A Prevention and Early Intervention Mental Health Program for Disadvantaged Pre-school Children

(early childhood, developmental therapy)

Nan M. George  Bonnie A. Braun  James M. Walker

In this study, 155 disadvantaged pre-school children, ages 3 to 6, were screened for developmental delays using the Cooperative Preschool Inventory as the primary evaluation tool. Thirty-eight children participated in the experimental group and 20 children were designated the control group. Experimental group children received developmental therapy and their regular classroom experience. In addition, intervention was provided to parents and teachers in order to affect the child's total environment more positively. The control group received only classroom experience. Sixty-five percent of the control group passed the Cooperative Preschool Inventory pre-test compared to 50 percent of the experimental group. On the Cooperative Preschool Inventory post-test, 100 percent of the experimental group passed, compared to only 85 percent of the control group. These results suggest that for disadvantaged children early intervention of developmental therapy and classroom experience help eliminate their developmental delays and provide them with age-appropriate developmental skills.

Nan M. George, M.S., OTR, was the Director of the Children's Resource Center, Hillsborough Community Mental Health Center, Inc., Tampa, Florida, when this study was conducted.

Bonnie A. Braun, M.A., OTR, is presently the Director of Consultation & Education and Supervisor of the Children's Resource Center, Hillsborough Community Mental Health Center, Inc., Tampa, Florida.

James M. Walker is Research and Evaluation Coordinator, Mental Health Service Division, San Mateo County, California. He was the evaluator of the Children's Resource Center when this study was conducted.

According to U.S. Census Bureau Statistics, there will be 23.6 million children ages five and under by 1985. This figure will represent an increase of 3.5 million children above the 1973 total in this age category. Because of rising inflation and the necessity for two incomes, more women are entering the work force and creating the need for more day care centers. Day care centers serve children from all socioeconomic strata, including those from the low-income population. Children within this low-income group have been labeled "culturally deprived" and "disadvantaged" because of their underprivileged homes, impoverished environments, and low family incomes.

Many studies on disadvantaged children indicate that for children to succeed in school they must live in a healthy social environment that enhances a positive self-concept. Children take cues from and imitate the adults in their environment. They may perceive and
treat their world as hostile if they are exposed to the negative social aspects of their community. However, the pre-school experience offers an opportunity to disadvantaged children to use their readiness for learning and to develop a positive view of themselves and the world (4). Bruner indicates that children from disadvantaged homes need to feel pride in themselves and to identify with something or someone important. Otherwise, these children too often are told that they are “no good” and this self-fulfilling prophecy becomes a reality (5). Although there are physical factors such as malnutrition and poor maternal health that affect the disadvantaged child's ability to succeed in school, social deprivation and environmental inadequacy are major contributors to increased risk of school failure (6).

Many attempts have been made to combat social deprivation and environmental inadequacy for disadvantaged children. In 1965 the Head Start Program was begun nationwide to provide pre-school children from low socioeconomic, high-risk families with opportunities for school readiness so that they could compete at age level by the time they entered first grade. Since that time the program has served more than 400,000 children at a cost of approximately 600 million dollars per year (7).

Studies conducted since the inception of Head Start indicate that these programs have an immediate, short-term impact on children's performances and may have a lasting effect on the children well into their teen years. The effectiveness of four pre-school programs, including one Head Start Program differing in curricula and teaching strategies, was analyzed. The findings indicated some children benefited from didactic experiences, whereas others benefited from experiential learning. All the children who attended the pre-schools, however, showed more improvement on a pre-school inventory than the control group children who had no pre-school experience (8).

The first national evaluation of Head Start in 1969 indicated that
positive effects in subsequent school work were short lived (7). However, a longitudinal study conducted in 1978 by a consortium of a dozen independent research groups showed that pre-school does give children a head start in life. Specifically, when compared to non-pre-schoolers, the pre-school children were 1. less likely to be placed in special education classes, 2. less likely to be held back a grade, 3. less likely to be given remedial work, and 4. emotionally and educationally more mature by their teen years. It was concluded from these results that any curriculum, as long as it is managed by a well-trained and enthusiastic staff, will improve a child's subsequent academic performance (7).

The Problem
To provide pre-school experiences for the growing numbers of children ages five and under, Head Start has become larger and more diversified over the years, now offering a wide range of programs. An example of one of these programs is offered through the six Child Development Centers of Hillsborough County, Florida. Operating under Head Start guidelines, the centers provide an all-day educational and day-care program 5 days a week for pre-school children, the majority of whom are from one-parent homes. As with some Head Start Programs, the centers have inherent problems: low teacher/high student ratios, minimal educational requirements, and low pay for many teachers and aides. In addition, a large number of the children enrolled have developmentally delayed skills. The low teacher/high student ratios make it more difficult for these children to receive the extra stimulation they need to succeed in the regular classroom experience. A specific question was researched in this study: What effect would the addition of developmental therapy to this classroom experience have on disadvantaged pre-school children from low socioeconomic, high-risk families?

