higher SES score than the control group. In addition, the program group reported a larger Social Support Available Network and the mothers were older. In order to adjust for this difference, all statistical analyses comparing these two groups at T2 employed the T1 SES variable as a control variable.

Evidence of Differential Attrition

There was no evidence of differential attrition between the time of recruitment and enrollment (T1) based on the analyses of the demographic data collected at the time of recruitment.

The analyses for differential attrition between Time 1 and Time 2 revealed some scattered results (see Tables 9 & 10). At Southside the only significant interaction term was with the Aggravation scale of Parental Attitudes. Further analyses revealed that this had no effect on the comparability of the groups who did not drop.

At Westside a significant interaction was found for four variables including Knowledge of Community Services, Self Esteem, mother's years of education and mother's time in the U.S. Tests of simple effects revealed two group differences which resulted. Control mothers who stayed had lived in the U.S. for a longer period of time and they reported a higher Knowledge of Community Services.

In view of the large numbers of comparisons made, the few significant results obtained were no more than expected by chance.

TABLE 7
Demographic Characteristics at Pretest: Cohort B

	Westside		Southside	
	Program	Control	Program	Control
Number of Families	67	57	57	69
Sex of Child (%)				
Female	53.7	52.6	40.4	49.3
Male	46.3	47.4	59.6	50.7
Mother Information				
Age	24.7 (6.1)	23.1 (5.5)	24.8 (6.0)	24.6 (5.8)
Place of Birth (%)				
U.S.	77.6	89.5	80.7	85.5
Mexico	20.9	10.5	17.5	13.0
Other	1.5	0	1.8	1.4
Language Preference (%)				
English	20.9	38.6	47.4	37.7
Spanish	17.9	14.0	12.3	14.5
Both	61.2	47.4	40.4	47.8
Years of Education	9.4 (2.6)	9.2 (2.2)	10.4 (2.4)	10.2 (2.4)
Employment Status (%)				
Working	6.0	3.5	7.1	14.5
Not Working	94.0	96.5	92.9	85.5
Marital Status (%)				
Single	16.4	31.6	12.3	11.6
Married	53.7	33.3	71.9	63.8
Separated	20.9	21.1	8.8	10.1
Divorced	4.5	5.3	0.0	4.3
Widowed	0.0	0.0	1.8	0.0
Living with a Partner	4.5	8.8	5.3	10.1
Husband/Partner Information				
Number	40	23	44	52
Age	27.7 (5.7)	27.4 (7.3)	28.8 (8.7)	27.4 (6.7)

Table 7 con't

<u>Characteristics</u>	<u>Westside</u>		<u>Southside</u>	
	<u>Program</u>	<u>Control</u>	<u>Program</u>	<u>Control</u>
Place of Birth (%)				
U.S.	52.6	62.5	73.8	66.7
Mexico	47.4	37.5	21.4	33.3
Other	0	0	4.8	0
Language Preference (%)				
English	18.4	20.8	31.8	37.5
Spanish	36.8	50.0	22.7	27.1
Both	44.7	29.2	45.5	35.4
Years of Education	9.7 (2.9)	9.4 (2.9)	10.8 (2.0)	10.0 (2.9)
Employment Status (%)				
Working	77.5	73.9	86.4	75.0
Not Working	22.5	26.1	13.6	25.0
Family Information				
Annual Income	5323 (4237)	4464 (3938)	9695 (6087)	7711 (5742)
AFDC (%)	47.8	56.1	19.3	24.6
Food Stamps (%)	71.6	80.7	42.1	43.5
Socioeconomic Status ¹	18.2 (7.7)	15.1 (5.1)	22.0 (10.5)	20.2 (7.4)
Number of Children	2.4 (1.2)	2.7 (1.5)	2.5 (1.3)	2.3 (1.4)
Number of People	4.9 (1.7)	5.9 (2.6)	5.5 (2.0)	5.0 (1.8)
Number of Rooms	4.5 (1.3)	4.8 (1.4)	4.3 (1.2)	4.2 (1.6)
Crowding				
# of rooms/person	1.0 (.3)	.9 (.3)	.8 (.3)	.9 (.4)

¹ - Hollingshead 4-factor score

TABLE 8
Program and Control Group Equivalence on Pre-Tests:
Cohort B

Measure	Site		Comment
	Westside	Southside	
Early Learning Questionnaire	ns ¹	ns	
Maternal Developmental Expectations and Child-Rearing Attitudes Scale	ns	ns	
Questionnaire on Parental Attitudes	ns	ns	
Parental Modernity Scale	ns	ns	
Parental Self-Efficacy Scale	ns	ns	
Education Desired for Child	ns	ns	
Education Expected for Child	ns	ns	
Community Services	ns	ns	
Rosenberg Self-Esteem Scale	ns	ns	
Center for Epidemiological Studies-Depression Scale	ns	ns	
Life Events Schedule	ns	ns	
HOME Interview Total	ns	ns	
Social Support Available Network	p<.05	ns	Exp = 6.04 Con = 5.44 Exp mothers reported larger network
Utilized Network	ns	ns	
Satisfaction Score	ns	ns	
Need Score	ns	ns	
Acculturation Scale	ns	ns	
Marital Adjustment ²	ns	ns	

¹ - Difference between program and controls was not statistically significant

² - Not collected for Cohort A

TABLE 9

**Cohort B Analyses for Differential Attrition Between Time1 and Time 2:
Westside**

	Interaction	Comment
CES-D	ns	
Community Services: Knowledge	.001	Control Stays reported higher Knowledge than Program Stays
Utilization	ns	
Early Learning	ns	
HOME Total	ns	
MDECAS:		
Developmental Milestones	ns	
Child-Rearing Attitudes	ns	
Parental Modernity:		
Progressive	ns	
Traditional	ns	
Parental Attitudes:		
Strictness	ns	
Aggravation	ns	
Warmth	ns	
Parental Self Efficacy	ns	
Rosenberg Self Esteem	.022	No difference between the Program and Control Groups for Stays
Acculturation Mean	ns	
Life Events	ns	

Table 9 con't

	Interaction	Comment
Social Support:		
Available Network	ns	
Utilized Network	ns	
Satisfaction Mean	ns	
Need Mean	ns	
Mother's Age	ns	
Mother's Time in the U.S.	.036	Control Stays have been in U.S. for a longer time than Program Stays
Mother's Education	.017	No difference between the Program and Control Groups for Stays
Coupled	ns	
Number of People in Home	ns	
Number of Mother's Children	ns	
Hollingshead Score	ns	

TABLE 10

**Cohort B Analyses for Differential Attrition Between Time 1 and Time
2: Southside**

	Interaction	Comment
CES-D	ns	
Community Services:		
Knowledge	ns	
Utilization	ns	
Early Learning	ns	
HOME Total	ns	
MDECAS:		
Developmental Milestones	ns	
Child-Rearing Attitudes	ns	
Parental Modernity:		
Progressive	ns	
Traditional	ns	
Parental Attitudes:		
Strictness	ns	
Aggravation	.045	No difference between the Program and Control Groups for Stays
Warmth	ns	
Parental Self Efficacy	ns	
Rosenberg Self Esteem	ns	
Acculturation Mean	ns	
Life Events	ns	

Table 10 con't

	Interaction	Comment
Social Support:		
Available Network	ns	
Utilized Network	ns	
Satisfaction Mean	ns	
Need Mean	ns	
Mother's Age	ns	
Mother's Time in the U.S.	ns	
Mother's Education	ns	
Coupled	ns	
Number of People in Home	ns	
Number of Mother's Children	ns	
Hollingshead Score	ns	

Recruitment, Randomization, and Attrition Results for Cohorts A and B Summarized

That participants were assigned randomly to groups without bias is apparent for the Southside. There were only three significant group differences with control mothers having higher Rosenberg Self-Esteem scores, having lived in the USA longer, and preferring to speak English. These group differences were for cohort A only; they were not repeated for cohort B. Cohort B showed no group differences.

The outcome for matching groups for the Westside also was successful, even though there were a few more group differences. For the A cohort, the control group mothers wanted more education for their child, were older, and had lived in the USA longer. The latter two variables are obviously highly correlated. For the B cohort, control mothers had lower SES scores and expressed less Need for Social Support. Even though there were several significant differences, there was little evidence that they represented systematic differences in group characteristics; e.g., there was no overlap in significant differences for the two cohorts.

The results of initial randomization or matching are important for program evaluation, but equally important is the comparability of subjects remaining at the time of post-program assessment. This is the issue of differential attrition. The analysis of differential attrition yielded few significant results. For each cohort there was only one significant effect for each site and these differences did not form a systematic pattern. We have concluded that differential attrition does not pose a threat to the validity of the evaluation results.

Measures

Measures used in the evaluation are described briefly in this section of the report. Copies of materials used together with detailed information about the measures, including reliability, validity and other psychometric characteristics, appear in Volume IV: Avance Program Evaluation Technical Manual.

All measures were made available to participants in English or Spanish. All measures had been developed in English and some had been translated into Spanish by other researchers. The remaining were translated into Spanish by project staff. Back translation techniques were used (Brislin, 1986), but the main method was to have one person translate and have the product reviewed by a team of bilingual research assistants. This version was then field tested for relevance to the local community.

The time at which the various measures were administered is shown in Figure 6.

FIGURE 6

Evaluation Measures Administration Times

	Time 1	Time 2	Time 3
Intake Interview	X		
Acculturation	X		
Hollingshead SES	X		
Life Events Schedule	X		
Home Observation for Measurement of the Environment	X	X	X
Early Learning Questionnaire	X	X	X
Maternal Developmental Expectations and Child-Rearing Attitudes Scale	X	X	
Progressive Modernity Scale	X	X	
Questionnaire on Parental Attitudes	X	X	X
Rosenberg Self-Esteem	X	X	X
Parent Self-Efficacy Scale	X	X	
Center for Epidemiological Studies-Depression	X	X	X
Arizona Social Support Interview Schedule	X	X	X
Community Services	X	X	X
Thematic Apperception Stories	X	X	
Social Problem Solving	X	X	
Family Update		X	X
Locke-Wallace Marital Adjustment		X	X
Mother-Child Interaction		X	X
Child Intellectual Competence			
Bayley		X	X
Kaufman-ABC ¹		X	
Stanford-Binet IV ²		X	X
Child Behavior Rating Scale		X	X
Consumer Satisfaction		X	X

¹ Administered with Cohort A at Time 2² Administered with Cohort A at Time 3 and Cohort B at Times 2 and 3

Administered Pretest (Time 1) Only.**Acculturation Rating Scale for Mexican Americans (ARSMA)**

The acculturation measure was included as a mediator variable. It was expected that the mother's level of acculturation may have an effect on how she participated in the program, but the direction of effects was unknown.

The measure used was an adaptation of the Acculturation Rating Scale for Mexican Americans (ARSMA) developed by Cuellar, Harris and Jasso (1980).

Intake Interview

This interview was designed to provide background information about the mother and the people in her household. The interview includes information on the mother's occupation, education, income, need for and use of medical services, early experiences with her parents, language preference, place of origin, and marital status.

