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ABSTRACT

This paper reviews the efforts of 28 intervention programs designed to train parents to teach school-related skills to their young children. Programs reviewed range from the federally funded Home Start program to non-funded programs run locally by volunteers. Evaluations of the 28 programs, which were designed and carried out by the program staffs, were examined for evidence of immediate and long-term impact on intelligence test performance and school achievement. The summary of evaluation results is organized by three major topics: the immediate and long-term effects of individual programs; the contribution of features of the parent participation activities to program effectiveness; and the effects of programs upon parent behavior. Nearly all programs produced significant immediate gains; the programs that carried out follow-up testing showed that program children retained an advantage in IQ score and school achievement over comparison children in elementary school. The magnitude of gains was found to be only modestly related to five variables of program format and content. A short review of the history of parent education programs and a list of the programs reviewed are also included. (Author/SB)

THE EFFECTS OF PARENT TRAINING PROGRAMS ON CHILD PERFORMANCE AND PARENT BEHAVIOR

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THE CONTEXT OF PARENT TRAINING PROGRAMS

Programs designed to train mothers to teach school-related skills to their young children have proliferated rapidly in the decade since Head Start was first funded. The scope of these efforts varies greatly, from the federally funded Home Start program operated by the Office of Child Development with sixteen programs each serving about eighty families, to nonfunded programs run locally by volunteers. The extent of this movement is not documented and probably cannot be, but on the basis of informal evidence gathered in the course of this review, it is likely that hundreds of preschool programs exist in which parents are given some training to be teachers of their own children. A number of these programs have been evaluated. This is a review of the results of these evaluations.

Parent-centered educational programs for young children are only one form of parent participation in prekindergarten education. Others are 1) parents as policy makers (sometimes called "community control" or "parent control"), 2) parents as supporting resources for the school in the form of volunteer aides, cleanup or maintenance groups, etc., and

3) educational activities that presumably provide parents with knowledge of child development or parenting in order to improve their competence as parents. These categories of parent activity follow closely those proposed by Gordon (1968). Although these types of parental involvement are central to many programs and are in some instances included in legislation covering state or national programs, they are not included in this review.

Programs that try to assist parents to become better teachers specify desirable new parental behaviors which are intended to support increased cognitive and social development of children. Parents are considered crucial in the child's development, and direct efforts are applied to parental behavior as a way of reaching the child. Education is brought into the family relationships. These programs invoke an implicit standard of parenting that is considered most likely to produce intelligent, well-adjusted, academically successful children.

Some Historical Comments about Parent Education

Efforts to educate parents are not unique to the 1960's and 1970's. Studies of the history of parent education (Brim, 1959; Sunley, 1955; Schlossman, 1976) show the idea to be an old one. As early as the eighteenth century (Brim, 1959), reports of child-rearing advice were communicated to mothers through pamphlets. Organized mothers' groups existed previous to 1820 (Sunley, 1955). These groups, called Maternal Associations, met to discuss child rearing problems. The women were

usually Protestant-Calvinist mothers who were concerned about the religious and moral education of their children. The middle class status of the women involved has been a feature of parent education in the United States through most of its history. These early efforts in parent education, however, were characterized by a religious bias and ideology of child-rearing which reflects their time period.

In the late 1800's, three national groups developed that greatly increased organized efforts in parent education: The American Association of University Women, the Child Study Association of America, and the National Congress of Parents and Teachers. All these groups attempted to educate parents in child development to help them become more effective child-rearers. Mothers themselves were instrumental in forming the Child Study Association. As with Maternal Associations, the parents themselves sought education on child rearing, looking to professionals for assistance rather than depending on self-education. During the early 1900's, professional groups also initiated efforts to offer education to parents. The National Congress of Parents and Teachers, for example, was formed by philanthropists, religious and political leaders who expressed a desire to stimulate parents to learn more about child rearing. The efforts of the three national organizations typically reached middle and upper-class women. The NSSE Yearbook of 1929 stated that the parent education programs at the time were not remedial programs for underprivileged families but were "supported by parents already giving thoughtful consideration to training" (NSSE Yearbook, p. 276). Participation of underprivileged

mothers was through the settlement houses being established during the same period.

Both Brim and the writers of the NSSE Yearbook indicate that the period 1925-1935 was one of expansion of interest in parent education (and with early education). By 1920 there were over seventy-five major organizations conducting parent education programs. These included national private organizations, university-based research programs, teachers' colleges, state departments of education and vocational education, public and private school systems, social agencies, child guidance agencies, health agencies, and religious groups (Brim, p. 328). In a bulletin from the United States Bureau of Education, Mary D. Davis (1927) expressed the emerging identity of the field: "Parenthood is becoming a real profession."

The focus of parent education efforts changed between 1820 and the present. In the nineteenth century, the central interest was in children's moral and religious development. In the twentieth century, the focus shifted to children's emotional and personality growth, then included physical health, and ultimately mental health. The most recent and still current phase of parent education is organized around cognitive growth. This emphasis on cognitive and school-related behavior was not evident until the early 1960's. It was developed with the educational needs of low income children in mind. Nonetheless, middle class parents continue to be major participants in parent education efforts. Even the concern with developing skills that would prepare the young child for successful school performance has not been confined to programs designed for low

income parents. Major public media corporations offer education-oriented records, toys, magazines, and television programs oriented toward middle income families.

The parent participation programs reviewed here, however, are those that define low income families as the target population and increased cognitive development and school achievement for the children as the goals. These programs are another expression of the compensatory education movement.

The Characteristics of the Programs

Parent training programs have several features in common. They are developed by professionals for the purpose of instructing parents in techniques for preparing their own young children in school relevant skills. The twenty-eight programs included in this review employed several different methods for instructing parents. One method of working with parents was direct, didactic teaching. This approach was used most often in one-to-one sessions between a teacher (paraprofessional or professional) and a mother. The teacher usually instructed the mother in specific techniques to use with her child. A less didactic method for presenting new teaching techniques was demonstration: Mothers were expected to learn by watching while the teacher interacted with the child. A third method for changing parents' teaching techniques was observation in preschool classrooms. By observing trained teachers at work, parents were expected to learn about teaching; by observing their own child, parents might gain

knowledge about the child's development, learning, and personality.

A common feature in many parent teaching activities was an emphasis on the use of educational toys and materials to generate stimulating parent/child interaction. Many programs provided toys and books to mothers or helped mothers construct educational stimuli out of materials around the house. In addition, programs often provided information about child development, health and nutrition, or community resources.

The twenty-eight parent training programs (Table 1) were identified from several sources: ERIC Clearinghouse (a computer information retrieval facility), bibliographies of parent participation and compensatory education programs, references included in evaluation reports, and correspondence with staffs of projects or agencies known to be involved in efforts of this kind. Two criteria guided selection. One was the availability of an evaluation; the other was the adequacy of the information on the working details of the program.

Insert Table 1 here

Beginning in the spring of 1973, staff members of each program were contacted to solicit current evaluation data. No new reports were considered after fall, 1974. Each of the programs were described in terms of working details, evaluation plan and results, in an earlier monograph (Goodson and Hess, 1975). Program sponsors were invited to review these descriptions, which were then revised in response to comments and criticisms.

TABLE 1

Identification of Program Cohorts[1,2]

Mother-Child Home Program (A)[3]

1. 2 years home visits
2. 1 full year + 1 short year home visits
3. 1 full year home visits + 1 year modified ("partial") home visits
4. 1 year home visits -- age 2
5. 1 year home visits -- age 3
6. comparison 2-year-olds
7. comparison 3-year-olds
8. comparison 4-year-olds

Houston Parent-Child Development Center (B)

1. home visits -- one-year-olds
2. comparison one-year-olds
3. Center program for mother/child pairs -- 2-year-olds
4. comparison two-year-olds

First Generation Mother Study (C)

1. home visits
2. comparison group

Infant Intervention Project

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[1]See bibliography for program sponsors and references.

[2]"Cohort" is a single treatment or comparison group within a program.

[3]Capital letters indicate programs; numbers indicate cohorts.

