The Child Development Programme in Thunder Bay:

an evaluation

by

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Thesis

Submitted to the Faculty of Arts in

Partial Fulfillment of the Requirements

for the Degree of Master of Arts

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ACKNOWLEDGEMENTS

I would like to express my gratitude to all those who have assisted me. First of all to my supervisor Dr. W.T. Melnyk whose encouragement, support, and guidance were invaluable. I am grateful to my second reader Dr. John Jameison for providing valuable criticisms and suggestions; and Dr. Marcia Dilley and Dr. K.P. Satinder for their helpful comments. I would also like to thank those involved with the Child Development Programme in Thunder Bay for their cooperation and support of this study.

Author's Note

This research was undertaken with the data previously available from the Child Development Programme in Thunder Bay, which has been in operation for 4 years. The candidate had no involvement in the design of the programme and the measures used.

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Abstract

The Child Development Programme (CDP) in Thunder Bay is a provincially funded programme for children with developmental delays or behaviour problems. This study evaluated the CDP with respect to its attainment of the programme goal: to enhance positive parent-child interactions while concurrently facilitating the child's mental and motor development. The information used in this study was obtained from parent questionnaires and the children's files. Parents reported an increase in positive interactions with their children, which was positively correlated with parental satisfaction with the programme. Parental satisfaction was found to be uncorrelated with the developmental changes achieved by the child. The developmental changes shown by the children were unrelated to the following: age at entry into the programme; Bayley scores; parental ratings of change; and graduate status. Analyses did not indicate a significant relationship between diagnosis and length of programme involvement. However, there was an indication that children with some degree of organic impairment were involved with the CDP longer than children with environmental risk factors or behaviour problems. Overall, the CDP appeared to achieve part of its goal, the enhancement of parent-child interactions, but did not consistently indicate the ability to concurrently facilitate child development. Recommendations were made that would assist the programme in systematizing its

procedures. Suggestions were also made that would facilitate an ongoing assessment of the adequacy and appropriateness of individual programming.

INTRODUCTION

The Child Development Programme (CDP) at Confederation College in Thunder Bay, is a project funded by the Ministry of Community and Social Services in Ontario. There are a number of such programmes throughout Ontario, with plans being made for more. Although some of these programmes have been in service for more than three years, no systematic evaluation of any one of them has been published. The present study proposes to evaluate the CDP in Thunder Bay.

The theoretical basis on which success of early stimulation programmes is expected originates from animal studies. Consequently, background will be provided for the reader of some of the research concerning the effects of stimulus deprivation and stimulus enrichment on young animals. As well, relevant research with human children will be presented representing the state of current research in the area of early childhood education and stimulation. Programmes used by Levenstein (197Ø, 1972), Shearer and Shearer (1972, 1974, 1976), and Bromwich (1976, 1977, 1978) are discussed as they are based on principles similar to those of the CDP.

The hypotheses to be investigated have been designed to fulfill two purposes. The first purpose is to evaluate the programme with respect to its success in achieving its goal: to enhance the positive interactions between parent and child while concurrently facilitating the child's

realization of his full potential. The second purpose is to examine whether the available demographic data may be related to children's progress within the programme.

Review of Animal Studies

Although there were early studies on the effects of early experiences of children on later development, for example Bowlby's (1940) study of the effects of institutionalization, there were few studies in which there were actual interventions on the part of the researcher in an attempt to ameliorate the situation. In fact, most of the earlier studies of interventions with developing organisms were concerned with animals. In the present review, the effects of both stimulus deprivation and stimulus enrichment have been examined with respect to their effects on subsequent behaviour and learning.

Researchers such as Clarke, Heron, Fetherstonaugh, Forgays, and Hebb (1951) and Thompson and Heron (1954) compared dogs raised in normal laboratory conditions and those raised in perceptually restricted conditions. Their results suggested that the inferior test performance of the perceptually deprived dogs on tests of maze problems, motor learning, and orientation was the result of a lack of environmental experience, as opposed to a specific lack of practice with problem-solving. It was also suggested that the role of an individual's environment is to develop the

"inherited, potential capacity for problem-solving" (Clarke et al., 1951, p. 15Ø).

Later experiments (Krech, Rosenzweig, & Bennett 1962; Rosenzweig, 1966) supported this view with the findings that enriched environmental experiences lead to cerebral change, in favour of the stimulated animal. In addition, stimulated rats were found to have a larger skeletal size, greater weight, increased ambulatory and exploratory activity, and less emotionality (as evidenced by a shorter period of time spent "frozen" and less defecation in new situations, and higher response thresholds to fear and rage producing stimuli) than the non-stimulated controls (DeNelsky & Denenberg, 1967; Weininger, 1956).

Numerous studies have been conducted investigating the effects of different types of early experiences on subsequent learning in animals. Most, if not all studies found that rats that received extra stimulation (shocks or gentle handling), or were raised in relatively enriched environments as opposed to the normal laboratory environment and deprived environment, consistently displayed superior performance on tests of avoidance learning (Denenberg, 1964; Henderson, 1964), rote and mastery learning (Hebb, 1947), visual discrimination (Meier & McGee, 1959), and closed-field tests (Hymovitch, 1952). Forgays and Forgays (1952) noted that animals with "good opportunity for perceptual learning during rearing turn out to be better adult problem solvers" (p. 327) with both age and amount

(e.g. number of days) of stimulation being critical parameters (Denenberg, 1962). Forgus, as early as 1954, came to the conclusion that;

> early experience and learning is an important determinant of the emotionality and cognitive abilities of adult rats. The differences were illustrated by the rats' performance in tests of emotion, form discrimination and generalization, and spatial problem solving. It was further suggested that the quality of the animal's infant experience will determine the kinds and number of "hypotheses" they can test when solving a problem at adulthood (p. 335).

Review of Studies with Children

As the knowledge increased concerning the effects of various stimuli on rats and other animals, so did the interest in the effects of environmental stimuli on young humans. However, generalizations between animals and humans need to be made cautiously. For example, it is important to realize that with animal studies, genetic factors are more readily controlled. The initial studies of human children frequently used orphans as subjects (Goldfarb, 1945). Thompson and Grusec (197Ø) noted that the psychological abnormalities displayed by institutionalized children in the 193Ø's and 194Ø's were primarily attributed to "lack of stimulation and absence of the mother" (p.6Ø3).

Subsequently, research was focussed on infants and children in hospitals and non-institutional settings. Not surprisingly, the results were similar to those found in animal studies and studies of children in institutions. For

example, an increase in postnatal handling of infants was found to increase the time spent in visual exploration (White & Castle, 1964). Schaffer and Emerson (1968) conducted a study in which one group of infants was tested on the Griffiths Scale on three consecutive days following brief periods of no stimulation, while the other group of infants was tested similarly on the first day, and after a short period of stimulation on the second and third days. The stimulation involved an adult who interacted pleasantly with the child by talking, touching, and holding him. The results indicated a significant increase in the developmental quotient as a result of the stimulation.

Premature infants have also been studied. The intrauterine environment provides the fetus with several modes of stimulation with the bodily functions of the mother, and her movement providing stimulation that is temporally patterned. The isolette, in which the premature infant is initially kept, lacks temporally patterned stimuli. After comparing the intrauterine environment with that of the typical isolette, Barnard (1973 as cited in Hayden & Haring, 1976) was of the opinion that premature infants suffer from stimulus deprivation. To compensate for this deprivation, Barnard introduced stimuli such as rocking and the sound of heartbeats into the premature infants' environment. After four weeks of stimulation, the experimental group was found to be superior to the control group of premature infants on measures of weight gain and

neurological development.

Other investigators (Katz, 1971; Wright, 1971) found results similar to those of Barnard after the introduction of various stimuli (visual, tactile, kinesthetic, and/or auditory) into the premature infants' environment. In addition to the gains noted by Barnard, Katz found that after 36 weeks of stimulation, his experimental group of infants was significantly superior to the control group on measures of muscle tension, visual and auditory functioning, tactile-adaptive behaviour, and motor behaviour.

Investigations have also been centered on infants of low birthweight as they are often classified and exposed to the same hospital environment as premature infants. Scarr-Salapatek and Williams (1972) were interested in the development of low birthweight infants with mothers of low socioeconomic status (SES). While the infants were in hospital, they were exposed to increased visual and social stimuli during feeding (e.g. handling and rocking as opposed to receiving bottles in the isolette). Once at home, a social worker visited the mother for a year providing information and demonstrations regarding "stimulating child care" (p.663) (e.g. activities promoting the child's next step in behavioural development). After a year, the infants who had received the additional stimulation were developing at a normal, or near normal level, whereas those in the control group were at least one standard deviation below the norm on the Cattell Infant

Intelligence Scale. Although the findings concerning premature and low birthweight infants are encouraging, the long-term effects of stimulation have not been examined. It has also been noted that these studies failed either to establish or to validate the premature infants' risk for subsequent developmental delay (Tjossem, 1976).

Another focus of research has been the effects of early stimulation or educational programmes with infants at risk for developmental delay. This population would include children who are blind (Fraiberg, 1975; Haynes, 1976; Nielsen, Collins, Meisel, Lowry, Engh, & Johnson, 1975), deaf or hearing impaired (Haynes, 1976; Horton, 1976; Liff, 1973 as cited in Horton, 1976), cerebral palsied (Bricker & Bricker, 1976; Gordon & Schwartz, 1976; Haynes, 1976; Nielsen et al., 1975), or children who come from families with both low income and low education (Lally & Honig, 1975). The results of these studies have suggested that supplementary experiences for children at risk for developmental delay contribute to accelerated behavioural development.

Two groups of children that consistently interest child development researchers are the mentally retarded, particularly those with Down's syndrome, and those from low income homes lacking in adequate environmental stimulation. Skeels and Dye (1939) studied the effects of enhanced stimulation on institutionalized mentally retarded youngsters by placing the children in residential schools

for the retarded. The children in this new environment had a greater opportunity for attention and other stimulation and showed an increase in intelligence quotient scores over follow-up periods of one and two years. Other studies of mentally retarded children raised at home who have undergone special educational efforts and stimulation have shown similar results (Dmitriev, Nail, & Harris, 197Ø as cited in Hayden & Haring, 1976; Hayden & Dmitriev, 1975; Piper & Ramsay, 198Ø; Rynders & Horrobin, 1975).

The bulk of the early stimulation programmes for mentally retarded children and those at risk for environmental reasons come in the form of preschool experience, such as the Multidisciplinary Preschool Program for Down's syndrome children at the University of Washington (Hayden & Dmitriev, 1975), and various programmes such as Head Start (developed in 1965) for children from low SES homes with little stimulation. Although the early results were promising, follow-up over a few years was generally quite disappointing for the children of low SES. There is a trend for children from these homes to gain dramatically over the first few years of enrichment but to level out over time, or to decline substantially on measures of intelligence once intervention is discontinued (Bronfenbrenner, 1975; Lambie, Bond, & Wiekart, 1975; Tjossem, 1976).