Hollingshead Four-Factor Index of Social Status (SES)

This is a mediator variable used to aid in accounting for program effects. The four factors are education, occupation, marital status, and sex. This index was used because it provides a score for families whether one or both parents is present (Hollingshead, 1978). Information for this index was gathered as part of the Intake Interview.

Life Events Schedule

This was included as a mediator variable to aid in understanding program effects. The abbreviated version of the Holmes and Rahe (1967) Social Readjustment Rating Scale Developed by Abidin (1983) was used with further adaptation for the Avance population. It consists of 24 items, each of which is answered in binary form. Only negative life events were used.

Pre-Post Program Evaluation of the Program**Home Observation for Measurement of the Environment (HOME)**

This is a pre-post measure used to assess the quality of the home as an educationally stimulating environment and as a measure of mother-child interaction.

HOME (Caldwell & Bradley, 1984) is a combination interview and observation technique which is carried out with the mother in the home with her child present. 45 items are checked as present or absent by the interviewer. These cover 6 subareas: I. Parental Responsivity, II. Acceptance of the Child, III. Organization of the

Environment, IV. Provision of Appropriate Play Materials, V. Parental Involvement with Child, and VI. Variety of Stimulation. This version of HOME is also called the Infant-Toddler HOME or IT-HOME.

The Early Childhood HOME (EC-HOME) was used when children were 30 months of age or older. The procedure is the same as the IT-HOME, but there are 80 items and 7 factors: Stimulation through toys, games, and reading materials; Language Stimulation; Physical Environment; Pride, Affection and Warmth; Stimulation of Academic Behavior; Modeling and Encouragement of Social Maturity; Variety of Stimulation; and Physical Punishment.

Early Learning Questionnaire (ELQ)

This is a measure of the mother's belief that she has a determining role in the educational experiences of her children.

The ELQ has 9 items which have 4 response points ranging from "strong yes" to "strong no" and 2 items which have 7 response possibilities. Items were adapted from the Child-Rearing Beliefs (CRB) scale developed at the Houston Parent Child Research Center (Kahn, Lopez, & Johnson, 1976). Two items on educational wishes and expectations are from Marjoribanks (1979)

Maternal Developmental Expectations and Child-Rearing Attitudes Scale (MDECAS)

The MDECAS has two parts: The first is a measure of the mother's knowledge of developmental milestones and consists of 8 items which ask for approximate ages at which developmental accomplishments typically occur in children. The second part deals with child-rearing issues and consists of 13 item pairs from which the mother selects the "better" item. It is assumed to be a measure of the degree to which the mother understands how parental behaviors might foster or hinder optimal child development (Field, 1980).

Parental Modernity Scale (PM Scale)

The original PM Scale, developed by Schaefer and Edgerton (1985), consisted of 30 items each of which had 5 response points: Strongly Disagree, Mildly Disagree, Not Sure, Mildly Agree, Strongly Agree. For use in the Avance evaluation, the number of items was reduced to 16. Items were deleted if they seemed redundant with other items or if the content was not clear. The items deal with traditional vs modern attitudes about how children learn (e.g., they learn passively or actively) and with the relationship between parents, teachers, and children.

Questionnaire on Parental Attitudes (OPA)

This measure was used pre-and post-program to assess parental attitudes toward child-rearing. Such attitudes have been studied extensively for the past four decades and the network or meaning attached to these attitudes is highly

complex.

This 25-item questionnaire is an adaptation of a 51-item questionnaire developed by Easterbrook and Goldberg (1984). The Easterbrook and Goldberg version had 4 scales: Warmth (11 items), Encouragement of Independence (9 items), Strictness (12 items), and Aggravation (19 items). The QPA was abbreviated to save administration time. Items were deleted if they a) were redundant to other items, b) were not relevant for the Avance population.

Response is to 6-point Likert scales.

Rosenberg Self-Esteem Scale

The scale consists of 12 items each of which is responded to on a 4-point scale from "Strongly Agree" to "Strongly Disagree." Rosenberg (1965, 1979) has divided the measure into submeasures having to do with feelings of worth, ability to perform, self-satisfaction, and reactions to criticism.

Parent Self-Efficacy Scale (PSE Scale)

The PSE was used to assess the degree to which the mothers believed that they were competent as parents. The 7-items of this questionnaire have 6-point Likert-type scales which range from "strongly agree" to "strongly disagree."

This measure is based on Bandura's work on self-efficacy theory (1982, 1986) and was designed especially for parents by Gibaud-Wallston (1977) and Gibaud-Wallston and Wandersman (1978).

Center for Epidemiological Studies-Depression Scale CES-D

The CES-D is a measure of depressive feelings that has been widely used in survey research. This 20-item self-report scale asks about feelings of sadness, enjoyment of life, and relations with people. Responses are to 4-point scales based on amount of time the subject feels that she has had the experience. Radloff (1977) obtained 4 factors: I. depressed, II. positive, III. somatic, IV. interpersonal. A score of 16 or higher is considered clinically significant

Arizona Social Support Interview Schedule

An interview developed by Barrera (1980) was used to obtain information about the mother's support system in the following areas: 1) personal issues, 2) borrow money, 3) child care. The interview includes questions on names of supporting individuals, their relationship to the mother, how satisfied she is with the support, and the extent to which she made use of the support. Barrera's method was adapted for use with Avance by adding the child care question and omitting several minor features.

Utilization of Community Services

Social services agencies available to families in San Antonio were listed and the mother was asked to indicate the

ones she knows about (Knowledge) and the ones she has used (Utilization). This measure was developed for Avance families included in the CAN evaluation (Rodriguez, 1983) and up-dated for use in this evaluation. Items were selected to include services available to low-income families in San Antonio.

Social Problem Solving

The mothers were presented with a series of problems, some having to do with fictional people, and others having to do with their own problems, and asked to say how the problems could be solved or what could be done about them. A system for coding the responses was developed for the Avance procedure by Jones (1990).

Thematic Apperception Test Stories

Mothers were presented with 3 pictures, one at a time, and asked to write a story about each telling what is going on, what the people are thinking about, and how they feel. They were asked to make up a story with a beginning and an end. Three Thematic Apperception Test cards were used. Stories were scored for achievement motivation and affiliation motivation following the methods of McClelland, Atkinson, Clark, & Lowell (1953).

Administered Post (Time 2) Only

Family Update

This interview is a follow-up of the Intake Interview to record changes in family in the home, employment status, marital status, housing arrangements, and enrollment in classes.

Mother-Child Interaction

The procedure used was an adaptation of an observational technique developed by the staff of the Houston Parent-Child Development Center (Kahn, Davila, & Johnson, 1976). The mother and child were videotaped interacting in book, free play and clean-up periods. The videotapes were coded following procedures developed by Clark, Smith & Leifer, (undated). Highly trained coders were blind to the group status of the participants and were fluent in the language spoken by the observed dyads.

Bayley Scales of Infant Development (BSID)

The Bayley was designed to assess intellectual development in children from 2 months to 30 months of age (Bayley, 1969). It consists of a Mental Development Index (MDI), a Psychomotor Development Index (PDI), and an Infant Behavior Record (IBR). For the Avance evaluation, to save time, the PDI was omitted. The MDI consists of 163 items having to do with purposeful manipulation of objects, imitation, sustained attention, problem solving, naming

objects, and form discrimination. The IBR provides a systematic way for the examiner to describe the infant's behavior during the testing session. The Bayley has been used satisfactorily in the assessment of Mexican American children (McGowan, Johnson & Maxwell, 1981).

Stanford-Binet Fourth Edition (SBIV)

The new and completely revised and renormed version of the Stanford-Binet was used with cohort B (Thorndike, Hagen, & Sattler, 1986). For young children 8 subtests are used providing scores for Vocabulary, Comprehension, Copying, Absurdities, Pattern Analysis, Quantitative, Bead Memory, and Memory for Sentences. These scores comprise a second level score of Verbal Comprehension and Visual Reasoning. There is also a composite score. The SBIV was selected to replace the K-ABC for older children when the K-ABC was found to be difficult for children not accustomed to speaking to strangers.

Kaufman Assessment Battery for Children (K-ABC)

The K-ABC was used with the few children who are too old for the Bayley with cohort A. It was designed for use with children from 2-6 to 12-5 years. It is used to assess language and general intellectual skills (Kaufman & Kaufman, 1983).

For very young children, the test has five subtests in the Mental Processing Composite: Gestalt Closure, Number Recognition, Magic Window, Hand Movements, and Face Recognition. The Achievement Composite includes three tests: Faces and Places, Expressive Vocabulary, and Arithmetic. For the Avance evaluation, the Mental Processing and Achievement Composites scores will be averaged and used as a single score.

Child Behavior Rating Scale

At the post-program period children will be rated by their mothers as to their social behavior and behavior problems. As the children are very young to present a wide range of social behaviors we decided to focus on the identification of abnormal behaviors.

The Child Behavior Rating Scale consists of 18 3-point rating scales. This measure was especially developed for the project to obtain a measure of social behaviors and problems in a minimum of participant time, and written in language accessible to persons with minimum literacy. The items cover such topics as sharing, attentiveness, aggressive behaviors, dependency, social withdrawal, and affectionateness. Items were drawn from checklists developed by Rolf, Crowther and Teri (1983) and Achenbach (1986).

Marital Adjustment Scale

The Marital Adjustment Scale (MAS) (Locke & Wallace, 1959) was used as a pre-post measure for Cohort 2, but only

at posttest for Cohort 1. It is designed to assess the quality of mother's relationship with her partner.

The MAS is conducted as an interview instrument and consists of 15 items. The first question asks the respondent to rate the degree of marital happiness that she is experiencing on a scale from Very Unhappy (1) to Perfectly Happy (7). The next 8 questions ask the respondent to rate the degree of agreement/disagreement between her and her spouse on a variety of matters such as family finances and ways of dealing with in-laws. The remaining 6 questions probe other aspects of the marital relationship.

Consumer Satisfaction

A questionnaire was developed by the project staff to obtain information about participants' satisfaction with the Avance program. This was administered to Cohort A at Time 3 and Cohort B at Time 2.

Statistical Analyses

Owing to the different experimental methodologies employed, the two sites were treated separately in all statistical analyses which were conducted with the purpose of testing for the program's impact on the participants. In addition, initially each of the two cohorts were examined individually, and then the data were combined across cohort for analyses.

The basic statistical analysis strategy used to investigate T2 differences between the program group and the control group with separate cohorts consisted of a series of one-way ANCOVAs using the measures of interest as the dependent variables and the T1 scores on that measure as the covariates. As there was a T1 difference in SES on the Westside for cohort B, the Hollingshead four-factor SES variable was also included as a covariate for the Westside cohort B analyses. The independent variable in these analyses was experimental condition (program, control). A few of the measures were not used at T1 (Child Behavior Rating Scale, Child Cognitive Assessment Variables and the Educational Scale) in which case no covariate was employed. A significance level of .05 was used to evaluate the F ratio.

The combined cohort analyses were 2 x 2 ANCOVAs with a cohort factor (A, B) in addition to the experimental condition factor. Program effects were determined by the significance level of the experimental condition main effect.

