

AN ABSTRACT OF THE THESIS OF

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Title: Impact of Prosocial Classroom and Home Learning Programs on
Preschool Children's Prosocial Behavior

Signature redacted for privacy.

Abstract approved: _____

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This study investigated the impact of prosocial classroom and home learning programs on children's prosocial behavior. More specifically, it determined the influences of adult modeling and encouragement in these programs on children's cooperating, sharing, and helping behaviors immediately following the six-week intervention programs, and six weeks after the programs' termination.

Subjects were 52 children enrolled in three preschools including (a) Group I (n=18) - Classroom Program, (b) Group II (n=17) - Home Learning Program, and (c) Group III (n=17) - Control Program. The Modified Prosocial Behavior Questionnaire was used to assess teachers' perceptions of children's prosocial behavior, while Situational Tests were used to assess children's actual cooperation, sharing, and helping behaviors. All subjects were tested prior to the six-week intervention period, immediately following the intervention, and six weeks after intervention termination.

A series of 3 (Group) X 3 (Testing Time) repeated-measures analyses of covariance were used to analyze children's prosocial behavior scores. Results revealed teachers in the Classroom Program, in comparison to those in the Home Learning and Control Programs,

perceived significantly greater increases in children's total pro-social behavior, and their cooperating, sharing, and helping behaviors, immediately following the six-week intervention period. These differences continued to significantly increase or were maintained six weeks after intervention termination. In addition, the Classroom and Home Learning Programs, in comparison to the Control Program, lead to significant increases in children's actual cooperation behavior at the end of the intervention period. These differences were maintained six weeks following intervention termination. The Classroom Program had a significantly greater impact on children's cooperation behavior than the Home Learning Program immediately following the intervention. Both Classroom and Home Learning Programs had no significant impact on the actual helping and sharing behaviors of children.

Measurement problems related to the assessment of these behaviors were evident. Repeated testing over time had a significant impact on children's Verbal Sharing behavior. In addition, possible age increases in the development of prosocial behavior may have occurred during the experiment. No sex differences were found in the prosocial behavior of children or as a result of participation in the intervention programs.

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Impact of Prosocial Classroom and Home Learning Programs
on Preschool Children's Prosocial Behavior

by

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IMPACT OF PROSOCIAL CLASSROOM AND HOME LEARNING PROGRAMS ON PRESCHOOL CHILDREN'S PROSOCIAL BEHAVIOR

INTRODUCTION

Socialization has been viewed by a number of researchers as the process through which societal attitudes and behaviors are transmitted to its members for their effective functioning within society (Shaffer, 1979). Experiences in positive social interactions between individuals have been known to play an important role in facilitating this process (O'Malley, 1977).

One of the social skills often deemed necessary for individuals to effectively relate within a society is prosocial behavior (Bryan, 1975; Peterson, 1982; Rushton, 1982). For the purposes of this research, prosocial actions are defined as ones which aid or benefit another person (Mussen & Eisenberg-Berg, 1977). A wide range of actions can be included as examples of prosocial behavior. Actions such as comforting, helping, rescuing and sympathizing are sometimes used to describe prosocial acts (Yarrow, Scott & Waxler, 1973).

The acquisition of prosocial behavior is strongly influenced by a number of factors during the preschool years (Miller & Dyer, 1975). Teachers and parents are two such factors that have been identified as significant in the education of children toward social competence (Marcus & Leiserson, 1978; Moore, 1977). Since this is the case, programs designed to help teachers and parents provide children with prosocial experiences which aid them in the development of positive interaction skills would be worthwhile.

The task of facilitating the development of prosocial behavior

among preschool children is a complex one. Several different theoretical approaches seek to explain the acquisition of children's prosocial behavior. According to the psychoanalytic perspective, children acquire prosocial values by internalizing such beliefs as their superego develops during childhood (Shaffer, 1979). Positive parent-child interactions are important in the exposure of prosocial values to young children. In contrast to this point of view, cognitive-developmentalists consider cognitive skills essential in the development of prosocial behavior (Rushton, 1976). Certain cognitive changes (i.e., decreased egocentrism, greater role-taking skills) that take place during childhood contribute to children's increased prosocial tendencies. On the other hand, social learning theorists view experiences in interpersonal interactions as important in this process (Bandura & Walters, 1963). Children learn prosocial behavior through observation and imitation of such actions displayed by significant adult role models. Encouragement by these role models also facilitates the acquisition of prosocial behavior among children (Bandura & Walters, 1963).

While numerous studies have been designed to increase positive social interactions in experimental situations (e.g., Friedrich & Stein, 1975; Keller & Carlson, 1974; Yarrow, Scott & Waxler, 1973), few researchers have sought to determine the impact teachers and parents can have in modifying children's actions toward others in more naturalistic settings (Floody, 1979; 1980; Smith, 1979). Furthermore, none have attempted to examine the influence of prosocial preschool classroom and home learning programs which focus on assisting teachers and parents in promoting the development of prosocial behavior among

young children (Floody, 1980).

In view of the above considerations, a prosocial preschool classroom program was designed to: (a) provide teachers with knowledge about increasing children's prosocial behavior through adult modeling and encouragement, (b) assist teachers in interacting with children using prosocial modeling and positive encouragement techniques, and (c) utilize a prosocial curriculum in the preschool classroom. In addition, a prosocial home learning program consisting of activities for parents and children was implemented to facilitate prosocial behavior at home. Therefore, this study focused upon evaluating the impact of prosocial preschool classroom and home learning programs on children's prosocial behavior. More specifically, it sought to determine how preschool children's cooperating, sharing and helping behaviors are influenced by modeling and encouragement from adults immediately following two six-weeks interventions programs and six weeks following their termination. This research, therefore, used a three-group quasi-experimental, follow-up design, involving (a) a group exposed to a prosocial intervention preschool classroom program, (b) a group exposed to a prosocial home learning program, and (c) a control group exposed to neither program.

Literature Review

The Nature of Prosocial Behavior

During the past decade examination into the nature of children's prosocial behavior has received much attention (e.g., Bryan, 1975; Mussen & Eisenberg-Berg, 1977; Staub, 1979). Early researchers sought to describe characteristics of children who acted prosocially. More recently, however, focus has been on such issues as (a) the developmental aspects of prosocial skills, (b) motivation behind prosocial acts, and (c) methods of influencing prosocial behavior (Bryan, 1975; Floody, 1980; Mussen & Eisenberg-Berg, 1977; Rushton, 1976).

It is apparent from the literature that prosocial behavior encompasses a wide range of actions. Investigators have often utilized various dimensions of prosocial behavior in order to operationalize the concept. For example, Yarrow and Waxler (1976) examined helping, sharing and comforting in one study. Other research included sharing, helping, friendliness and social problem-solving as descriptors of prosocial behavior (Hand, Forman & Brion-Meisels, 1982). The influences of age, sex, socioeconomic class status and family interaction patterns on prosocial behavior have been discussed in reviews by Bar-Tal (1976), Bryan (1975), and Mussen & Eisenberg-Berg (1977). Examination of the effects of these variables on prosocial behavior is undertaken in the following paragraphs.

Generally, research indicated that children behave prosocially at a very young age and continue to increase in their prosocial abilities throughout the preschool and school-age years. Several

researchers have documented that children under the age of three display prosocial actions. Hay (1979) examined the cooperative interchanges between mothers and 12-, 18- and 24-month-old infants and found infants shared objects by showing and giving them to mothers. In another study, it was reported that 18- to 24-month-olds exhibited helping and comforting actions to distressed mothers in both laboratory and naturalistic situations (Johnson, 1982). Rheingold (1982) described helping actions displayed by children 18, 24 and 30 months of age. In her research, children aided parents and experimenters in performing household tasks in a laboratory setting. The frequency of helping actions increased with age. Eighteen-month-olds helped with 63% of the tasks, 24-month-olds helped with 78% of the tasks, and 30-month-olds helped with 89% of the household tasks.

Investigations with older children have shown that prosocial behavior occurred in most preschool children in low amounts. One study involving 3- to 7-year-olds evaluated helping, sharing and comforting actions in a school setting (Yarrow & Waxler, 1976). All three of these prosocial actions were demonstrated in 87% of the children, but in minimal amounts (Yarrow & Waxler, 1976). The authors attributed the low degree of children's prosocial behavior to several factors. First, the children may not have had the ability to accurately perceive and react to others in need. Second, adults may have been reinforcing aggressive behaviors rather than prosocial actions. In several other studies, it was demonstrated that prosocial skills tended to increase with age among 4- to 13-year-olds (Barnett & Bryan, 1974; Elliott & Vasta, 1970; White & Burnam, 1976) and among 5- to 10-year-old children (Bar-Tal, Raviv & Leiser, 1980;

Froming, Allen & Underwood, 1983). During the preschool and early school-age years, children's abilities to act prosocially seemed to accelerate.

Another factor investigated in prosocial research has been the influence of sex of the child. Although conclusive results have not been found, many studies indicated no significant sex differences in prosocial responses among preschoolers (Bar-Tal, Raviv & Goldberg, 1982; Grusec, 1971; Harris, 1970; Hartup & Keller, 1960; O'Bryant & Brophy, 1976; Yarrow & Waxler, 1976). Researchers who reported sex differences in preschool-aged children generally found girls to be more prosocial than boys (Eisenberg, Bartlett & Haake, 1983; Harris & Siebel, 1975; King & Barnett, 1982; Midlarsky & Bryan, 1972). Mussen and Eisenberg-Berg (1977) stated that females tended to have more frequent experiences with prosocial adults which assisted them in acting prosocially more often than males. Furthermore, social and cultural expectations of nurturant females may have influenced their greater propensity for prosocial behavior. Girls may be more likely to be exposed to helpful models and are expected to demonstrate the prosocial actions they have observed more than boys.

Much of the research on prosocial behavior has been conducted utilizing children from middle and upper-middle socioeconomic classes. However, a few studies directly examined the influence of social class on children's prosocial behavior. In one investigation, no significant relationship between a family's socioeconomic class and children's prosocial actions was found (DePalma, 1974). However, other investigators have found class differences in children's tendency for prosocial behavior. Lower economic class children were found to be

more cooperative than upper-middle class children (Knight and Kagan, 1977; Madsen, 1967). Perhaps, parental expectations and children's experiences resulted in differences in the development of prosocial abilities in children of various socioeconomic classes.

Family variables have been shown to affect the development of prosocial behavior among young children (Bryan, 1976; Mussen & Eisenberg-Berg, 1977). Parents seem to be an important influence on children's tendencies toward prosocial abilities. In particular, maternal praise and encouragement have been described as factors which facilitated prosocial skills (Klein & Yarrow, 1980; Knight, Kagan & Buriel, 1982; Rheingold, 1982). Rheingold (1982) reported that the participation of very young children in helping with household tasks may have been influenced by approving words and gestures of their parents. In another investigation, Klein and Yarrow (1980) described the significant positive correlation found between children's social sharing and maternal positive interaction. Sharing was rewarding and, in turn, encouraged parent-child interactions.