In some respects, this finding did not come as a surprise. It has been noted by Gilmer, Miller, and Gray (1970; as cited by Bronfenbrenner, 1975) ; Karnes, Studley, Wright, and Hodgins (1968), Karnes and Badger (1969); Karnes, Hodgins, and Teska (1969) and Levenstein (1970) that children's potential to benefit from enhanced stimulation is the greatest when they are two years old. This potential decreases with age to the point where, for children of low SES, any effects of enhanced stimulation are negligible past the age of five or six years. It was also realized by some (Bronfenbrenner, 1975) that one cannot remove a child from a particular environment, help him to learn and relate appropriately in the new environment, and then put him back in his original environment and expect him to keep thriving. It was Bronfenbrenner's conclusion that "the involvement of the child's family as an active participant is critical to the success of any intervention programme" (1975, p. 595). This view is echoed by Hulshoff Pol-Kars in her literature review (1976) as she concluded that the amount of maternal stimulation, rather than the physical environment per se was related to cognitive development.

The relationship between both the quality and the amount of stimulation children receive in their home environments to their subsequent mental growth and development has been widely noted (Bradley & Caldwell, 1976; Bricker & Bricker, 1976; Elardo, Bradley, & Caldwell, 1975;

Fraiberg, 1975; Horton, 1976; Piper & Ramsay, 1980; and Schaefer & Aaronson, 1972). The typical finding has been consistent with the conclusion of Schaefer and Aaronson, that stimulation which comes as a result of positive interactions between mother and child is positively related to early intellectual development. The importance of the mother-child dyad was also recognized by Bronfenbrenner (1975), Gray and Ruttle (1980), Hulshoff Pol-Kars (1976), and Karnes and Badger (1969). Bronfenbrenner suggested that the positive interactions between parent and child serve to strengthen the emotional bond between them. Consequently, motivation is enhanced, increasing the number of responses made by the child to the parent which "produces mutual adaptation in behaviour, and thereby improves the parent's effectiveness as a teacher" (p.596).

Studies by Levenstein (1970, 1972a, 1972b) made use of the mother as the major educator of the child. The "toy demonstrators", who came into the home and supplied learning materials for the children, also taught the mothers how to talk to and play with their children through the modelling of these behaviours. The mothers were also encouraged to play and interact frequently with their children between home visits. The results of Levenstein's studies are very encouraging. Not only were substantial gains noted for all children who participated in the programme, but these gains were maintained for at least three or four years after the termination of the programme. On the basis of Levenstein's

studies, it was concluded by Bronfenbrenner that "the earlier and more intensely mother and child were stimulated to engage in communication around a common activity, the greater and more enduring the gain in IQ achieved by the child" (1975, p.552).

Another programme utilizing the parent as the primary change agent is the Portage Project initiated by Shearer and Shearer (1972).Instruction takes place in the child's home with his parents as teachers. Each family has a "home teacher" who visits one day a week. The "individualized curriculum is prescribed weekly, based on the assessment of each child's present behaviour in the areas of language, self-help, cognitive, motor, and socialization skills" (Shearer & Shearer, 1976, p. 335). Lessons are practiced by the parent during the week. As could be expected by Levenstein's studies, children participating in the Portage Project made significant gains on measures of intelligence. An additional benefit of the programme was that there was an indication that "parents continued to work with and reinforce behaviours even though the home teacher was no longer making visits" (Shearer & Shearer, 1976, p. 348) thus confirming a position held by Tjossem that the most effective approach for providing enrichment is family, rather than child, centered (1976).

Consistent with a family centered approach, Bromwich (1976, 1977, 1978) emphasizes the enhancement of the positive interaction between parent and child. The model proposed by Bromwich (1976) is based on three assumptions:

> 1) Infant-mother interaction is a truly reciprocal process, the behaviour of each affecting the other's responses;....
>
> 2) The prime requisite for the infant's optimum development is a mutually satisfying relationship between mother and infant;....
>
> 3) The mother gains competence as she enjoys her baby's increasing responsiveness to her successful efforts in motivating the infant's growth-promoting activities. (p. 440)

By enhancing the interaction between parent and child, "a spiral is set off that leads to satisfaction in parenting and at the same time to optimal development of the infant" (Bromwich, 1978, p.1).

The PBP (see Appendix A) was designed to assist intervention programmes in increasing the positive parent-child interaction through parental support and enhancement of desirable parenting behaviours and child development. The PBP is composed of six levels. The first three are considered to be the "affective base" which, when taken collectively, are indicative of a satisfactory parent-child attachment. This base is considered to be the foundation of the more complex behaviours required by the parent to satisfactorally achieve levels four through six. Levels four through six reflect the parent's ability to actively provide relevant learning experiences for the child to encourage physical, social, and cognitive development.

Each level is described in terms of parental behaviours, some of which may become intervention goals. This format facilitates the identification of the positive behaviours already being used by the parent, and some new behaviours that could be acquired by the parent to enhance both his interactions with and the development of the child.

The Child Development Programme in Thunder Bay

The CDP in Thunder Bay uses several references as guides to programming, the two main ones being the Portage Project (Shearer & Shearer, 1972) and the PBP (Bromwich, 1976). The CDP has been in operation for just over three years. Like the PBP, it focusses on the nature of the parent-child interaction. Parent advisors enter the home and assist in constructing a curriculum to enhance the parent-child relationship and development of the child. Children may be referred for being at risk of, or displaying delayed development as a result of organic or environmental reasons, or for behavioural problems. Children are accepted from infancy through to 12 years of age. After a period of involvement, it may be determined that the child would receive additional benefit from a more intense, away from home experience. He may then be referred to one of the other children's services in Thunder Bay (e.g. Crippled Children's Centre, Griffis Nursery School for the mentally retarded, etc.).

In the three years this service has been available to the public, over 250 children have been referred. Although records are kept of each child seen, results have not been formally evaluated. An evaluation of the CDP at this time allows an examination of the degree of achievement of the programme's goal, which is to enhance the positive interactions between parent and child while concurrently facilitating the child's realization of his full potential.

The Present Study

Literature specifically concerning the evaluation of child development programmes is sparse. Much of the literature that is available emphasizes the economics of the programme (Cornelisse, Kohnstamm, & vanderLem, 1975; Nielsen et al., 1975), the success of the programme in raising the child's intelligence score or developmental quotient (Cornelisse et al., 1975; Nielsen et al., 1975; Shearer & Shearer, 1976), or the differences between the children who participated in the programme and those who did not (Gray & Ruttle, 1980). An alternate focus for programme evaluation is an assessment of parental satisfaction with the programme used (Bricker & Casuso, 1979; Fiester, 1978). Including a measure of client satisfaction with programming is useful in providing feedback of the perceived quality of the programme. Furthermore, it provides staff with some direction concerning how programming for the individual child could be improved.

The present study was composed of two parts. The first was concerned with an evaluation of the programme with respect to the effects of improved parent-child interaction and parental satisfaction. The second part concerned an examination of whether the available demographic data was related to children's progress within the programme on the basis of their scores on the Bayley Scales of Infant Development (Bayley, 1969), and parental reports of perceived changes in child development.

It was hypothesized that the evaluation would indicate that:

1) the parents who reported an improved parent-child interaction would also likely be the most satisfied with the programme. The degree of parental satisfaction with the programme may be out of proportion to the actual gains incurred in the child's development. Parents may be encouraged and excited by any change in their child's behaviour irrespective of the amount;

2) children first involved before three years of age would benefit the most from the programme, as measured by the Bayley Scales of Infant Development, parental reports, and graduation from the programme (whether there was a need for additional services e.g. Griffis);

3) there would be a relationship between the diagnosis of the child and the length of time he has been involved with the programme.

METHOD

Subjects

The subjects used for this study were the 258 children referred to the CDP during its first three years of service (from Sept. 1978 to Aug. 31, 1981). There were 148 boys and 110 girls referred to the programme ranging in age from less than one month to 12-1/2 years (X=30.7 months; Table 1).

Referrals came from Thunder Bay and the surrounding regions (e.g. Geraldton, Terrace Bay and Longlac) with most referrals coming from family doctors (34.5%) and public health nurses (15.1%). The reasons for referral to the CDP are shown in table 2. The actual diagnoses of the children are indicated in table 3.

The majority of the children (63.6%) were living with both of their biological parents at time of referral, 20.2% were living with their biological mothers only. The remaining children lived with their fathers, grandparents or foster parents. At the time of birth, 57.3% of the mothers, and 49.6% of the fathers were in the 19 - 30 year age range. Fewer than 20% of the children had a family history of mental or physical problems.

Table 1 Age of children at first referral to the CDP

Age at referral	Frequency
1 mos	2
1 mos - 6 mos	48
7 mos - 1 yr	46
13 mos - 1½ yrs	38
19 mos - 2 yrs	23
25 mos - 2½ yrs	15
31 mos - 3 yrs	13
37 mos - 3½ yrs	16
43 mos - 4 yrs	19
4 yrs	47

Table 2 Reasons for referral to the CDP (N=258)

	%
Organic delay	38.4
Environ. delay	3.5
Organic risk	8.5
Environ. risk	27.2
Behav. problems	5.8
Organic delay/behav. prob.	8.5
Environ. delay/behav. prob.	0.8
Organic risk/behav. prob.	5.0
Environ. risk/behav. prob.	2.3

Table 3 Diagnoses of children (N=258)

	%
Organic delay	33.7
Environ. delay	3.5
Organic risk	8.1
Environ. risk	14.0
Behav. problems	14.8
Organic delay/environ. delay	0.4
Organic delay/environ. risk	12.0
Organic delay/behav. prob.	1.9
Organic delay/environ. risk/ behav. prob.	0.4
Environ. delay/behav. prob.	0.4
Organic risk/behav. prob.	1.9
Environ. risk/behav. prob.	2.7

Children classified as being delayed for organic reasons were those who exhibited Down's syndrome, brain disorder, cerebral palsy, sensory defects, birth difficulties etc. Children delayed for environmental reasons included those who had experienced maternal deprivation or whose parents were mentally retarded or alcoholics. Being at risk for organic delay was the term used by the programme to classify premature infants as well as those with physical disabilities. Children at risk for environmental delay were those from single parent families, or families with young mothers, low socioeconomic status, or abuse potential etc. The children did not necessarily fit into only one diagnostic category. The children formed a highly heterogeneous group of subjects with many different combinations and permutations of early life experiences.

Procedure

A parental questionnaire was sent out to 17Ø parents (see Appendix B). Parents not receiving questionnaires were those who had moved from the area, or had declined to participate in the programme (7 families were reported in this latter category). The questionnaire allowed the parents to express their views of the programme and gave an indication of how satisfied they were with it. Demographic data was obtained from the case histories of the children (see Appendix C for list of items assessed).