RESULTS

The results of the summative evaluation are presented in order of importance or centrality of the measures to program goals in blocks of measures dealing with the same conceptual realms. For all measures, this section deals with results combined for cohorts A and B. In addition, however, the significant results found for each cohort are reported in this section. Results for the cohorts separately appear in Tables 11 and 12 in Appendix A. All analyses were done separately for the two program sites.

Educational Stimulation Provided in the Home

Overall stimulation provided in the home as indicated by HOME Total scores was significantly greater for the program group than the control group for both the Southside, $F(1, 177) = 15.61, p < .001$; and the Westside, $F(1, 165) = 23.67, p < .001$. Means and standard deviations appear in Tables 11 and 12.

These highly significant program results were the product of different effects from the various HOME factors. As may be seen in Tables 11 and 12, some of the factors showed program effects and others did not. Furthermore, not all factors were expected to show differences and these differences in expectations are noted.

HOME factor 1, Emotional and Verbal Responsivity, yielded significant group differences for the Southside, $F(1, 177) = 8.85, p < .003$; and Westside, $F(1, 165) = 23.55, p < .001$. See Tables 11 and 12.

Factor 2, Avoidance of Restriction and Punishment, was significant for the Southside, $F(1, 177) = 5.73, p < .018$; but not for the Westside, $F(1, 165) = 2.65, p < .105$ (Tables 11 and 12).

Factor 3, Organization of the Environment, did not produce significant differences for either site (Southside, $F(1, 177) = 2.00, p < .159$; Westside, $F(1, 165) = 1.56, p < .213$) (Tables 11 and 12). No program effects were hypothesized for this variable.

Factor 4, Appropriate Play Materials, was significant for both Southside, $F(1, 177) = 9.71, p < .002$; and Westside, $F(1, 165) = 9.43, p < .003$. See Tables 11 and 12.

Factor 5, Maternal Involvement, was significant for the Westside, $F(1, 165) = 5.88, p < .016$, but not for the Southside, $F(1, 177) = 0.45, p < .503$. (Tables 11 and 12)

Factor 6, Variety in Daily Routine, was significant for the Southside, $F(1, 177) = 6.48, p < .012$; but not for the Westside, $F(1, 165) = 2.52, p < .114$. (Tables 11 and 12). Program effects were not hypothesized for this variable.

These results provide support for the attainment of several program goals at both sites: Increased parental skills (Total), increased use of play and toys as educational activities with the child (Factor 4), and

increased maternal responsiveness to the child (Factor 1).

Mothers Knowledge About Community Resources

It was a goal of the program that participating mothers would utilize community resources more than control mothers. The evaluation staff added to this goal the related goal that program mothers would have more knowledge about community resources. This addition was made because it was assumed that in order to utilize community resources, one would first have to know about them, and that the main effect of the program was that of teaching participants about the available resources. Use of these resources was assumed to be a secondary function, one that would be affected by need for the resources and would thus vary from one woman to the next. Thus, it was hypothesized that the program would have primary effects on knowledge and secondary effects on utilization if there was a need for the services.

Participation in the program led to greater knowledge about community resources for both Southside, $F(1, 175) = 10.02, p < .002$, and Westside, $F(1, 164) = 4.19, p < .042$, mothers. In addition, Southside program mothers utilized services more than control mothers, $F(1, 174) = 5.72, p < .018$. Groups did not differ in amount reported use of community resources at the Westside site, $F(1, 161) = 0.00, p < .979$. The results appear in Tables 11 and 12.

The Avance program also provided information about contraceptives to aid women in managing the size of their families. The interview included questions about knowledge of contraception. For the Southside, significant group differences were found for both cohort A, $F(1, 94) = 10.48, p < .002$, and cohort B, $F(1, 85) = 4.47, p < .037$, and combined cohorts, $F(1, 180) = 15.4, p < .001$. There were no significant differences for the Westside groups (Combined: $F(1, 167) = .43, p < .511$).

The goal that participants would gain greater knowledge about community resources received strong support. That they would also make more use of community resources was supported in a more limited way. In addition, the related hypothesis that program women would know more about contraception was supported for the Southside only.

Mothers' Knowledge About Child-Rearing

In addition to becoming more skilled in interacting with their children, it was expected that program mothers would be more knowledgeable about child-rearing and child development.

The Maternal Developmental Expectations and Child-Rearing Attitudes Scale (MDECAS) section on Attitudes was used to assess general knowledge about child-rearing. On

this measure, the Westside program mothers showed greater knowledge than control mothers, $F(1, 167) = 8.20, p < .005$), as predicted. Southside mothers did not differ significantly.

There were no group differences in knowledge about developmental milestones for either the Southside or the Westside.

The results provide limited support for the goal that program mothers would be more knowledgeable about child-rearing.

Mothers' Attitudes and Beliefs About Child-Rearing

Parent education programs have as a major goal that parents' attitudes and beliefs about child-rearing will be affected by the program in certain ways. Avance goals included that mothers would become less adamant about the need for strict discipline, that they would have more positive attitudes toward child nurturance, and that they would be less aggravated by their child's behavior.

The results appear in Tables 11 and 12.

Program effects in the expected direction were found on the Questionnaire on Parental Attitudes Strictness factor: Southside, $F(1, 181) = 7.65, p < .006$; Westside, $F(1, 167) = 6.73, p < .010$. See tables 11 and 12. After participating in the program, mothers held less strict attitudes about child-rearing.

Mothers from the Southside who were in the program showed more positive attitudes toward nurturance of the child (Warmth factor) than did control mothers, $F(1, 181) = 6.47, p < .012$. There were no group differences for the Westside.

The results were comparable for Aggravation. Program mothers in the Southside showed less Aggravation with their child than did control mothers, $F(1, 181) = 5.56, p < .019$. There were no group differences for the Westside mothers.

The general goal of more positive attitudes toward children and child-rearing was supported. The results were strongest for decreases in strictness and more limited for increased warmth and decreased feelings of aggravation.

Mothers' Attitudes Toward Education and the Mother's Role as A Teacher

It was expected that program mothers would place greater value on education and would see themselves as teachers of their own children.

The Early Learning Questionnaire was used to assess the value placed on education by the mother. Significant program effects were obtained at both sites: Southside, $F(1, 181) = 4.16, p < .043$; Westside, $F(1, 167) = 4.96, p < .027$.

A second instrument used to assess attitudes toward

education was the Progressive section of the Parental Modernity Scale. On this measure, significant differences were found for the Southside mothers, $F(1, 181) = 4.70, p < .032$, but not for the Westside mothers, $F(1, 167) = 0.14, p < .706$.

Mothers were asked what level of formal education they wished their children to have and what level they actually expected their children to complete. Significant program effects were found at the Westside for Educational Expectations, $F(1, 86) = 4.45, p < .037$. At Southside, the only program effects were found for Cohort A on the Educational Aspirations variable, $F(1, 179) = 4.36, p < .04$.

The goal that mothers would place greater value on education for their children was supported strongly on one measure and partially on two other measures.

Mothers' Attitudes Toward Self

It was expected that the program would have a variety of effects on how the participating mothers view themselves. It was believed that the self-esteem of the women in the project is typically low and that participating in the program would have the effect of raising the level of self-esteem. It was also expected that participation in the program would have a positive effect on how effective the mothers viewed themselves as parents. Finally, although not a goal selected by the program staff, the evaluation staff thought that if there was a rise in self-esteem, there would also be a decrease in depression. This hypothesis was added in a tentative, exploratory way. The measure of depression was also used to test support of the goal that program mothers would report feeling that they have more energy.

Although there were no significant group differences for self-esteem at either site (Southside, $F(1, 181) = 1.90, p < .170$; Westside, $F(1, 166) = 3.62, p < .059$) the results approached significance for the Westside. A closer examination of the Westside results revealed that there was a significant difference favoring the program group for the B cohort, $F(1, 75) = 5.23, p < .025$. The A cohort did not show significant differences.

Program mothers at the Southside site showed higher levels of parental self-efficacy at Time 2 than did control mothers, $F(1, 181) = 7.04, p < .009$. Westside groups did not differ on this measure.

There were no group differences for depression at either site. Levels of depression were very high at Time 1 at Westside (means = 17.2 program and 19.1, control) and they remained as high at Time 2 (means = 18.1 program and 17.5 control). They were lower at Southside at both Time 1 (means = 13.7 program, and 15.9 control) and Time 2 (means = 13.0 program and 14.8 control). The incidence of elevated scores (greater than or equal to 16) at Time 1 also gives an indication of the level of depressed mood. At the Westside,

55% of the program participants and 61% of the control participants scored in the elevated range. At Southside, the rates were 49% program and 45% control. Participating in the program had no effect on depression scores.

Goal attainment in the area of self-esteem received little support overall. There was evidence of increased self-esteem for one site and one cohort, support for increased parental self-efficacy for one cohort, and no support for differences in depression, or conversely, increased feelings of energy.

Mothers Motivation For Achievement

It was a program goal that as a result of participation in the Avance program women would become motivated to achieve more for themselves. The objects of the achievement motivation were not specified; a generalized need to achieve was assumed. Measurement of goal attainment in this area was carried out with a projective technique, the Thematic Apperception Test, scored for need achievement.

No group differences were obtained on achievement need for either site. The overall level of need achievement was low, and presumably, the level of motivation for generalized achievement was also low.

Social Support

It was a goal of the program that families would be helped to develop larger and stronger social support resources as a function of participating in the program. The Arizona Social Support Interview Schedule provides several indices of support. No hypotheses were made for Social Support Need, Social Support Satisfaction, or Social Support Utilization. The two most relevant indices were Social Support Available and Social Support from Friends. It was assumed that new sources of support would be derived from friends newly made while participating in the program, rather than from other sources, such as relatives.

On the measure of social support available, no significant differences were found with combined cohort analyses at either site. However, within the Westside site, a significant difference favoring the control group was found for cohort A, $F(1, 167) = 5.18, p < .025$. In addition, for the combined cohorts, the Westside control group also expressed a higher need for support, $F(1, 167) = 4.77, p < .03$. Whereas the participants of the control group indicated a larger available network, they also expressed a greater need for support.

No group differences were found on the proportion of the network made up by friends for the combined cohort analyses. However, at Southside for cohort A, the program group's network consisted of a larger proportion of friends,

$F(1, 177) = 4.52, p < .036.$

Goal attainment in the social support area was limited. There was some evidence of increases available support networks and for increased support from friends, but the significant results were for isolated cohorts and sites.

Effects on Children

Program goals held that children should benefit from the program, but assessment of attainment of all goals was not attempted. Only those goals rated as having high priority and for very young children were assessed.

The Bayley was used for children up to 30 months of age, for cohort A the K-ABC was used for older children and for cohort B the Stanford-Binet IV was used. The primary analysis used the Bayley MDI, the K-ABC average of Mental Processing and Achievement scores and the SBIV Composite as essentially equivalent indicators of cognitive functioning.