The above studies support the idea that preschool children have the ability and can demonstrate prosocial behavior toward others. Children tend to become more prosocial with age, beginning in early childhood and continuing through adolescence. Other factors, however, are not as easily understood. Social class appears to have an influence when considering low versus upper-middle socioeconomic class children, while the effect of sex and family variables are not as clear-cut.

As a result of reviewing the literature on the nature of prosocial behavior in young children, the following steps were

undertaken in this investigation so as to incorporate previous research findings. Since research indicated that children's prosocial skills appear to increase during the preschool years, the present study was conducted with children, three and four years of age. In addition, children came from families of middle, upper-middle and upper socioeconomic classes since social class appears to be influential in the development of children's prosocial abilities. Furthermore, since the effect of sex of child on prosocial behavior is not clear, the variable of sex was taken into account. Finally, because parents can have an important influence on children's propensity for prosocial behavior, parents were utilized in a home learning program to facilitate their children's prosocial skills.

The Role of Modeling and Encouragement in Prosocial Behavior

Theorists from the psychoanalytic view contend that prosocial behavior develops with the formation of children's superego, whereas cognitive-developmental theorists attribute the acquisition of prosocial abilities to the growth in children's cognitive processes (Schaffer, 1979). Focus of this study was from the social learning perspective. Social learning theorists hypothesize that prosocial behavior results primarily from learning (Rushton, 1982). Prosocial responses are acquired in much the same manner as other social actions, i.e., through observational learning (Midlarsky & Suda, 1978). Children who observe an adult sharing or helping are more likely to share or help in return. In fact, there has been a great deal of research demonstrating an increase in prosocial behavior resulting from children's exposure to prosocial models (Grusec, 1971; Hartup & Coates, 1967; Lipscomb, Larrieu, McAllister & Bregman, 1982; Staub, 1971).

Children do not seem to model adults indiscriminately. In fact, unfamiliar models have been found to be ineffective in facilitating the development of prosocial behavior (Ascione & Sanok, 1982; Barton, Olszewski & Madsen, 1979). Characteristics such as the model's nurturance and power have been found to have an influence on the model's effectiveness in eliciting prosocial responses.

Although the exact nature of nurturance on prosocial behavior has yet to be determined, the literature indicated that models' effectiveness can be dependent on their warmth and affection toward children (Bandura, Grusec & Menlove, 1967; Grusec, 1971; Harris, 1970; Midlarsky, Bryan & Brickman, 1973; Rushton, 1976; Staub, 1971). In a study by Yarrow, Scott and Waxler (1973), preschoolers tended to show more concern and provide more assistance to individuals in need when trained by nurturant adults. Eighty-four percent of the preschoolers exposed to nurturant models helped, while only 43% of the children exposed to non-nurturant models did likewise. In addition, Yarrow and Waxler (1976) found that those preschool children with nurturant caretakers, who had modeled altruism in both symbolic and live-distress situations, showed more helping responses toward others. Warm and friendly responsiveness by models may have helped to create a better atmosphere for positive relations between the model and the child, which resulted in the enhancement of prosocial actions.

In addition to a nurturant model, a powerful model has also been shown to effectively increase prosocial behavior in preschool children. Powerful models, such as teachers and parents, are those capable of administering rewards and punishments (Mussen & Eisenberg-Berg, 1977). In a study by Grusec (1971), young children elicited more sharing

behavior following the observation of a powerful prosocial model. This model had control in the selection of a child for a prize, whereas the weaker model did not. Rushton (1975) found a powerful model to be more effective in eliciting imitative behaviors from children. It appears that models can be more influential when in direct control as agents of reinforcement (Mussen & Eisenberg-Berg, 1977).

The effects of modeling on prosocial behavior has been illustrated with symbolic as well as live models. Research using modeling films illustrating reinforcement of prosocial behavior has provided evidence of the impact of learning from models (Jackibchuk and Smeriglio, 1976; Keller & Carlson, 1974). By observing films of prosocial models, children's expectancies of socially rewarding actions increased.

Furthermore, prosocial models in televised films such as "Mister Rogers' Neighborhood" and "Sesame Street" have been shown to increase children's prosocial actions (Coates, Pusser & Goodman, 1976; Friedrich & Stein, 1973; 1975). Behaviors such as cooperation, helping and giving positive reinforcement to others were found to increase following observation of prosocial television shows. From the evidence in the literature, it appears that exposure to models, either live or symbolic, can have a powerful influence on children's prosocial behavior. Models may, thus, provide information to young children about displaying appropriate prosocial actions in various situations.

According to social learning theory, rewards or reinforcements also play a vital role in the acquisition of desirable behaviors (Bandura & Walters, 1963). Direct positive reinforcements have been

found to increase preschool children's helping and sharing (Vogler, Masters & Morrill, 1970; 1971). The reinforcing power of a candy has been instrumental in guiding young children to cooperate with each other on an experimental task (Vogler, et al., 1970). Altman (1971) found preschoolers could generalize cooperative responses in motor tasks learned through reinforcement to other situations in the classroom.

The literature illustrated that modeling and reinforcement in combination were more effective in eliciting prosocial behavior than modeling alone (Rogers-Warren & Baer, 1976). The observation of rewards given to a prosocial model resulted in preschoolers showing a greater propensity for such behavior (Jackibchuk & Smeriglio, 1976; Keller & Carlson, 1974; Midlarsky et al., 1973).

Modeling, along with the researcher's reinforcement of children's reports of sharing, resulted in increased sharing behavior (Rogers-Warren & Baer, 1976; Rogers-Warren, Warren & Baer, 1977). By reporting prosocial actions and receiving approval for such reports, children were utilizing information provided by models on how to share with one another.

Research by Midlarsky, Bryan and Brickman (1973) indicated that sixth-grade girls and younger children in the third grade donated more in an experimental situation with the approval of an altruistic model than a selfish model. The authors emphasized the need for consistency between modeling and reinforcement as an effective strategy to encourage prosocial behavior.

From these findings, a nurturant and powerful model seems to be effective in promoting prosocial behavior among children. Modeling

and reinforcement have both been shown to elicit prosocial behavior in experimental situations. Furthermore, it appears that modeling and reinforcement combined are more effective in modifying behavior than either one alone.

After reviewing the literature concerning the effects of modeling and encouragement on children's prosocial behavior, the following steps were undertaken in this research project. First, because the characteristics of nurturance and power of a model seem to have an influence on encouraging prosocial behavior among children, teachers and parents were used as nurturant and powerful models in encouraging children's prosocial behavior. In addition, since both live and symbolic models seem to be effective in eliciting prosocial behavior, live models demonstrated and encouraged prosocial behavior with children in the classroom or at home. Furthermore, since the combination of modeling and encouragement techniques appear to promote prosocial behavior among children more effectively, both strategies were implemented by teachers and parents in the prosocial intervention programs used in this study.

Prosocial Intervention Programs for Teachers and Parents

Past research has demonstrated the effectiveness of intervention programs by teachers and parents in a variety of early childhood educational areas. For example, effective intervention programs have been implemented in the areas of language development (e.g., Kysela, 1978; McConkey & O'Conner, 1982), cognition (e.g., Kareev, 1982; Kysela, 1978), and sex role socialization (e.g., Flerx, Fidler & Rogers, 1976; Koblinsky & Sugawara, 1979). However, there appears to be a gap in the literature concerning what teachers and parents

can do to facilitate the development of prosocial behavior among children (DeMarsh & Adams, 1983; Staub, 1979; Zigler & Trickett, 1978). Although laboratory experimental studies have indicated the influence of modeling and encouragement in increasing prosocial skills, little research has been reported on the role of teachers in encouraging the development of prosocial behavior. Furthermore, it appears that no empirical studies to date have been conducted utilizing a prosocial home learning program to provide parents with strategies to increase children's prosocial behavior.

Several authors have discussed suggestions for teachers and parents to promote prosocial behavior. Marcus and Leiserson (1973) described the importance of classroom atmosphere and teacher modeling in encouraging helping actions among preschoolers. The authors included strategies to facilitate the development of prosocial skills such as providing for opportunities to role play and help one another in a classroom with a secure climate.

Furthermore, in a review of research on consideration and helpfulness in young children, Moore (1977) provided ideas for adults to promote prosocial skills. She suggested that adults model helpfulness with other adults and children, and reinforce help-giving and nurturance-giving when interacting with young children. Moore's suggestions may provide a basis for promoting prosocial behavior among both teachers and parents.

The available literature only presented two empirical studies assessing the effects of prosocial intervention programs on preschool children's prosocial behavior. One prosocial program by Smith (1979) examined the effects of a short-term social learning procedure on

three children. The subjects were presented with eight natural-appearing opportunities for prosocial responses in each of five sessions. Teachers used techniques of demonstration, prompting and reinforcement to increase children's helping, sharing, teaching and sympathizing actions during training. Following the completion of the intervention, prosocial behavior dropped off, and two children returned to their pretraining levels within two days.

Although children in this study did not maintain their increased prosocial responses, the results demonstrated the usefulness of a social learning technique in increasing classroom prosocial behaviors among young children. It was suggested that intervention occur over a longer period of time (i.e., more than five days) for children to effectively maintain the increased prosocial acts.

A second study investigating the effects of an increased prosocial intervention program was developed by Floody (1979; 1980). This intervention program provided parent-teachers of a cooperative nursery school with strategies to increase children's prosocial behavior. After a seminar training session to acquaint parents and teachers with research findings related to prosocial modeling, role playing, reinforcement, preaching, nurturance and cooperative activities, they were requested to implement any suggestions learned in the seminar. Following the seven week intervention period, children in two treatment groups exhibited significantly more prosocial behavior on two prosocial situational tests than the two control groups.

While Floody's (1979) study offers one method of increasing prosocial behavior in a naturalistic setting, without specific

curriculum ideas, use of his approach by teachers to facilitate the development of prosocial skills may be difficult. Research needs to be directed toward further specifying the curriculum for application in a preschool classroom and home learning setting. Based upon Floody's (1979) work and other research, the following improvements were undertaken.

First, although multiple techniques to facilitate children's prosocial responses have been suggested, specific procedures for educators to follow in the classroom have not been presented. Use of an outlined curriculum for teachers to implement prosocial activities is apparently needed.

In addition, despite Floody's (1979) use of parents as teachers in the classroom, the influence of parents as socializers at home has yet to be examined. A prosocial curriculum which included home learning activities could be an effective method of increasing children's prosocial behavior.

Finally, although evaluation of a preschool prosocial intervention program has previously been done, a follow-up assessment to see whether prosocial behaviors continue to maintain themselves over time is apparently needed. This follow-up measure needs to be conducted in order to test the effectiveness of the intervention on children's prosocial behavior.

Purpose of Study

This study investigated the impact of prosocial preschool classroom and home learning programs on children's prosocial behavior. More specifically, it determined how preschool children's cooperating, sharing and helping behaviors were influenced by modeling and

encouragement from adults immediately following two six-weeks intervention programs and six weeks after their termination. This three-group-quasi-experimental, follow-up design research project involved a group exposed to a prosocial preschool classroom program, a group exposed to a prosocial home learning program, and a group exposed to neither of the prosocial programs. It was expected that the prosocial preschool classroom program would have had a significantly greater impact on preschool children's prosocial behavior immediately following termination of the intervention than the home learning program, followed by the group exposed to neither prosocial program. It was also expected that these differences would maintain themselves in a follow-up study, six weeks after termination of the intervention programs. In all data analyses, the variable of sex of child was taken into consideration.