From the parent questionnaires (Appendix B) the following measures were obtained; change in parent-child interaction, parental satisfaction with the programme, and the parents' subjective report of change in their children's behaviour. The measure of parent-child interaction was obtained from the ratings the parents gave to the following questions; 7, 8, 13, 15(1-4). To adjust for unanswered questions, the point values (as shown with the questions) were summed and then divided by the total possible points of only those questions answered to yield a measure of change in parent-child interaction. All of these components are included in the levels of the PBP (as outlined by Bromwich, 1976) as being descriptive of parent-child interaction. The measure of parental satisfaction with the programme was obtained by the answers given to questions 3d, 9a, 9b, 1Ø, 13, 22, 24, and 25b. A score representing parental satisfaction was obtained in a manner similar to that used

to obtain the measure of parent-child interaction. The measure of the parents' subjective report of change in their children's behaviour was obtained from question 14. The score used as a measure of the subjective report of change in the child's development was derived in a manner similar to that used to obtain the measure of parent-child interaction. Point values were assigned to the responses of each question such that the higher the sum; the greater perceived improvement in parent-child interaction, the more satisfied the parents were with the programme, and the greater the positive change in the child's development.

As well as the demographic data, the following were obtained from the children's files; Bayley scores (Mental Development Index [MDI] and Psychomotor Development Index [PDI]), diagnosis of the child, length of involvement with the programme, and graduate status (still in programme, graduate - referred to other service, graduate - no need of further service). For the purposes of the present study, graduates without need of further service were those children whose parents were effectively dealing with their difficulties and no longer felt the need for active involvement with the programme.

Criteria for evaluation

On the basis of available information, five criteria were used as measures of the programme's effectiveness. The three primary factors of interest, measured indirectly, were parental reports of improved parent-child interaction, parental satisfaction with the programme, and the parents' subjective ratings of change in their children's behaviour. The other two factors, graduate status and change in Bayley scores, were more objective measures of effectiveness. Graduate status was used as a criterion to give an indication of how the children (and their parents) were coping with their difficulties. In other words, an indication of programme effectiveness is the number of children who graduate without the need of further service as this generally indicates that the parents are now able to cope effectively with their children. The Bayley scores were used in an attempt to provide an objective measure of the gains made by children during their involvement with the programme. The Bayley scores used in the study were the first and the last available before the child was older than 3Ø months. The Bayley was not given at regular intervals across children. The Mental Development Index (MDI) and Psychomotor Development Index (PDI) scores can be expressed in terms of mental age equivalents and motor age equivalents respectively (Bayley, 1969). For the remainder of this paper, these measures (MDI and PDI) will be discussed using the terms MA and MT. Taken individually, these measures do

not adequately reflect programme effectiveness. However, it was believed that taken in combination, these five criteria would allow some conclusions to be made regarding the effectiveness of this programme.

Results

One hundred and seventy questionnaires had been sent out to the parents of children involved with the Child Development Programme (CDP). Of these, 87 were returned possibly indicating a selectivity of the sample used in the subsequent data analysis. The questionnaires had been answered independently by the parents with the exception of four cases. In one case, the questionnaire had to be translated, and in three cases the parents had difficulty in understanding the questions.

The results of the questionnaires indicated that the parents were satisfied with the programme. When parents were asked if they would recommend the CDP to others, 16.1% replied that they 'probably' would and 83.9% replied that they definitely would.

Parents reported an increase in both their knowledge of child development (82.8%) and skill in dealing with their children (83.9%). Parent advisors have helped the parents to: accept and understand their child (27.6%), stimulate their child (24.1%), and become aware of their child's developmental patterns (20.7%)(see Table 4).

Seventy-two percent of the parents indicated an improved attitude towards themselves since becoming involved with the CDP with changes noted in the following areas: enjoyment of parent-child interaction, confidence with the child, awareness of the child's needs, knowledge of developmental patterns, and relationships with other family members (Table 5).

Table 4 Areas in which parent advisors helped the most and the least through programme involvement

	Most helpful	Least helpful	N
Helping to stimulate child	24.1%	10.3	76
Understanding and accepting child	27.6	4.6	68
Family adjustment	12.6	13.8	68
Awareness of child's devel. patterns	20.7	5.7	73
Dealing with behaviour problems	10.3	34.5	71

Table 5 Parent's self-reported changes through programme involvement (N 87)

	Not answered	Worse	Same	Better or much better
Enjoy interactions with child	14.9%		23.0	62.0
Confidence with child	16.1		19.5	64.4
Awareness of child's needs	9.2		9.2	81.6
Know. of devel. patterns	11.5	-	13.8	74.7
Relationship with family	13.8	1.1	31.0	54.0

The children were perceived by their parents to have changed in the areas of gross motor development, fine motor development, language and communication skills, self-care, perceptual and cognitive development, and behaviour (Table 6).

The first hypothesis, that there would be a positive correlation between the change in parental interaction (PARINT) and parental satisfaction (PARSAT) was investigated using the Pearson Product Moment Correlation. A significant relationship ($p<.00001$) was found between PARINT and PARSAT ($r=.448$, $n=87$; Figure 1). Non-significant relationships ($p>.05$) were found when PARSAT was correlated with changes in MA and MT (Figures 2 and 3).

T-tests and chi-square analyses were used to examine the hypothesis that children first involved with the CDP before three years of age would benefit more from the programme than children older than three years. Statistical analyses were not performed on the Bayley scores between these two groups of children as only one child older than 36 months was administered the test. An independent samples t-test was performed between age (<36 mos., >36 mos.) and the parents' subjective rating of developmental change in their children (SUBJ). This relationship was found to be non-significant, $t(32)=0.65$, $p>.05$. Another possible measure of benefit from the programme is graduate status. The relationship between age and graduate status was also found to be non-significant ($X(2)=3.735$).

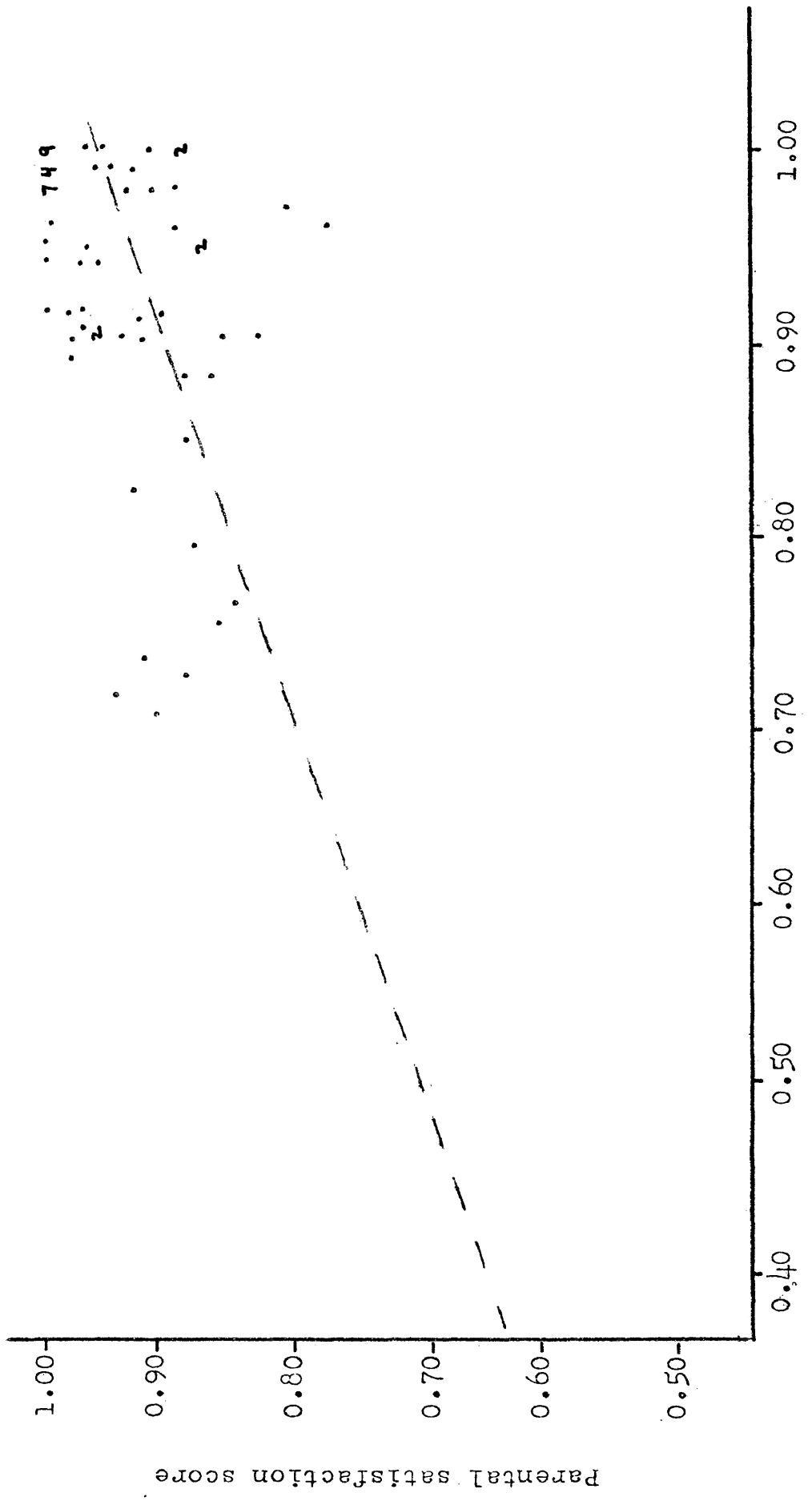

Figure 1 The relationship between measures of parental satisfaction with the Child Development Programme and measures of parental interaction