Table 1 (continued)

Second Generation Mother Study (D)

1. home visits by professionals
2. home visits by paraprofessionals professionally-supervised
3. home visits by paraprofessionals supervised by paraprofessionals
4. comparison group

Study of Intrafamily Effects (E)

1. maximum impact group -- classes for children and for mothers
2. curriculum group -- classes for children
3. home visitor group -- visits to mother/child pairs
4. home visitor group
5. comparison group

Ypsilanti-Carnegie Infant Education Project (F)

1. structured home visits
2. unstructured home visits
3. comparison group

Early Child Stimulation through Parent Education Program (G)

1. 3 years of home visits: E/E/E
2. 2 years of home visits: E/E/C
3. 2 years of visits: C/E/E
4. 2 years of visits: E/C/E
5. 1 year of visits: E/C/C
6. 1 year of visits: C/E/C
7. 1 year of visits: C/C/E
8. comparison group: C/C/C

(Each cohort participated for three years, with systematic patterning of experimental (E) and control (C) status)

Table 1 (continued)

Three Home Visiting Strategies (H)

1. home visits -- focus on maternal stimulation of cognitive development
2. home visits -- visitors worked with child on cognitive tasks
3. home visits -- focus on maternal stimulation of sensory-motor skills
4. local comparison group
5. comparison group in neighboring region

Birmingham Parent-Child Development Center (I)

1. Center activities for mother/child pairs
2. comparison group

New Orleans Parent-Child Development Center (J)

1. Center activities for mother/child pairs
2. comparison groups

Parent-Child Course

Mothers' Training Program (K)

1. training classes for parents (without children)
2. comparison group

Home-Oriented Preschool Education (L)

1. Demonstration Site I -- TV program + home visits + preschool classes for children
2. Demonstration Site II -- TV program + home visits + preschool classes for children
3. Demonstration Site III -- TV program + home visits + preschool classes for children
4. comparison group

Table 1 (continued)

Early Training Project (M)

1. 3 years of summer preschool classes + winter home visits
2. 2 years of summer preschool classes + winter home visits
3. local comparison group
4. comparison group in neighboring region

Special Kindergarten Intervention Program (N)

1. kindergarten + SKIP classes + home visits
2. kindergarten + SKIP classes
3. kindergarten-only comparison group

Ypsilanti-Perry Preschool Program (O)

1. preschool classes + home visits
2. comparison group

Ypsilanti Curriculum Demonstration Project (P)

1. cognitive curriculum
2. language curriculum
3. unit-based, nursery school curriculum
4. cognitive curriculum
5. language curriculum
6. unit-based curriculum

Spanish-Dame Bilingual Education Program

Ypsilanti Early Education Program (Q)

1. classes for children + activity-oriented classes for parents
2. classes for children + lecture-discussions for parents

Table 1 (continued)

3. classes for children; parents unavailable for activities
4. classes for children; parents refused to join
5. classes for children + home visits + small group parent meetings
6. classes for children + home visits to parents
7. classes for children + home visits to child only

Programs from the University of Hawaii Center for Research in Early Childhood Education (R)

Program I -- 1967

Program II -- 1968-69

Program III -- 1970-71

1. language/motivation curriculum components in preschool classes
2. motivation parent participation
3. quantitative/motivation curriculum components
4. motivation curriculum component
5. parent participation/quantitative curriculum components
6. language/quantitative curriculum components
7. quantitative curriculum component
8. all components combined

Learning to Learn Program (S)

1. preschool classes for children + parent meetings
2. comparison group

Structured Language Program

Table 1 (continued)

Parents Are Teachers Too (T)

1. developmental language group -- home visits focused on maternal stimulation of language development
2. structured language group -- home visits focused on maternal teaching of specific language patterns
3. traditional parent education
4. comparison group

Teaching Parents Teaching

Project Early Push (U)

1. preschool classes + parent participation as aides, observers

Assumptions Underlying the Programs

The developers of most of these programs share several assumptions about educational intervention and parent involvement. The first, which we call the home deficit assumption, is that the home in a low income community often is an environment that fails to prepare the young child adequately for successful entry into the first grades of public school. This assumption is based on research showing that lower class or lower income homes are different from middle class homes on a number of variables presumably significant in a child's development, such as type and pattern of stimulation, language style, pattern of parent/child interaction, motivation, etc. The research results, however, are not unequivocal and are still the subject of much controversy.

The second assumption, drawing from research on critical periods in development, is that the early years are particularly important in setting the pace and direction of cognitive growth. The choice of preschool children as the target population is often justified by citing research on intellectual development which claim that a child's intellectual standing relative to peers is predictable by age four (Bloom, 1964). Program sponsors cite research showing the rapid development of important intellectual functions, such as language ability, during the preschool years. Consequently, it is assumed that intervention in the cognitive and language development of low income children would have maximum effect during the period of the most rapid and important changes -- the preschool years (Hunt, 1967).

The third assumption is that the impact of the family is not usually overcome by later schooling. This belief is drawn from research which shows that the family has a major effect upon the educational outcome of children, especially in comparison with the impact of differential resources in different schools (Coleman, 1966; Hess, 1969; Jencks, 1972). The influence of the family is not, it seems, greatly modified by experience in school. These reports help support the argument that the most effective channel for boosting school performance of children is through intervention in the family when the child is relatively young. Parents whose own educational opportunities were limited might benefit, and thus assist their own children, by becoming involved in programs to train them as teachers of their own children.

These three assumptions represent a particular period of thinking in compensatory education. Most of the programs reviewed in this paper were initiated in the middle and late 1960's, at a time when the concept of intervention in the homes of low income families was accepted as an effective way to equalize opportunities for children. More recently, in new programs that have been developed and in modifications of older programs, the assumptions and approach have changed. Some program sponsors prefer to consider themselves as "facilitators" rather than as "interveners." They attempt to help parents identify their own goals and then help parents plan and implement appropriate educational programs with their children. The educational interchange between parents and professionals seems to be moving toward a sharing process, away from didactic intervention.

Plan of the Review

The summary of evaluation results is organized by three major topics: the immediate and long-term effects of individual programs; the contribution of five features of the parent participation activities to program effectiveness; and the effects of programs upon parent behavior.

THE EFFECT OF PARENT TRAINING PROGRAMS ON CHILD OUTCOMES

The evaluations of programs selected for review were internal assessments, planned and conducted by the staff of the programs themselves. It is important to recognize that the initial purpose of these programs was to have an impact on the children involved; the evaluation effort typically was second priority. The weight of the evidence from these evaluations comes from the fact that, in a general sense, they represent replications. Jamison, Suppes and Wells (1974), in their review of evaluations of educational innovations, assert that the quality of evaluation designs is uncorrelated with the results. This gives the consistency of the findings from these studies a particular significance.

In evaluating parent training programs, one feature that contributes to credibility is the nature of measures used. The staffs of the projects described in this report used ad hoc and nonreferenced assessment instruments to examine the impact of their curricular efforts, as well as standardized intelligence tests. There are obviously sound arguments for the use of specially developed tests and for criterion-referenced devices; these measures serve specific purposes for the program staff. To facilitate cross-program comparisons, however, this summary relies for the most part on instruments that are more widely known and for which some normative information is available. We recognize, of course, that the norming procedures for many "standardized" tests may be faulty, particularly with regard to the inclusion of low income and minority children, and data from the tests must be interpreted with caution.

Overall Effects of the Programs

The criteria used in evaluating the effectiveness of the programs focus on outcomes assumed to be relevant to school performance, since increased school performance is the ultimate goal of these intervention efforts. The criteria are

immediate advantages on intelligence tests for program children compared with control (nonprogram) children;

long-term advantages on intelligence or achievement tests for program children compared with control children;

performance in school for program children compared with control children.

The summaries of the evaluation results are grouped by (a) immediate outcomes in children's performance; (b) long-term outcomes; (c) level of school performance in both academic and social areas.

Immediate Outcomes on Intelligence Tests

Of the twenty-eight programs shown in Table 1, all but three[1] evaluated the performance of program children or program and control children on norm-referenced intelligence tests. Among the twenty-five programs using IQ tests, twenty-two produced either significant differences between program and control children or significant gains for program children by the immediate end of the intervention. In addition, the programs that used either nonstandardized measures or measures other than standardized intelligence tests also reported significant gains for program children at the end of intervention. Thus, programs that train parents as teachers of their own children are apparently successful in producing significant immediate advantages for children. The twenty-one programs that reported both pre- and posttest scores are shown in Figures 1 and 2.

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[1]The Structured Language Program compared program and control children but did not use a norm-referenced test. The evaluation of the Parent-Child Course used questionnaires and a criterion-referenced test; no control group was formed. The sponsors did not want to operate their program in an experimental mode, i.e., using community participants as "subjects" and forming a control group that received no treatment. The available reports on the Teaching Parents Teaching Program did not include data on children's performance.

Insert Figure 1 and Figure 2 here

Figure 1 shows immediate pre-post test gains by program cohort. Most of the programs included more than a single treatment and comparison group in their evaluation design. These "cohorts" are described briefly in Table 1. The columns in the charts in Figure 1 list the program cohorts identified with a given magnitude of gain. The cohorts included in Figure 1 are grouped by the level of pretest IQ. The data are arranged in order from lowest to highest initial IQ level. Data for programs are summarized in Figure 2. The advantage of all experimental groups over control groups is clear from the data of Figure 1. This advantage is greatest in groups whose initial level of IQ is relatively low, but holds for all groups.

A methodological concern with respect to pre-post gains in studies of intervention with low income children is the possibility that regression to the mean accounts for the change in mean IQ level, thus creating a false impression of program effects. This seems not to account for gains in these programs. The changes in IQ in control groups is near zero regardless of initial IQ; the gains that occur are much lower than the gains of treatment groups (Figure 1).

Long-Term Outcomes

Follow-up testing was part of the evaluation plan of eight programs. Four additional programs have indicated their intention to carry out follow-up testing in the future. As used here, "follow-up testing" refers to assessment after the program intervention has ended. Time lapses before (or between) follow-up testing sessions for the programs included in this summary range from three months to five years. In summarizing long-term results, programs are grouped roughly into intermediate and long-range categories, according to the time intervals between the end of the program and the first follow-up testing.

Results from standardized intelligence test performance. Eight programs carried out follow-up testing of children's intellectual performance. Seven of the eight programs reported positive or significant differences favoring the program children in follow-up testing over varying lengths of time. Figure 3 shows the results obtained by the sixteen program cohorts on IQ tests (usually the Stanford-Binet).