As may be seen in Table 13, showing the cognitive assessment results, the scores for groups varied considerably by site and type of test. Most importantly, there were no group differences on any of the comparisons. These comparisons included inclusion of all scores obtained and in other comparisons deletion of scores of 69 or lower. In either case, there were no group differences.

The program goal of higher child social competence was assessed with the Child Behavior Rating Scale. It was assumed that social competence would appear in the Positive ratings obtained and in having low Total Problem scores. The Total score for the CBRS for the Westside children was not significantly different for program and control groups, $t(173) = -.47, p < .641.$ Program children had a mean problems score of 11.15 and control children had a mean problems score of 11.49. The Southside children showed similar results, but with somewhat fewer overall problems: 9.17 for the program children and 10.20 for the control children. This was not a significant difference, $t(183) = -1.43, p < .154.$ The data were analyzed for Externalizing and Internalizing behavior problems and for Positive Behaviors, but no significant group differences appeared.

There was no evidence that goals for the children were attained at this assessment period.

TABLE 13
Cognitive Test Means and Standard Deviations
by Group and Site

	Westside		Southside	
	E	C	E	C
Cohort A				
Bayley				
N	19	18	17	12
MDI Mean	86.95	86.22	89.06	90.42
SD	12.15	13.23	12.62	11.18
>=70 N	17	17	16	12
MDI Mean	89.94	87.71	90.63	90.42
SD	11.61	11.99	11.19	11.18
K-ABC				
N	3	5	5	8
Average	81.67	83.40	87.10	84.56
SD	3.51	6.91	8.41	5.14
MPC	80.00	86.40	90.20	84.63
SD	7.21	4.39	10.83	7.46
ACH	80.83	84.90	84.00	84.50
SD	4.31	5.21	6.93	4.69
Stanford-Binet				
N	23	24	25	20
Composite	87.57	88.96	89.52	92.05
SD	5.87	8.21	7.58	7.34
Verbal			83.88	81.85
SD			12.88	21.13
>=70 N			24	19
Composite			89.52	92.05
SD			7.58	7.34
Verbal	82.91	84.83	85.21	86.16
SD	5.94	6.30	10.63	8.93
Cohort B				
Bayley				
N	18	17	15	18
MDI Mean	98.22	86.82	99.60	100.94
SD	19.03	16.32	15.72	21.95
>=70 N	17	15	15	17
MDI Mean	100.24	89.93	99.60	103.53
SD	17.53	14.71	15.72	19.59

Table 13 con't

	Westside		Southside	
	E	C	E	C
Stanford-Binet				
N	5	5	7	6
Composite	97.00	87.60	98.00	98.00
SD	10.70	7.23	9.43	1.27
Verbal	86.00	85.40	92.86	89.67
SD	6.63	9.53	6.18	5.99
Cohorts A and B Combined				
Bayley				
N	37	35	32	30
MDI Mean	92.43	86.51	94.00	96.73
SD	17.43	14.59	14.91	18.90
>=70 N	34	32	31	29
MDI Mean	95.09	88.75	94.97	98.10
SD	15.55	13.16	14.10	17.65

Consumer Satisfaction

As may be seen in Table 14 in Appendix B, women were very satisfied with the Avance program. With near unanimity they said they enjoyed attending the parenting classes and were satisfied with the services that they received. They all agreed they would recommend the Avance classes to other mothers.

The women reported that their families were supportive of their decision to attend the Avance sessions and most would not change any part of the program. Others thought the classes should be held more frequently. Most of the women knew about Avance's options and planned to take additional Avance classes.

The lessons topped the list of program elements liked most followed by the toymaking exercises. As to what they did not like, most had no criticisms or said the program was too short. Of specific elements that were not liked, transportation was most often cited.

DISCUSSION

Group Assignment and Attrition

The process of assigning volunteers to the program or control group randomly at the Southside was highly successful and there was no evidence to suggest that the groups differed in any biased way either at the initial time point or when data were collected with participants remaining. Any slight differences between groups seemed to favor outcomes for the control group; e.g., higher self-esteem, longer in the USA, and preference for speaking English.

Groups were matched at the Westside site and although this process was generally successful, there were a few disquieting differences between groups. In cohort A control mothers wanted more education for their child, were older, and had lived in the USA longer. For cohort B, control mothers had lower SES and expressed less need for social support.

Despite the lack of systematic or meaningful differences between groups, we chose to analyze posttest data with pretest scores controlled. This conservative action provides another layer of protection against making unwarranted inferences from the analyses of results.

Reviewers of parent education and family support programs have commented critically on the high drop-out rates of some programs (e.g., criticism of the PCDCs and CFRPs by Halpern, 1990). Avance had a drop-out rate of 55% (53% for cohort A and 57% for cohort B) for program participants and is like many other parent education programs in this regard.

Obviously, it is important to devise programs that have high completion rates. This would result in more cost-effective programs in that facilities designed for a certain number of participants would function at or near capacity, and that the number of staff would not be excessive near the end of the program year with many drop-outs depleting the ranks of participants. Perhaps more important, is the issue of program relevance. If a group of people are identified as being at risk in some way and if the program is designed to reduce this risk factor, then it is essential that participants stay in the program and receive maximum benefit. There is in this the assumption that maximum benefit is related to program completion.

It is important to place the matter into a context by comparing parent education drop outs with those in other settings. Drop-out from institutions of higher education is regarded as a problem for student athletes. In understanding why so many athletes fail to graduate in the usual four to five years, comparisons were made with non-athlete students. The results were impressive. Students in large state universities such as the University of Texas or

University of Michigan have completion rates of about 40%. Students in state universities in large cities (commuter students) such as the University of Houston or Wayne State University have completion rates of 19%-25%. Only in the select private universities do completion rates rise to the 85%-90% range. Most university students do not complete the standard program in the expected period of time. Sometimes students leave school for a year or two or even for many years and return later to complete. Other concerns in their lives occupy them and take them away from higher education. Others find they have acquired what they needed and do not need a degree. Avance mothers are probably no different. When asked in exit interviews why they are leaving, the most common reasons given are that the family is moving out of the area or that the mother has taken a job and cannot attend the classes.

Attendance in Avance-like programs do not require the same commitments in costs and time university matriculation and so are probably more appropriately compared to voluntary activities such as mutual support groups. The modal attendance in these groups is one session. Psychotherapy is typically sought by people motivated by serious emotional distress and even here the typical number of sessions attended is fewer than ten and leaving is viewed as premature by the therapist. By these standards, the completion rate of Avance and similar programs is good indeed.

The issues of cost-effectiveness and out-reach to people at risk remain to be worked out. It may be that the group format of Avance is discouraging to some women. Lyons-Ruth, Botein & Grunebaum (1984) found in their work with isolated and depressed women that some would not attend group sessions, but were willing to meet with a home visitor. Something similar may be relevant for potential Avance participants.

End of Program Results

The summative evaluation results indicate that the program has been effective to a high degree. With such an array of goals to be attained, so many measures to assess goal attainment, for such a complex program, and for two rather different sites, it is unrealistic to expect that goal attainment would be found for all measures. Goals were attained as indicated by the results for many, but not all, measures. Furthermore, goals have been attained for most of the high priority items.

Educational Stimulation Provided in the Home

The results for the measure of the amount and quality of educational stimulation provided in the home using the

HOME measure are very strong. Some indication of their strength may be estimated by comparing the results with those of a somewhat similar program, the Houston Parent-Child Development Center (PCDC) (Andrews et al, 1982). This program was also designed for low-income, Mexican American families and the intervention was directed at the parent-child interaction. The two-year program required approximately 550 hours of participation by families. For the first two cohorts of participants the results indicated significant differences between groups, $F(1, 90) = 9.06, p < .01$. These results can be compared with those obtained for Avance by examining the effect sizes for both experiments. For the H-PCDC the effect size was .74 and for Avance Westside a nearly identical .72. The effect size for the Southside was .61. According to Cohen (1977) an effect size of .50 is medium and one of .80 is large. "Large" means that the difference between groups is so large that statistics are hardly necessary. The Avance Westside and H-PCDC results were near the "large" effect size and the Southside results were in the high medium range. It is clear from this comparison that the end-of-program effects on stimulation provided in the home environment that the Avance program compares well with the much longer PCDC program.

Gray and Ruttle (1980) used HOME to evaluate the effects of a nine-month, weekly, home-visiting program on low-income families. Random assignment to program and control groups was used. There were no significant differences at the end of the program or at the first follow-up. Significant Total score differences on the 80-item preschool version of HOME were found. There were no subscale differences. These results are interesting in that they are at variance with those of the Houston PCDC home-visiting program in not obtaining immediate program effects, but also in finding significant differences at the second follow-up. The results raise the possibility that other programs might also find delayed effects.

In another early infancy project, Wasik, Ramey, Bryant and Sparling (1990) compared two programs, one involving Family Education in a series of home visits and another that was based on Day Care that included carefully presented activities plus the Family Education. These were compared with a control group. The infancy version of HOME was used at 6, 12, 18, and 30 months. No group differences were found. The toddler version of HOME was used at 42 and 54 months and again no differences were found. Although this program required more total hours of involvement of mothers than Avance, the effects on HOME were much less than those obtained by the Avance program.

Palti, Otrakul, Belmaker, Tamir and Tepper (1984) evaluated the impact of an early intervention program on 36 mother-infant dyads in Israel. The program consisted of 10-16 visits to the home by a nurse in the first year after birth, and 4-5 visits in the second year. Emphasis was on health care. There was no cognitive stimulation. Program and

control groups were matched for mother's region of origin and level of education. Significant differences between groups were found on factors I, III, IV, and V, and on the Total score. In this study, a program with minimal intervention effort, appeared to produce significant differences between groups. However, conclusions about the effectiveness of the program are limited by the absence of information about the pre-program HOME scores for the two groups. It is possible that the groups differed initially, not on the HOME scores, which could not be administered to neonates, but on other family characteristics. These were not reported.

Metz1 (1980) used HOME in evaluating the effectiveness of an Infant Language Program administered in two forms; mothers only and mothers and fathers together. These interventions were compared with a control group that received no program. Random assignment was used with the 60 middle-class families involved. Training consisted of three one-hour sessions in the home at 6, 12, and 18 weeks. Significant differences were found between the program groups and the control group on the HOME Total score. No differences were found between experimental groups.

Ferland and Piper (1981) evaluated the effects of a sensory-motor education program for expectant parents on mother-infant dyads at 3-months of age. During pregnancy, parents took part in 6 educational sessions. No HOME score differences were found. Matched groups were used and there was, of course, no opportunity for pre-test assessment using HOME.

HOME was also used in the evaluation of a program for low birth weight infants (Barrera, Rosenbaum, & Cunningham 1986). Sixty infants were assigned randomly to a control group, an infant stimulation group, or a parent-infant interaction group. The interventions were in the home. HOME was conducted at 4, 8, 12, and 16 months. Results from MANOVA indicated that parents in the parent-infant group were more sensitive and more involved.