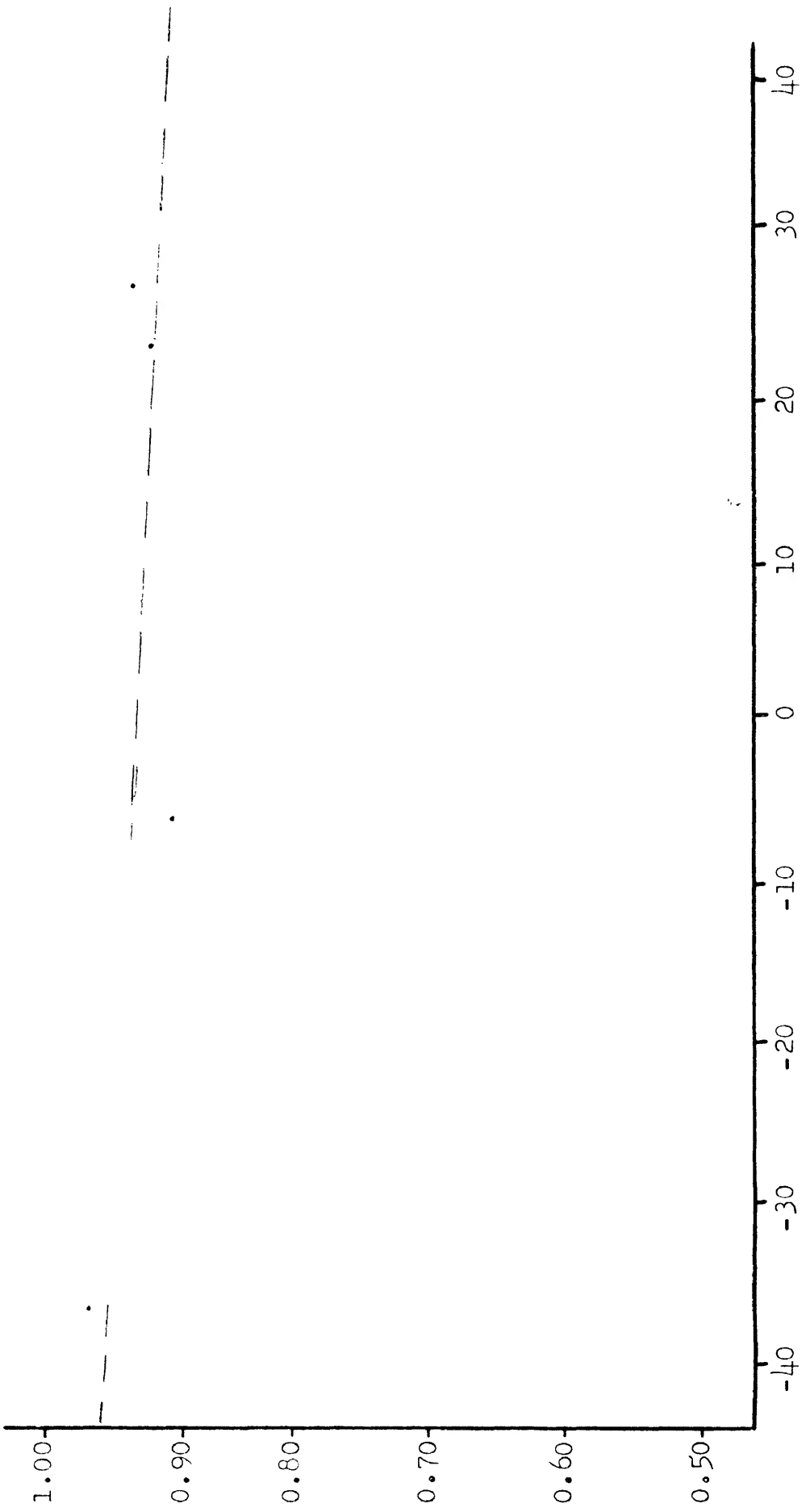

Figure 2 The relationship between the measure of parental satisfaction and change in mental age

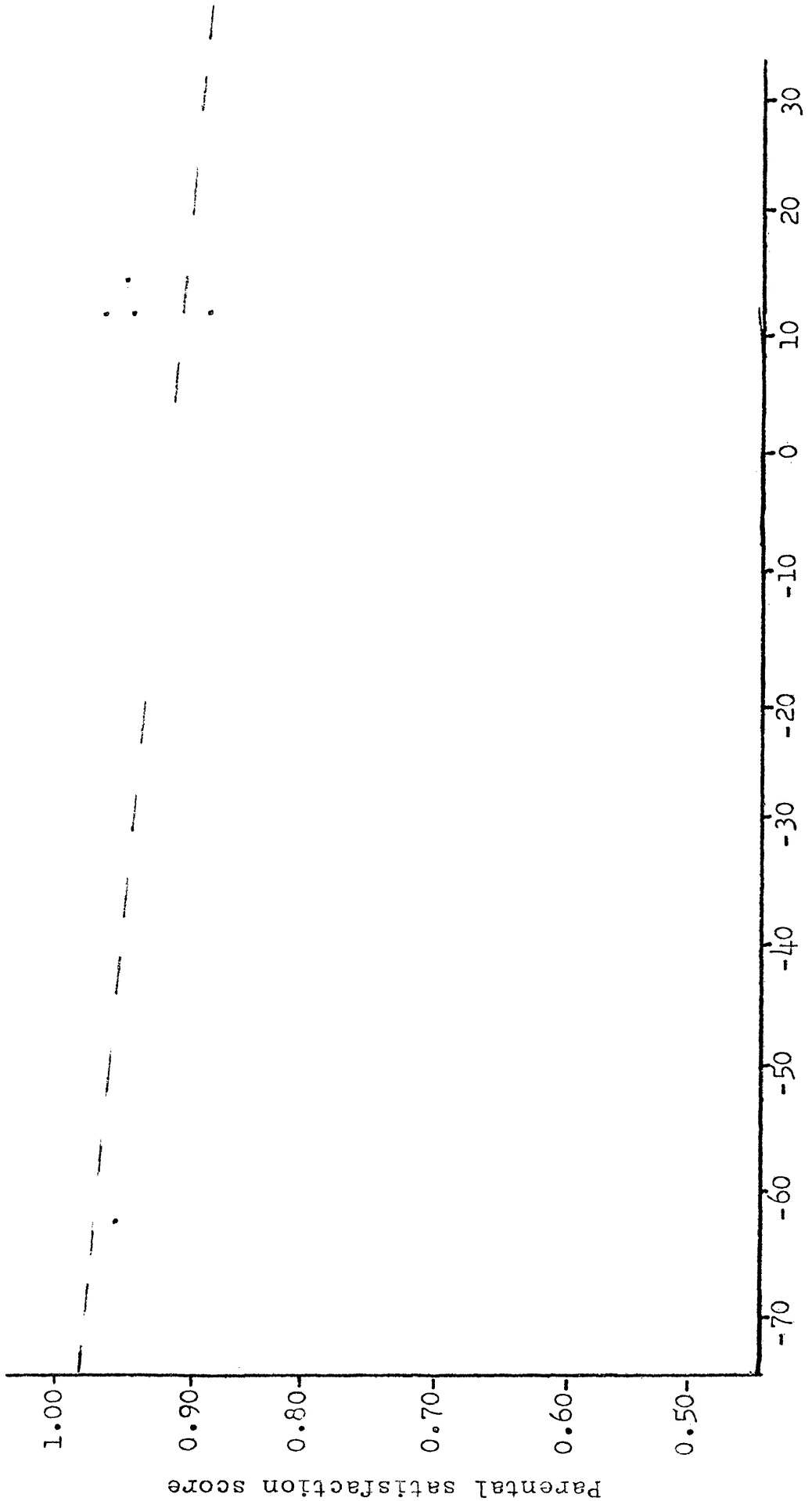

Figure 3 The relationship between the measure of parental satisfaction and change in motor age

Maisto and German (1979) compared the gains made by infants who were younger than 11 months with infants who were at least 11 months of age at first involvement with their development programme. At the end of one year, they found that only the younger children made a significant gain with respect to cognitive development. When the above analyses were performed comparing children younger than 11 months with children 11 months or older at first involvement with the CDP, the relationship between age and graduate status was again non-significant ($X^2(2)=5.255$) as were the independent t-test calculations for change in motor age (MT) and subjective ratings of change. However, the change in mental age (MA) was significant ($t(37)=-1.97$, $p=.058$) such that children older than 11 months at first involvement with the programme evidenced a greater increase in mental age than children younger than 11 months (Table 7). Using a t-test with test-retest scores, the change in mental age for children older than 11 months was significant ($t(23)=-2.67$, $p<.01$). Overall, when children were not grouped with respect to age, the changes in mental age and motor age were non-significant ($t(51)=-1.54$, $t(49)=-0.02$, respectively) using test-retest scores.

Table 6 Parental report of change in children through programme involvement (N=87)

	Not answered	Worse	Same	Better or much better
Gross motor devel.	13.8%	-	13.8	72.4
Fine motor devel.	16.1	-	21.8	62.0
Lang. & commun.	11.5	-	21.8	66.6
Socialization	16.1	-	18.4	65.5
Self-care	19.5	-	33.3	47.1
Percep. & cog. devel.	21.8	-	24.1	54.0
Behaviour	17.2	1.1	36.8	44.8

Table 7 Independent t-tests; changes in mental age, motor age, and subjective parental ratings each as a function of age at referral

		$\bar{X}$	S.D.	df	t
Changes in mental age	$<$ 11 mos	-0.5455	18.118	37	-1.97 *
	$\geq$ 11 mos	10.0588	14.639		
Changes in motor age	$<$ 11 mos	-3.0455	21.694	32	-1.05 (n.s.)
	$\geq$ 11 mos	4.8333	9.474		
Subjective rating	$<$ 11 mos	0.7926	0.1122	78	0.36 (n.s.)
	$\geq$ 11 mos	0.7808	0.1491		

* $p < .05$

Relationships between the diagnosis of the child and length of involvement in the programme are presented in tables 8 through 10 (only children involved with the programme for longer than one week were included). When graduates without a need for further service were examined (n=27), it was found that none of the graduates had been involved with the programme longer than 18 months. The majority of children (85.1%) across diagnostic categories had graduated within one year. All of the children who were involved longer than a year before graduating from the programme were delayed for organic reasons (Table 8). Similarly, the relationship between diagnosis and involvement for graduates needing additional service was also reviewed (n=44). Most children (59.1%) were referred to another service within one year. It should be noted that 56.8% of the children needing additional services were delayed for organic reasons (Table 9). There are 86 children still involved with the programme, with children displaying delay because of organic reasons representing 33.7% of this population. Of the children involved longer than one year (31.4% of the population), 48.1% are delayed for organic reasons and 29.6% are delayed for organic reasons and are at risk environmentally. It is apparent that of the children who have not graduated from the programme, children with the potential for serious delay have been involved with the programme longer than children with less risk (Table 10).

Table 8 Length of programme involvement and most frequent diagnostic category placement of graduates not needing further service (N=27)

	Organic delay	Envir. risk
1 wk - 6 mos	3.7%	14.8
6 mos - 1 yr	25.9	11.1
1 yr - 18 mos	14.8	-
18 mos +	-	

Table 9 Length of programme involvement and most frequent diagnostic category placement of graduates referred to other services (N=44)

	Organic delay	Organic delay/ envir. risk
1 wk - 6 mos	9.1%	2.3
6 mos - 1 yr	27.3	9.1
1 yr - 18 mos	13.6	-
18 mos +	6.8	9.1

It is interesting to note that in the distribution of children within each of the graduate categories (as shown in Tables 8, 9, & 1Ø) children who are delayed for organic reasons are the most heavily represented, with less than 2Ø% of these children having graduated without need of further service. Non-significant relationships were found between length of involvement and graduate status for children within each diagnostic category. Similarly, the relationship between length of involvement and graduate status across diagnostic categories was also non-significant. Most children, across diagnostic categories, have been involved with the programme for 6 months - 1 year (41.3%). Of these children, 54.5% are non-graduates, representing 41.4% of the non-graduate population. Table 11 indicates the length of involvement and graduate status of the children across diagnostic categories.