Two of the programs carried out follow-up testing four or more years after the intervention ended. In the Ypsilanti Perry Preschool Program, children were tested several times up to the end of Grade III, by which time they had been out of the program for four years. In third grade, there was not a significant difference between program and control children in average IQ score, although there had been significant differences previous to that point. Children in the Early Training Project were followed through Grade IV, five years after the preschool intervention had

ended. There was a small but significant difference between program and control children at the end of fourth grade. In both the Early Training Program and the Perry Preschool Program, the between-group differences that were significant at the immediate end of intervention gradually declined after intervention ended.

Three programs carried out follow-up testing two or three years after the end of intervention: (1) Children from the Early Child Stimulation through Parent Education Program were followed through first grade, three years after termination of participation in the program. At the end of Grade I, program children remained significantly superior to control children in average IQ score. The magnitude of the between-group differences was similar at the end of intervention and the end of Grade I. Children who had participated for the full three years of the program retained nearly all of their original ten point gain in IQ score. Children with fewer years of participation declined in score, although all but one group of program children scored higher than their control group. (2) In the Mother-Child Home Program program children were followed through first grade. Children who received the full two years of intervention have maintained nearly 100% of the large gains shown in immediate posttesting. The difference in average IQ between the program and control children at the end of Grade I was significant and similar in magnitude to the difference at the end of the intervention. (3) Two years after their program participation ended, children in the Learning to Learn Program were in third grade. During the two years after the program, the difference in

average IQ for program and control children remained large and significant. Both groups, however, declined slightly but consistently in IQ through second and third grades.

For three programs, follow-up data were obtained on children one year after intervention ended. (1) In the Ypsilanti-Carnegie Infant Education Project, follow-up after one year showed no significant difference between program and control children, although program children did have a higher average score. Both groups scored above the national average. (2) One year after their participation in the Ypsilanti Early Education Program children who had attended the preschool classes and whose parents had participated in classes and home visits continued to gain in IQ score (on the Peabody Picture Vocabulary Test) and scored higher than children who had received preschool classes only. This same trend was not confirmed on the Wechsler Intelligence Scale for Children. (3) The Birmingham Parent-Child Development Center obtained test scores from four-year-old children who had been in the program for one year only and for whom one year had elapsed since the end of the intervention. Program children had a significantly higher average IQ score than control children. The between-group difference in IQ appeared to increase with time: That is, program children were increasing in average IQ score, while control children were decreasing.

Insert Figure 3 and Figure 4 here

As a group, parent training programs gave children at termination of intervention an advantage over control children in average IQ score. In the programs that carried out follow-up testing, the advantage was sustained into grade school. In about one-half of the programs that assessed long-term performance, however, there was a gradual decrease in IQ score from a high score at the immediate end of the intervention. This decline was usually much less than the initial gain (Figure 3). Both program and control children declined the score; program children usually continued to score higher. The decline was similar in magnitude across level of pretest IQ.

Figure 4 shows post treatment changes in IQ points for cohorts with three different levels of initial pre-post gains (4.5; 10.5; 19.9). The group of cohorts with the lowest average gain at program end were still slightly above their posttest score at the third pause of follow-up. The cohorts who showed the greatest gain at posttest suffered some loss in follow-up (about 5 IQ points); this decline was only about one-fourth of the magnitude of the initial gains.

Results from achievement test performance. Three program evaluations included school grades or performance on standardized achievement tests. These were the Ypsilanti Perry Preschool Program, the Learning to Learn Program, and the Early Training Project. All three showed positive results.

The Ypsilanti Perry Preschool Program reported data on achievement test scores for children through the fourth grade. On the California Achievement Test, program children scored higher than control children

at each year's posttesting, although the difference was significant only through third grade. In third grade, none of the control children scored above the 50th percentile on the test, while half the program children did. Also, 72% of the program children were at their expected grade level by third grade, compared with only 60% of control children. Substantially more control children had been assigned to special remedial classes. These differences in performance were evident even though the scores on standardized IQ tests in third grade did not show a significant difference favoring program children.

In the Early Training Project, program children significantly outscored control children on a standardized achievement test through second grade. By fourth grade, the difference remained but was no longer significant.

School grades of children from the Learning to Learn Program were compared with the grades of control children. At the end of third grade, 92% of the program children were receiving passing grades while only 60% of control children were. Twenty-six percent of program children were at or above their expected grade level, compared with 8% for the control group. Only 3% of the program children had fallen more than a year and one-half below grade level, compared with 32% of control children. Children in the program were consistently superior to children in the control group in grades in reading, arithmetic, and language ability. On achievement tests in reading, arithmetic, and language, more than half the program children scored at or above their expected level; less than 20% of control children did so.

Few of the evaluations included evidence of long-term differences between program and control children in academic achievement. Where evidence was obtained, it showed an advantage for children with the special preschool experience. Two effects showed up consistently: Program children were more likely to maintain performance at grade level and were less likely to require special classes. These benefits are obviously central to the evaluation of impact where the ultimate goal is to affect performance in school. The data from the Ypsilanti Perry Preschool Program suggest that, even where IQ differences between control and program children become insignificant, there may continue to be a significant impact upon school performance.

Results from measures of school social behavior. Three evaluations included teachers' assessment of children's classroom behavior. All three showed that children who had received preschool intervention had an advantage over the nonprogram children. For the children from the Ypsilanti Perry Preschool Program, socioemotional ratings by teachers in Grades I and II significantly favored program children. By Grade III, the program children were rated higher but not significantly so. At each age of follow-up testing, children from the Mother-Child Home Program were given above average ratings by teachers on their school psychosocial behavior. Ratings for program children were consistently higher than those for control children. In the Learning to Learn Program, teacher ratings favored program children: 70% compared with 53% of control children were rated as having an "appropriate" self-concept. On ratings of achievement

motivation, all program children from the Learning to Learn Program were placed above the minimum level considered necessary for school success, while only 8% of the control children received at least the minimum rating.

Conclusions

These intervention programs were successful in providing children with both immediate and long-term advantages in skills that are relevant to school performance. These are represented in initial gains in IQ scores, which, although they decline a bit, still show gains maintained over the length of time spanned by these evaluations. The results from achievement tests, grades, and grade placement were highly consistent in displaying evidence of gains from the program. Although not of central concern, teacher ratings of children's social adjustment also consistently distinguished between program and control children.

Differential Effects of the Programs on Children's IQ Scores

Five features of the parent participation were identified as potentially important to program effectiveness. These were

1) importance of the instruction-to-parents phase in the total program;
2) curricular focus of the parent teaching activities;
3) teacher/parent ratio in instruction-to-parents;
4) degree of structure in the parent teaching activities;
5) degree of specificity in the instruction-to-parents.

Differences among the programs in immediate and long-term effectiveness were examined in relation to program variation on the five features. In investigating the effects of these features, we grouped the programs into levels (e.g., "high," "medium," and "low") on each (see Table 2).

Insert Table 2 here

This grouping involved assumptions of similarity among programs that are not entirely justified. First, the grouping was based on descriptions provided by sponsors rather than on observations. The specific features under consideration may not be comparable across programs. Second, even where there is comparability, the total programs may differ from one another in other respects. Obviously we must be cautious. On the other hand, these programs are treatments that share characteristics such as staff enthusiasm and commitment, a high level of program planning, and the interest stimulated by a new program.

Emphasis on Instruction-to-Parents

Is the amount of emphasis on the instruction-to-parents related to program effectiveness? Emphasis is here defined as the proportion of program efforts allocated to instructing parents, ranging from total concentration on parents to instruction for parents that is secondary to preschool classes for the children. The twenty-eight programs were divided into two groups; thirteen programs (Set I) were judged to have "high" emphasis on the parent teaching component. Program formats in Set I included:

Table 2

Predictors of Program Effectiveness

Program Title	Importance of the Instruction-to-Parents	Curricular Focus of the Parent Teaching Activities	Teacher/ Parent Ratio in Instruction to Parents	Degree of Structure in the Parent Teaching Activities	Degree of Specificity in the Instruction to Parents
Early Training Project	Home visits preschool	Cognitive	1 - 1	Medium	Medium
Special Kindergarten Intervention Program	Home visits preschool	Cognitive	1 - 1	Medium	Medium
Ypsilanti Perry Preschool Program	Home visits preschool	Cognitive (Verbal)	1 - 1	Medium	Medium
Ypsilanti Curriculum Demonstration Project	Home visits preschool	Cognitive	1 - 1	Medium	Medium

[1]Ratings do not imply exclusive emphasis but rather dominant emphasis in a program.

[2]"(1-1)" refers to infrequent one-to-one parent/teacher meetings that are not the dominant mode in the program.