The Montreal Home Visitation Study (Larson, 1980) evaluation design included three groups. Participants were assigned randomly to two groups, one that received 10 postpartum home visits from infant age 6 weeks to 15 months and the other was a no intervention control group. A third group then entered until a preset date. Families in this group received prenatal information followed by 10 postnatal visits until the child was 15 months of age. The interventions included child care information, advice on services available, instruction on mother-child interaction, and infant language and cognitive stimulation. HOME was used in the evaluation with significant differences found between the prenatally-visited group and the other two groups. Unfortunately, that the prenatal group had not been assigned randomly clouds interpretation of the results as effective.

Olds, Henderson, Chamberlin, and Tatelbaum (1986) included HOME in their evaluation of a nurse-implemented

home visiting program with low-income adolescent mothers. Results were reported only for two factors: Avoidance of restriction and punishment and Provision of appropriate play materials. At child age 22 months, significant program effects were obtained on these two factors for the subgroup of "poor, unmarried teenagers," but not for the whole group. The larger group was more comparable to the Avance sample which did not have the risk characteristics of the Olds et al subgroup.

HOME was used in the evaluation of the Missouri Program, but the report received does not describe adequately the research design or the results for HOME.

Of the 9 intervention studies located that reported HOME results, 5 had significant group differences, but none were as great as those for Avance. The most interesting comparison is between Avance and the Houston-PCDC since both worked with low-income, Mexican American families and had similar goals. Even though the PCDC program was much longer and required more participant time, the Avance HOME results were stronger.

The significance of these results for the longer-term development of the Avance families is still in question. Other researchers working with non-Hispanic families have found that scores on HOME at child ages one and two significantly predict achievement test scores at age 7 (Bradley & Caldwell, 1984; Bradley, Caldwell, & Rock, 1988). The Houston-PCDC HOME scores at age 2 also predicted school achievement, but only for girls.

Higher HOME scores certainly indicate higher levels of educationally stimulating circumstances in infancy and early childhood, and there is some evidence that this is related to later competence in school, but a child's school competence is dependent upon more than his or her early experiences. The educationally relevant qualities of the home may change during the intervening years, schools differ greatly in the opportunities they provide for learning, and individual characteristics of the child also are part of the prediction equation. Nevertheless, even considering these limitations on prediction, the Avance graduates have an advantage over children in the control groups to go on to become able scholars.

Mothers Knowledge About Community Resources

As expected, after program participation mothers at both sites differed from the control mothers in having more knowledge about community resources.

After participating in the program, Southside mothers knew more about contraception, but mothers in the Westside did not differ from the control group.

The measures of knowledge used in the evaluation were but crude probes into the participants' knowledge about community resources, and provide only a rough gauge of

pragmatic knowledge. Program mothers were able to indicate that they knew more about the names of resource agencies and, on the Contraceptive Questionnaire, more about the basic means of contraception. Presumably, having this knowledge means that they also know more about how to interact successfully with social service agencies and how to use contraceptives effectively. These were topics of discussion in the program, but details were not included in the knowledge inventories. In short, these evaluation results indicate program effects and are probably underestimates of the extent of these effects upon mothers.

Mothers Knowledge About Child-Rearing

The MDECAS Child-Rearing Attitudes scale was used as a measure of child-rearing knowledge and in our opinion, it was not a strong measure. Ideally, the measure of knowledge would have been tailored to the contents of the Avance program as presented to the participants. In preparing the evaluation there was not enough time available to develop a new research instrument and we selected one that only approximated the ideal. The measure used tapped some of the program contents about child-rearing, but missed other material. Field (1980) had developed the scale to assess differences between adult and adolescent mothers of infants and full-term versus preterm mothers. She found significantly higher scores for adolescents who had full-term pregnancies compared with adolescents with premature infants.

The MDECAS Developmental Milestones Scale was one of only two measures for which no significant group differences were found. An examination of the results indicated that the test was too easy. Mothers in both groups and at both sites were quite accurate in their estimations of the developmental milestones in question and there was little variation in scores. It may be that there was no room for a program effect. Field (1980) had found that the scale showed "...unrealistic developmental expectations of the teenage mothers..." (p. 166). Her sample of adolescent mothers probably included mothers who were naive about infant development and had little basis for judging developmental appropriateness. The Avance sample included older women and multiparous women. Only 27% of the children in the Avance sample were firstborns.

Mothers' Attitudes and Beliefs About Child-Rearing

Although attitudes tend to be resistant to change, the Avance program had effects on views about strictness, warmth, and aggravation, all of the attitudinal realms measured.

To the extent that attitudes provide a conceptual basis

for behavior, or a justification for actions, the changes observed may have important implications for the well-being of children in the project. Attitudes regarding the expression of emotional warmth or acceptance, as opposed to coldness or rejection, have been found by many investigators to have an important place in parent-child relationships (Rohner, 1986; Sigel, 1985).

Attitudes favoring strictness and feelings of aggravation with the behavior of the children have been associated with child abuse (DeLissovoy, 1973). The results obtained for the Avance program suggest that children of participating mothers have become at reduced risk for abuse or neglect as a function of their mothers' involvement in the program.

Mothers' Attitudes Toward Education and the Mother's Role as A Teacher

Program graduates at both sites showed more positive attitudes toward the value of education than the control mothers. The evaluation instrument, Early Learning Questionnaire, included items such as, "Parents should read to their children before they are three years old" and "Parents have a lot of influence over how children learn." Quite clearly, the Avance program communicated the importance of early teaching in the home to the participating mothers and the mothers incorporated the ideas into their own attitudinal systems.

Mothers on the Southside adopted more progressive attitudes toward the education of children as a result of program participation. This result was not obtained for Westside mothers. The items in this scale ask respondents to what extent they agree with such statements as the following; "What I teach my child at home is very important to his/her school success," "Children learn best by doing things themselves rather than listening to others." Schaefer and Edgerton (1985) found with a sample of mothers of kindergarten children that high scores were related to teacher ratings of the children of higher curiosity and verbal intelligence and higher achievement test scores.

In general, the program had positive effects on the attitudes the mothers have about the value of education and about their role as teachers of their young children.

Maternal Attitudes Toward Self

The self-esteem of women in the project was explored in three different, but related ways. The results were mixed, with some program effects found, but in a complex pattern of overall results.

On the Rosenberg Self-Esteem measure, for the combined groups, no program effects were found for the Westside and a

trend only was found for the Southside. Cohort B for Southside did show a significant group difference.

The goals for self-esteem changes had only medium priority, but there was an expectation that the program would lead to enhanced self-esteem. Why were there no strong effect? It would be helpful to have a better understanding of the context of changes in self-esteem. For example, Rodriguez (1989) found group differences as a function of participation in a GED program; recent immigrants who participated showed higher scores when they completed the course. Perhaps self-esteem rises with unambiguously perceived accomplishment as in completion of a program that has clear, delimited goals such as a GED class.

It may be that self-esteem is a concept that is over-valued by program developers and evaluators. It is widely assumed that children and adults who live in poverty, are of minority social status, or live under adverse social circumstances, have low self-esteem and that their self-esteem needs to be raised for optimal functioning. The Avance data provide little support for this idea. Compared with the results of other studies, the Avance mothers, despite the fact that many live under exceptionally difficult circumstances, reported fairly high self-esteem.

Other studies have found much the same: minority adolescents typically show self-esteem levels that are as high as those of majority adolescents (Healey, 1974; Wylie, 1979). Poverty and self-esteem are poorly related.

A significant group difference was obtained for the Southside mothers on the Parental Self-Efficacy measure. The groups at the Westside did not differ. Finding a program effect for Parental Self-Efficacy, but not for the Rosenberg Self-Esteem measure may be seen as a comment on the complexity of the self as an area of empirical research. It may be that the PSE measure showed a difference when the Self-Esteem did not because the realms assessed in the former were much more a part of the Avance program. Much of the program was directed at issues having to do with parenthood and behaviors associated with effective parenting were often presented and discussed. It is unlikely that the same could be said of issues of general self-esteem; indeed, it is difficult to think how self-esteem could even be discussed apart from one's involvement in some activity (i.e., how I view myself vis a vis others in the context of x).

The PSE scores obtained by program mothers at Time 2 were similar to those of the middle class mothers in Cutrona and Troutman's (1986) research (mean = 35.4) and higher than the mean of 31.6 for a sample of middle-class mothers who had attended childbirth classes with their husbands studied by Gibaud-Wallston and Wandersman (1978). In the latter project, mothers who perceived their infants as "easy" had higher PSE scores than mothers who saw their infants as "difficult." Mothers with "difficult" infants who received little social support had the lowest sense of efficacy as

parents. Participation in discussion groups had no effect on PSE scores, but there was a general rise in scores on follow-up testing.

That the program had an effect on mothers' sense of efficacy as parents at the Southside, but not at the Westside, suggests that program effects may have been mediated by level of support available. Support was higher, as indexed by the higher Available Network scores, and also by their coupled marital status for the Southside group. It is possible that for a sense of parenting efficacy, a certain level of support is necessary to realize the full results of an educational experience.

One of the most important findings of the Avance program evaluation research was that so many mothers had high levels of depression. The finding that 47% of the women in the Southside group and 58% in the Westside group had CES-D scores in the clinically depressed range, using the cut-off level set by Radloff (1977), is quite remarkable and is one of the highest reported for a non-clinical population. That CES-Depression scores were not affected by program participation is an interesting and important result, but it should be recalled that the program was not designed to alleviate depression. The measure was introduced by the evaluation staff for exploratory purposes; we wondered what levels of depression would be found with this high risk population, and whether a parent education/family support program would have an effect on any depression identified. We found more depression than we had expected, and that the program did not have a substantial impact on the depression scores.

Why the program did not affect depression levels may have several reasons. It may be that levels of depression were simply too high, that many participants were experiencing quite serious levels of depression that would be reduced only by focused therapy. It may be that the social situation of many of the participants is so difficult that depression is more or less endemic, and virtually unresponsive to social therapies. Telleen, Herzog and Kilbane (1989), working with lower-middle-class mothers in a setting somewhat like that of Avance, also found no program effects on CES-D scores, but the level of depression in their groups was much lower.

The high levels of depression must be regarded as additional risk factors. Lyons-Ruth and associates (1986) have shown that infants of depressed mothers have lower mental development scores and more anxious attachment than infants of nondepressed mothers. These results are typical of an increasing number of studies that have come to essentially the same conclusions: maternal (and perhaps paternal) depression places young children at risk.

Mothers Motivation For Achievement

No program effects were found for motivation to achieve. The absence of group differences can be accepted with confidence as the measuring technique was reliable, but questions remain about the meaning of the results and the relevance of the results for the Avance evaluation. The major concern has to do with the level of literacy of many of the women in the project and the brevity (mean = 48 words) of most of the TAT stories. Ricciuti and Sadacca (1955) found story length and need achievement scores to be correlated in the .48 to .59 range.

Motivation to achieve can be assessed in other ways. Perhaps the most valid method is to observe actual achievement in natural settings, and this was done in the Avance evaluation of the second year of the program. Questions were asked about enrollment in courses and steps taken to improve employability. In this, need to achieve is inferred from the processes involved in actual achievement and not from a surrogate measure of achievement fantasy.