Table 10 Length of programme involvement and most frequent diagnostic category placement of children still involved with the programme (N 86)

	Organic delay	Organic risk	Envir. risk	Behav. prob.	Organic delay/ envir. risk
1 wk - 6 mos	4.7%	3.5	3.5	12.8	-
6 mos - 1 yr	14.0	2.3	4.7	8.1	5.8
1 yr - 18 mos	7.0		-	-	4.7
18 mos	8.1		0.7		4.7

Table 11 Length of programme involvement of all children regardless of diagnostic categories (N 160)

	Not grad.	Grad.	Grad. with service
1 wk - 6 mos	15.0%	7.5	5.6
6 mos - 1 yr	22.5	8.1	10.6
1 yr - 18 mos	7.5	2.5	5.6
18 mos	9.4	-	5.6
Total	54.4	18.1	27.5

Negative correlations were found between initial mental age and change in mental age (MA) ($r=-0.301$, $p<.05$) and initial motor age and change in motor age (MT) ($r=-0.662$, $p<.001$). These results suggest that children with higher initial mental and motor age scores show less gain in these scores with programme involvement than children with lower initial mental and motor age scores. However, these correlations (particularly between initial mental age and MA) may reflect a regression towards the mean of the children's performance. Negative correlations were also found between the Bayley assessment intervals and changes in mental age and motor age ($r=-0.4137$ & $r=-0.1613$ respectively). The correlation between the assessment interval and MA was significant at $p<.005$. This finding suggests that children whose mental age scores decrease, are those who have longer involvement with the programme. An examination of the individual Bayley protocols did not indicate a consistent area of failure (e.g. naming three objects, walking without support) for either cognitive or motor development.

The incidence of prenatal/maternal factors and neonatal health problems for these children was also examined (Tables 12 and 13 respectively). Some children had more than one prenatal/maternal or neonatal health risk factor. The distribution of the number of factors within each of the five most frequent diagnostic categories ($n>20$) is indicated in Table 14.

Table 12 Incidence of pre-natal and maternal risk factors (N=258)

	% of pop.
Heavy smoking	3.5
Heavy drinking	5.0
Miscarriage	18.6
Meds. during pregnancy	15.5
Unusual symptoms	24.0
Unplanned	37.6
Extra stresses	26.0
Ceasarian	16.3
Forceps	8.5
Induced	8.9
No medical care	1.2
Virus during pregnancy	5.4
Other complications	3.9

Table 13 Incidence of neonatal health risk factors (N=258)

	% of pop.
Jaundice	19.0
Breathing difficulties	21.3
Feeding problems	19.0
Seizures	10.1
Sleeping problems	2.7
Meningitis/brain infection	1.2
Encephalitis	1.2
Congenital defects	16.7
Other complications	5.8

Table 14 Proportion of cases with risk factors within most frequent diagnostic categories

# of risk factors	Organic delay	Organic risk	Envir. risk	Prob. behav.	Organ. delay/ envir. risk
0	19.5%	14.3	30.6	26.3	3.2
1	10.3	9.5	25.0	13.2	9.7
2 - 3	44.8	33.3	36.1	44.7	32.3
4 - 5	13.8	23.8	5.6	15.8	32.3
6+	11.5	19.0	2.8	-	22.6
n	87	21	36	38	31

The presence of risk factors was not found to be significantly related to diagnostic category. However, of the 242 children surveyed, 79.3% have experienced at least one of the 12 prenatal/maternal or neonatal risk factors. The possibility of a systematic relationship between particular risk factors and diagnosis was investigated with respect to those factors evident in at least 10% of the cases. The number of children within each category (diagnosis by risk) was too small for reliable interpretations to be made. Data is therefore presented descriptively (Table 15). With the exception of children with a single parent, at least 60% of the children within each risk category were diagnosed as having some degree of organic involvement. Of the children living with a single parent, 91.2% were diagnosed as being at risk for environmental reasons (with or without other diagnostic labels).

No sex differences were found with respect to changes in mental age , motor age , or diagnostic category. As well, no relationships were found between changes in mental age or motor age and diagnostic category.

Table 15 Proportion of children within each diagnostic category with a history of at least one of the most common pre-natal/maternal or neonatal health risk factors

	Organic delay (n=87)	Envir. delay (n= 9)	Organic risk (n=21)	Envir. risk (n=36)	Behav. prob. (n=38)	Organic delay/ envir. risk (n=31)
Miscarriage	46.7%	2.2	15.6	6.7	24.4	4.4
Meds. during pregnancy	33.3	5.6	8.3	13.9	16.7	22.2
Unusual symptoms	43.9	1.8	12.3	3.5	15.8	22.8
Unplanned	29.8	2.4	6.0	14.3	22.6	25.0
Extra stresses	30.0	5.0	10.0	13.3	18.3	23.3
Ceasarian	46.2	2.6	17.9	5.1	7.7	20.5
Jaundice	39.1	2.2	13.0	13.0	15.2	17.4
Breathing diff.	52.1	2.1	18.8	-	4.2	22.9
Feeding probs.	48.8	-	16.3	9.3	7.0	18.6
Seizures	44.0	-	16.0	-	8.0	32.0
Congenital defects	70.7	-	12.2	-	-	17.1
Single parent	-	-	51.9	-	-	48.1

DISCUSSION

The object of this study was to evaluate the Child Development Programme (CDP) with respect to attainment of its goal; to enhance the positive parent-child interaction while concurrently facilitating the child's mental and motor development. It was hypothesized that: parents who report an improved parent-child interaction would also be more satisfied with the programme; children first involved before three years of age would benefit the most from the programme; and that there would be a relationship between the diagnosis of the child and the length of time he has been involved with the programme.

The model of evaluation most applicable for this study was operational or process-oriented. Cherns (1969, p.210) outlines the steps of operational evaluation research as follows:

> (a)observation of the "mission" of the organization, (b)identification of its goals, (c)establishment of criteria of goal attainment, (d)devising measures for assessing performance against these criteria, (e)carrying out these measurements and comparing them with the goals, (f)...reporting on the discrepancy between goal and achievement.

With respect to the CDP, the process of evaluation was not straightforward. The 'mission' of the programme; to provide support, information, and guidance to parents of children delayed, or at risk of delay for organic or

environmental reasons and to parents of children with problem behaviour was clearly articulated. Similarly, the goal of the programme, as outlined above was also defined. The emphasis on individualization in programming made the specific programming to achieve the goals more difficult to define.

It is acknowledged, as emphasized by Wallin (1972), that programmes need to concern themselves not only with establishing general procedures, but with considering the needs of the individual as well. The implication is for a balance between consistency and individualization in implementing a programme. A task-structured approach to programming, as advanced by Mullen (1972), which appears to be similar to the goal-oriented approach advocated by Fiester (1978) and Shearer & Shearer (1972), achieves a balance in programming as "an intervener's role becomes one of facilitating the intervenee's achievement of that task" (Mullen, 1972, p.33). The consistency of programming is in the process of goal-setting (type of goals and intermediate steps) and facilitation of the intervenee's achievement of the goal (e.g. individual or group meetings and counselling, providing educational materials, modelling appropriate skills etc.). The individuality of a particular programme is inherent in the goals set.

Prior to the present evaluation, the CDP did not have any systematic criteria to determine a child's attainment of the programme's goal. At the initiation of the present study, a questionnaire was being compiled to solicit feedback about the programme from the parents. Although information from the questionnaire was used to obtain measures for evaluation purposes, less subjective criteria for goal attainment are also desirable.

Standardized tests, particularly the Bayley Scales of Infant Development (Bayley, 1969), were used in some cases, but not consistently. Also they were generally administered with the child's mother present and actively involved. Because infant tests are not very reliable measures of ability (Horner, 1980), testing procedures should strive for optimal test conditions. For example, Haskins, Ramey, Stedman, Blacher-Dixon, & Pierce (1978), in a study investigating the effects of repeated assessment on Bayley test performance by infants, found that "infants tested with their mother present received significantly higher Bayley MDIs"(p. 239) leading them to conclude that "maternal presence is a potent influence on Bayley performance" (Haskins et al., 1978, p.233). This potential bias in test scores may be avoided if mothers are present, but not actively involved during their infants' test sessions.

In some cases, the use of checklists, such as the Portage Guide to Early Education (PGEE; Shearer & Shearer, 1972) could be used, if not as a testing device, as a systematic curriculum for the progression of goals. However, in this programme, in cases where the use of the PGEE was noted, it appeared to be used only for descriptive purposes.

Given the lack of previously established criteria for goal attainment, for the purpose of the present evaluation the following criteria were devised: parental report of increased positive interaction with their child, parental report of satisfaction with the programme, parent's perception of change in their child's development since involvement with the programme, and changes in mental age and motor age as measured by the Bayley (when available). With the exception of the Bayley, the effectiveness of the programme with respect to achieving its goals was assessed by examining the responses of the parents to the questionnaires. The specific questions and coding systems used are outlined in the method section and Appendix B.

The first hypothesis, that there would be a positive relationship between improved parent-child interaction and the parent's satisfaction with the CDP regardless of the actual gains made by the child was supported. Most parents reported that they were interacting more with their children since participating in the programme. Enhanced parent-child interactions and parental involvement in programming have

been found to facilitate child development (Barna, Bidder, Gray, Clements, & Gardner, 1980; Cohen & Beckwith, 1979; Karnes, Teska, Hodgins, & Badger, 1970; and Maisto & German, 1979). In particular, the interaction between parent and child has been considered by many researchers to be the cornerstone of any intervention designed to promote child development (Bricker & Casuso, 1979; Bromwich, 1976, 1977, 1978; Bronfenbrenner, 1975; Levenstein, 1970; Shearer & Shearer, 1972, 1976; and Radin, 1972). Bromwich (1977) stated that the primary goal of infant intervention programmes should be to encourage or maintain a "positive attachment between mother and infant [and that] achieving the goal of mutually statisfying mother-infant interaction may do more to promote optimum development in the infant than any other focus" (p.77). On the basis of parental reports, the goal of improving parent-child interactions is being achieved. However, a more definitive measure of change (e.g. using the Parent Behaviour Progression [PBP], Bromwich, 1978) is necessary before any definite conclusions concerning the achievement of this goal may be drawn.

The second hypothesis, that the age of the child at first involvement with the programme would be related to his progress, was not supported. Contrary to studies by Gilmer et al. (1970; as cited by Bronfenbrenner, 1975); Karnes et al. (1968, 1969); and Levenstein (1970) which implied that children under three years of age benefit the most from enhanced stimulation, no significant differences were found

between children younger than three years and three years of age and older on measures of parent report of skill development, and graduate status. However, it was found that children 11 months of age and older at first involvement with the programme gained significantly more with respect to mental age than younger children. No significant differences were found with respect to gains made when children younger than 11 months of age were compared to children 11 months of age and older on measures of motor age development, parental report of skill development, and graduate status. These findings are contrary to those of Maisto and German (1979) who found that children younger than 11 months of age improved more with respect to both mental and motor age than older children.