Table 2 (continued)

Program Title	Importance of the Instruction-to-Parents	Curricular Focus of the Parent Teaching Activities	Teacher/ Parent Ratio in Instruction to Parents	Degree of Structure in the Parent Teaching Activities	Degree of Specificity in the Instruction to Parents
Spanish Dame Bilingual Education Program	Home visits preschool with parent present	Cognitive Verbal	1 - 1	Medium	Medium
Ypsilanti Early Education Program	Home visits parent classes preschool	Cognitive	1 - 1 1-group	Medium	Medium
University of Hawaii Program I	Parent classes parent aides preschool	Cognitive	1-group (1-1)	Medium	Medium
University of Hawaii Program II	Parent classes parent aides preschool	Cognitive Child Devel.	1-group (1-1)	Medium	Medium

Table 2 (continued)

Program Title	Importance of the Instruction-to-Parents	Curricular Focus of the Parent Teaching Activities	Teacher/ Parent Ratio in Instruction to Parents	Degree of Structure in the Parent Teaching Activities	Degree of Specificity in the Instruction to Parents
University of Hawaii Program III	Parent classes parent aides preschool	Cognitive	1-group (1-1)	Medium	Medium
Learning to Learn Program	Parent classes conferences preschool	Cognitive Child Devel.	1-group (1-1)	Medium	Medium
Structured Language Program	Parent classes preschool	Verbal	1-group (1-)	Medium	High
Teacher Parents Teaching	Parent classes preschool	Verbal	1-group (1-1)	Medium	High
Parents are Teachers Too Program	Parent classes preschool	1st: Verbal 2nd: Sensory-motor	1-group	High	High

Table 2 (continued)

Program Title	Importance of the Instruction-to-Parents	Curricular Focus of the Parent Teaching Activities	Teacher/ Parent Ratio in Instruction to Parents	Degree of Structure in the Parent Teaching Activities	Degree of Specificity in the Instruction to Parents
Project Early Push	Parent classes conf, preschool	Cognitive	1-group (1-1)	Medium	Medium
Mother-Child Home Program	Home visits	Verbal[1]	1 - 1	High	High
Houston Parent-Child Development Center	Year 1: Home visits	Cognitive	1 - 1	high	Medium
	Year 2: Parent classes, preschool	Cognitive	1-group	Medium	Medium
First Generation Mother Study	Home visits	Cognitive	1 - 1	Medium	Medium
Infant Intervention Project	Home visits	Cognitive	1 - 1	Medium	Medium
Second Generation Mother Study	Home visits	Cognitive	1 - 1	Medium	Medium
Study of Intrafamily Effects	Home visits	Cognitive	1 - 1	Medium	Medium

Table 2 (continued)

Program Title	Importance of the Instruction-to-Parents	Curricular Focus of the Parent Teaching Activities	Teacher/ Parent Ratio in Instruction to Parents	Degree of Structure in the Parent Teaching Activities	Degree of Specificity in the Instruction to Parents
Ypsilanti-Carnegie Infant Education Project	Home visits	Cognitive	1 - 1	Medium	Medium
Early Child Stimulation Through Parent Education Program	Home visits	Sensory-motor	1 - 1	High	Medium
Three Home Visiting Strategies	Home visits	Cognitive Sens-motor	1 - 1	Medium	Medium
Birmingham Parent-Child Development Center	Preschool classes for both mother & child together	Cognitive	1-group (1-1)[2]	Medium	Medium
New Orleans Parent-Child Development Center	Preschool classes for both mother & child together or home visits	Cognitive Child Devel.	1-group (1-1)	Medium	Medium

Table 2 (continued)

Program Title	Importance of the Instruction-to-Parents	Curricular Focus of the Parent Teaching Activities	Teacher/ Parent Ratio in Instruction to Parents	Degree of Structure in the Parent Teaching Activities	Degree of Specificity in the Instruction to Parents
Parent-Child Course	Parent classes	Cognitive	1-group	High	High
Mothers Training Program	Parent classes	Cognitive (Verbal)	1-group (1-1)	High	Medium
Home-Oriented Preschool Education	Home visits TV programs preschool	Cognitive	1 - 1	Medium	Medium

Home visits to parent/child pairs (N=9)

Classes for parents (N=2)

Classes for parent/child pairs (N=2)

Fifteen programs (Set II) are judged to have "medium" emphasis. These programs offered either:

Preschool classes for children supplemented by home visits to parent/child pairs (N=7)

or,

Preschool classes for children supplemented by classes for parents (N=8)

A comparison of the immediate effectiveness of Set I and Set II programs shows that neither group has a consistent advantage. There does appear, however, to be one aspect of program format cutting across Set I and II that is related to level of effectiveness. Home visits, either alone or in combination with preschool classes for the children, apparently are associated with higher immediate gains.

The nine programs using home visits only produced gains ranging from 0 to 18 IQ points, with an average level of gains around 8 points. The programs that combined home visits with preschool classes showed gains ranging from 9 to 15 points, with an average around 10 points. The remaining twelve programs produced an average gain of around 6 IQ points.

Eight programs reported data from follow-up testing. Four fall in Set I; four in Set II. In Set I, three of the four programs reported that children's immediate gains were maintained in follow-up. In the fourth

program, program children were superior to control children in follow-up, although there was a decline in scores for both groups.

All four of the Set II programs with follow-up results reported that program children maintained an advantage over control children, although both groups declined.

Set I programs produced more durable long-term gains, although the programs in both sets reported positive effects for program children in follow-up. There is one caution in this conclusion: The eight programs are compared regardless of the length of time covered in follow-up testing, and Set II programs involved longer follow-up periods. Since it appears that erosion of gains frequently begins in middle elementary grades, the Set II programs may appear less effective because of the timing of follow-up testing.

Curricular Focus of the Parent Teaching Activities

Is the curricular focus of the parent teaching activities related to program effectiveness? The programs were divided into three groups:

Programs with parent activities focused on children's verbal development	(N=5)
Programs with parent activities focused on children's sensory-motor development	(N=3)
Programs with parent activities focused on children's general cognitive development	(N=20)

None of these three categories is clearly related to program effectiveness, either immediate or long-term. This conclusion is not a surprise, in the light of previous comparisons of curricula in compensatory education (Weikart, 1969).

In three programs, the comparison groups were formed so as to investigate the effectiveness of different curricular components. In the Early Child Stimulation through Parent Education Program, two curricula for home visits were compared. One consisted of tasks based on Piagetian theory; the other consisted of tasks developed by the paraprofessional Parent Educators. No significant differences were found between the performance of children receiving the two curricula. In Barbrack's study of Three Home Visiting Strategies, training based on sensory-motor tasks was compared with training based on tasks aimed at cognitive stimulation. There was no significant difference in magnitude of immediate IQ gains made by the children of the two groups of mothers. Barbrack concluded that curricula taken equally seriously by mothers would have similar effects on the children. On the other hand, mothers in the cognitively based group made greater positive changes in their teaching behavior than did the mothers in the sensory-motor group. In the University of Hawaii Program II, two curricula for parents were compared; one curriculum emphasized child development principles, and the other emphasized the parents' role in the child's cognitive development. Parent participation in the cognitive development program benefited the children (i.e., increased their gains), while parent participation in the child development program did

little to facilitate the children's progress.

On the one hand, it can be cautiously concluded that no one content for parent programs (as described in program materials) consistently produced higher or more stable gains for program children. On the other hand, this statement by itself is incomplete. Certain factors in parent programs other than content seem to make a difference. An example is the validity of the curriculum in the parent's eyes. Further, it seems that the content of a curriculum may be less important in determining program effectiveness than how the curriculum involves parents. In the University of Hawaii program, the more effective curriculum emphasized parents' responsibility in their child's development, which may have made a difference in the extent or quality of the parents' participation.

Teacher/Parent Ratio

Is program effectiveness related to the ratio of teachers to parents in the instruction-to-parent activities? Is it more effective to work with parents individually in a one-to-one relationship, or as a class in a one-to-group relationship? Both kinds of program organization offer advantages. One-to-one interaction, usually in home visits, offers the possibility of a more intense parent/teacher relationship and greater potential for personal rapport; group classes offer the possibility of support and motivation among group members.

In a first attempt to answer the question, the nine programs that used home visits only (one-to-one ratio) were compared with the four programs

with parent classes only (one-to-group). The home visit programs produced high immediate gains more often than the programs with parent classes; the home visit programs also showed long-term maintenance of gains in follow-up. The apparent superiority of the home visit programs is a tentative finding, however. We lack data on the four "parent classes" programs; only two of the programs reported comparable immediate test scores and only one program carried out follow-up testing.

A second assessment of one-to-one vs. one-to-group teacher/parent relationships compares programs that combine preschool classes and home visits with programs that combine preschool classes and parent classes. There are seven of the former and ten of the latter type. Average level of immediate IQ gain appears to be slightly but consistently higher for the "preschool plus home visits" programs. Long-term results could not be used, since only one "preschool plus parent classes" program reported data. The apparent advantage of the "preschool plus home visit" programs in this comparison supports the conclusion that home visits are an effective format.

Structure in the Parent Teaching Activities

Is degree of structure in the parent teaching activities related to program effectiveness? "High structure" is defined as a program that develops a sequence of predetermined concrete tasks for parents. Seven programs were rated as "high" in structure; the rest were judged to have "medium" structure.

Degree of structure was not clearly related to level of immediate IQ gains, although it is true that the programs with a high degree of structure consistently produced at least moderate short-term gains. Degree of structure does appear to be related to long-term program effectiveness, in terms of stability of gains. The two programs with the best follow-up records were "high" structure programs.