Background
The Children's Resource Center (CRC) of Hillsborough Community Mental Health Center in Tampa, Florida, is a prevention and early intervention program that provides service to disadvantaged pre-school children, 3 to 6 years of age, who are 1. identified as having developmental delays, 2. from low socioeconomic families, and, at the time of this study, 3. attending a Child Development Center in the county. Because of the limited size of the staff and the complexity of the program, CRC provided direct services to only two of the six existing Child Development Centers. These two centers, from which the experimental group was identified, were selected because of a pre-existing relationship between them and the mental health center. After CRC had provided several years of services to them, the staff of the Child Development Centers permitted CRC to incorporate a third center into its program for purposes of this study. Evaluation and consultation services were provided to the third center, from which the control group was identified.
Method

Subjects. Out of 155 children pre-tested in September using the Cooperative Preschool Inventory (CPI) (9), 58 children, ages 3 to 6, completed this study that concluded in May with post-testing. Only those children who scored below average for their age group on any one of the four categories of the CPI were included in the study (N = 58). The other 97 children either did not need services from CRC or they moved, transferred, or terminated from the Child Development Centers before the completion of the study.

Of the sample of 58, 38 children from two Child Development Centers were placed in the experimental group, whereas the control group (N = 20) came from another Center. The division of groups by Centers was determined by the Child Development Center's staff. The staff allowed treatment of the children at the two Centers and permitted a third center to become a control group. This design was allowed only in conjunction with an inservice program to be presented to the teachers of the third Center. The Child Development staff felt that it was a disservice to the children to test them, find a need, and do nothing. In order for all the teachers to have the same background of information, CRC staff presented an inservice to the teachers of all three Centers to explain the developmental needs of children and the types of activities that would benefit them.

Instrumentation. In selecting instruments for this study, several factors were considered: 1. the child's ability to respond to the language in the questions, 2. the child's short attention span, and 3. the limitations of relying on the results of one rating scale to make a determination of the success of the program.

Three instruments were selected for use. The Cooperative Preschool Inventory (CPI) (9) was used to screen children for delays in cognitive, personal-social, and sensorimotor development. It consists of 64 questions grouped into 4 categories: Personal-Social Responsiveness, Associative Vocabulary, Numerical Concepts, and Sensory Concepts.

The Brown IDS Self-Concept Referents Test (10) was used to assess the child's perception of "self-as-subject" as well as "self-as-object." It requires a child to view an instant camera snapshot of himself while responding first to 16 questions to determine what he thinks about himself and then to these 16 questions, changed slightly, to determine what he feels his mother thinks about him.

The third instrument used was the Connors Teacher Questionnaire (CTQ) (11). The teacher is asked to answer 40 questions, divided into 3 categories: Classroom Behavior, Group Participation, and Attitude Toward Authority. With the CTQ, the lower the rating, the better. If the CTQ is used in a pre-test, post-test manner, four additional questions are completed at post-test concerning observable changes.

To measure changes in parents' attitudes and understanding of their child's growth and development, a 19-item instrument, the Parents' Attitude and Behavior Scale (PABS) (12), was developed by the CRC staff. The PABS was completed by parents before and after attending parent activity groups.

Procedure. The children were pre- and post-tested individually on the CPI away from their classrooms. Testing took about 20 minutes per child for each administration of the test. To reduce the possibility of tester bias, no child was post-tested by the therapist who had been working with that child during the school year.

The Brown IDS Self-Concept Referents Test was administered to the
The experimental group was tested as a pre- and post-test, taking about 30 minutes for each child for each administration. Of the 38 children, 24 were testable on the pre-test.

The pre- and post-test CTQs were completed in approximately 10 minutes each by the teachers of the experimental group. CRC staff was available only to assist in clarification of language used on the questionnaire.

The control group was pre- and post-tested on the CPI so that data could be available to make comparisons with the experimental group. Between the pre- and post-test ratings on the CPI, the control group children received none of the individualized treatment that the experimental group children received. Also, they were not rated on the Brown and CTQ because of staff and time limitations.

As part of the overall study, parent activity groups were available to parents of the 38 experimental group children. A total of 14 parents were tested before and after attending the activity groups.

Treatment. Only the experimental group received treatment. Under the supervision of the occupational therapist, the children were assigned to a CRC therapist, individual treatment plans were written, and decisions regarding the type of treatment modalities were made based on assessment findings. Modalities included individual and group developmental therapy and play therapy. Children were seen at least two times per week for treatment. Individual sessions averaged 15 minutes in length, while small group sessions of no more than 3 children averaged 30 minutes. Treatment lasted a total of 7 months.