Social Support

The program expectation that amount of social support available and the amount of social support from friends would increase as a result of program participation received only slight support. The hypothesis regarding amount of support available was supported only for the Westside cohort A. The support from friends hypothesis was supported for the Southside cohort A only.

The lack of strong support for the friends hypothesis is most puzzling because it was expected that participation in the Avance program week after week with the same group of women would develop friendship networks which would be revealed in our measure of social support. That this happened in only a limited way suggests that other forces at work in the social environments of the women are stronger. The results actually raise a number of questions about social support: What is friendship? How is it best measured? How do friendships develop? Some answers to these questions can be obtained from further analyses of our data, but they are not available at this time.

Child Results

The absence of group differences on the child intelligence measures is not surprising. The Avance program was directed at the mother to a greater extent than it was directed at the child. Both were in the program, but, on balance, development of the mother seemed to the evaluators to be given greater weight than development of the child. In fact, when the evaluation began the program for the children

consisted almost entirely of safe and convenient day care provided so that mothers could be free to attend classes. There was little evidence that it was intended to provide a cognitively stimulating environment for the children. It appeared that the expectation for the program was that child effects would occur later, after the mother had improved her own educational and economic situation. This situation changed dramatically during the course of the evaluation. The very presence of evaluators on site, even with an attempt to remain neutral, spurred an inquiry by the Avance staff about the quality of the child program and changes were made. Staff received additional training and a greater emphasis was placed on the cognitively stimulating characteristics of the child program.

Programs that have had effects on infants and very young children have included elements that have involved the children directly in training activities. For example, the Houston PCDC had significant effects on child cognitive functioning at age two as measured with the Bayley. Mothers had been visited by in-home educators 25 times with each session lasting 90 minutes. Focus was on the mother's ability to understand her child's affective states and level of development and to stimulate language and cognitive development with toys, games, songs, and so forth. In these sessions, mothers worked with their own infants and were given homework assignments to report on at the next teaching session. They became highly skilled at eliciting child language, and the children became skilled in relating to adults. Under these conditions, superior performance on infant tests was found as expected.

In a similar vein, there was no support for the program goal of greater social competence for the children. No group differences in presence of positive behaviors or behavior problems as reported by the mothers were found. Research has shown that children as young as those in the Avance study tend to show relatively few behavior problems, and that was supported by the Avance findings. For the combined groups scores ranged from 0 to 27 and as 32 was the highest possible score it is clear that at least some of the children were described as having many problems, but the mean problem scores were about 11. Problems were present and as a short-term primary prevention intervention, Avance was not effective.

There is little prevention research with which to compare this outcome. The most, and perhaps only, relevant study is that by Johnson and Breckenridge (1982) with low-income, Mexican American families who had participated in the Houston Parent-Child Development Center. Follow-up in the preschool years found significant group differences in mothers' reports of child behavior problems. Main effects were found for groups and gender and an interaction. The differences were primarily between program and control boys. The groups of girls did not differ.

Direct comparison of Avance with the H-PCDC is not

possible because of differences in ages of children at follow-up (H-PCDC children were older), intervention effort (H-PCDC was much more extensive), and behavior problem measurement (H-PCDC used a structured interview method). Nevertheless, it may be instructive to consider these differences when examining the Avance results. Perhaps primary prevention occurs only with intensive, specific training of caretakers, in this case, mothers, in ways to manage child behavior. There is also evidence from the H-PCDC research that behavior problems tend not to develop in a particular parental affective context. Breckenridge (1980) and Carrillo (1987) both found that fewer problems developed when mothers were warm and moderately controlling in their interactions with their young children. Critical, restrictively controlling behaviors with less warmth were associated with more behavior problems. H-PCDC research demonstrated that program mothers were warmer, less critical, and more moderately controlling than control mothers as assessed with mother-child interaction techniques (Andrews et al, 1982). The Avance results with the HOME and the Parental Attitudes suggest that this state of affairs has been fostered by Avance, but the Avance mother-child interaction data await analysis, and it is not clear whether the H-PCDC results have been obtained by Avance.

Consumer Satisfaction

Women who participated in the program were highly satisfied with it. Their satisfaction is evident in their statements that they enjoyed the program and that they would recommend it to others. They were also asked to express their dissatisfactions and make suggestions for improvement. There were few dissatisfactions and those that were mentioned tended to focus on transportation problems. Staff were also dissatisfied with the transportation situation and realized that it was a point of frustration for all involved. Hobbs et al (1984) commenting of the Minnesota Early Childhood Family Education Program, a program that is in many ways comparable to Avance, wrote the following: "Evidence of accessibility, use, and parents' satisfaction perhaps is all that is possible and all that should be required." That evidence is available, and it is uniformly positive.

Replication

For the Westside six significant group differences on outcome measures were obtained for Cohort A and three of these significant findings were again obtained for Cohort B. However, Cohort B had five additional significant group differences, and when the cohorts were combined there were nine significant differences.

For the Southside comparisons, Cohort A analyses resulted in eight significant differences and only two of these were found for Cohort B. With the cohorts combined twelve significant differences were found. It is important to note that the two results found to be replicated for both sites and also found to be significant when cohorts were combined were the HOME Total score and HOME factor 4, Use of Appropriate Play Materials. These scores revealed differences between groups not only in what the mothers said they did, but what they actually did when observed in their homes.

That there was considerable overlap in outcome results for the initial evaluation and the replication is reassuring; that there were differences in outcome should give pause to program evaluators who have neither large samples or replications. It seems clear that there is a kind of lability in much that is measured in parent education and family support evaluation and that this accounts for some of the discrepancies in outcomes obtained (See discussion of the HOME results above).

Site Differences

There were site differences in many of Time 1 data for participants at the two sites. These differences have been described and seem to reduce down to differences in number of women with partners, income, acculturation, and social status. There is a suggestion that the variables measured have not identified all of the differences between the sites. The main difference was that most of the women in the Westside site were living in public housing and most of the Southside women lived in individual houses. Living in public housing seems to carry with it a set of hazards that go beyond living in individual houses. These hazards include higher rates of violent crime, more theft, and, not least of all, an awareness that many families are but one step from homelessness. Loss of public housing does mean for homelessness for families without the support of relatives or friends.

It appears that program effects may have been greater for the Southside than for the Westside, but direct comparisons were not made because of differences in experimental design.

Program Strengths

The strengths of the program may be inferred from the goals that were attained as measured by the evaluation procedures. By this formula, strong program elements are those related to goal assessment in which statistically significant group differences were obtained. Weak elements were those for which no differences were found. As has been

noted, this formula is limited by the validity and reliability of the research measures. It may be that some elements are strong, but the measures used were inadequate to the evaluation task. This warning has been made earlier, but is essential for an appreciation of the overall assessment of the Avance program.

The first year program was successful in achieving nearly all of the high priority goals that had been set. This suggests that the program is strong in a comprehensive way. Very clearly, participants learned essential information about children, and were putting this information into action with their own children. Furthermore, the program had effects on attitudes, suggesting that core, orienting beliefs about child-rearing were also affected. Program participants learned about community resources and other information valuable to them as parents.

There are certainly other strengths. The modeling of role performance provided by staff, many of whom are Avance graduates, is undoubtedly encouraging to the participants.

Program Weaknesses

The lack of effects on children, either on their cognitive development or behavior, suggests a relative weakness of the program in this area. Most striking was that some of the children were virtually untestable with conventional methods because of their reluctance or inability to interact verbally with the examiner. The absence of verbal interaction between adults and children in the program's day care was also noted.

It seems safe to generalize that programs that have strong effects on the abilities of children are those that focus program efforts directly on the children, either through developed skills of the parents, or through the teachers.

As the Avance program was not designed to prevent or treat depression there can be no criticism of the program for not having effects in this area. The measure of depression was added by the evaluators to obtain descriptive data on the affective environment of the home, and secondarily to see if the program would have effects on depression that did appear. Both goals were achieved: depression was found, and at levels beyond expectations, and it was found that the program did not have an effect on depressive feelings. Munoz (1990) in reviewing the literature on the prevention of depression, reported that there is no evidence to date for the primary prevention of depression, but that there were few recorded attempts to apply primary prevention efforts in a systematic way in this area.

There is some evidence that low-income women with depression can be helped when their problems are recognized

and responded to directly. For example, Comas-Diaz (1981) used cognitive therapy and behavior therapy with depressed low-income Puerto Rican women and found both to be superior to the no-treatment control group.

Evaluation Remaining

As of this writing, the evaluation of the Avance program is incomplete. Some of the methods are highly labor intensive and results are not yet ready for reporting. Most notable was the mother-child interaction videotaped observation carried out at the end of the program and again, at one year follow-up. Videotapes were made and to assure that the coders would not know the program status of the mothers, coding was done away from the Avance offices at the University of Houston.

A second measure that is not ready for reporting is the Social Problem Solving. As an open-ended format was used initially, a coding scheme had to be developed. This was done (Jones, 1990) and most of the protocols were coded, but the task was not complete at the deadline for preparing this report.

An analysis that would be useful in understanding the results is the identification of participants who might be more likely to attend or to benefit from the program. A study of this type is underway. Using cluster analysis, types of participants will be identified, and the outcomes in terms of participation and benefit for the various types will be examined.

Evaluation Limitations

A major threat to the validity of any experiment is the loss of initial subjects. In program evaluation high drop-out rates threaten validity of the randomization and even after carrying out analyses to examine for evidence of attrition bias and finding none, there remain questions about whether the loss of participants biases the results.

Another matter that may have had an effect on the results was that the data collectors were not blind to the program status of the participants. Although it would have been desirable to have ratings of home environment and the like done by naive research assistants, in fact it was not possible. Mothers in the program nearly always remarked upon their program experience. Furthermore, we chose to encourage control participants to continue in the project by paying them for their time. When we realized that blind interviewing was not possible, we had the data collectors pay the mothers immediately after interviews. The lack of a blind data collecting procedure is unfortunate, but not unusual. It is typical of evaluations of Avance-type programs.

The results presented are basic presentations of group differences and have not included analyses making use of mediator variables; e.g., acculturation, in assessment of program effectiveness. In the same way, possible effects of gender on outcomes have not been analyzed. Analyses are underway on these topics and others. One project is attempting to identify types of women using cluster analysis who will continue in the program and who benefit most from the program.

Substantial problems were encountered in assessing the cognitive functioning of the children. The use of the Bayley in assessing the abilities of infants was relatively problem-free, but we found that using either the K-ABC or the Stanford-Binet IV that many of the 30 to 48 month-old children were difficult to test. The major problem was that they would not respond verbally and seemed quickly to lose interest in the testing task. The examiner was experienced and worked marvelously well with young children, but the testing situation seemed strange to the children and they were not productive. These problems lead us to interpret the results with caution. Assessment at a later date when the children are more mature would be desirable.

Recommendations

Program Continuance

The results indicate that a large number of program goals were attained and that the program does what it is designed to do. It is therefore recommended that the program be continued and disseminated appropriately.

Depression intervention

One of the major ancillary findings of the Carnegie Avance Evaluation was that so many of the women participating reported high levels of depression. We have not yet followed through to determine the effect depression has on program participation or on child-rearing (two studies are in progress), but the research literature suggests that depression may interfere in both areas. Clearly, there are advantages to attempting to reduce high levels of depression or prevent them from occurring.