METHOD

Subjects

The sample for this study consisted of 52 preschool children (23 males and 29 females) enrolled in three university child development laboratory programs with similar teaching philosophies. These children were approximately equally divided among the three preschool programs. Treatments were assigned based on a three-group-quasi-experimental design.

Group I (n=18; 5 males, 13 females) consisted of children in one preschool program who received the prosocial preschool classroom program.

Group II (n=17; 10 males, 7 females) consisted of children in one preschool program who received the prosocial home learning program.

Group III (n=17; 8 males, 9 females) consisted of children in one preschool program who received neither the prosocial preschool classroom or the home learning programs.

Subjects ranged in ages from 36 to 58 months, with a mean age for the total sample of 47.60 months. The mean ages of participants by groups were as follows: Group I - 48.00 months; Group II - 45.18 months; and Group III - 49.59 months. The IQ scores of subjects, as measured by the Peabody Picture Vocabulary Test (Dunn & Dunn, 1981), ranged from 89 to 129. The mean IQ score of all subjects was 109. The average IQ scores by groups were as follows: Group I - 108; Group II - 110; Group III - 108. Parental years of schooling, occupation, sex and marital status were recorded by the experimenter. These data were used to determine the socioeconomic status of the

subjects' families based on Hollingshead's Four Factor Index of Social Position (1975). All subjects came from middle, upper-middle or upper socioeconomic class families. No significant differences were found among the groups in terms of age, cognitive level or socioeconomic status.

Treatment

Prosocial Preschool Classroom Program

Prior to implementing the Prosocial Preschool Classroom Program in Group I, a two-hour seminar was conducted by the experimenter to assist preschool teachers in gaining an understanding of the program goals and their role in implementing the prosocial curriculum in the classroom. This seminar was modeled after an intervention program designed by Floody (1979; 1980).

The purpose of the orientation seminar was to (a) acquaint teachers with definitions and normative data on prosocial behavior among children; (b) emphasize the importance of adults in fostering prosocial behavior among children; (c) supply teachers with the prosocial intervention curriculum for implementation in the classroom; and (d) provide strategies for teachers to model and encourage prosocial actions with children in curriculum activities. The two-hour orientation seminar was divided into three sections.

SECTION I - Preparing Teachers for the Prosocial Education Program (30 minutes). During the first half-hour of the seminar, discussion centered on definitions and examples of what was meant by prosocial behavior. Information on normative data was provided to the teachers to insure a common knowledge base among them for understanding the topic. Research findings concerning the role of adult modeling and

encouragement with prosocial behavior was also discussed. This acquainted teachers with information about the impact adults have in the development of children's prosocial skills. Teachers were encouraged to discuss their concerns about identifying prosocial acts in the classroom as well as their feelings about promoting prosocial skills.

SECTION II - The Prosocial Curriculum (30 minutes). The second half-hour of the seminar provided teachers with the curriculum to be implemented in the classroom. A schedule indicated the specific activities to be used in the classroom each day. Accompanying each activity was a sheet to offer implementation guidelines for teachers. Each activity sheet included (a) a description of the activity and materials needed; (b) the procedures for implementation; and (c) an outline of the teachers' role in modeling and encouraging prosocial behavior among children during the activity (See Appendix A).

The Prosocial Preschool Classroom Program curriculum consisted of 28 prosocial activities, covering the following curriculum areas: (a) Gross Motor, (b) Dramatic Play, (c) Creative Art, (d) Manipulatives, (e) Science and Cooking, (f) Outside Play, and (g) Group Time (See Appendix B). Each curriculum area consisted of four different activities to be implemented with the children in the classroom on scheduled days over a six week period (See Appendix C).

SECTION III - Teaching Strategies for Promoting Prosocial Behavior (60 minutes). During the final hour of the seminar, teachers practiced strategies to be used in implementing the prosocial curriculum with children in their classroom. Role playing and feedback helped teachers become familiar with modeling and encouragement

strategies to be used in carrying out the prosocial activities. An example of a role playing situation is described below.

ACTIVITY: Making Biscuits

OBJECTIVES: Children will work together to roll out dough, cut biscuit shapes with cookie cutters, and place biscuits on baking trays.

ROLE PLAYING/MODELING/ENCOURAGING: One teacher will role play the facilitator of the activity, and two other teachers will act as the children. The facilitator may demonstrate how she can assist one child who is rolling out the dough by holding the dough board from slipping. She may then ask, "Why don't you help Mary, Bob?"

FEEDBACK: In this situation, the experimenter can reinforce a teacher's attempts and offer suggestions to add to the role playing behaviors. While holding the dough board she may say, "You seem to have an easier time rolling out the dough when I hold the board. I'm glad I can help you." To encourage the other child to help, she may say, "Mary could use your help, Bob. Would you hold the board while she rolls out the dough?" When he does, the experimenter may add, "Thank you, Bob, for helping. I like the way you two are working together."

The seminar ended with a summary of general recommendations for teachers in promotion prosocial behavior among children with the curriculum activities. In addition, a discussion of teachers' feelings and concerns about their role in the prosocial intervention program occurred.

Prosocial Home Learning Program

Approximately two weeks prior to implementing the Prosocial Home Learning Program in Group II, the experimenter sent a letter to

parents introducing them to this aspect of the research project (See Appendix D). In that letter, the experimenter briefly described the home learning program, and informed parents of their role in implementing such a program. In addition, general information about the nature of prosocial development among preschool children, and the significant role parents play in facilitating the development of this behavior was summarized. Furthermore, parents were informed that in the near future, they were to be individually contacted via telephone by the experimenter to more fully explain the research project.

The telephone contact of parents occurred during the second week of Winter Term. The decision to contact parents personally by telephone was made to insure that all parents received information about this aspect of the project, and to facilitate parental participation in the project. During the telephone conversation, the experimenter described the home learning program in more detail, and explained the role parents were to play in carrying out the program. Time was provided for parents to voice any questions or concerns they may have had about the research project and their role in it.

The Prosocial Home Learning Program consisted of six prosocial activities for parents and children to carry out at home. These home learning activities included: (a) a puzzle activity, (b) a picture and question activity, (c) a lotto game, (d) a cooperative project, (e) a fill-in-the-blank story, and (f) a counting game (See Appendix C). Directions for carrying out each of these activities were described in a "Prosocial Home Learning Activity Sheet," which could be easily understood by parents upon reading. Each activity sheet contained (a) a description of the home learning activity and

its objective, (b) procedures for carrying out the activity, and (c) instructions on how to model and encourage the child to act prosocially during the activity (See Appendix E). Implementation of the Prosocial Home Learning Program occurred over a period of six weeks, with one activity carried out each week, following the same schedule as the Prosocial Preschool Classroom Program in Group I (See Appendix C).

In addition to carrying out the prosocial home learning activities for this research project, parents were asked to provide the following information about each activity to the experimenter: (a) whether the activity was completed, (b) the length of time spent in the activity, and (c) parental evaluation of the activity. A short questionnaire at the bottom of each home learning activity sheet could be torn off and returned to the experimenter at school during the end of each week. Information gained from the questionnaire helped the experimenter keep track of parental participation in the home learning program. Parents not carrying out the activities were contacted and encouraged to do so. In addition, parents' evaluations of the activities were used to assess the effectiveness of the activities as prosocial home learning activities. More importantly, however, this information provided additional essential data to the experimenter when assessing the impact of the home learning program on children's prosocial behavior.

Instruments

In order to evaluate children's prosocial behavior, assessment was conducted using (a) the Modified Prosocial Behavior Questionnaire, consisting of evaluations done by head and assistant teachers of the

preschool programs; and (b) three experimental situational tests. It was assumed that utilization of both types of instruments would provide a more thorough measure of children's prosocial behavior, than either one alone. The Modified Prosocial Behavior Questionnaire supplied an overall assessment of each child's classroom prosocial abilities as observed by their teachers, while the situational tests provided an objective measure of children's prosocial behavior in a "classroom-like" situation.

Modified Prosocial Behavior Questionnaire

The Modified Prosocial Behavior Questionnaire (mod-PBQ: Weir & Duveen, 1981) was used to assess teachers' perceptions of children's prosocial behavior (See Appendix F). This questionnaire consisted of 15 items describing various prosocial actions often displayed by preschool children. Teachers were asked to rate children on each item using a three-point scale from rarely applies (1 point) to certainly applies (3 points). An equal number of items (n=5) representing cooperating, sharing and helping actions were included in the questionnaire. The mod-PBQ, therefore, yielded four different scores for each child including (a) a total prosocial score, ranging from 15 to 45 points, and (b) three subscale scores, including cooperating, sharing, and helping, each ranging from five to 15 points.

To obtain a child's total prosocial behavior score and cooperating, sharing and helping scores, both head and assistant teachers rated each child using the mod-PBQ. Once data were coded, a child's score was calculated by averaging the head and assistant teachers' ratings for the total scale and each of its subscales. An interrater reliability study for the total mod-PBQ and its subscales

was undertaken using the Pearson product-moment correlation method. Reliability estimates for the total mod-PBQ was $r=.60$, and for the cooperating, sharing, and helping subscales were $r=.46$, $r=.56$, and $r=.61$ respectively.

In addition, a validity study was undertaken by relating children's mod-PBQ scores to their scores on all Prosocial Situational Tests to be described later. The Pearson product-moment correlation method was employed to analyze data for this study. Only pretest data were analyzed so as to avoid possible testing time effects. Findings indicated that only teachers' ratings of children's Total Prosocial Behavior ($r=.36$, $p<.01$) and Sharing Subscale ($r=.31$, $p<.05$) scores were significantly and positively related to children's Verbal Sharing scores obtained from the Sharing Situational Test. All other correlation coefficients obtained expressing the relationships between the mod-PBQ and Situational Test scores were found to be non-significant. These findings suggest that the mod-PBQ and Situational Tests may be measuring quite different aspects of children's prosocial behavior.

The original PBQ consisted of 20 items developed for use with 5- to 8-year-old British children. A test-retest reliability coefficient of $r=.91$ has been obtained for the PBQ, with three weeks between testings. The interrater reliability coefficient for the questionnaire has been moderate at $r=.66$. Split-half reliability coefficients for three different samples, however, have ranged from $r=.82$ to $r=.85$. Scores of children on the PBQ have been related to their actual classroom behavior, providing moderate validity coefficients (e.g., $r=.56$).

Since many of these items found in the original PBQ pertained primarily to school-aged children, the questionnaire had to be adapted for use with preschool children. For example, the statement, "offers to share rubbers or pencils being used in a task" had to be rewritten to say "gives away an object voluntarily to an adult or another child." In addition, some items (e.g., "shows sympathy to someone who has made a mistake") had to be dropped due to their non-applicability to preschool children. Furthermore, a few items were added (e.g., "will work together with peers on a common project") to the mod-PBQ to assess aspects of preschool children's prosocial behavior.