Programs with high structure offer parents concrete activities. These may serve parents as clear guides for working with their children. Concrete tasks may motivate parents to practice new behaviors with their child by offering unambiguous instructions and activities. In terms of long-term benefits, parents who develop a repertoire of specific activities may be more likely to carry out such activities in the future, since the tasks become part of their competence -- understandable and practiced. Continuing parent/child interaction around these tasks might be one reason for the maintenance of gains by program children in the highly structured programs. On the other hand, less structure in a parent component can mean that the tasks are individualized for each parent, as in the Ypsilanti Infant Education Project. There may be special advantages for less structured parent components, if less structure implies individual prescription of tasks.

Specificity in Instruction-to-Parents

The level of specificity in parent instruction is defined as the degree of definition or detail: Are parents trained to use specific

teaching techniques or is a general style of interaction encouraged?

Six programs were judged "high" in specificity. The rest were judged to have "moderate" specificity. Level of specificity is not systematically related to greater program effectiveness, either immediate or long-term.

Within-Program Comparisons of the Effects of Parent Training

The designs of a small number of programs permitted more controlled comparisons of intervention with and without instruction-to-parents. [HOPE (Home Oriented Preschool Education)] program sponsors compared the effects of three program components: televised lessons for children, home visits to teach children and their parents, and small group classes for children in a mobile classroom. Home visits appeared to be most strongly associated with the children's cognitive and language development, and this component was the only one in which parents participated. The evaluation of SKIP (Special Kindergarten Intervention Program) separated the effects of the children's supplementary classroom component, their normal kindergarten experience, and a parent involvement component. The involvement was one-to-one advising of mothers by a home visitor, concentrating on changing the mothers' teaching. The highest scores for program children at the immediate end of the program was for group with parent involvement.

In two studies, the effect of parent participation was investigated by relating an indicator of involvement -- attendance at parent activities -- to the magnitude of children's immediate IQ gains. In both Project Early Push and the programs from the University of Hawaii, children of

parents who participated more often in the parent activities outscored children whose parents were less involved or uninvolved. The conclusion common to these programs was that greater parent involvement was related to higher gains.

Conclusions

The twenty-eight programs were consistently successful in producing immediate gains on standardized intelligence tests and lasting advantages in test scores for program children. The consistent effectiveness of these programs suggests that parent training is important to program success. This is supported by the data from the few programs that compared treatments with and without parent training.

The five major features of the program are only modestly related to magnitude of program effectiveness. They do not account for the very large differences among effects of different programs. Some relationships do appear, however, and may be summarized as follows:

1. Importance of the instruction-to-parents. Data from immediate testing favored home visits, either alone or in combination with preschool classes for the children. The long-term data also indicated greater effectiveness for programs with emphasis on parents. Assuming that the programs identified as having greater emphasis on parents did so in practice, then it appears that the more a program is focused on the parents, the more likely it is to produce significant and stable IQ gains for children. This trend in the cross-program comparisons is consistent with the conclusion

from the within-program comparisons.

2. Curricular focus of the parent teaching activities. No single curriculum of parent teaching activities was favored by the outcome criteria. Although program content that requires the active involvement of parents appears likely to produce higher gains for children, such change seems to follow from curricular format rather than content.

3. Teacher/parent ratio in instruction-to-parents. Greater effects in immediate and follow-up testing are produced by a one-to-one parent/teacher relationship.

4. Degree of structure in the parent teaching activities. High structure (the use of predetermined concrete tasks) in parent training is related to higher program effectiveness.

5. Degree of specificity in the instruction-to-parents. There was no relationship between level of specificity in parent instruction and program effectiveness.

The trends from the cross-program comparisons seem consistent in underlining the importance of active involvement of parents in preschool programs.

THE EFFECTIVENESS OF PARENT TRAINING PROGRAMS ON PARENTS

Overall Effects of the Programs

Although the primary interest of evaluation studies of these programs was in child outcomes, about half of the twenty-eight project staffs also

assessed the impact upon parents. The results are even more difficult to compare across programs than are assessments of child outcomes, since there are no standardized and few widely used instruments for measuring changes in parents that might be expected as a result of participation. A summary of program effects upon parents must be based on results from instruments for which information on norms, reliability and validity is not available. Such experimental instruments, however, do permit comparisons within programs between participating parents and parents in control groups.

Even though a variety of instruments were used in these evaluations, there are major areas of parent behavior that were commonly examined in the evaluations: Parent attitudes, parent/child interactions, and home environments. It was in these areas that changes were expected.

Outcome data for parents are available only for immediate posttesting; so far, follow-up data have not been reported, although they are being collected in some programs. Such follow-up data on parents are obviously important to indicate whether the programs create a relatively permanent change in the child's home environment and thus offer continuing impact upon the program children and upon other children in the family. Perhaps most crucial, evidence of effects upon parents addresses the question of whether or not the impact of programs upon children come from the contact of the child with his parent or from contact with the home visitor or other staff members. If parents display no new behavior or attitudes, it is difficult to dismiss the alternate hypothesis that the program staff has a direct influence on the child.

Immediate Outcomes in Parent Attitudes

The two parental attitudes for which significant changes were most often found were (1) sense of personal efficacy or control over one's own life, and (2) attitude toward one's child and his/her development.

In three programs, Early Child Stimulation through Parent Education Program, Program II from Hawaii Center for Research in Early Childhood Education, and New Orleans Parent-Child Development Center, mothers who participated in the training significantly increased their sense of personal efficacy compared to their pretest level, or scored significantly higher than control mothers. In the Hawaii Program, the more active parents were in the training, the greater was their sense of personal efficacy by the end of the program. Change in parents' sense of internal control appeared in data from a variety of instruments.

Program sponsors also expected parents to acquire more realistic and flexible expectations about their child's development. Evaluation of four programs found evidence that mothers became more flexible during the intervention. The Ypsilanti Early Education Project and the Birmingham Parent-Child Development Center used the Parent Attitude Research Instrument (PARI). Mothers in the Ypsilanti program decreased on the Authoritatianism subscale, and the amount of change was related to the intensity of the mother's participation. Mothers in the Birmingham program made greater positive changes than control mothers in ten of the PARI subscales. The Birmingham Parent-Child Development Center and the Houston Parent-Child Development Center found evidence of changing developmental expectations

of their children on different measures. The Ypsilanti Carnegie Infant Education Project did not find that the program altered the parents' developmental expectation of their child.

Of the six programs that assessed change in parent attitudes, five found positive evidence, although the results were not always statistically significant. There was a consistency across programs and instruments in the attitudes most often found to have changed -- sense of personal power, authoritarian attitudes toward one's own child, and developmental expectations.

Changes in these attitudes conceivably could contribute to gains in child performance, assuming that they represent shifts in parent behavior. The possibility of a relationship between changes in parental attitudes and gains in children's performance was examined in only one study (Gordon and Jester, 1972) and no relationship was found. This is obviously not a basis for conclusions about these studies.

Immediate Outcomes in Parent/Child Interactions

Parent training programs apparently affect the pattern of interaction between parents and children. Evaluation designs which included assessment of changes in parent-child interaction found significant program effects in both parents' verbal and nonverbal behavior (e.g., teaching style or level of responsiveness).

Verbal behavior. Several different instruments (often experimental) were used to assess parents' language during interactions with their child.

The results consistently showed evidence of change in parents' patterns of language in the desired directions. The two aspects of parents' verbal behavior that were most commonly assessed were (a) use of language to reinforce or support the child's efforts, and (b) use of syntactically complex or varied language patterns.

In three programs the effect of the intervention upon frequency of use of supportive language was assessed. In all three (Ypsilanti Infant Education Project, Teaching Parents Teaching, and Second Generation Mother Study) program mothers significantly increased their use of verbal reinforcement or positive feedback while teaching their children. In the latter two studies, program mothers also decreased their use of negative feedback.

In three programs (Structured Language, Parents Are Teachers Too, New Orleans Parent-Child Development Center) some aspect of the syntax of parental language -- variety of sentence types, specificity of language, syntactic complexity -- was assessed. The Structured Language Program trained mothers in specific new language patterns. These mothers, by the end of the program, used a more advanced syntax and a greater range of language interaction patterns than did controls. In the Parents Are Teachers Too Program, parents in language intervention groups began to use more specific language to help their child on tasks. In the New Orleans Parent-Child Development Center, the language of program mothers became more elaborated, and the mothers more often expanded on their child's verbalizations and elicited verbal responses from their child.

In six programs, parents' language behavior was assessed in parent/

child teaching situations. Positive change was found in each case on at least one aspect of language. Most of the measures used included several subscales, and, typically, change was found on only some of these subscales.

Nonverbal behavior. A variety of nonverbal behaviors during parent/child interaction was also assessed. The instruments typically used were experimental observation techniques.

One major aspect of nonverbal behavior studies was the social responsiveness of the parent to the child. In three programs (the Ypsilanti Infant Education Project, the Houston Parent-Child Development Center, and the Birmingham Parent-Child Development Center), parents were judged to be more responsive, warmer, more sensitive, or more relaxed with their children when compared with control parent/child pairs at the end of or during intervention.

A second aspect of nonverbal behavior studied was degree of active participation by parents during interactions with their child or during teaching tasks. In the Barbrack study of home visiting strategies and the New Orleans Parent-Child Development Center, program parents were rated as participating more actively than control parents during interaction with their children.