We suggest that a depression treatment program be installed to take place within the existing Avance context as part of the group classes. We propose that the methods developed by Rehm (1984, 1987) be applied as part of the Avance program. These methods are readily adaptable to the Avance program and have the advantage of offering information potentially of value to all participants and at the same time providing participants in particular need with

means to cope with and overcome their depression.

Child focus

Although one of the long-range goals of Avance is to enhance the competence of children and, presumably, optimize their ability to function in school, there is relatively little in the program at present that is directed toward this goal. Most of the current curriculum activities are directed, and quite appropriately, toward child developmental issues occurring in the present, and are not focused on later developments. We suggest that the present program could incorporate more curriculum elements that would both stimulate current cognitive functioning of the children and set the stage for later optimal school functioning. For example, more emphasis could be placed on parents reading to their young children. Early reading to children is related to later reading competence (Dunn, 1981). Language games played with children should also receive more encouragement. Bryant (1986) has shown experimentally that when parents play language games with preschool children (e.g., rhyming and alliteration) children develop stronger language skills. Our process observations (See volume II) have indicated that these practices are being encouraged by the Avance teachers as part of the curriculum; we suggest that an even greater emphasis may be worthwhile.

In general, child cognitive advances take place when they are exposed to a stimulating learning environment such as is indexed by HOME scores. However, in addition, children learn best when they are taken through learning steps systematically and provided feedback on their performance. The method is called "direct instruction" and is applicable for infants as well as older children and adults. The method has been summarized by Brophy (1986). As applied to a parent education program when a parent is introduced to the idea that children can learn concepts from their parents, and that early acquisition of concepts is related to later superior cognitive functioning, the training takes place in several steps. First, the reason for the concept training is explained to the parent. Second, procedures for carrying out this training are described and parents are encouraged to explore the idea and to contribute related ideas of their own. Third, the parent tries out these new ideas by teaching them to her child and this attempt is videotaped. Fourth, the tape is presented to the group of parents for feedback (positive only), and discussion. Fifth, the teaching is tried again, and feedback is again obtained. This procedure is repeated for a number of related topics to encourage generalization of learning. Finally, parents are encouraged to try the teaching at home and to report back on their success of their efforts. General success is measured by assessing the parent's

knowledge of the teaching methods and by assessing changes in child's conceptual abilities.

Problem solving

Although assessment of the problem solving component of the program was not complete at the time of this report, the curriculum module was reviewed. As noted in Vol. II, the training was quite general and not clearly focussed. We suggest, on the basis of recent research, that a more effective way of teaching problem solving is to teach participants to identify problems, analyze the specific components of the problem, generate possible solutions, select one solution for application, apply that solution, and follow-through with a check for adequacy of the solution. This general method is used widely in teaching children and adults to cope with social and other problems.

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APPENDIX A

TABLE 11

ANALYSES OF COVARIANCE WITH WESTSIDE TIME 2 DATA
BOTH COHORTS - SEPARATE AND COMBINED

Variable	Cohort A			Cohort B			Combined Cohorts
	Exp	Con	F	Exp	Con	F	F
n	28	68		28	50		
HOME							
Total Score	36.2 (4.1)	32.8 (5.2)	12.78**	33.6 (4.6)	29.9 (6.0)	8.85**	23.67***
Emotional & Verbal Responsivity	9.5 (1.5)	8.3 (1.9)	8.68**	8.9 (1.8)	6.9 (2.6)	12.71**	23.55***
Avoidance of Restriction & Punishment	6.2 (1.0)	5.8 (1.3)	2.62	6.2 (0.8)	6.1 (0.8)	0.23	2.65
Organization of the Environment	5.0 (0.9)	4.9 (1.0)	0.69	4.9 (1.4)	4.7 (1.1)	0.27	1.56
Appropriate Play Materials	7.5 (1.2)	6.9 (1.4)	4.73*	6.7 (1.6)	5.9 (1.9)	3.52	9.43**
Maternal Involvement	4.8 (0.8)	4.3 (1.4)	3.99*	4.0 (1.0)	3.5 (1.7)	1.72	5.88*
Variety in Daily Routine	3.1 (1.5)	2.8 (1.2)	1.69	2.9 (1.4)	2.7 (1.2)	0.69	2.52
Knowledge of Contraceptive Methods	8.8 (4.5)	8.4 (4.0)	0.28	7.4 (3.6)	7.3 (3.4)	0.04	0.43
Community Services							
Knowledge	17.0 (6.8)	15.7 (5.4)	1.11	16.3 (6.9)	13.2 (6.3)	6.09*	4.19*
Utilization	7.0 (3.5)	7.1 (3.3)	0.01	6.9 (3.3)	6.9 (2.6)	0.00	0.00
MDECAS							
Child-rearing Attitudes	10.4 (1.8)	10.3 (1.8)	0.17	11.2 (1.7)	10.1 (1.5)	9.25**	8.20**

Note: The means at time 2 adjusted for time 1 are presented along with the corresponding standard deviations (in parentheses) and the significance level of the F ratio for each cohort separately and combined. Cohort B scores are adjusted for time 1 SES also.

* $p < .05$

** $p < .01$

*** $p < .001$

Table 11 continued

Variable	Cohort A			Cohort B			Combined Cohorts
	Exp	Con	F	Exp	Con	F	F
Developmental Milestones	4.8 (1.2)	5.0 (1.5)	0.25	5.3 (1.4)	4.9 (1.4)	1.35	0.55
Parental Attitudes							
Strictness	26.8 (6.2)	27.6 (6.8)	0.35	24.2 (7.8)	27.5 (5.4)	5.45*	6.73*
Warmth	41.2 (5.7)	40.2 (6.4)	0.47	40.4 (4.5)	40.8 (4.2)	0.17	0.16
Aggravation	30.1 (7.8)	28.7 (7.6)	0.73	30.1 (7.0)	30.3 (7.1)	0.01	0.25
Early Learning Ques	28.2 (3.2)	26.8 (2.6)	7.10**	26.4 (2.7)	26.2 (2.4)	0.10	4.96*
Parental Modernity Progressive	22.3 (5.1)	23.2 (4.5)	0.72	22.1 (4.2)	21.9 (3.9)	0.07	0.14
Educational Aspirations for Child	3.9 (1.0)	3.7 (1.2)	0.77	3.7 (1.1)	3.7 (1.1)	0.01	0.56
Educational Expectations for Child	2.8 (0.9)	2.7 (1.0)	0.18	3.0 (0.9)	2.5 (0.9)	4.97*	4.45*
Psychological Well Being							
Self Esteem	36.5 (4.4)	36.0 (4.5)	0.29	37.0 (4.9)	34.9 (4.2)	5.23*	3.62
Parental Self Efficacy	35.3 (4.2)	34.3 (6.2)	0.62	34.1 (4.9)	34.0 (5.4)	0.02	0.62
CES - Depression Scale	18.2 (9.6)	16.2 (10.7)	0.89	18.9 (11.1)	18.0 (10.7)	0.14	0.80
Social Support							
Available Network	5.4 (2.3)	6.7 (3.0)	5.18*	6.6 (2.9)	6.8 (2.5)	0.15	2.66
Proportion Family in Network	0.8 (0.2)	0.7 (0.2)	0.90	0.7 (0.2)	0.8 (0.2)	1.55	0.11

Note: The means at time 2 adjusted for time 1 are presented along with the corresponding standard deviations (in parentheses) and the significance level of the F ratio for each cohort separately and combined. Cohort B scores are adjusted for time 1 SES also.

* $p < .05$

** $p < .01$

*** $p < .001$

TABLE 12

ANALYSES OF COVARIANCE WITH SOUTHSIDE TIME 2 DATA
BOTH COHORTS - SEPARATE AND COMBINED

Variable	Cohort A			Cohort B			Combined Cohorts
	Exp	Con	F	Exp	Con	F	F
n	29	69		25	64		
HOME							
Total Score	37.4 (3.7)	34.6 (5.1)	7.62**	36.2 (5.8)	33.0 (5.1)	7.06**	15.61***
Emotional & Verbal Responsivity	9.8 (1.3)	8.7 (2.2)	5.50*	9.2 (2.0)	8.3 (2.0)	3.58	8.85**
Avoidance of Restriction & Punishment	6.5 (1.3)	6.1 (1.2)	2.99	6.4 (0.9)	5.9 (1.4)	2.39	5.73*
Organization of the Environment	5.3 (0.6)	5.2 (0.9)	0.06	5.3 (0.7)	4.9 (0.9)	2.77	2.00
Appropriate Play Materials	7.5 (1.2)	6.7 (1.6)	5.81*	7.6 (1.4)	6.9 (1.7)	3.97*	9.71**
Maternal Involvement	4.6 (1.2)	4.4 (1.4)	0.41	4.0 (1.6)	4.0 (1.3)	0.02	0.45
Variety in Daily Routine	3.8 (1.2)	3.4 (1.2)	2.91	3.7 (1.1)	3.1 (1.3)	3.55	6.48*
Knowledge of Contraceptive Methods	9.4 (4.3)	7.4 (3.0)	10.48**	9.9 (3.5)	8.4 (4.2)	4.47*	15.40***
Community Services							
Knowledge	18.4 (6.1)	14.3 (5.8)	14.41***	16.1 (6.0)	15.1 (5.9)	0.68	10.02**
Utilization	7.2 (4.0)	6.2 (2.6)	3.28	6.3 (2.9)	5.5 (2.8)	2.64	5.72*
MDECAS							
Child-rearing Attitudes	10.6 (1.3)	10.5 (1.5)	0.18	10.9 (1.5)	10.7 (1.6)	0.49	0.74

Note: The means at time 2 adjusted for time 1 are presented along with the corresponding standard deviations (in parentheses) and the significance level of the F ratio for each cohort separately and combined.