Situational Tests

The situational tests assessed the cooperation, sharing, and helping dimensions of children's prosocial behavior. The following tests were used:

(1) Cooperation Situational Test. Slight modification of the Truck and Blocks Task, developed by Paulsen (1974) was used to provide a measure of children's cooperation abilities. This task came from the Oregon Preschool Test of Interpersonal Cooperation (OPTIC), containing several other cooperation tasks. The Truck and Blocks Task consisted of 20 wooden blocks (1" x 2" to 1" x 10") and 1 toy truck. For this study, rubber or wooden people, rubber animals or metal or wooden trains were substituted for the truck. In a test situation, two children (randomly selected pairs of similar age and sex) were escorted by the experimenter to the experimental room, and asked to sit down in chairs at a small table. Once seated, one child was given the animals, people or trains, and

the other 20 blocks, piled up in front of the child on the table. The two children were then asked to play with the toys only on the table. The experimenter left the room and allowed the children to play with the objects for five minutes. This five minute play session was videotaped and scored by three trained observers at a later date.

Scoring procedures were similar to those developed by Paulsen (1974). Prior to scoring the videotapes of children's play activity for cooperation behavior, three trained observers practiced coding such behaviors on a training tape. During these practice sessions, disagreements between observers were discussed and resolved. Practice sessions continued as long as disagreements occurred. Once total agreement was reached, the videotapes containing children's cooperation behavior obtained for this study were independently coded by the three observers, and children's cooperation scores calculated.

To obtain a child's cooperation score, an observer viewed the videotape containing the child's cooperation behavior, and coded such behavior according to the level of behavior engaged in during each ten second interval of the five minute segment. The levels of behavior and the numerical values assigned to each of them were as follows: (a) Cooperation (6 points) - children worked together to achieve a goal, (b) Pre-Cooperation (5 points) - children shared ideas and directions this attempting to work together to achieve a goal, (c) Active Interaction (4 points) - children responded to each other and displayed satisfaction with each other's company, (d) Parallel Play (3 points) - children did not respond to each

other's behavior, but may have watched while playing by themselves, (e) Watching (2 points) - children watched one another, but did not engage in active play, (f) Minimal Interaction (1 point) - children did not speak, interact or watch one another, and (g) Obstructive Interaction (0 points) - child prevented possible cooperative goal by hitting, pushing or fighting with partner. A stop-watch was used to record the five minute test situation.

Once data were coded, a child's cooperation score was calculated by multiplying the length of time engaged in a level of behavior with the numerical value of that level of behavior, then summing their products and dividing by five minutes. For example, if a child engaged in three minutes of watching and two minutes of active interaction, the child's cooperation score was $[3(2) + 2(4)]/5$ or 2.8. A child's cooperation score, therefore, was derived by evaluating the length of time spent by a child in each level of behavior. A weighted average was then calculated, with time as the weighted factor. The cooperation scores of children could have ranged from zero [e.g., five minutes of obstructing interaction - $5(0)/5$] to six [e.g., five minutes of cooperation - $5(6)/5$].

Since three independent observers were used to code the cooperation behavior of children, and these codings were used in determining a child's cooperation score, interrater reliability estimates were obtained for the Cooperation Situational Tests. Three boys and three girls in each group were randomly selected for observer evaluation at each testing time, and these scores were used for the reliability estimates. For each pair of observers, calculations were performed on the length of time children spent in each

level of cooperation behavior. The percent of exact agreement between each pair of coders was calculated by dividing the number of agreements by agreements plus disagreements. The mean percent of agreement averaged 80 percent across all groups and testing times.

For final data analyses purposes, only one cooperation score per child was used. This cooperation score was obtained in the following manner. For children rated by all three observers as part of the reliability study, scores were randomly selected from the three raters, making sure an equal number of scores in each group and testing time were obtained for each observer. For the remaining scores, children in each group were randomly assigned to observers for coding at each testing time. Therefore, approximately equivalent number of scores were used from each observer.

Validity and reliability studies for the entire OPTIC have been described by Paulsen (1974). Reports of interrater reliability coefficients have ranged from $r=.89$ to $r=1.00$. In addition, scores on this test have been shown to correlate with other selected variables (e.g., classroom behavior) and to record the impact of an intervention program (e.g., Sesame Street viewing) in predicted directions.

(2) Sharing Situational Test. To assess children's sharing behavior, an instrument adapted from several situational tests (Barton & Ascione, 1979; Berndt, 1981; Staub & Sherk, 1970) was used. Slight modifications in the test were made so that it would be more appropriate for preschool children. In a test situation, children were escorted in random pairs (of similar age and sex) to an experimental room arranged for an art activity. A small table and

two chairs were present in the room, with a sheet of white paper (9" x 12") positioned on the table in front of each chair. After the children had seated themselves down at the table, the experimenter asked each child to draw a picture to be included in a classbook of pictures. The experimenter emphasized that the two children had only five minutes to draw their pictures in order for all children in the class to have time to complete their pictures. Only one drawing utensil (e.g., crayon, chalk, or marker) was provided for the two children to use in making their drawings. The experimenter then explained that she would return when the time period was over. This five minute drawing session was videotaped and scored later by three trained observers.

Scoring procedures were similar to those used by Barton & Ascione (1979), Berndt (1981) and Staub & Sherk (1970). Prior to scoring the videotapes of children's drawing activity for sharing behavior, the three trained observers practiced coding such behaviors on a training tape to increase their precision in coding. During these practice sessions, disagreements between observers were discussed and resolution of them made. Practice sessions continued as long as disagreements between observers occurred on the training tape. Once total agreement was reached, the videotapes containing children's sharing behavior obtained for this study were independently coded by the three observers, and children's sharing scores calculated.

To obtain a child's sharing score, an observer viewed the videotape containing the child's sharing behavior, and coded such behaviors according to (a) the number of times the child shared the

drawing utensil voluntarily without a request, (b) the number of times the child shared the drawing utensil upon request, (c) the number of direct sharing requests for the drawing utensil made by the child (e.g., "Can I have the magic marker?"), and (d) the number of indirect sharing requests for the drawing utensil made by the child (e.g., "This cage I'm drawing needs more bars."). Once coding was done, three sharing scores were obtained: (a) Total Sharing Score - the number of times the child shared voluntarily or upon request (Berndt, 1981; Staub & Sherk, 1979), (b) Physical Sharing Score - the number of times the child shared voluntarily (Barton & Ascione, 1979), and (c) Verbal Sharing Score - the number of direct sharing requests, indirect sharing requests and times the child shared upon request (Barton & Ascione, 1979).

Since three independent observers were used to code children's sharing behavior, these codings were used in determining a child's sharing score. Three boys and three girls in each group were randomly selected for observer evaluation at each testing time, and these scores were used for interrater reliability estimates. The percent of exact agreement between each pair of coders was calculated for all three sharing scores, Total Sharing, Physical Sharing and Verbal Sharing. This percent of exact agreement between each pair of coders was derived by dividing the number of agreements by the agreements plus disagreements. The mean percent of agreement for all types of sharing ranged from 89 to 100 percent across all groups and testing times.

For final data analyses purposes only one sharing score per child was used. This sharing score was obtained in the following

manner. For children rated by all three observers as part of the reliability study, scores were randomly selected from the three raters, making sure an equivalent number of scores in each group and testing time were obtained for each observer. For the remaining scores, children in each group were randomly assigned to observers for coding at each testing time. Therefore, an approximately equal number of scores were used from each observer.

Previous research using the Sharing Situational Test has provided construct validity results indicating that subjects' scores on the test have accurately recorded the impact of a prosocial intervention program (Barton & Ascione, 1979). Scores on this test have also been shown to be correlated with selected variables (e.g., reciprocity in sharing, age, and friendship choices) in predicted directions (Berndt, 1981; Staub and Sherk, 1970).

(3) Helping Situational Test. To assess children's helping behavior, a method similar to the one developed by Floody (1979) was used. In a test situation, the experimenter "accidentally" dropped to the floor of the experimental room the 20 blocks, animals or trains used the Block Test, previously described. After expressing mild annoyance about such an accident, the experimenter began picking up the objects one every five seconds. The experimenter picked up a total of five objects. Scoring consisted of two methods. The first helping score of a child was the number of objects picked up by the child when helping the experimenter over a three minute period. For example, a score of five was given if a child picked up five objects in the three minute period. Helping scores of children could have ranged from zero to 15 points. The second

helping score of a child, the helping coefficient, took into account both the number of objects the child picked up as well as the length of time it took the child to pick them up. The formula for calculating the helping coefficient is described following (Maquire, 1962).

Coefficient Rate of Helping = $\Sigma [g_n - g_{(n-1)}] / n$, where

g_n = number of objects picked up

$g_{(n-1)}$ = number of objects picked up at previous time

n = time at each point

In order to obtain a helping score for each child, one child was exposed to the Helping Situational Test before the other child (i.e., in the random pair) was brought into the experimental room to participate in the Block Task. The other child in the pair was exposed to the Helping Situational Test after completion of the Block Task, after the first child had left the room. The three minute helping situations for each child were videotaped and scored by three trained observers at a later date.

Since three independent observers were used to code children's helping behavior, these codings were used in determining a child's helping score. Three boys and three girls in each group were randomly selected for observer evaluation at each testing time, and these scores were used for interrater reliability estimates. For each pair of observers, calculations were performed on the number of objects children picked up and the length of time children spent in picking them up. The percent of exact agreement between each pair of coders was derived by dividing the number of agreements by the agreements plus disagreements. The mean percent of agreement

across all groups and testing times was 100 percent.

For final data analyses purposes only one helping score per child was used. This helping score was obtained in the following manner. For children rated by all three observers as part of the reliability study, scores were randomly selected from the three raters, making sure an equivalent number of scores in each group and testing time were obtained for each observer. For the remaining scores, children in each group were randomly assigned to observers for coding at each testing time. Therefore, an approximately equal number of scores were used from each observer.

Previous research using the Helping Situational Test has provided construct validity results indicating that subjects' scores on the test have accurately predicted the impact of a prosocial intervention program (Floody, 1979). Scores on this test have also been shown to increase as the age of the children increased (Floody, 1979).

Procedure

Treatment Implementation

The Prosocial Preschool Classroom Program Orientation Seminar for teachers of children in Group I was conducted one week prior to introducing the prosocial curriculum into that preschool classroom. This inschool curriculum was then implemented during the following six weeks, with at least one prosocial activity carried out each day. A total of 28 prosocial activities in a variety of curriculum areas were utilized.

An initial letter contact with parents of children in Group II, who participated in the Prosocial Home Learning Program, occurred

two weeks prior to the distribution of any prosocial home learning activities. Personal telephone contacts then took place one week before implementing the prosocial home learning program. Beginning the second week of the study, one activity each week for six weeks was provided to parents. Parents were requested to carry out all six activities with their children at home during the same six weeks when the prosocial Preschool Classroom Program was implemented in Group I.

Data Collection

Data collection for this study followed a pre-post-post test design. Data were collected at three intervals during this study; during the first and second, eighth and ninth, and fourteenth and fifteenth weeks. During the first and second weeks of the study, prior to implementation of the six-weeks prosocial preschool classroom and home learning programs, children enrolled in the two experimental and one control preschools, were pretested on their prosocial behavior. Head and assistant teachers in each of the preschools used the Modified Prosocial Behavior Questionnaire (mod-PBQ) to evaluate children's prosocial skills. This paper and pencil test yielded cooperating, sharing, helping and overall prosocial behavior scores for each child.