The gain in mental age of children older than 11 months, greater than that of the younger children, is contrary to the literature reviewed. A few explanations have been proposed that may have a bearing on this finding. There is an indication that the Bayley may not have been the most appropriate test for these children. An examination of Bayley raw scores revealed that all children made some progress on the Bayley scales although it was not always enough of a gain to show a change in mental or motor age. In addition, some children were consistently below an MDI or PDI of 50 for their age so that even if significant gains were made, the Bayley was not sensitive enough to pick them up. There was a lack of systematization with the collection

of the test data evidenced by inconsistent testing intervals. This inconsistency limited the analyses that could be performed with the data and did not allow the most appropriate analyses for this data (using pre/post measures) to be used. It is also possible that intervention was not long enough for any gains to show with the younger children since the average interval between first and last assessment was 9.49 months. However, children participating in the Portage Project (Shearer & Shearer, 1972) showed significant developmental gains after an average length of involvement of eight months. In addition, when the length of the interval was correlated with gains made on measures of mental age and motor age, negative correlations were found implying that the children whose scores on these measures decrease are those who are involved with the programme on a long-term basis. The present results were similar to those of Barna et al. (1980) who failed to find a relationship between age at entry into the programme and developmental gains made. Some children in their study showed a decrease in rate of mental age change similar to the mental and motor age decreases in the present study of children younger than 11 months at first involvement. Barna and colleagues suggested that their training techniques may not have been sufficiently tailored to the particular needs of some children, or that the results may have reflected the severity of the children's handicaps. It was also suggested that the child's rate of development should not necessarily be the only measure of programme utility. An alternative

that was suggested was "the impact it has on parental satisfaction and family life" (Barna et al., 1980, p.164).

The success of the programme in facilitating child development should not be determined solely by gains made on standardized tests. The effects of improved parent-child interaction on child development may take a long time to be shown. Moreover, these effects may be shown indirectly rather than directly. For example, studies by Radin (1972) and Smith (1968; as cited in Bronfenbrenner, 1975) led Bronfenbrenner to suggest that parent intervention "not only provides a fixative that conserves effects achieved through intervention; it also serves as a catalyst which enhances the impact of other programs which may accompany or follow the parent intervention phase" (p. 575). Also, as suggested by Barna and colleagues (1980), the individual programmes may not always have been the most suitable for a particular child. It may be desirable for the staff to specifically monitor the child's progress. It would then be possible to assess whether the child is progressing at an appropriate rate. If not, measures could be taken at that time to modify the training procedures appropriately.

The third hypothesis, that there would be a relationship between the length of programme involvement and the diagnosis of the child was not supported statistically. However, the results suggested that the more severe the problem, the longer the involvement. More than 80% of the children with some organic involvement had experienced

prenatal/maternal or neonatal risk. It is possible that children who are delayed for organic reasons (either alone or with environmental risk factors) need more structure in their learning experiences and programming. These children may also be more difficult to interact with, or need more active involvement by their parents than other children. These considerations could contribute to the stress that may be felt by parents while trying to facilitate their child's development. Consequently, parents may require more guidance, support, and encouragement to interact effectively with them. It is also possible that children with some organic involvement are only able to progress at a particular rate. If that was the case, one would have to be very sensitive to the needs of the child so that he would not be under- or over-stimulated.

Wachs (1981) has found that stimulation facilitates the rate of development, "but only up to a certain point; after this point further increases in stimulation depress development" (p.10). In keeping with this viewpoint, Grey (personal communication as cited by Wachs, 1981) suggested that intervention strategies should include an assessment of the child's home in order to "provide the child with an environment that was optimally discrepant from.... the home environment" (Wachs, 1981, p.12). Possible distractions to both the parent and child should be looked at. Weikart (1967) and Weikart et al. (1970; both as cited by Bronfenbrenner, 1975) found that the rise in the target

child's intelligence quotient score was "inversely related to the number of children in the room at the time of the visit" (Bronfenbrenner, 1975, p.579). This research has direct implications for the CDP. For example, it may be desirable in some cases to remove the parent and child to a quiet room in the home, away from siblings, or even to a place outside of the home for part of the visiting time. It is realized that at present the facilities do not allow staff that option, however, it is something to be considered if more space becomes available.

One unexpected finding was the decrease in mental age and motor age of children involved before 11 months of age. It is possible that there is a greater degree of difficulty between the steps on the Bayley at some age levels than at others. The variability of children's performance may be another factor. For example, some children may be prematurely passed on some items, representing their best performance rather than average performance. This could be of relevance with items such as sitting alone steadily, or listening selectively to familiar words at the earlier age levels for which achievement may be incidental, thus inflating the scores. Consequently, subsequent testing may reveal little apparent progress from the previous test - particularly if success on more advanced items (e.g. walking sideways, saying two words) is less subjective or open to interpretation. In addition, research concerning the use of tests with children, particularly those younger

than three years of age, has indicated an inconsistency of intelligence test scores over time (Bayley, 1970; Straton, 1975). It is believed that the tests most commonly used during childhood do not adequately measure the changes that occur in child development as intelligent behaviour emerges (Straton, 1975).

Contrary to expectation was the negative correlation between the interval of testing and change in mental age. Even if the programme actually had very little effect on the children's development, one could have anticipated an increase in test performance if one considered the study conducted by Haskins et al. (1978) in which higher second test scores were related to maternal presence during testing. The negative correlation found in the present study implies that rather than maintaining their pre-intervention level of mental age, the children's average rate of development decreased, with the decrease becoming greater the longer the child was in the programme. One explanation of this finding is suggested by Horner's examination of the stability of Bayley performance on mental age in a test-retest experimental design. The results of his study indicated a wide fluctuation in some children's scores associated with inconsistent performance. The negative change found in the present study could thus be a reflection of score fluctuation. Horner suggests caution "regarding the use of single developmental measures of infancy in longitudinal research" (1980, pp.754-755).

In consideration of the problems inherent in standardized tests, Bronfenbrenner (1975) is of the opinion that test performance is not especially important. He believes that it is essential to realize that the "failure of one or another form of preschool intervention to increase or maintain the levels of performance on objective tests of intelligence or achievement must not be interpreted as evidence that such programs are not contributing in important ways to the development and welfare of the child" (Bronfenbrenner, 1975, pp.521-522). It is also necessary to consider the effects of the various environmental stimuli that may be interacting with child development. It then becomes evident that it is impossible in the present study to attribute any changes or lack of changes in a particular child's development to the programme alone. However, regardless of the explanations, it would be desirable for the staff to regularly monitor the children to ensure that their programming is both adequate and appropriate.

Recommendations

1. The items from the questionnaire used as measures of parental interaction and parental satisfaction should have been validated prior to use in this study. Post-hoc analyses were performed inter-correlating the answers given to questions used as measures of parental interaction and parental satisfaction. With one exception (increased skill with child/changes perceived in self), the items composing the measure of parental interaction were all correlated significantly ($p<.05$) with one another (Table 16). The correlations within the measure of parental satisfaction were not as promising (Table 17) with only five of the 21 correlations reaching significance ($p<.05$). If the CDP intends to use these concepts for their own research or evaluations, it would be highly recommended to re-assess the items chosen as a measure of parental satisfaction, and include a question which would directly ask the parents how satisfied they were with the programme. Measures of parental interaction and parental satisfaction as drawn from the questionnaire should also be correlated either with answers given by the parents on established tests measuring these constructs, or with measures obtained by more objective techniques to establish their validity. For example, it is possible for the PBP (Bromwich, 1978) to be used as a checklist for the staff to record the initial levels of interaction displayed by the child's parents as well as any changes throughout the period of intervention.

Table 16 Correlations between items included in the measure of parental interaction

	Item 7	Item 8	Item 20
Item 8	0.6307***		
Item 20	0.3499***	0.2558*	
Item 67	0.2542**	0.1507	0.3458***

* $p < .05$
** $p < .01$
*** $p < .001$

Table 17 Correlation between items included in the measure of parental satisfaction

	Item 3	Item 9	Item 11	Item 20	Item 59	Item 61
Item 9	-0.0154					
Item 11	-0.1047	0.2772**				
Item 20	0.0283	0.0426	-0.1387			
Item 59	0.0487	0.1123	0	0.1021		
Item 61	0.0759	0.3311**	0.2577*	-0.1419	0.2075	
Item 63	0.2019	0.3708*	0.0774	-0.0561	0.0261	0.4332**

* $p < .05$

** $p < .01$

2. If the parent questionnaire is to be used as an evaluative instrument, some changes should be considered. It may be necessary to clarify some of the questions. For example, it was noted that question 12 ("I felt the Parent Advisor helped the most by: {Rank the following statements in order from 1 to 5 with 1 being the most help and 5 being the least helpful to you}") was often marked incorrectly. The question may not have been understood, or perhaps the format of that particular question could be changed. An alternate form of the question could be:

The Parent Advisor helped me in the following areas:

	N/A	No	Somewhat	Yes
Stimulate child's development				
Understand and accept child				
Family adjustment				
Awareness of child's devel. pattern				
Dealing with behaviour problems				

Although the questionnaire is already quite comprehensive, the following questions could be added:

1. How much time do you spend playing with your child (e.g. games, reading, walks) each day?

   __ < 10 min.

   __ 10 min. - 1/2 hr.

   __ 1/2 hr. - 1 hr.

   __ 1 hr. - 2 hrs.

   __ > 2 hrs.

2. How would you describe this time together?

3. How much time do you usually spend working with your child on programme activities each day?

__ < 10 min.

__ 10 min. - 1/2 hr.

__ 1/2 hr. - 1 hr.

__ 1 hr. - 2 hrs.

__ > 2 hrs.

4. Have the demands placed on you by the programme been:

__ too great __ too little __ just right

(Questions 3 & 4 were taken from the parent questionnaire used by the Fort Francis Infant Stimulation Programme)

5. How satisfied were you with the services you received?

__ very dissatisfied

__ dissatisfied

__ indifferent

__ satisfied

__ very satisfied

6. As a result of your experience at the Center, did you learn skills you feel would be useful for dealing with future problems that your child (or other children in your family) might have?

__ No __ Yes

7. What led to your termination here?

__ I decided to stop

__ My therapist and I together decided to end treatment

8. Do you attribute the change (or lack of change) in your child to the treatment you received at the Center?

__ not at all

__ not for the most part

__ yes partly

__ yes mostly

__ yes entirely

9. Do you attribute the changes (or lack of changes) in yourself to the treatment you received at the Center?

__ not at all

__ not for the most part

__ yes partly

__ yes mostly

__ yes entirely

(Questions 5 - 8 taken from Fiester, 1978, question 9 adapted from Fiester, 1978).