In all five programs in which parents' nonverbal behavior was examined, significant differences between program and control parents were observed. The consistently positive results in these two major areas suggest that these intervention programs did change parents' nonverbal behaviors with their children in ways hypothesized to stimulate the child's development.

Immediate Changes in the Home Environment

In these evaluations, the impact of programs upon two aspects of home environments were examined: changes in the performance of siblings and changes in the quality of the stimulation in the home.

Changes in siblings in program families. Program sponsors hypothesized that parents who received training as teachers of their own child would use their new skills with both the "target" child in the program and with other children. Improvement in sibling performance over the period of the intervention, therefore, could be seen as an indication that program parents were changing their home behavior. Siblings in program families were tested in the Early Training Project and the Study of Intrafamily Diffusion Effects. Both studies found that the younger siblings in families where parents participated in some kind of training scored significantly higher than control children on a standardized IQ test. The results supported the hypothesis that intervention produced changes in the parents' home behaviors which benefited the intellectual development of all the children in the home.

Changes in the stimulation in the home. Staffs of five programs evaluated changes in the home environments of program and control families, using the Cognitive Home Environment Scale or Caldwell's Home Inventory. Three programs -- the Ypsilanti Early Education Program, Special Kindergarten Intervention Program, and Early Child Stimulation through Parent Education Program -- found that program families clearly scored higher on the home measures than did control families or families who had received treatments

that were not focused on training them as teachers. In the Early Child Stimulation through Parent Education Program, the differences were found at the one-year follow-up testing. In the Houston Parent-Child Development Center, first-year results did not clearly favor program parents. After families had been in the program for two years, a trend emerged favoring program over control families on measure of home environment. In the Ypsilanti Perry Preschool Program, no significant differences were found between the groups of families at the end of intervention.

Other Changes in Parents

Some of the program evaluations reported an increase in parent initiative in gaining new skills or new positions in the community. The Birmingham Parent-Child Development Center, Project Early Push, and the Study of Intrafamily Diffusion Effects all reported that program parents made important changes in their lives in the direction of greater self-sufficiency and effectiveness.

Differential Effects of the Programs on Parents

The data available were not sufficiently comparable to provide a basis for conclusions about whether some programs are more effective than others in producing changes in parents. Also, since the programs that did examine parent behavior were relatively similar in the features of their parent training, we could not compare different program features.

DISCUSSION

The programs summarized here consistently produced significant immediate gains in children's IQ scores, which seemed to be maintained in about half of the programs that carried out follow-up testing. They also appeared to affect school performance in a positive direction and influence the language, attitudes, and teaching behavior of parents. The success of these parent training programs suggest that parent participation of this type is an important component of early intervention programs.

Although almost all of the programs were successful in producing gains in children, some were apparently more effective than others. The reasons for this differential effectiveness were not clearly identified. The features of parent participation that were hypothesized to be related to program effectiveness are not strongly associated with outcomes, although some are related at a modest level. In general, however, these features are not adequate to explain differences in success among programs.

Descriptions of programs provided us by the sponsors indicate that the programs were designed to be quite different from one another in approach, curriculum, and procedures. These sponsor-defined differences, however, were not systematically related to variation in outcome. Since programs were not observed as part of the procedures for this review, there may be a discrepancy between the written description of activities and their implementation. However, recent observational records of classroom implementations of early education curricula show that the classroom activities often closely match the sponsors' descriptions of program design

(Stallings, 1976). Even so, attempts to relate program features to outcomes yielded only incomplete data.

The lack of evidence for clearly different effects of presumably distinct treatment variables might be thought to suggest that the inter-program variation is random. This seems unlikely, however, for two reasons. First, programs that replicated their treatment usually found consistent results; second, there is little overlap among programs in the magnitude of gains produced in multiple replications.

If such variation among programs is not randomly distributed, the sources are unidentified. Whatever these may be, they are themselves not randomly distributed across programs. They may, thus, be associated in some way with the character of the total program approach. What does appear to be emerging in these and other data (Weikart, 1969; Miller & Dyer, 1976) is that it is easier to produce effects in intervention programs than it is to identify the specific factors which contribute to success. On the basis of our data we would suggest that it is not the curriculum but the mode of dealing with the mothers, particularly the degree of specificity in the instruction-to-parents, that is associated with gain.

It is possible that the immediate effect of these programs is caused by factors unrelated to the specific treatments. All of the programs provided social reinforcement in the form of increased attention paid by the staff to the families involved. All projects were experimental and thus new, with a relatively enthusiastic, committed staff, new equipment, funds,

and other signs of an exciting and promising venture. Some of these conditions may have created a Hawthorne effect in the program staff, and possibly in the families, which may be an effective feature common to these programs. The potential effects of nonexperimental factors, such as social reinforcement from the staff and from school personnel, are confounded with the treatment effects in most of the evaluation designs. The two-group, experimental vs. control design, usually does not separate the two types of effects. The impact of the programs may accrue from these nonexperimental factors.

A final comment about these programs concerns the ethics of intervention. In the appreciation of the apparent success of these programs, we might, as professionals, consider the role that we have played and the involvement of the families with whom we work. Families were not involved in the decisions which led to the program design and implementation. Program sponsors made most of the decisions -- they saw the need, planned, initiated, and administered the programs. The families made the decision whether or not to participate.

These programs usually are designed by middle class professionals; the parent components are relatively didactic; the content of the training is determined by professionals; and the goals for training -- the "optimal" parenting style -- are established by the program sponsors. The programs bring a standard of parenting into the lives of low income families that is modeled to some degree on the middle class family ideal type. This is especially true of the programs started several years ago; those developed

more recently have moved away somewhat from predominantly professional control to include parents' ideas in planning and parents' own goals.

Parents share the desire to have their children achieve at a satisfactory level in schools. These programs thus bring together the middle class professional and the low income families at a point of common values and aspirations. Perhaps these programs eventually will combine in a more reciprocal way the right of parents to decide the character of their own experience and their child's education and the technical resources that professionals can bring to bear on the development of specific educational skills.

Figure Captions

Figure 1. Mean pre-post gains by program cohorts, grouped by pretest IQ level. "Cohort" is a single treatment or comparison group within a program. Letters refer to cohorts listed in Table 1. Starred cohorts had not completed the full multiyear intervention program.

Figure 2. Mean pre-post IQ gains by programs, cohorts combined. Starred cohorts had not completed the full multiyear intervention program.

Figure 3. IQ gains by program cohorts with scores from pre- and posttest, 1st phase follow-up, and 2nd or 3rd phase follow-up, grouped by pretest IQ level. Number of cohorts in each group is indicated in parentheses.

Figure 4. Follow-up changes in IQ level of program cohorts, grouped by level of initial gain. Total number of cohorts in each group and number of cohorts for each data point is indicated in parentheses.

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Dr. David Champagne

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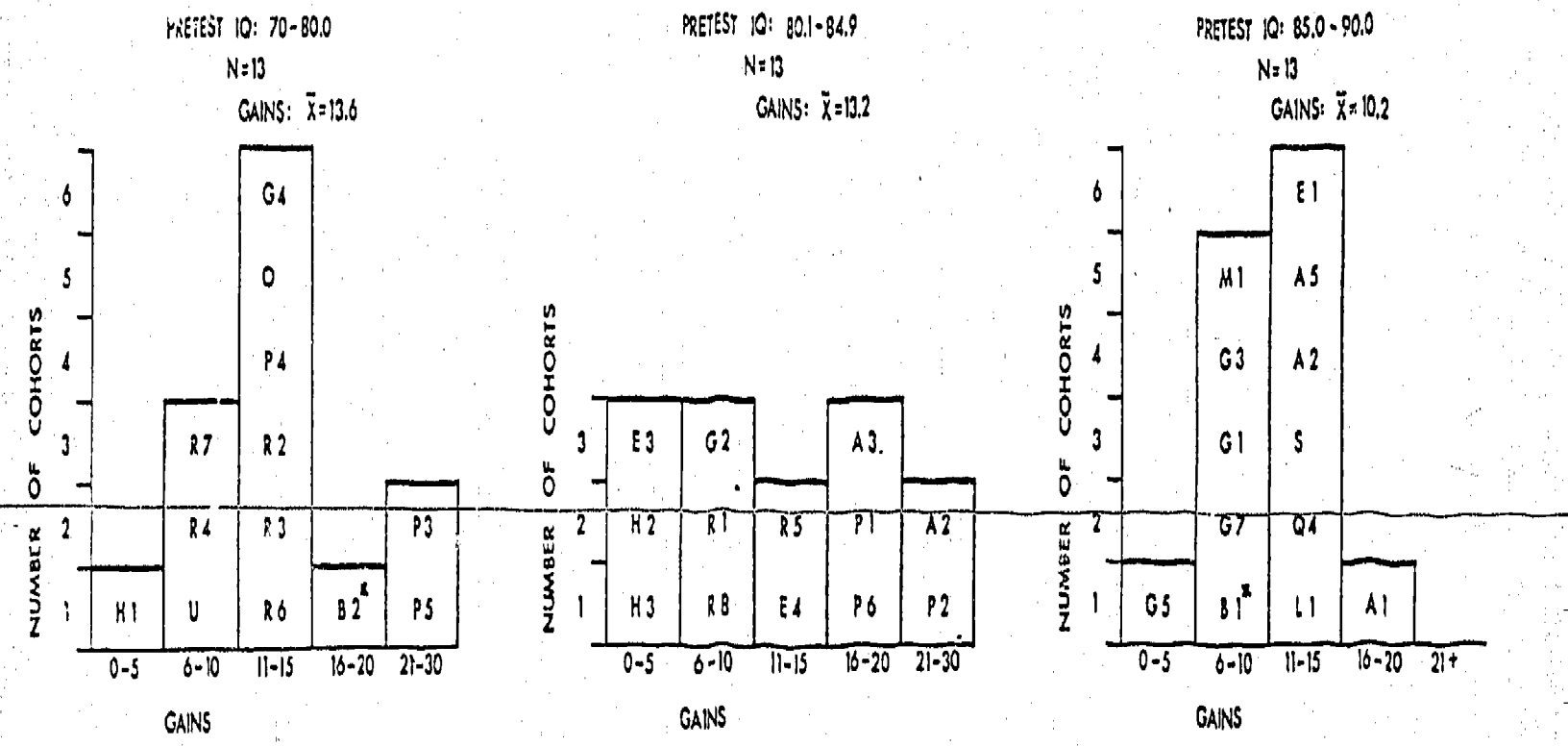
FIGURE 1. MEAN PRE-POST IQ GAINS BY INDIVIDUAL PROGRAM COHORTS, GROUPED BY PRETEST IQ LEVEL