In addition, prosocial behaviors were assessed by using cooperation, sharing and helping situational tests. Caution was taken to reduce the possibility of a testing effect bias on children's behavior in the situational tests. Both the order in which the tests were administered to children at each testing time, and the objects used in each test at each testing time were carefully

regulated. At the pretest, an equal number of children in each group were randomly assigned to receive the tests in a specified order. At Posttest I and II, the order of test administration was altered to insure that subjects did not receive the tests in the same order as they had in previous testing situations. In addition to regulation of the order of test administration, the objects used in each test at each testing time were carefully specified. At the pretest, an equal number of children in each group were randomly assigned to receive each of the three choices of objects for the Cooperation and Sharing Tests (e.g., crayon, chalk, or marker). The objects in the Helping Test were those used in the Cooperation Test at that testing time. At Posttest I, the objects in the tests were changed to insure that subjects did not receive the same ones they had during the pretest. At Posttest II, subjects received the remaining objects for each test that they had not received in prior testings. Videotapes of the three situational tests were coded by three observers to obtain cooperation, sharing and helping scores for each child.

During the eighth and ninth week of the study, immediately following the completion of the six-weeks prosocial preschool classroom and home learning programs, the mod-PBQ and the three situational tests were again administered to obtain a posttest measure on children's prosocial behavior in all three groups.

Finally, fourteen and fifteen weeks after the onset of the study, an additional measure of children's prosocial behavior in all three groups was obtained using the mod-PBQ and the three situational tests. This second posttest assessment was conducted to evaluate

childrens' maintenance of prosocial behavior six weeks following termination of the six-weeks prosocial preschool classroom and home learning programs.

RESULTS

This study examined the impact of prosocial classroom and home learning intervention programs on children's prosocial behavior. More specifically, it determined the influences of adult modeling and encouragement used in these programs on children's cooperating, sharing and helping behaviors immediately following the six-week intervention programs and six weeks after their termination.

A series of 3 (Group) x 3 (Testing Time) repeated measures analyses of covariance were applied to all dimensions of prosocial behavior. The Group variable included (a) Group I - Classroom Program, (b) Group II - Home Learning Program, and (c) Group III - Control Program. The Testing Time variable included (a) a Pretest, (b) Posttest I, and (c) Posttest II. Since the initial prosocial behavior scores of subjects were significantly different between the groups ($p < .01$), pretest scores served as the covariate in all analyses. The ANCOVA procedure adjusted for the effect of these initial group differences (Steel & Torrie, 1980). Post-hoc comparisons were conducted using the student's t statistic (Steel & Torrie, 1980). The variable of sex of subject was dropped from all analyses, since initial data analyses revealed no significant sex effects.

Modified Prosocial Behavior Questionnaire (mod-PBQ)

Findings resulting from the Modified Prosocial Behavior Questionnaire to assess teacher's perceptions of subjects' prosocial behaviors were analyzed as a whole, and then separated into three component scores for separate analyses. Using the total prosocial

behavior scores, and its cooperating, sharing and helping subscale scores as dependent variables, the following results were obtained.

Total Prosocial Behavior Scale. For the total prosocial behavior scores (Total mod-PBQ) of subjects, there were significant effects for Group, $F(2,51) = 13.31, p < .001$, Testing Time, $F(2,51) = 52.15, p < .001$, and Group X Testing Time interaction, $F(4,104) = 15.10, p < .001$. Adjusted mean total prosocial behavior scores of subjects by group and testing time are presented in Table 1. Figure 1 graphically illustrates the Group X Testing Time interaction effects. Post-hoc comparisons of the adjusted means across group associated with this significant interaction effect revealed the following results. There were no significant differences between the adjusted mean pretest scores of subjects in the various groups. However, at Posttest I and II, subjects in the Classroom Program (Group I) had significantly higher adjusted mean total prosocial behavior scores than subjects in the Home Learning (Group II; $p < .001$; $p < .001$) and Control (Group III; $p < .001$; $p < .001$) Programs. Subjects in the Home Learning (Group II) and Control (Group III) Programs did not significantly differ from each other at these testing times.

Post-hoc comparisons of the adjusted mean total prosocial behavior scores of subjects within each group revealed that subjects in the Classroom (Group I; $p < .001$) and Home Learning (Group II; $p < .01$), and Control (Group III; $p < .01$) Programs all had significantly higher scores at Posttest II than at the Pretest. In addition, while subjects in the Classroom Program (Group I) had significantly higher adjusted mean scores at Posttest I than at the Pretest

Table 1
Mean and Adjusted Mean Total Mod-PBQ Scores of Subjects
by Group and Testing Time

Group	Pretest Mean	Pretest Adjusted Mean	Posttest I Adjusted Mean	Posttest II Adjusted Mean
I (Classroom)	27.42	30.13	37.66	40.68
II (Home)	30.82	30.91	32.12	33.68
III (Control)	34.79	31.83	33.48	34.07

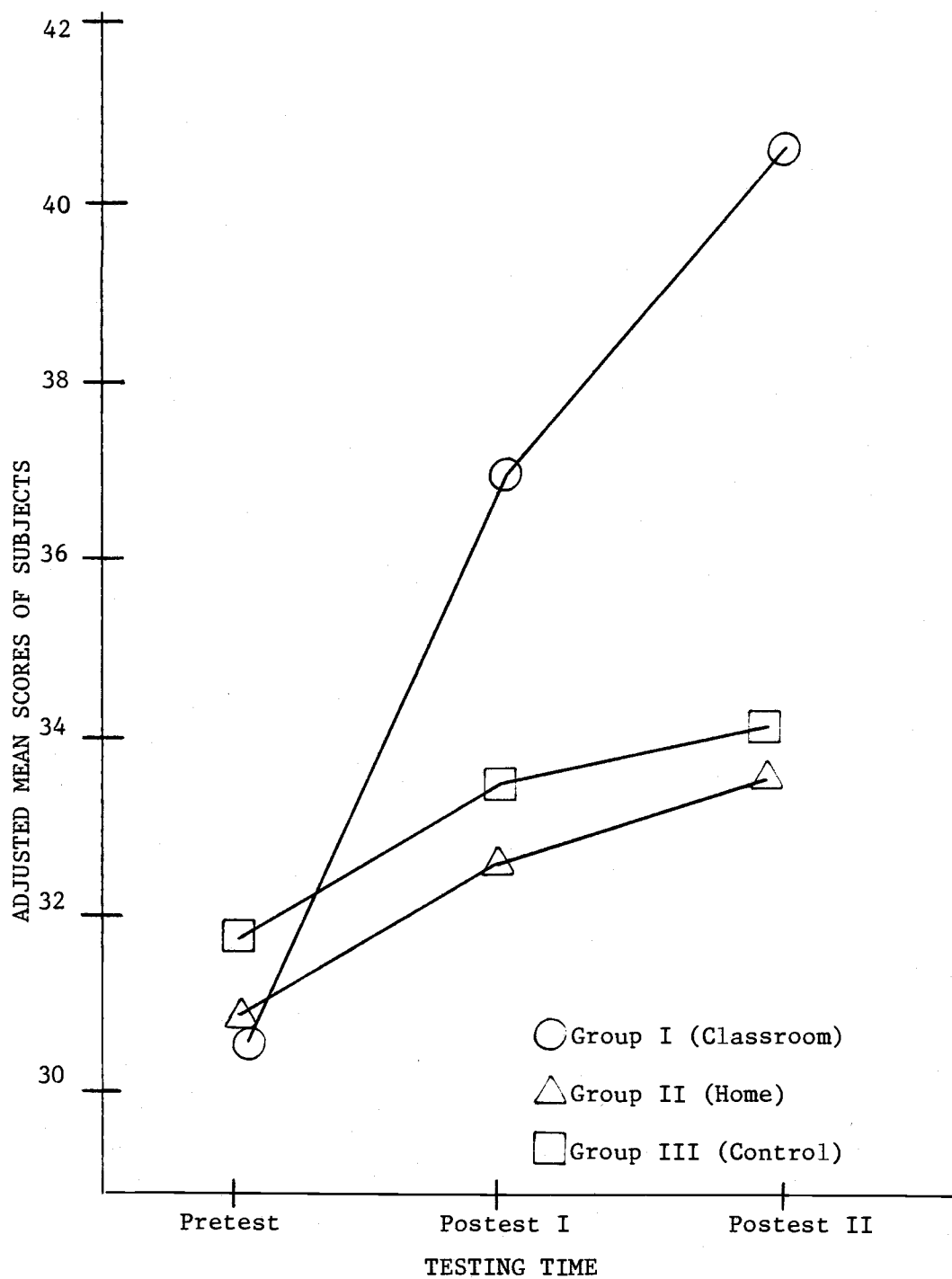


Figure 1. Group X Testing Time Interaction Effect Related to the Total Modified Prosocial Behavior Questionnaire Scale Scores of Subjects.

($p < .001$), and Posttest II than at Posttest I ($p < .01$), subjects in the Control Program (Group III) had significantly higher adjusted mean scores at Posttest II than at Posttest I ($p < .01$). The adjusted mean pretest scores of subjects in the Control Program (Group III) did not differ significantly from their scores at Posttest I. For the Home Learning Program (Group II), subjects' adjusted mean scores did not significantly differ between the Pretest and Posttest I, and between Posttest I and Posttest II.

Taken together, these results suggest that while the total prosocial behavior scores of subjects in all groups significantly increased from Pretest to Posttest II, the impact of the Classroom Program seemed to lead to significantly greater increases in such behaviors immediately following the six-week intervention, and also six weeks after its termination. The Home Learning Program appeared not to have a significant impact on the total prosocial behavior scores of subjects. Although the scores of subjects in the Home Learning Program significantly increased from Pretest to Posttest II, their scores at Pretest vs. Posttest I, and Posttest I vs. Posttest II were not significantly different from each other. Furthermore, the adjusted mean scores of subjects in this program were not significantly different from those in the Control Program at all testing times. Finally, while subjects in the Control Program appeared to significantly increase in their total prosocial behavior from Posttest I to Posttest II, this increase did not reach the level or replicate those of subjects in the Classroom Program.

Cooperating Subscale. When considering the cooperating subscale scores (Cooperating mod-PBQ) of subjects, significant effects

were found for Group, $F(2,51) = 8.12, p < .001$, Testing Time, $F(2,51) = 49.82, p < .001$, and Group X Testing Time interaction, $F(4,104) = 8.59, p < .001$. Adjusted mean cooperating scores of subjects by group and testing time are presented in Table 2. Figure 2 graphically illustrates the significant Group X Testing Time interaction effects. Post-hoc comparisons of the adjusted mean cooperating scores across groups associated with this significant interaction effect revealed the following results. There were no significant differences between the adjusted mean pretest scores of subjects in various groups. However, at Posttest I and II, subjects in the Classroom Program (Group I) had significantly higher adjusted mean cooperating scores than subjects in the Home Learning (Group II; $p < .001$; $p < .001$) and Control (Group III; $p < .01$; $p < .001$) Programs. Subjects in the Home Learning (Group II) and Control (Group III) did not differ significantly from each other at these testing times.