The questionnnaire could also be adapted to provide a pre-programme assessment of how the parents initially view their interactions with their child. It would also serve to identify the concerns and expectations of the parents. This assessment could then be compared with a follow-up questionnaire to determine if any changes are indicated by the parent. Questions on the pre-test form could include:

1. Where and/or from whom did you learn about the Child Development Programme?

2. Did you seek out the programme or did someone else make the initial contact for you?

3. Did we contact you soon enough after you learned about the programme?

No __ Yes __ How long did it take? _____

Comments:

4. What type of help are you looking for?

5. What do expect from the programme?

6. I would like help in the following area(s):

(See question 12 & question 15 (1-3), Appendix B)

7. Please indicate how you perceive your child to be developing in the following areas:

(See question 14, Appendix B for the areas and score them under the headings that follow)

below av. for age av. for age above av. for age

8. I would like to find out more about:

(See question 17 Appendix B)

9. Would you enjoy meeting with other parents?

(See question 20 Appendix B)

10. How much time do you usually spend playing with your child each day?

(See question 1 recommendation 2)

11. How would you describe this time together?

3. If tests are to be used to assess change over time, it would be wise to make note of Horner's (1980) caution concerning the use of only one assessment instrument. In addition to administering the Bayley at regular intervals, other infant tests (e.g. Gesell Developmental Schedule

[Gesell; Gesell, 1925],Cattell Infant Intelligence Scale [Cattell, 1940], or the Preschool Attainment Record [Doll, 1966]) could be administered at the initial assessment and at yearly intervals thereafter. It may also prove to be useful to find a more sensitive measure of developmental change than the Bayley. If a suitable scale is not available, the use of checklists (such as the PGEE) becomes even more important to detect subtle changes in child development that may appear to be negligible on standardized tests. Another alternative is to use tests that are oriented to the individual child in addition to the standardized tests administered yearly. The individual tests would allow the child's particular deficits to be identified and assessed. Subsequently, when the standardized tests are given, one would expect an interaction between the items on the test and the programme used with the child. Both general and specific improvements would be expected to be evident. Once the child outgrows the Bayley, the Stanford-Binet Intelligence Scale (Terman & Merril, 1916) or the Wechsler Preschool and Primary Scale of Intelligence (WPPSI; Wechsler, 1967) could be used, followed by the Wechsler Intelligence Scale for Children - Revised (WISC-R; Wechsler, 1974). For example, if tests were only given on a yearly basis, a summary of the child's tests could be as follows:

initial assessment - age 1 yr. - Bayley, Gesell

2 yrs. - Bayley, Gesell

3 yrs. - Gesell, WPPSI

4 yrs. - Gesell, WPPSI

5 yrs. - Gesell, WPPSI

6 yrs. - (Gesell) WISC-R

When tests are being chosen, it is important to consider the possibility of practice effects with repeated assessments which could bias the scores. The use of the Bayley in a repeated-measures design was investigated by Haskins et al. (1978). They found that repeated testing did not bias performance. Another possible source of bias in test results could be in the programme design if training makes extensive use of test-like items in programming. In other words, if testing is to be effectively used for assessment of abilities or for identification of areas of weakness, it is essential not to train directly to the test items. An exception to this would be the use of individual tests in conjunction with standardized tests. The individual tests given to the child to specifically indicate his/her abilities would be those for which testing to the items would be both acceptable and appropriate.

4. The files should be an up-to-date log of the current status of the child. Although the CDP files contain a lot of information, they are not organized in such a way that one could readily extract information concerning the child's current level of development, his present

programming, or his progress since being involved with the programme. As mentioned previously, checklists such as the PGEE (Shearer & Shearer, 1972) could be used to aid in this endeavor. In addition, if a goal-oriented approach is adopted, activity sheets could be used to list the weekly goals for both parent and child. The Portage Project makes use of this strategy for both weekly home visit reports (Cochran & Loftin, 1980) and an overall behavioural log (Shearer & Shearer, 1974). These formats would need little modification to adapt them for use with the CDP.

5. It is highly recommended that general procedures used be adequately designed and implemented. It is necessary, but not sufficient for the staff to have a good rapport with the family members. A lot of energy is spent in providing support and encouragement to the families, but this dedication alone, with programmes that intuitively seem to be appropriate, does not justify the programme. It is necessary for there to be a system, not only to guide programming, but to assess the effectiveness as well. A goal-oriented approach (Fiester, 1978; Shearer & Shearer, 1972) has been proposed as a method of partially implementing this recommendation. This procedure would not only allow the individual child's progress to be monitored, but would permit comparisons between children as well. With the goal-oriented approach, it is possible to assess objectively gains made by the individual child and to compare these gains with those made by children with similar

problems. It would also allow the programme to be evaluated for effectiveness on the basis of percentage of goal attainment. In addition, the following points, made by several researchers, should be taken into consideration when initiating programming.

1 a) Keep parents as the primary change agents to facilitate bonding between parent and child and to aid in the generalization and endurance of training (Bromwich, 1977; Bronfenbrenner, 1975; Sandow, Clarke, Cox, & Stewart, 1981).

b) Focus on the parent-child interaction and try to establish enjoyable learning experiences (Bromwich, 1977).

c) It is important that the parent does not limit the interactions with the child to training sessions. Autonomous and spontaneous play are important to child development and is most beneficial and rewarding in a relaxed and supportive environment (Bromwich, 1977).

d) Parents should not be demanding or put too many expectations on their child as it takes away from the relaxed and supportive environment (Bromwich, 1977).

2. It would be desirable to encourage reciprocal interaction between the parent and child "around activities which are challenging to the child" (Bronfenbrenner, 1975, p.596).

3. Activities involving all family members should be encouraged where appropriate (Bronfenbrenner, 1975; Shearer & Shearer, 1972).

4 a) Make use of parent input as much as possible. For example, make note of what they are concerned about, what they want to know about, and what they would like to do (Campbell & Wilson, 1976).

b) Have parents begin constructing goals and suggestions for programming as soon as possible. Encourage the parent's independence (Sandow et al., 1981; Shearer & Shearer, 1972).

5 a) Implement the procedure of setting treatment goals. For example, one to three goals may be set for each child, each goal having several possible attainment levels; most improvement possible, noticeable improvement, no change, and deterioration (Fiester, 1978; Shearer & Shearer, 1972).

b) Each goal should be set so that it can be achieved in one week. These goals could be intermediate steps for a long-term goal (Shearer & Shearer, 1974).

c) It is desirable for each goal to have a pre- and post-level of achievement wherever possible (Shearer & Shearer, 1974).

6. There should be systematic recording of the programming being used with a particular child. As noted

earlier, a format similar to the 'Behaviour Evaluation' chart used in the Portage Project could be used (Shearer & Shearer, 1974; Appendix D).

7. Home visits should also be recorded systematically. As previously mentioned, the 'Home Visit Report' used in the Portage Project could be used for a guide (Cochran & Loftin, 1980; Appendix E)

8 a) It is important that programming be flexible to allow for individual differences both between children and with respect to the child himself (May & Schortinghuis, 1980).

b) Do not teach solely to the areas of deficit. It may contribute to frustration with programming or the development of deficits in non-target areas (May & Schortinghuis, 1980)

c) Plan for the generalization of skills by providing a variety of stimuli and approaches to the skill (May & Schortinghuis, 1980).

9. For some families, it may be desirable to have a family log of goals important to the family as a whole (e.g. taking the children for medicals). A family log sheet is incorporated into the Portage Project along with an accompanying work sheet (Cochran & Loftin, Appendix F). These formats could readily be adapted for use in the CDP.

10. To aid in devising specific parent training programmes, a checklist similar to the Parental Behaviour Inventory (Boyd & Stauber, 1977; as cited in Boyd, 1979) could be used (See Appendix G). This inventory identifies specific objectives for change on the basis of observations made by the home advisor.

11. It may be useful to have parents read articles related to the procedures being learned. Boyd (1979) found this technique useful for generating discussions, both individually with the parent and in parent groups. The reading level of the articles used by Boyd were in the grade seven to nine range.

12. The possibility of providing in-centre as well as home-based programming should be considered. This arrangement would be particularly beneficial for families with many distractions in their usual home environments (Wachs, 1981).

Conclusion

An important part of any programme design should be an internal method of evaluation. Post-hoc evaluations are not desirable as one is limited to the information that was obtained during the course of programming, which is not necessarily indicative of programme effectiveness in goal attainment. As well, working within an evaluative framework enables programming to maintain its focus on the goals of the programme. This framework would also provide a systematic guideline for individual programming.

The results of this study suggest that the Child Development Programme has been only partially successful in achieving its goal to enhance positive parent-child interactions while concurrently facilitating the child's development. On the basis of parental reports, the CDP did aid in the improvement of interactions between parents and their children. However, changes with respect to mental age and motor age were inconsistent. The only children who had any significant change with respect to mental or motor age, were children who were first involved with the programme after they were 11 months old. These children displayed a significant gain in mental age with involvement.

The measure of improved interaction between parents and their children was both subjective and indirect. It is desirable for more objective and direct measures of this construct to be used before any definitive judgements are made. In addition, work should be put into devising a valid measure of parental satisfaction with the programme to provide feedback of the programme's services.

The decrease in mental age scores with respect to length of involvement with the programme indicates a need to review programming. Recommendations were made to facilitate the systematization of programming procedures. These recommendations are not intended to rigidly structure the programming, but to provide a framework within which it can effectively work. Regular assessments of both the child and his programming are necessary to ensure that his needs, and those of his parents are being met. The importance of parental involvement and interactions with children is emphasized as being the base from which an environment conducive to child development and mutual parent-child satisfaction can be achieved.

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Appendix A

PARENT BEHAVIOR PROGRESSION (Bromwich, 1978)

LEVEL	OBSERVATIONS OF MOTHER	INTERVENTION GOAL
1. Mother enjoys being with infant	Pleasure in watching infant Pleasure in proximity Pleasure in interaction	Determine situations in which the mother can enjoy interacting with the infant
2. Mother is sensitive to the infant's needs; reads cues appropriately and responds appropriately.	Sensitive observer to infants biological cues; social-effective cues tempermental cues response to stimulation	Determine situations in the daily routine, eg. bathtime feeding, toiletting, sleeping, that appear to cause concerns/anxieties in the mother.
3. Mother engages in a quality of interaction with the infant that is mutually satisfying.	Stability of caretaking during the day. Mutuality of enjoyment in interaction.	Facilitate mother's ability to respond appropriately to infant's cues, so she may have more time enjoying the infant, eg. with finger games and songs.
4. Mother demonstrates an awareness of materials, activities and experiences suitable for her infant's current stage of development.	Structures environment for satisfying experiences. Interacts with infant to enhance play. Provides for language experiences. Encourages social-emotional growth.	Mother follows through with appropriate stimulation activities. Provides toys appropriate to infant's functioning level.
5. Mother imitates new play activities and experiences to the infant based on the principals in activities modelled to her by the therapist.	Provides more effectively for cognitive, language and social learning.	Mother attempts to generalize the stimulation activities and incorporate them into the daily routine.
6. Mother independently generates a wide range of developmentally appropriate activities and experiences to the infant in familiar and new situations and at new levels of the infant's development.	Anticipates next steps in development. Considers infant in context of the family.	Reinforce mother's competence in providing a stimulating environment to her infant.

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PARENT QUESTIONNAIRE

A. INTRODUCTION TO THE PROGRAM

1. a) Where and/or from whom did you learn about the Child Development Program (formerly the Infant Stimulation Program)?

_____

_____

b) Did you seek out the program or did someone else make the initial contact for you?

_____

_____

2. Did we contact you soon enough after you learned about the program?

Yes _____ No _____ How long did it take? _____

Comments: _____

_____

3. a) During the initial visit to your home, did you receive sufficient information about the Child Development Program?

Yes _____ No _____ Not Sure _____

If not, what further information would have been helpful to you?

_____

_____

b) What type of help were you looking for?

_____

_____

c) What did you expect of the Program?