During individual and group developmental therapy sessions, a variety of developmentally enriching experiences were provided to the experimental group. These experiences were designed to improve skills in the cognitive, social, and perceptual-motor areas. Examples of activities included live-size drawings of children's bodies, mirror play, sand and water play, tape recorder play, collages, puzzles, blocks, songs, books, beads, nature walks, puppetry, and a variety of art activities.

Play therapy was provided individually to those children (N = 14) who scored below the predetermined standards for their age-level on the Brown IDS Self-Concept Referents Test. The purpose of play therapy was to enhance the child's personal-social development and emotional development through a non-threatening, success-oriented play experience. The child could explore and select the toys for play. The therapist then provided information and help to aid the child in the play experience. Rules and demands on the child were purposely few, enabling the child to learn more about the environment. For example, a child who wanted to wash a doll was helped to fill the tub with water and provide some tools to accomplish the task. Conversations to aid language and vocabulary development were encouraged if the child was ready for them. These verbal exchanges helped to add meaning and clarity to the experience and helped the child feel like an active participant.

Results

On the total CPI, the primary evaluation instrument, 50 percent of the experimental group passed the pre-test, whereas 100 percent passed the post-test. In comparison, 65 percent of the control group passed the CPI on the pre-test and 80 percent passed the post-test. A comparison of how the experimental group children and control group children scored on the four individual categories of the CPI is evident in Table 1. As can be seen, the experimental group children scored lower than the control group on the pre-test on three of the four categories.

Table 1

<table>
<thead>
<tr>
<th>Category</th>
<th>Personal - Social Responsiveness (%)</th>
<th>Category II</th>
<th>Associative Vocabulary (%)</th>
<th>Category III</th>
<th>Numerical Concepts (%)</th>
<th>Category IV</th>
<th>Sensory Concepts (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
</tr>
<tr>
<td>Experimental Group (N = 38)</td>
<td>74</td>
<td>100</td>
<td>53</td>
<td>100</td>
<td>0</td>
<td>82</td>
<td>61</td>
</tr>
<tr>
<td>Control Group (N = 20)</td>
<td>90</td>
<td>100</td>
<td>50</td>
<td>75</td>
<td>5</td>
<td>45</td>
<td>70</td>
</tr>
<tr>
<td>Difference</td>
<td>-16</td>
<td>0</td>
<td>+3</td>
<td>+25</td>
<td>-5</td>
<td>+37</td>
<td>-9</td>
</tr>
</tbody>
</table>
Table 2
Pre-Test and Post-Test Mean Score Comparisons for Experimental Group Children Who Were Testable (N = 24) on Brown IDS Self-Concept Referents Test

<table>
<thead>
<tr>
<th></th>
<th>Mean Pre-Test N = 24</th>
<th>Mean Post-Test N = 24</th>
<th>t-Test</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part I:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What Child Thinks About Self</td>
<td>13.500</td>
<td>14.286</td>
<td>2.017</td>
<td>p &lt; .05*</td>
</tr>
<tr>
<td>Part II:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What Mother Thinks About Child</td>
<td>13.071</td>
<td>14.286</td>
<td>2.311</td>
<td>p &lt; .05†</td>
</tr>
<tr>
<td>Total Test:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parts I and II Combined</td>
<td>26.571</td>
<td>28.572</td>
<td>2.371</td>
<td>p &lt; .05†</td>
</tr>
</tbody>
</table>

p < .05 determined as level of significance.
*Not significant.
†Significant.

Discussion of Results

That the control group children scored higher on pre-test, but lower on post-test, on the CPI than the experimental group would seem to indicate that developmental therapy in addition to classroom experience and maturation seemed to have a greater impact on growth and development than just the classroom experience and maturation.

Several factors posed limitations for the study. A research limitation was the lack of alternate forms for the CPI. The variable of “teaching of the test” was considered and a great effort was made by the staff to design developmental therapy sessions to teach developmental concepts as opposed to specific answers. Another limitation to be considered was the extra attention that the experimental group received, the Hawthorne Effect. Because the control group received no treatment, one cannot be certain whether the favorable results were because of developmental therapy, parental involvement in the parent activity groups, or extra attention.

With high-risk children such as this sample population, there are inherent emotional problems to be dealt with daily. Parents under the strain of financial problems, emotional stress, and single-parent needs display their difficulties to their children in some way. Thus, in addition to learning problems, many such children have great emotional needs, fears, and difficulty in establishing trusting relationships. Because of their fears and lack of trust, self-concept is a difficult variable to test and treat.

Many of the children were nervous during the pre-test administration of the Brown IDS Self-Concept Referents Test. Some of the 3-year-olds also were unable to understand a few of the terms used (e.g.,
healthy). This latter problem occurred even after the CRC staff had carefully scrutinized the self-concept tests available for preschoolers and consulted with a prominent testing service. At post-test, however, perhaps because of therapy, establishment of a trusting relationship with a therapist, or maturation, the children usually were able to answer the questions with better comprehension and less anxiety.