Post-hoc comparisons of the adjusted mean cooperating scores of subjects within each group revealed that subjects in the Classroom (Group I; $p < .001$), Home Learning (Group II; $p < .001$) and Control (Group III; $p < .01$) Program all had significantly higher scores at Posttest II than at the Pretest. In addition, while subjects in the Classroom Program (Group I) had significantly higher adjusted mean scores at Posttest I than at the Pretest ($p < .001$), and Posttest II than at Posttest I ($p < .01$), the Home Learning (Group II; $p < .05$) and Control (Group III; $p < .01$) Programs had significantly higher adjusted mean scores at Posttest II than at Posttest I. The adjusted mean pretest scores of subjects in the Home Learning (Group II) and Control (Group III) Programs did not differ significantly from their

Table 2

Mean and Adjusted Mean Cooperating Mod-PBQ Scores of Subjects
by Group and Testing Time

Group	Pretest Mean	Pretest Adjusted Mean	Posttest I Adjusted Mean	Posttest II Adjusted Mean
I (Classroom)	9.94	10.70	13.15	14.17
II (Home)	10.97	11.00	11.62	12.39
III (Control)	12.21	11.37	12.05	12.37

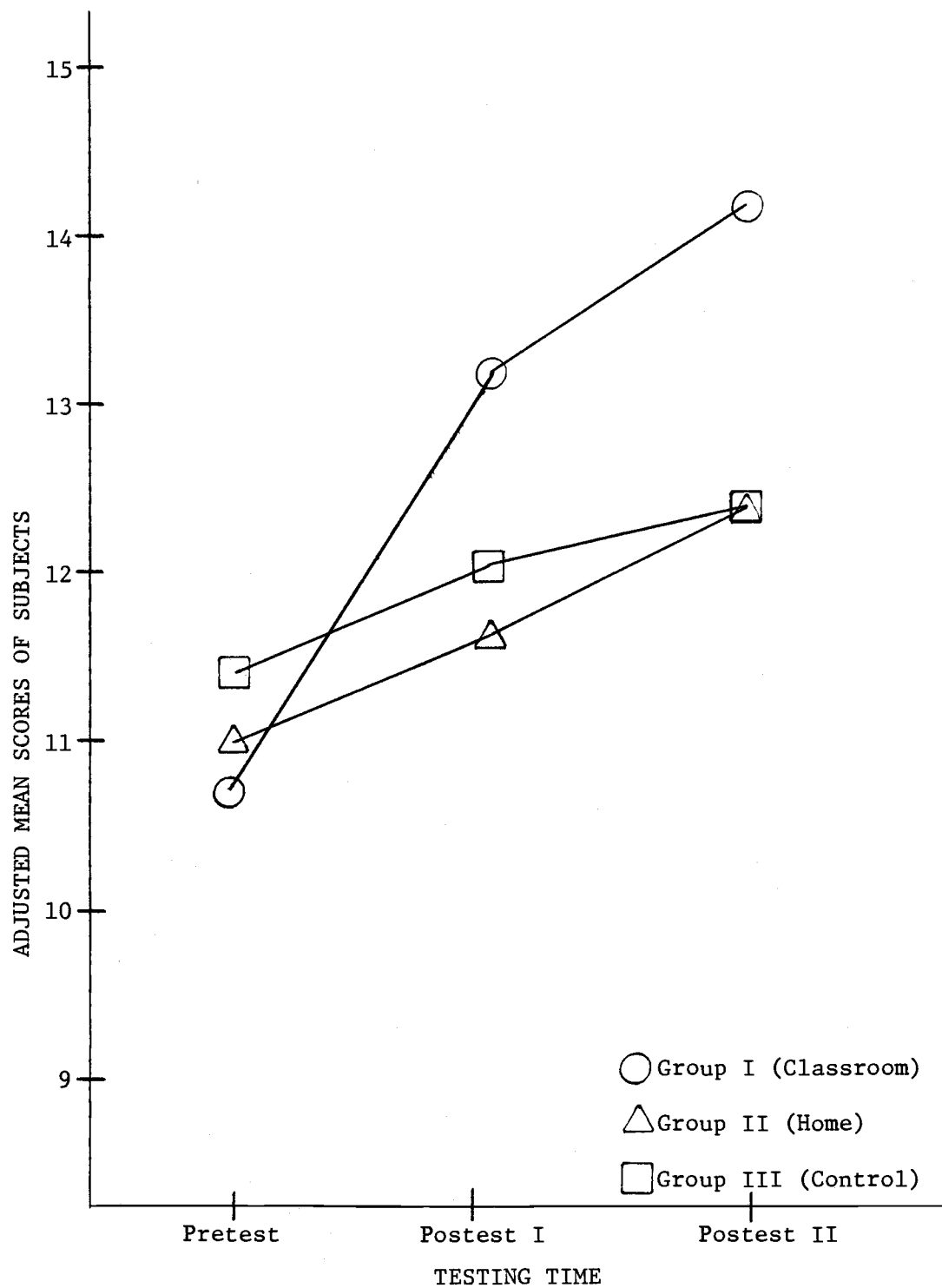


Figure 2. Group X Testing Time Interaction Effect Related to the Cooperating Modified Prosocial Behavior Questionnaire Subscale Scores of Subjects.

adjusted mean scores at Posttest I.

Taken together, these results suggest that while the cooperating scores of subject in all groups significantly increased from Pretest to Posttest II, the impact of the Classroom program seemed to lead to significantly greater increases in such behaviors immediately following the six-week intervention, and also six weeks after its termination. The Home Learning Program appeared not to have a significant impact on the cooperating scores of subjects, since the adjusted mean scores of subjects in this group did not differ significantly from those in the Control Program at all testing times. Furthermore, while subjects in the Home Learning and Control Programs significantly increased in their cooperating scores from Posttest I to Posttest II, this increase did not reach the level or replicate those of subjects in the Classroom Program.

Sharing Subscale. With respect to the sharing scores (Sharing mod-PBQ) of subjects, significant effects were found for Group, $F(2,51) = 21.32, p < .001$, Testing Time, $F(2,51) = 43.07, p < .001$, and Group X Testing Time interaction $F(4,104) = 20.20, p < .001$. Adjusted mean sharing scores of subjects by group and testing time are presented in Table 3. Figure 3 graphically illustrates the significant Group X Testing Time interaction effects. Post-hoc comparisons of the adjusted mean sharing scores across groups associated with this significant interaction effect revealed the following results. There were no significant differences between the adjusted mean pretest scores of subjects in the groups. However, at Posttest I and II, subjects in the Classroom Program (Group I) had significantly higher adjusted mean sharing scores than subjects in

Table 3
Mean and Adjusted Mean Sharing Mod-PBQ Scores of Subjects
by Group and Testing Time

Group	Pretest Mean	Pretest Adjusted Mean	Posttest I Adjusted Mean	Posttest II Adjusted Mean
I (Classroom)	9.22	9.97	12.36	13.58
II (Home)	9.65	10.07	10.34	10.81
III (Control)	11.79	10.58	10.93	10.87

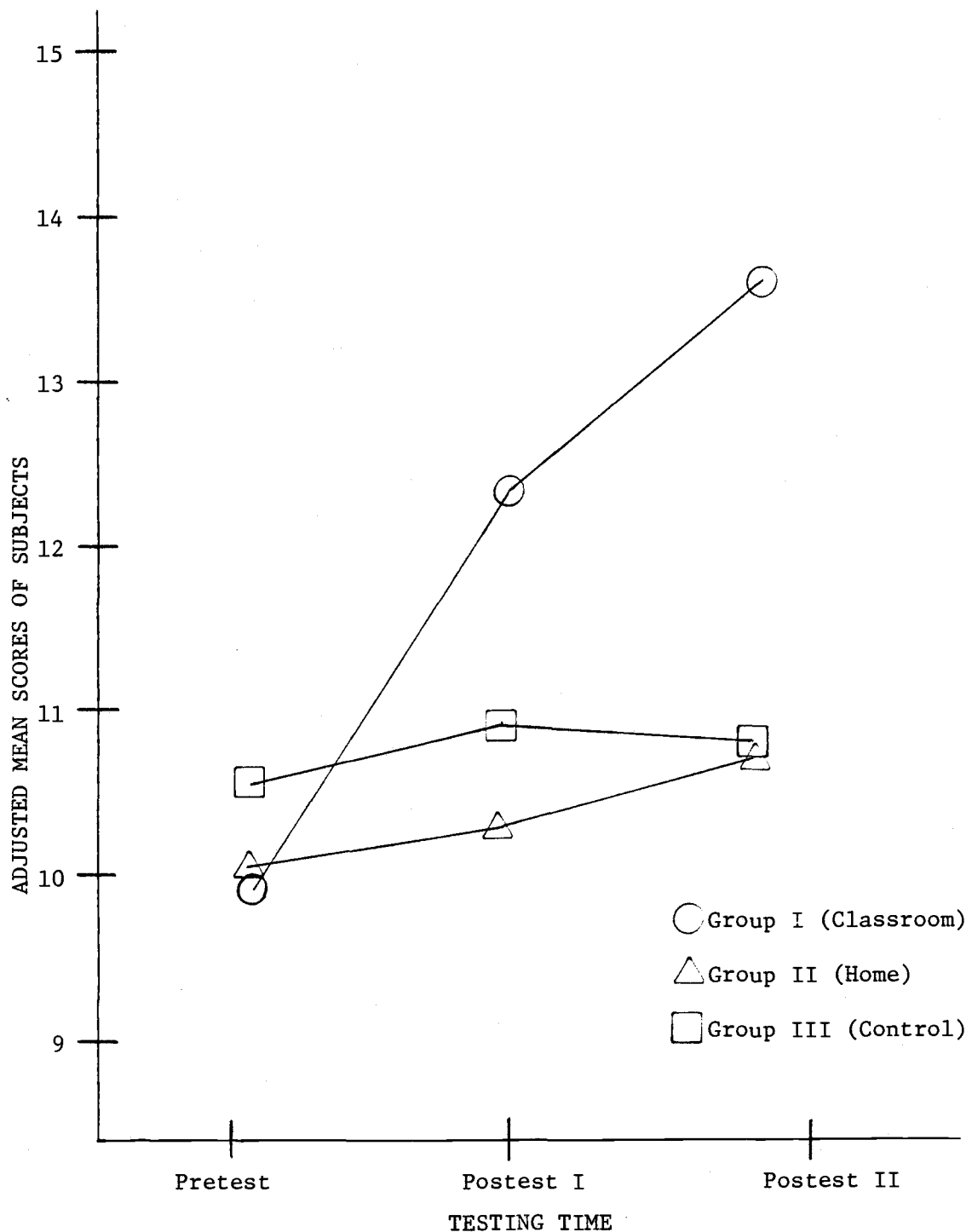


Figure 3. Group X Testing Time Interaction Effect Related to the Sharing Modified Prosocial Behavior Questionnaire Subscale Scores of Subjects.

the Home Learning (Group II; $p < .001$; $p < .001$) and Control (Group III; $p < .001$; $p < .001$) Programs. Subjects in the Home Learning (Group II) and Control (Group III) Programs did not differ significantly from each other at these testing times.