_____

_____

(d) Were these expectations met? Yes 3 No 1 Not Sure 2

Comments: _____

_____

B. ASSESSMENTS

4. Check off if your child was given any of the following assessments:

_____ Psychological
_____ Physio
_____ Speech
_____ Occupational Therapy

5. The results of the assessment of my child's level of development were:

_____ made clear to me
_____ needed more explanation
_____ were not clear
_____ were not discussed with me

6. a) The assessment of my child's level of development seemed accurate to me.

Yes _____ No _____ Undecided _____

Comments: _____

b) Assessments or feed back about my child's progress and level of development

_____ gave me useful information
_____ should have been given more often
_____ were not necessary
_____ other, please specify, _____

C. PROGRAM

(7.) My knowledge of child development has increased by having my child in the program.

Yes 3 No 1 Undecided 2

(8.) My skills in working with my child have increased.

Yes 3 No 1 Undecided 2

(9.) a) The number of exercises and activity suggestions were:

3 sufficient
2 too great
1 too small

b) The suggestions made:

3 usually made sense and were suitable.
2 were sometimes hard to understand.
1 did not make sense, or were unsuitable.

10. To carry out the activities with my child, I need (ed):

__2__ fewer written suggestions

__1__ more explanations of activities

__3__ no changes in the present program

Comments: _____

11. a) Home visits by the Parent Advisor suggestions were:

_____ at appropriate intervals

_____ too frequent

_____ not often enough

b) A more suitable interval for visits would be every _____ weeks.

The number of visits I received was _____ More than once per week

_____ Once per week

_____ Once every 2 weeks

_____ Once per month

_____ Other

12. I felt the Parent Advisor helped the most by: (Rank the following statements in order from 1 to 5 with #1 being the most help and # 5 being the least helpful to you)

[ ] helping me to stimulate my child's development

[ ] helping me understand and accept my child

[ ] helping the family adjust to the situation

[ ] making me aware of my child's pattern of development

[ ] helping me to deal with behavioural problems

13. Have your attitudes and feelings about yourself as a parent improved during the program?

Definitely Yes	Possibly Yes	Uncertain	Possibly No	Definitely No
[5]	[4]	[3]	[2]	[1]

14. Please check the changes in your child that you perceived during the course of our involvement.

	Much Worse	Worse	Same	Better	Much Better
1. Gross Motor Development	1	2	3	4	5
2. Fine Motor Play					
3. Language and Communication					
4. Socialization					
5. Self-Care (e.g. Feeding)					
6. Perceptual and Cognitive Development (e.g. Problem solving)					
7. Behavior (e.g. tantrums)					

15. Please rate the changes in yourself that you perceived during the course of our involvement.

	Much Worse	Worse	Same	Better	Much Better
1. Enjoyment of interaction with child	1	2	3	4	5
2. Confidence with the child					
3. Awareness of the Child's Needs					
4. Knowledge of Developmental Patterns					
5. Relationship with Other Family Members (e.g. other children)					

16. a) The toys that were made available:

_____ were useful

_____ could have been increased

_____ were not useful

b) Books and information made available:

_____ were adequate

_____ should have been increased

c) Were you given information about other community resources or programs (e.g. play groups, Handicapped Children's Benefits)

Yes _____ No _____

Comments: _____

17. I would like to find out more about:

_____ feeding and nutrition

_____ motor development

_____ immunization and health concerns

_____ speech and language development

_____ emotional development

_____ behavior problems

_____ specific problems -- retardation _____

Down's Syndrome _____

premature infants _____

physical problems _____

_____ others, please list _____

_____

18. a) Did you ever attend the monthly Parent Meetings?

Yes _____ No _____

If yes, how many times did you attend such meetings? _____

If no, were there any particular reasons for not attending? _____

_____ no transportation _____ no babysitter

_____ not interested _____ Other, please specify

_____

b) Do you find the monthly Newsletter useful?

Yes _____ No _____ Suggestions for improving it:

19. Have you had the opportunity to meet other parents in the program?

Yes _____ No _____

If yes, was it helpful to you? Yes _____ No _____

Please explain _____

_____

20. Would you enjoy meeting other parents? (Please check)

_____ individually with their child
_____ at a social gathering
_____ in a mother-child group _____ in the morning
_____ in the afternoon
_____ in the evening
_____ to discuss special topics
_____ at an informal drop-in
_____ other suggestions _____

_____

21. In general, how could the program be made more useful to you? _____

_____

_____

(22) Would you recommend this program to other parents?

Definitely No | Probably No | Probably Yes | Definitely Yes

[1] | [2] | [3] | [4]

23. How long have you been (or were you) involved with the Child Development Program?

0 - 3 months | 3 - 6 months | 6 - 12 months | 1 - 2 years | over 2 years

[ ] | [ ] | [ ] | [ ] | [ ]

(24) Was your involvement with the program

1 too short
3 just right
2 too long
0 other _____

25. a) Have you received any follow-up contact since leaving the program?

Yes _____ No _____

b) If yes, was this follow-up:

2 more than needed 1 less than needed

3 the right amount

Comment: _____

Thank you for completing this questionnaire.

_____

Signature.

APPENDIX C

Demographic data variables of interest

1) total number of children seen

2) number of children assessed by Bayley Scales

3) initial Bayley scores

4) final Bayley scores

5) reasons for referral

6) actual diagnostic categories of children seen

7) sex of child

8) age of child at initial contact

9) length of involvement with the CDP

1Ø) parenting (e.g. 2 parents, 1 parent,

foster parents etc.)

11) maternal age at birth

12) paternal age at birth

13) family history of mental/physical problems

14) prenatal and maternal factors

15) neonatal health

16) number of graduates

- no further need of services

17) number of referrals elsewhere (e.g. Griffis)

Appendix D

FIGURE 5

Example from behavioral log kept on each enrolled child

BEHAVIOR EVALUATION

Period 9/3/73 - 10/16/73

Child Jim

Teacher Jean

Specific Goal	Date	Date Accomplished					
attends to tasks - 10 minutes	9/3					10/2	
places O + □ in formboard with help	9/3	9/10		9/10			
places O + □ in formboard no trial + error	9/10	9/17		9/17			
strings 5 beads in 2 minutes - no aid	9/10			9/17			
stands on 1 foot 5 seconds with support	9/10			9/17			
stands on 1 foot 5 seconds no support	9/17			10/2			
names 7 action pictures in imitation	9/17		9/24				9/24
names 7 action pictures no model	9/24		10/2				
names pictures using 3 word phrase	9/24						
puts on pants - no aid	10/2				10/9		
hops on 1 foot in place with support	10/2			10/9			
unbuttons 4 buttons - pushed ½ way thru hole	10/2			10/16	10/16		
unbuttons 4 buttons - no aid	10/8			10/16			
traces letters M + N with finger	10/9	10/16					
draws letters M + N by connecting dots	10/9	10/16					
draws □ by connecting 4 dots	10/16	10/23		10/23			
Total							
		Cognitive	Communicative	Motor	Self-Help	Socialization	Parent/Child

The Portage Project

PORTAGE PROJECT HOME START TRAINING CENTER
HOME VISIT REPORT

Child: MARY JO TAYLOR Home Visitor: ANNE RANKIN

Week# 15 Visit# 13 Length 90 min Scheduled Date: 12/2 Time: 10:00 Rescheduled Date: _____

Time: _____

Reason for missed or rescheduled visit:

Postbaseline on last week's activities. Please attach activity charts you picked up during your visit.

Acitivity Code	Objective	Baseline	Post-baseline
N-Cog 49	Will point to long and short objects on request 4/4x	1/4	4/4
N-M 99	Will jump foward 10 times w/o help 3/3x	0/3	3/3
C-Lang 60	Will tell 3 facts from story, with pictures as a reminder 1/1x	0/1	1/1

Parent Comments:

Mary Jo really enjoyed the activities that were left last week. I enjoy teaching her and feel that I am learning many new skills to teach her.

Jane Taylor
Parent's Signature

Home Visitor Comments: Ms. Taylor will call Jim Franks to make appointment to apply for ADC.

The Portage Project

FAMILY ASSESSMENT TOOL LOG SHEET

Family's Expressed Needs	Area	Priority	Objective	Initiation date	Completion date	Follow up date
None of the children have received their immunizations	Medical	1	Mom will make an appointment with clinic to begin immunization program.	9/18	9/18	11/25
Mother does not want more children	Social Services	2	Mom will make apptmnt with Planned Parenthood to discuss birth control alternatives	10/18	10/22	1/11
Family diet limited to bread, vegetables and pop.	Nutrition	3	Mom will plan and serve balanced meals.	11/25	2/4	

FAMILY ASSESSMENT TOOL WORK SHEET

Area Nutrition Objective Mom will plan and serve balanced meals.

Family strengths: Family receives food stamps.

Steps	Who	Outcomes
1. DISCUSS BASIC 4 FOOD GROUPS	mom - HOME VISITOR	mom sorted FOODS INTO BASIC 4.
2. write menus which contain foods from 4 groups	mom - HOME VISITOR	Prepared balanced menu
3. Prepare menus for 1 wk that reflect balanced meals	Mom	Wrote menus and alternatives
4. Record food served for 1wk to insure carry through	Mom	Mom carried through on serving more balanced meals
5. Mom will meet w/ Extension Agent to discuss food budgets	Mom	Reports better use of $.

Resources needed: Consult the Resource Directory

Name	Agency	Address	Phone
Dorothy HAMMEN	COOPERATIVE EXTENSION SERVICE	224 West 11th St. Milwaukee	555-2341

The PortageProject

PARENTAL BEHAVIOR INVENTORY

Richard D. Boyd & Kathleen A. Stauber

The PortageProject

FAMILY NAME _____

	0-25%	26-50%	51-75%	76-100%	Comments
I. TEACHING ANTECEDENTS					
1. Parent removes extraneous, distracting stimuli			9/76		
2. Parent commands child's attention before presenting teaching antecedent			9/76		
3. Parent provides *brief* explanation or command		9/76			uses requests
4. Parent's language corresponds to child's receptive language level		9/76			Questions confuse ch.
5. Parent models appropriate response to initiate task			9/76		
6. Parent provides appropriate visual, verbal, or physical aid when necessary to initiate response			9/76		Weak on language task
7. Parent provides additional aid if child becomes frustrated with task	9/76				Repeats command
8. Parent periodically repositions stimulus materials to avoid correct responding to position		9/76			
9. Parent makes child aware of contingencies of reinforcement for correct response (i.e., if you do X than you can do Y)	9/76				no reinforcement used
II. MATERIALS					
1. Parent uses instructional materials as modeled by instructor			9/76		
2. Parent chooses appropriate materials given choice by instructor					
3. Parent selects appropriate materials for instructional activity from materials available in home					not observed
4. Parent independently and appropriately selects, presents, and positions materials during instructional activities					not observed
III. TEACHING CONSEQUENTS					
A. Reinforcement in Teaching Tasks					
1. Parent reinforces appropriate behavior	9/76				
2. Parent provides immediate reinforcement					
3. Parent provides edible reinforcers *if necessary* to initiate or maintain child's performance					
4. Parent pairs verbal or social reinforcer with tangible or activity reinforcers					

* Cooperative Educational Service Agency #12 Portage, Wisconsin