TREATMENT COHORTS



COMPARISON COHORTS

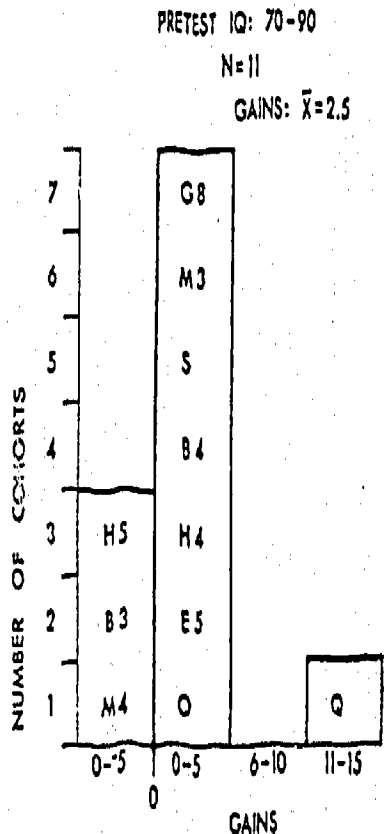
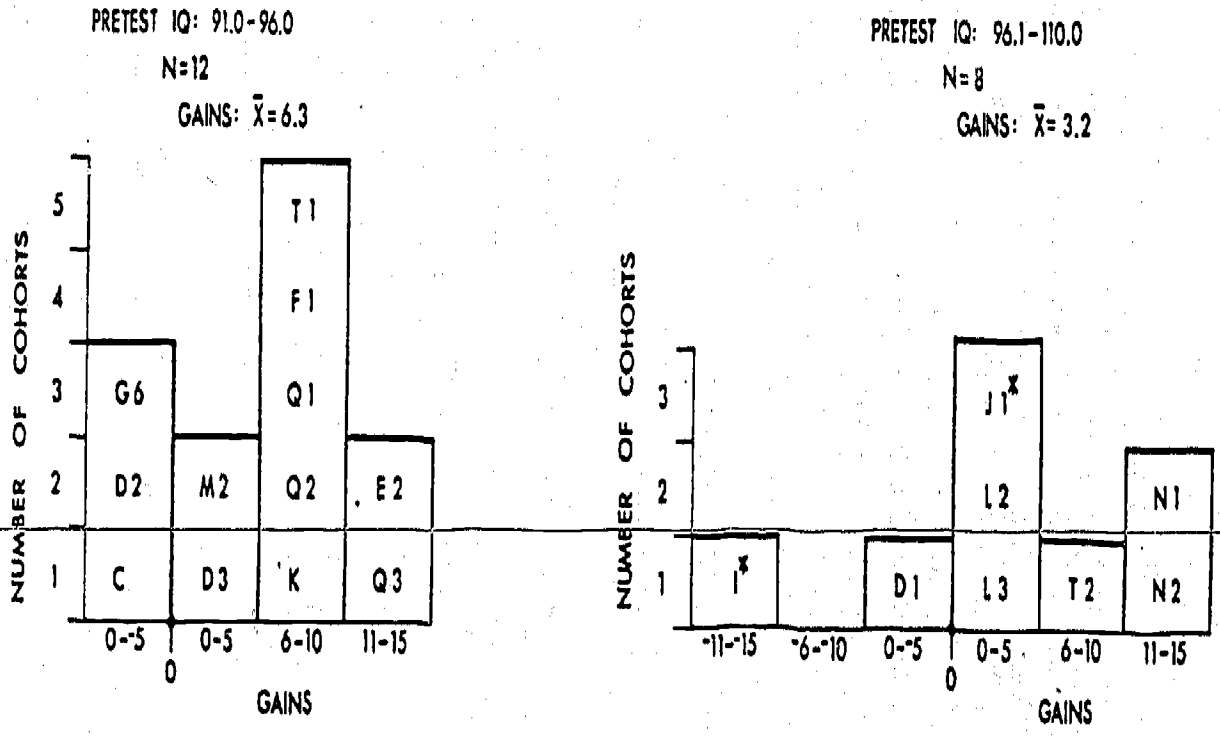