Post-hoc comparisons of the adjusted mean sharing scores of subjects within each group revealed that subjects in the Classroom (Group I; $p < .001$) and Home Learning (Group II; $p < .05$) Programs had significantly higher scores at Posttest II than at the Pretest, while subjects in the Control Program (Group III) did not. In addition, while subjects in the Classroom Program (Group I) had significantly higher adjusted mean scores at Posttest I than at the Pretest ($p < .001$), and at Posttest II than at Posttest I ($p < .001$), this did not occur among subjects in the Home Learning (Group II) and Control (Group III) Programs.

Taken together, these results suggest that the impact of the Classroom Program on subjects' sharing behavior, in comparison to those of the Home Learning and Control Programs, appeared to lead to significant increases in such behavior immediately following the six-week intervention, and also six weeks after its termination. The Home Learning Program appeared not to have a significant impact on the sharing scores of subjects. Although the scores of subjects in the Home Learning Program significantly increased from Pretest to Posttest II, their scores at Pretest vs. Posttest I, and Posttest I vs. Posttest II were not significantly different from each other. In addition, the adjusted mean scores of subjects in this program were not significantly different from those of the Control Program at all

testing times. Furthermore, the adjusted mean scores of subjects in the Control Program were not significantly different from each other at all testing times.

Helping Subscale. Results obtained with the Helping subscale (Helping mod-PBQ) revealed significant effects for Group, $F(2,51) = 6.42, p < .01$, Testing Time, $F(2,51) = 30.10, p < .001$, and Group X Testing Time interaction, $F(4,104) = 9.72, p < .001$. Adjusted mean helping scores of subjects by group and testing time are presented in Table 4. Figure 4 graphically illustrates the significant Group X Testing Time interaction effects. Post-hoc comparisons of the adjusted mean helping scores across groups associated with this significant interaction effect revealed the following results. There were no significant differences between the adjusted mean pretest scores of subjects in the groups. However, at Posttest I and II, subjects in the Classroom Program (Group I) had significantly higher adjusted mean scores than subjects in the Home Learning (Group II; $p < .001$; $p < .001$) and Control (Group III; $p < .05$; $p < .001$) Programs. Subjects in the Home Learning (Group II) and Control (Group III) Programs did not differ significantly from each other at these testing times.

Post-hoc comparisons of the adjusted mean helping scores of subjects within each group revealed that subjects in the Classroom (Group I; $p < .001$) and Control (Group III; $p < .05$) Programs had significantly higher mean scores at Posttest II than at the Pretest, while subjects in the Home Learning Program (Group II) did not. In addition, while subjects in the Classroom Program (Group I) had significantly higher adjusted mean scores at Posttest I than at the

Table 4

Mean and Adjusted Mean Helping Mod-PBQ Scores of Subjects
by Group and Testing Time

Group	Pretest Mean	Pretest Adjusted Mean	Posttest I Adjusted Mean	Posttest II Adjusted Mean
I (Classroom)	8.19	9.32	12.07	12.84
II (Home)	10.15	9.80	10.18	10.39
III (Control)	10.79	9.96	10.57	10.90

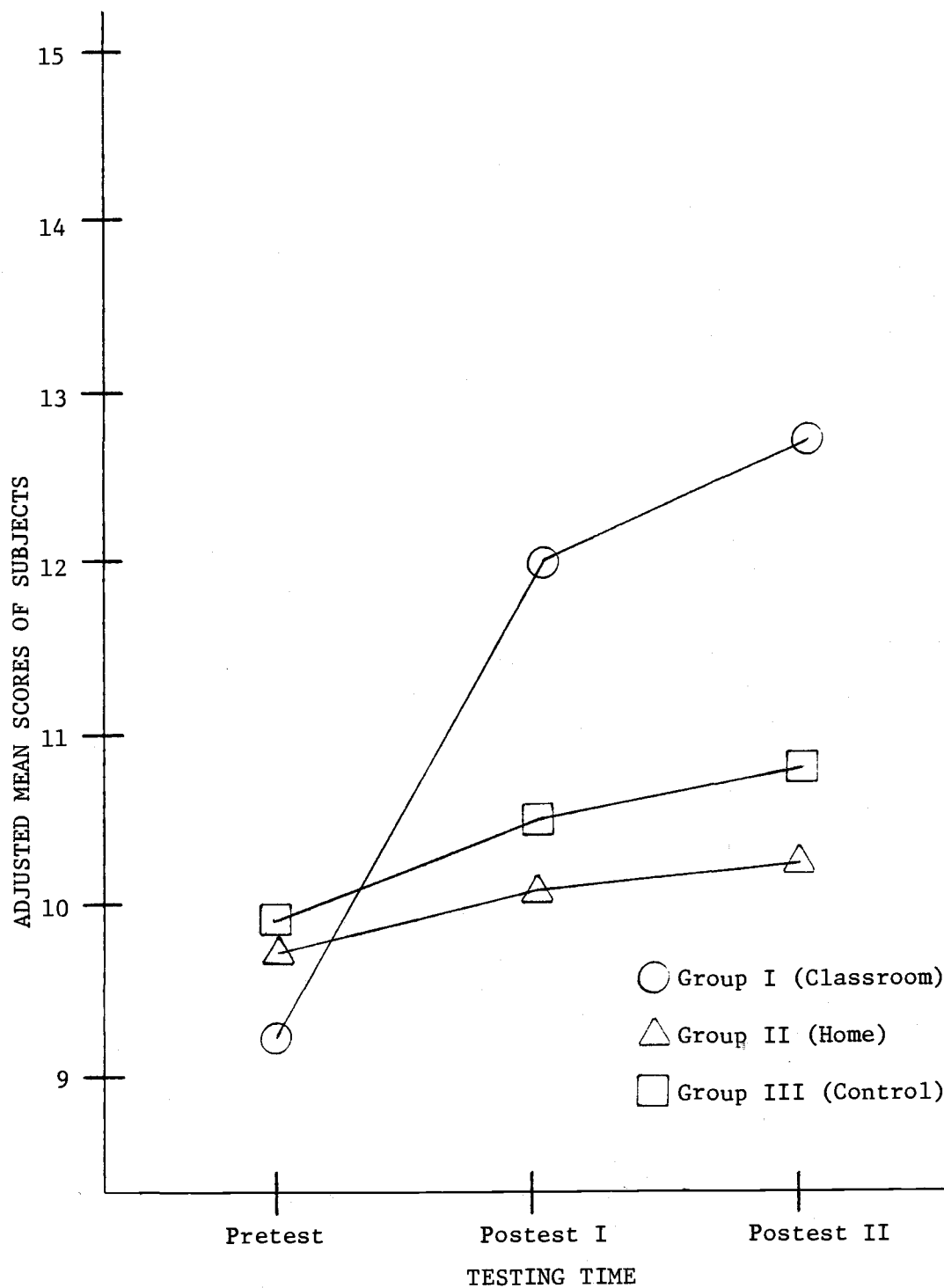


Figure 4. Group X Testing Time Interaction Effect Related to the Helping Modified Prosocial Behavior Questionnaire Subscale Scores of Subjects.

Pretest ($p < .001$), subjects in the Control Program (Group III) had significantly higher adjusted mean scores at Posttest II than at Posttest I ($p < .05$). The adjusted mean pretest scores of subjects in the Home Learning (Group II) and Control (Group III) Programs did not differ from their adjusted mean scores at Posttest I. Furthermore, the adjusted mean Posttest I scores of subjects in the Classroom (Group I) and the Home Learning (Group II) Programs did not differ from their scores at Posttest II.

Taken together, these results suggest that the Classroom Program, in comparison to the Home Learning and Control Programs, appeared to lead to significant increases in subjects' helping behavior at the end of the six-week intervention program, which was maintained six weeks after termination of the intervention. The Home Learning Program appeared not to have a significant impact on the helping behavior of subjects. The adjusted mean helping behavior scores of subjects in this group at all testing times were not significantly different from each other. Furthermore, the adjusted mean scores of subjects in this group were not significantly different from those of subjects in the Control Program at all testing times. Finally, while subjects in the Control Program appeared to significantly increase in their helping behavior from Pretest to Posttest II, this increase did not reach the level or replicate those of subjects in the Classroom Program.

Situational Tests

Findings resulting from three situational tests to assess the actual prosocial behavior of subjects were analyzed separately. From these situational tests, a measure of cooperation, three

measures of sharing and two measures of helping were obtained. Results of the analyses are described in the following paragraphs.

Cooperation Situation Test. For the cooperation situational test, significant effects were obtained for Group, $F(2,51) = 13.57, p < .01$, Testing Time, $F(2,51) = 13.18, p < .01$, and Group X Testing Time interaction $F(4,104) = 4.88, p < .01$. Adjusted mean cooperation scores of subjects by group and testing time are presented in Table 5. Figure 5 graphically illustrates the significant Group X Testing Time interaction effects. Post-hoc comparisons of the adjusted mean scores across groups associated with this significant interaction effect revealed the following results. There were no significant differences between the adjusted pretest means of subjects in the groups. However, at Posttest I and II, subjects in the Classroom (Group I; $p < .001$; $p < .001$) and Home Learning (Group II; $p < .001$; $p < .001$) Programs had significantly higher adjusted mean cooperation scores than subjects in the Control (Group III) Program. In addition, subjects in the Classroom Program (Group I) had significantly higher adjusted mean cooperation scores than subjects in the Home Learning (Group II; $p < .05$) Program at Posttest I, but not at Posttest II.