* $p < .05$

** $p < .01$

*** $p < .001$

Table 12 continued

Variable	Cohort A			Cohort B			Combined Cohorts
	Exp	Con	F	Exp	Con	F	F
Developmental Milestones	4.9 (1.7)	4.8 (1.5)	0.23	4.8 (1.3)	4.6 (1.3)	0.50	0.65
Parental Attitudes							
Strictness	24.8 (4.9)	28.6 (4.8)	17.42***	26.1 (4.1)	26.8 (6.7)	0.22	7.65**
Warmth	42.7 (3.2)	40.3 (4.3)	7.34**	42.1 (3.8)	41.3 (4.2)	0.74	6.47*
Aggravation	28.3 (6.3)	28.9 (6.1)	0.24	25.7 (5.1)	29.7 (7.1)	10.98**	5.56*
Early Learning Ques	28.1 (2.3)	27.3 (2.4)	2.65	28.1 (3.0)	27.6 (3.2)	0.70	4.16*
Parental Modernity Progressive	23.3 (3.6)	22.5 (3.8)	1.48	24.2 (4.1)	22.8 (3.4)	3.51	4.70*
Educational Aspirations for Child	4.1 (0.8)	4.0 (1.1)	0.01	4.1 (0.9)	3.6 (1.1)	4.36*	1.97
Educational Expectations for Child	2.9 (0.8)	3.0 (1.1)	0.47	3.5 (1.1)	3.1 (1.0)	3.57	0.82
Psychological Well Being							
Self Esteem	37.7 (3.6)	36.5 (4.2)	2.72	37.3 (4.2)	37.1 (5.7)	0.06	1.90
Parental Self Efficacy	34.9 (5.7)	32.4 (5.8)	7.50**	34.0 (4.0)	33.0 (5.1)	1.02	7.04**
CES - Depression Scale	12.6 (9.5)	14.9 (11.9)	1.31	14.8 (8.4)	13.4 (10.1)	0.61	0.05
Social Support							
Available Network	7.7 (2.8)	7.1 (3.1)	1.22	6.7 (2.5)	7.2 (3.2)	0.56	0.05
Proportion Family in Network	0.6 (0.2)	0.7 (0.3)	4.52*	0.7 (0.2)	0.7 (0.2)	0.00	2.57

Note: The means at time 2 adjusted for time 1 are presented along with the corresponding standard deviations (in parentheses) and the significance level of the F ratio for each cohort separately and combined.

* $p < .05$

** $p < .01$

*** $p < .001$

APPENDIX B

TABLE 14

Questions About Avance Participant Satisfaction
and Future Plans

Family Update - Cohort A at Time 3 and Cohort B at Time 2
(WS - Westside; SS - Southside)

Question 25 - Did you enjoy attending the parenting classes?

<u>Choice</u>	Cohort A-Time 3		Cohort B-Time 2	
	<u>WS %</u>	<u>SS %</u>	<u>WS %</u>	<u>SS %</u>
Not at all	0	0	0	0
Somewhat	7.7	3.7	3.7	4.2
Very much	92.3	96.3	96.3	95.8

Question 26 - Overall, how satisfied were you with the services
that you received?

<u>Choice</u>	Cohort A-Time 3		Cohort B-Time 2	
	<u>WS %</u>	<u>SS %</u>	<u>WS %</u>	<u>SS %</u>
Very Dissatis	0	0	0	0
Dissatisfied	7.7	0	0	0
Satisfied	26.9	14.8	18.5	25.0
Very Satis	65.4	85.2	81.5	75.0

Question 28a - Did your family support your decision to attend
the classes?

<u>Choice</u>	Cohort A-Time 3		Cohort B-Time 2	
	<u>WS %</u>	<u>SS %</u>	<u>WS %</u>	<u>SS %</u>
Yes	96.2	96.3	92.6	100
No	3.8	3.7	7.4	0

Table 14 con't

Question 30 - What did you like most about attending the classes?
(open-ended)

<u>Codes</u>	Cohort A-Time 3		Cohort B-Time 2	
	<u>WS %</u>	<u>SS %</u>	<u>WS %</u>	<u>SS %</u>
Everything	3.8	11.1	11.1	8.3
Toymaking	30.8	22.2	25.9	25.0
Social support-par	19.2	3.7	7.4	8.3
Lessons	30.8	40.7	37.0	33.3
Child care	3.8	3.7	0	4.2
Child socializ.	0	3.7	0	0
Social support-staff	0	7.4	18.5	8.3
Field trips	0	0	0	8.3
Other	11.5	7.4	0	4.2

Question 31 - What did you like least about attending the
classes? (open-ended)

<u>Codes</u>	Cohort A-Time 3		Cohort B-Time 2	
	<u>WS %</u>	<u>SS %</u>	<u>WS %</u>	<u>SS %</u>
Nothing mentioned	46.2	48.1	25.9	50.0
Transportation	7.7	7.4	3.7	4.2
Too short	7.7	18.5	11.1	8.3
Problem w/ parent	0	0	0	4.2
Lessons	7.7	0	7.4	0
Children crying	0	0	3.7	8.3
Not enough time to socialize	0	0	3.7	8.3
Problem w/ staff	3.8	7.4	3.7	0
Too early	0	3.7	0	4.2
Home visits	0	0	0	4.2
Tests	0	0	3.7	0
Other	26.9	14.8	37.0	8.3

Question 32a - Would you recommend the Avance classes to other
mothers?

<u>Choice</u>	Cohort A-Time 3		Cohort B-Time 2	
	<u>WS %</u>	<u>SS %</u>	<u>WS %</u>	<u>SS %</u>
Yes	100	100	100	100
No	0	0	0	0

Table 14 con't

Question 33 - If you could change anything about the Avance program, what would you change?

<u>Codes</u>	Cohort A-Time 3		Cohort B-Time 2	
	<u>WS %</u>	<u>SS %</u>	<u>WS %</u>	<u>SS %</u>
Nothing	38.5	37.0	40.7	41.7
Transportation	0	7.4	3.7	4.2
More Frequent	38.5	22.2	18.5	37.5
Other	23.1	33.3	37.0	12.5

Question 34 - Did you know that Avance offers other classes in addition to the parenting and offers day care during the courses to all Avance graduates?

A. Other classes

<u>Choice</u>	Cohort A-Time 3		Cohort B-Time 2	
	<u>WS %</u>	<u>SS %</u>	<u>WS %</u>	<u>SS %</u>
Yes	88.5	70.4	88.5	95.8
No	11.5	29.6	11.5	4.2

B. Day care

<u>Choice</u>	Cohort A-Time 3		Cohort B-Time 2*	
	<u>WS %</u>	<u>SS %</u>	<u>WS %</u>	<u>SS %</u>
Yes	76.9	65.4	N/A	N/A
No	23.1	34.6	N/A	N/A

Question 35a - In the future, do you plan to attend any of the other classes which are offered by Avance?

<u>Choice</u>	Cohort A-Time 3		Cohort B-Time 2	
	<u>WS %</u>	<u>SS %</u>	<u>WS %</u>	<u>SS %</u>
Yes	100	85.2	92.3	83.3
No	0	14.8	7.7	16.7

* The day care part of the question was not used with Cohort B.

FIGURE 2

ACHIEVEMENT OF PROGRAM GOALS: SOUTHSIDE

Goals	Cohort		
	A	B	Both
Mother			
Positive interaction with child	**	**	**
Nurture child	**		**
Responsive to child	**		**
Use toys in teaching	**	**	**
Positive attitudes toward education			**
See self as child's teacher			**
Increase parental knowledge and skills			
Oppose severe punishment	**		**
Increase knowledge of contraceptives	**	**	**
Increase knowledge of community resources	**		**
Increase utilization of community resources			**
Increased social support network			
Friends in social support	**		
Decreased depression			
Increased self-esteem			
Increased sense of parental efficacy	**		**
Higher aspiration level			
More effective coping		not analyzed	
Child			
Increased Verbal Skills ¹			
Increased Social Competence			

¹ Mother-Child Interaction variables have not been analyzed.

FIGURE 3

ACHIEVEMENT OF PROGRAM GOALS: WESTSIDE

Goals	Cohort		
	A	B	Both
Mother			
Positive interaction with child	**	**	**
Nurture child			
Responsive to child	**	**	**
Use toys in teaching	**		**
Positive attitudes toward education			
See self as child's teacher	**		**
Increase parental knowledge and skills		**	**
Oppose severe punishment		**	**
Increase knowledge of contraceptives			
Increase knowledge of community resources		**	**
Increase utilization of community resources			
Increased social support network	**		
Friends in social support			
Decreased depression			
Increased self-esteem		**	
Increased sense of parental efficacy			
Higher aspiration level			
More effective coping	not analyzed		
Child			
Increased Verbal Skills ¹			
Increased Social Competence			

¹ Mother-Child Interaction variables have not been analyzed.

FIGURE 2

ACHIEVEMENT OF PROGRAM GOALS: SOUTHSIDE

Goals	Cohort		
	A	B	Both
Mother			
Positive interaction with child	**	**	**
Nurture child	**		**
Responsive to child	**		**
Use toys in teaching	**	**	**
Positive attitudes toward education			**
See self as child's teacher			**
Increase parental knowledge and skills			
Oppose severe punishment	**		**
Increase knowledge of contraceptives	**	**	**
Increase knowledge of community resources	**		**
Increase utilization of community resources			**
Increased social support network			
Friends in social support	**		
Decreased depression			
Increased self-esteem			
Increased sense of parental efficacy	**		**
Higher aspiration level			
More effective coping	not analyzed		
Child			
Increased Verbal Skills ¹			
Increased Social Competence			

¹ Mother-Child Interaction variables have not been analyzed.

FIGURE 3

ACHIEVEMENT OF PROGRAM GOALS: WESTSIDE

Goals	Cohort		
	A	B	Both
Mother			
Positive interaction with child	**	**	**
Nurture child			
Responsive to child	**	**	**
Use toys in teaching	**		**
Positive attitudes toward education			
See self as child's teacher	**		**
Increase parental knowledge and skills		**	**
Oppose severe punishment		**	**
Increase knowledge of contraceptives			
Increase knowledge of community resources		**	**
Increase utilization of community resources			
Increased social support network	**		
Friends in social support			
Decreased depression			
Increased self-esteem		**	
Increased sense of parental efficacy			
Higher aspiration level			
More effective coping	not analyzed		
Child			
Increased Verbal Skills ¹			
Increased Social Competence			

¹ Mother-Child Interaction variables have not been analyzed.

4/9/92

These are the final files used for the preparation of Volume 2 of the Carnegie Final Report covering Process Evaluation. It was mailed to Michael Levine on 4/9/92 by Federal Express. One copy was made of the original which was mailed. A second original was then printed for archival and duplication purposes. A slight problem was encountered with the printing on the HP Laserjet II. When 100+ pages were printed at the same time, the printer made random errors in the document. To counter this problem, the manuscripts were printed 60 pages at a time. The printer was allowed to cool between jobs.

These files are zipped into a file named CR-VOL2.ZIP

AVPROCES	DOC	Additional text written by Dale
AVRPTPRO	DOC	Initial draft written by Dale
CPC-TRNG	DOC	Section on training written by Carmen
CR-NTORG	CHT	Fig 8 - Operational Chain of Comnd (Harvard Gr)
CR-ORG1	ACL	Fig 7 - '91 Org Schematic (AllClear)
CR-ORG1	STY	Fig 7 - Style sheet
CR-ORG2	ACL	Fig 6 - '87 Org Schematic (AllClear)
CR-ORG2	STY	Fig 6 - Style sheet
CR-VOL2	BAK	Backup of Final Volume 2 Report
CR-VOL2	DFT	Review Draft of Volume 2 Report
CR-VOL2	DOC	Final version of Volume 2 Report
CR-VOL2	NTE	This file
ENPLS-CF	DOC	Consent form used for PLS included in report
HOUS-STA	CHT	Fig 10 - Type of Housing (Harvard Gr)
IN87&91	CHT	Fig 5 - Sources of Revenue '87 & '91
IN87-91	CHT	Fig 4 - Annual Revenue '87 - '91
L-LEVNE2	DOC	Cover letter to Michael Levine

CR-VOL2 SUM *Exec. Summary*