Sixteen of the 24 children tested on the Brown IDS Self-Concept Referents Test were 3-year-olds. The reason for so many 3-year-olds may be because of the problems of anxiety, lack of trust, and inability to comprehend terms or their level of self-concept development. Interestingly, the t-test was not significantly different between pre- and post-tests for the questions involving what the children thought about themselves. Pre-schoolers are still developing their self-concepts that are based on their environments, perceptions of themselves, and how others see them. One can see how negative comments, such as a mother telling her son too often that he's a bad boy, could contribute to a negative self-concept: it is hoped however, that pre-school will offer the children generally favorable experiences and help them to develop positive self-concepts.

The results of the CTQ show that 36 out of the 38 children tested were rated by their teachers as having scored above the midpoint at pre-test. However, the teachers only rated approximately 50 percent of the children as having improved the prescribed amount or more during the school year. This could be a result of sample selection, namely, screening 155 children and labeling those who scored low, the study sample of 58, as having problems. The teachers may not have seen the study sample in any other light, though the children actually may have improved. To eliminate the teachers' preconceived expectations and the Hawthorne Effect, all children should be removed from the classroom for some time.

Administration of the CTQ revealed a problem. A few teachers did not understand some terms in the questionnaire (e.g., submissive, impudent), and asked the staff for explanations. Other teachers may not have sought clarification of terms, a threatening idea, and they may have misconstrued them. This would result in inaccurate data. In the future use of the CTQ, its terms can be explained so that all teachers would interpret them in the same way.

Other factors in the study that seemed to make differences with individual children were consistency with one therapist and whether or not the child's parent(s) was involved in the parent activity group. These two factors deserve closer inspection.

Implications

With the growing number of families required to work, more and more children will be attending all-day pre-school and day-care programs; less time will be available to these children for individualized teaching. The developmentally delayed children within these programs will be subject to continued lags if their special needs are not recognized and met. Parents and teachers have little time to work with these children on a one-to-one basis during the day. At night, parents often are exhausted from their work, may have to attend to more than one child, and often must accomplish daily activities such as cooking, cleaning, laundry, and baths. Little time is left to work with a child who has special devel-
developmental needs. In high-risk, low socioeconomic families, limited education and poor communication are additional problems with which to contend.

Occupational therapists offer an excellent background to make an impact in the area of developmental delays of pre-school children. They have the knowledge and skills to screen and identify pre-school children with developmental delays, provide developmental therapy on a one-to-one or small group basis, establish trusting relationships with pre-schoolers to build positive self-concepts, and work with teachers and parents to educate them on child growth and development.

Although intervention is certainly important and necessary, prevention is a goal that occupational therapists seek. By using their skills, occupational therapists can combine their knowledge of child growth and developmental therapy to initiate infant stimulation groups, educate pregnant teenagers, and provide consultation to various community groups. A truly challenging opportunity awaits the developmental occupational therapist who works with the pre-school child.

Summary/Conclusions

This study was conducted to evaluate what effect developmental therapy in addition to classroom therapy has on disadvantaged pre-school children from low socioeconomic, high-risk families. The Cooperative Preschool Inventory was used to screen 155 children from 3 Child Development Centers. Children who scored below average in one or more categories of the CPI were included in the study. Of the 58 children selected by screening for the study, 38 came from 2 Child Development Centers and were placed in the experimental group. The control group came from a third Child Development Center and numbered 20. The division of groups by schools was pre-determined by the Child Development Center's staff. Experimental group children received developmental therapy in addition to their classroom experience, and intervention with their parents and teachers. The control group received only classroom experience.

Comparison data showed that the experimental group surpassed the control group in accomplishing the developmental tasks measured by the CPI. Within the experimental group, data on self-concept from the Brown IDS Self-Concept Referents Test indicated a significantly higher score (improvement on posttest) on how a child viewed his mother's thoughts about himself as opposed to his own views about himself. The CTQ comparisons showed that teachers viewed only 50 percent of the experimental group children as having improved. The data from the pre- and post-PABS of those parents who participated revealed that the activity groups improved parental attitudes about their children.

The results of the study suggest that on a one-to-one or small group basis, developmental therapy in addition to classroom experience helps high-risk, low socioeconomic children to accomplish age-appropriate developmental skills. Despite limitations such as a small staff and less than desirable parental involvement, the results of this study offer the hope that similar treatment programs in conjunction with the pre-school experience will provide disadvantaged children the opportunity to get a developmental head start.

REFERENCES


RELATED READINGS


Downloaded From: http://ajot.aota.org/ on 06/01/2018 Terms of Use: http://AOTA.org/terms