FIGURE 1 (con't). MEAN PRE-POST IQ GAINS BY INDIVIDUAL PROGRAM COHORTS, GROUPED BY PRETEST IQ LEVEL

TREATMENT COHORTS



COMPARISON COHORTS

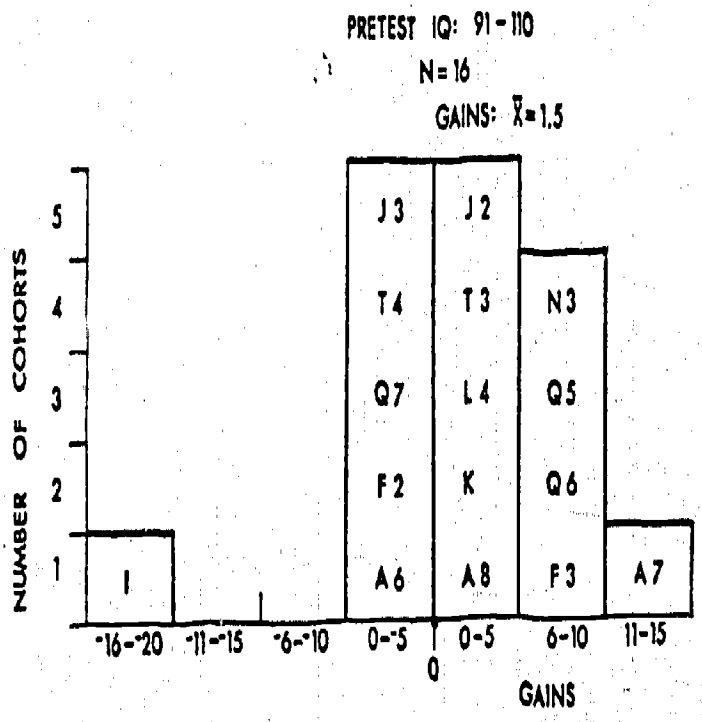


FIGURE 2. MEAN PRE-POST IQ GAINS BY PROGRAMS, COHORTS COMBINED

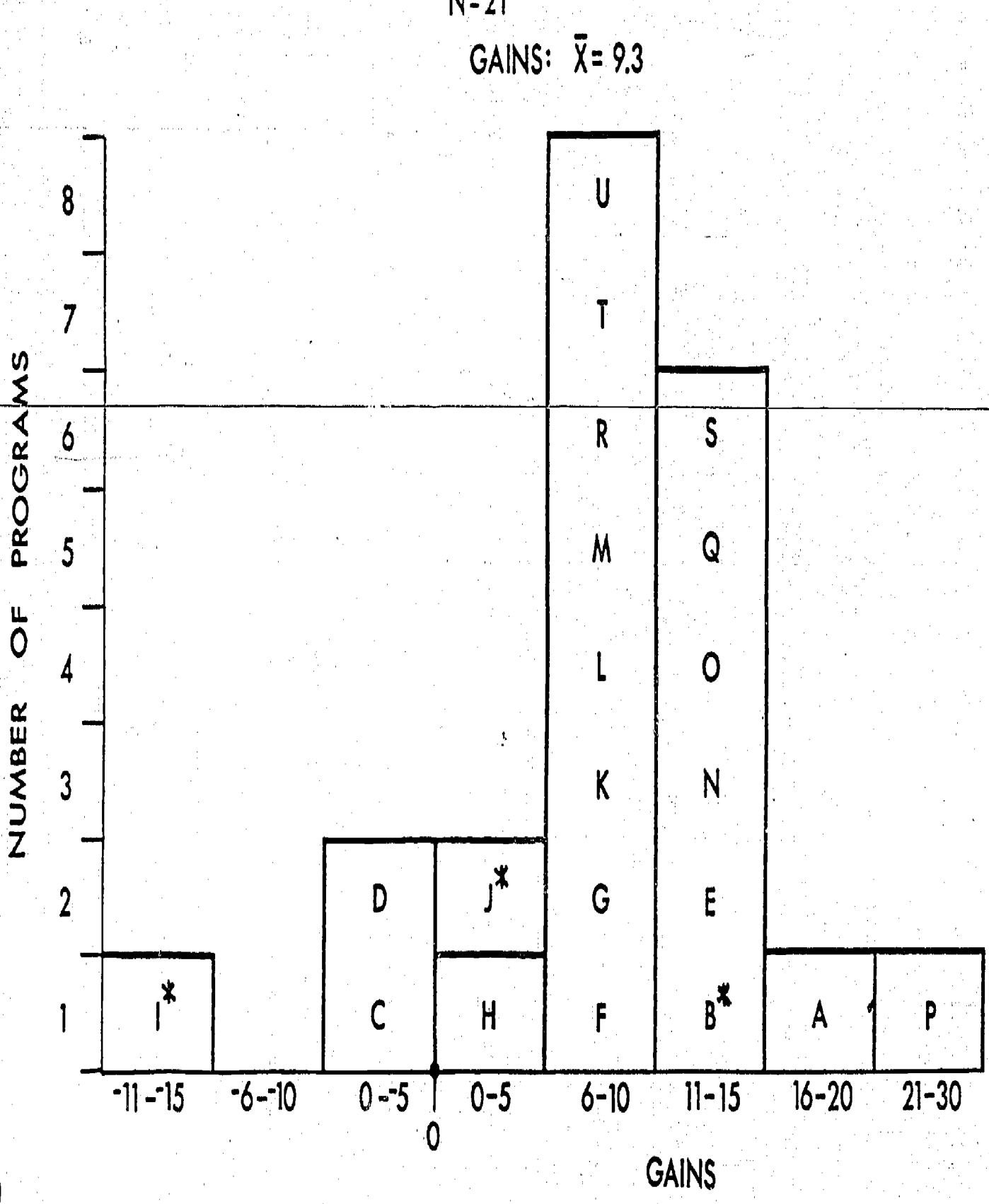
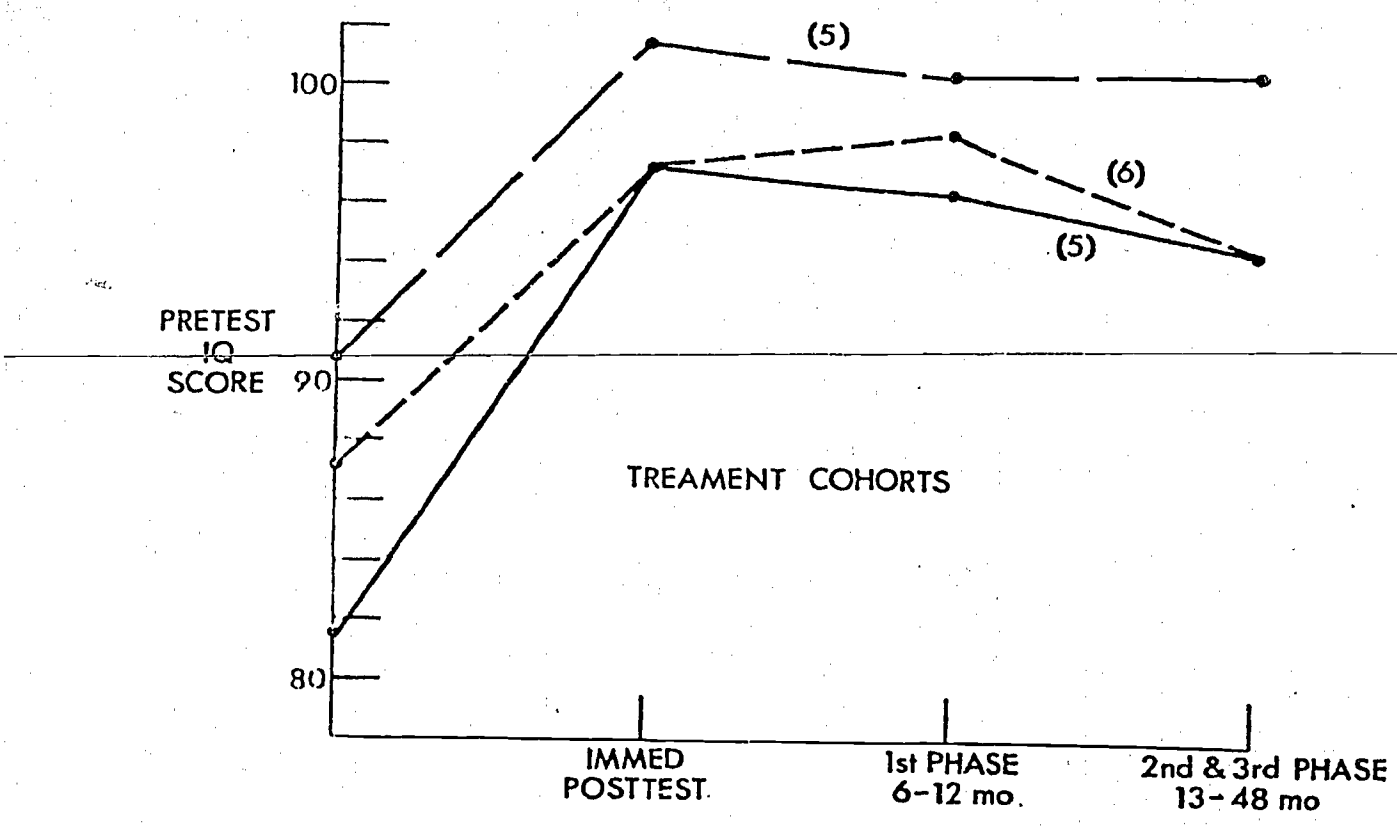
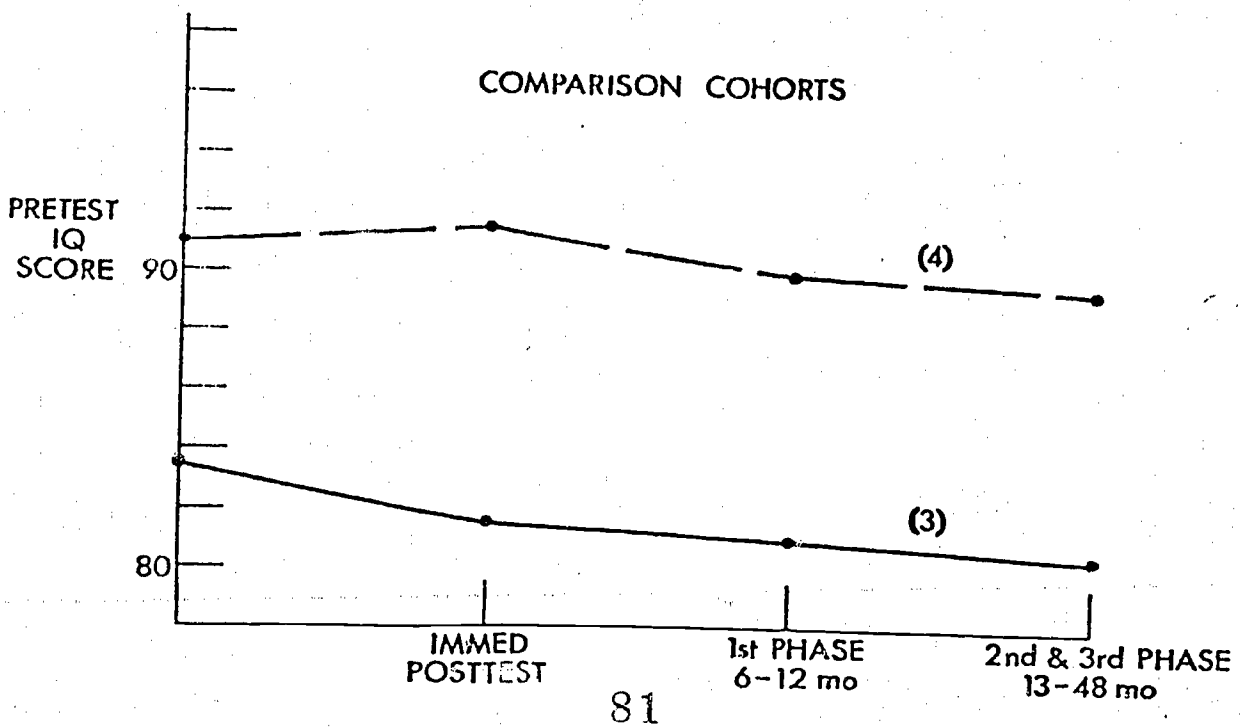


FIGURE 3. IQ GAINS BY PROGRAM COHORTS WITH SCORES (TEST TO FOLLOW-UP) GROUPED BY PRETEST IQ LEVEL



TIMING OF POSTTEST



TIMING OF POSTEST

FIGURE 4. FOLLOW-UP CHANGES IN IQ LEVEL OF PROGRAM COHORTS, GROUPED BY LEVEL OF INITIAL GAIN