Post-hoc comparison of the adjusted mean cooperation scores of subjects within each group revealed that subjects in the Classroom (Group I; $p < .001$) and Home Learning (Group II; $p < .01$) Programs had significantly higher adjusted mean scores at Posttest II than at the Pretest, while the Control Program (Group III) did not. In addition, while subjects in the Classroom (Group I; $p < .001$) and Home Learning

Table 5
Mean and Adjusted Mean Cooperation Scores of Subjects
by Group and Testing Time

Group	Pretest Mean	Pretest Adjusted Mean	Posttest I Adjusted Mean	Posttest II Adjusted Mean
I (Classroom)	3.29	3.37	4.23	4.06
II (Home)	3.57	3.52	3.91	4.08
III (Control)	3.56	3.52	3.42	3.59

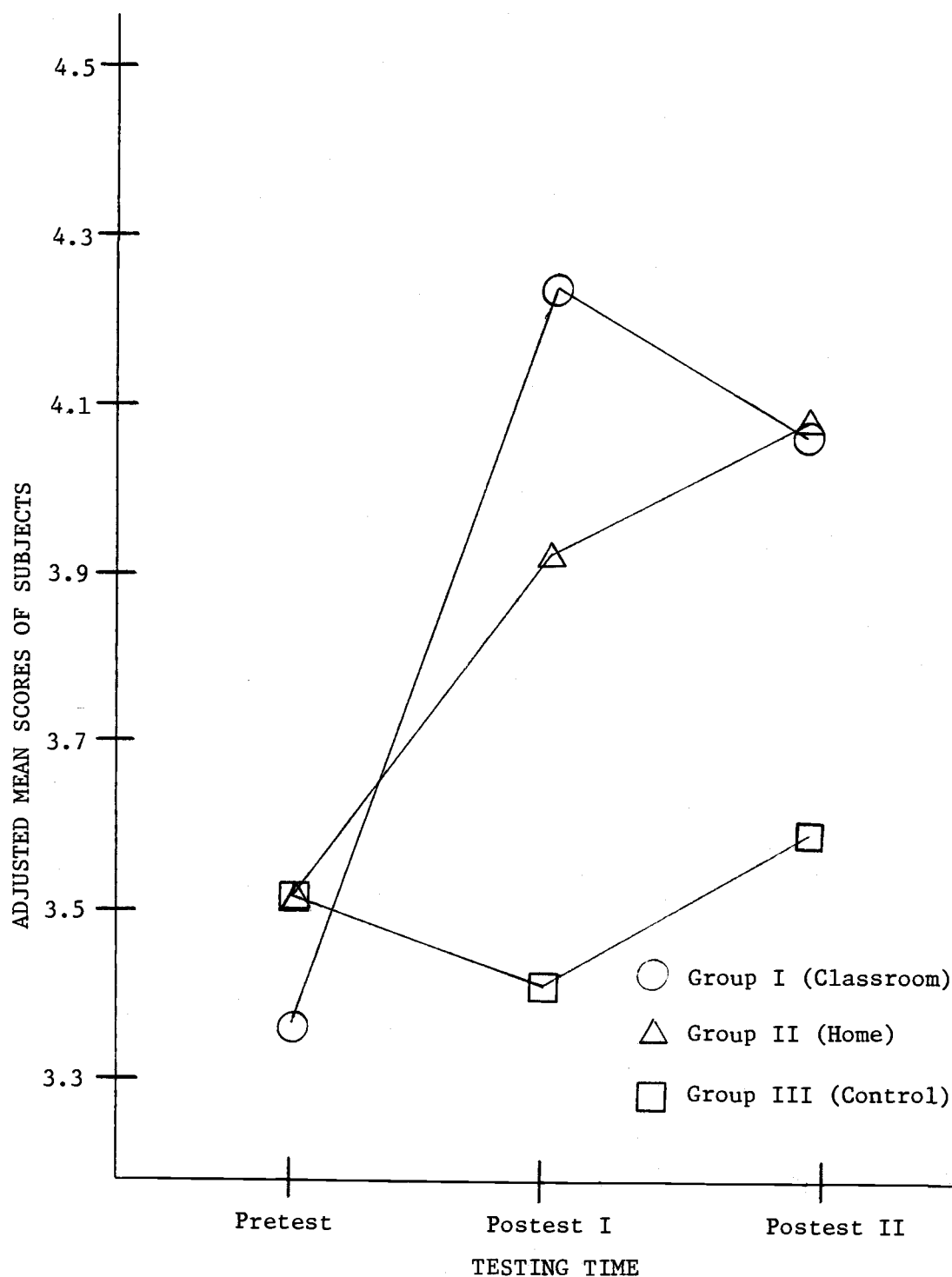


Figure 5. Group X Testing Time Interaction Effect Related to the Cooperation Situational Test Scores of Subjects.

(Group II; $p < .05$) Programs had significantly higher adjusted mean scores at Posttest I than at the Pretest, subjects in the Control Program (Group III) did not. Furthermore, there were no significant differences between the adjusted mean cooperation scores of subjects at Posttest I or II in all of the groups.

Taken together, these findings suggest that the Classroom and Home Learning Programs, in comparison to the Control Program, appeared to lead to significant increases in subjects' cooperation behavior at the end of the six-week intervention period, which was maintained six weeks following termination of the interventions. This impact seemed to be greater for the Classroom Program than the Home Learning Program immediately following the intervention, but not six weeks after its termination. In fact, although not significant, subjects in the Classroom Program appeared to slightly decrease in their adjusted mean cooperation scores at Posttest II, while subjects in the Home Learning Program appeared to slightly increase in their scores, thus obscuring the cooperation score differences that occurred between these groups at Posttest I. The adjusted mean cooperation scores of subjects in the Control Program did not differ significantly from each other at all testing times, and were significantly lower than those of subjects in the Classroom and Home Learning Programs at Posttest I and II.

Sharing Situational Test. As indicated previously, three measures of sharing were obtained with the Sharing Situational Test. These included Total Sharing, Physical Sharing and Verbal Sharing. No significant Group, Testing Time or Group X Testing Time effects

were found for the Total Sharing and Physical Sharing scores of subjects. Table 6 and 7 summarize the adjusted Total Sharing and Physical Sharing means of subjects by group and testing time.

With respect to the Verbal Sharing scores of subjects, however, a significant effect for testing time was obtained, $F(2,51) = 7.48$, $p < .001$. Table 8 summarizes the adjusted mean Verbal Sharing scores by group and testing time. Post-hoc comparisons of the adjusted mean Verbal Sharing scores by testing time revealed that subjects had significantly higher scores at Posttest I and II than at the Pretest ($p < .001$; $p < .05$), but not at Posttest II when comparing them with Posttest I scores. These findings suggest that subjects in this study significantly increased in their Verbal Sharing scores after the first testing time, but not after the second testing time.

Helping Situational Test. There were two measures of helping that were obtained from the Helping Situational Test. These included the Number of Helping Behaviors, and a Helping Coefficient score. No significant Group, Testing Time or Group X Testing Time effects were obtained for the Number of Helping Behaviors and the Helping Coefficient scores. Tables 9 and 10 summarize the adjusted Number of Helping Behaviors and Helping Coefficient means by group and testing time.

Table 6

Mean and Adjusted Mean Total Sharing Scores of Subjects
by Group and Testing Time

Group	Pretest Mean	Pretest Adjusted Mean	Posttest I Adjusted Mean	Posttest II Adjusted Mean
I (Classroom)	2.83	2.24	2.85	2.80
II (Home)	1.12	1.74	2.04	2.68
III (Control)	2.00	2.00	2.94	2.35

Table 7

Mean and Adjusted Mean Physical Sharing Scores of Subjects
by Group and Testing Time

Group	Pretest Mean	Pretest Adjusted Mean	Posttest I Adjusted Mean	Posttest II Adjusted Mean
I (Classroom)	2.50	1.77	1.60	2.21
II (Home)	.76	1.15	1.21	1.80
III (Control)	.76	1.15	2.15	1.86

Table 8

Mean and Adjusted Mean Verbal Sharing Scores of Subjects
by Group and Testing Time

Group	Pretest Mean	Pretest Adjusted Mean	Posttest I Adjusted Mean	Posttest II Adjusted Mean
I (Classroom)	.89	1.34	4.84	3.50
II (Home)	1.18	1.46	3.40	3.52
III (Control)	3.00	2.24	2.19	2.72
\bar{X}	1.67	1.68	3.48	3.25

Table 9

Mean and Adjusted Mean Helping Number Scores of Subjects
by Group and Testing Time

Group	Pretest Mean	Pretest Adjusted Mean	Posttest I Adjusted Mean	Posttest II Adjusted Mean
I (Classroom)	6.33	6.33	6.39	6.61
II (Home)	5.71	6.07	5.42	6.89
III (Control)	6.94	6.58	6.05	6.58

Table 10

Mean and Adjusted Mean Helping Coefficient Scores of Subjects
by Group and Testing Time

Group	Pretest Mean	Pretest Adjusted Mean	Posttest I Adjusted Mean	Posttest II Adjusted Mean
I (Classroom)	19.33	20.85	37.91	31.63
II (Home)	22.53	22.09	16.79	21.44
III (Control)	23.71	22.54	28.19	23.83

DISCUSSION

This study assessed the impact of classroom and home learning programs on children's prosocial behavior. More specifically, the influence of adult modeling and encouragement used in these programs on children's cooperating, sharing, and helping behaviors were examined immediately following the six-week intervention programs and six weeks after their termination.

Impact of Intervention Programs

Results of the present investigation indicated that the classroom intervention program appeared to have a greater impact on teacher perceptions of children's prosocial behavior immediately following the six-week intervention, and also six weeks after its termination than either the home learning or control programs. More specifically, teachers in the classroom program, in comparison to the home learning and control programs, perceived significantly greater increases in children's total prosocial behavior, and their cooperating, sharing and helping behaviors immediately following the six-week intervention program. These differences continued to increase significantly six weeks after its termination or were maintained. These findings lend support to the social learning perspective regarding the significance of adult modeling and encouragement used in classroom curricula to facilitate children's prosocial behavior (Floody, 1979; Smith, 1979). They also add to previous research by indicating that the impact of a prosocial classroom curriculum, in addition to its short-term effects, may have long-term effects as well.

It is interesting to note, however, that the home learning program did not have a significant impact on teachers' perceptions of children's prosocial behavior. Observed changes in children's total prosocial behavior and their cooperating, sharing, and helping behaviors by teachers in the home learning program were not significantly different from teachers in the control program immediately following the six-week intervention program or six weeks after it's termination.

A possible explanation for this finding may have to do with the type of instrument used in assessing children's prosocial behavior. In this study, the mod-PBQ was used to assess teachers' perceptions of children's prosocial behavior, even though the home learning program occurred at home. Teachers are not likely to know as much about children's prosocial behavior at home. Had parents been asked to evaluate their children's prosocial behavior at home, a more accurate assessment of such behavior at home would have occurred, and differences in the prosocial behavior of children in the classroom, home learning and control programs may have been noted.

Whatever the case may be, caution must be taken in concluding that the prosocial classroom program had a significant impact on children's prosocial behavior solely on the basis of teachers' perceptions of such behavior. Although teachers' perceptions of children's prosocial behavior may influence the development of children's prosocial behavior, these perceptions may not be accurate and may be quite different from the actual prosocial behavior displayed by children (Cooper, 1983). For example, teacher's

involvement in the present study may have influenced their perceptions when rating children's prosocial behavior using the mod-PBQ. Despite conscious efforts made by teachers to remain objective in evaluating children's prosocial behavior, subconscious biases may have been present. Some teachers may have felt that children's display of prosocial behavior in programs during the research project was a reflection of their overall competence as teachers. Therefore, teacher evaluations may have been biased by these feelings.

Indeed, results obtained through analyses of data regarding children's actual prosocial behavior measured with situational tests revealed less clear-cut results. Findings related to children's actual sharing and helping behaviors indicated no significant impact for the classroom and home learning programs. However, results regarding children's cooperation behavior revealed that the classroom and home learning programs, in comparison to the control program, lead to significant increases in children's cooperation behavior immediately following the six-week intervention period, which was maintained six weeks after the intervention termination. For children's actual cooperation behavior, therefore, support was found for the social learning perspective regarding the significance of adult modeling and encouragement in both classroom and home learning programs in facilitating the development of such behavior among young children (Smith, 1979). Furthermore, the notion that such classroom and home learning programs can have short-term as well as long-term effects on children's cooperation behavior was also supported.

In addition to the above findings, another significant finding associated with children's actual cooperation behavior warrants discussion. Results of the present study suggested that the classroom program had significantly greater impact on children's cooperation behavior than the home learning program immediately following the interventions, but not six weeks after their termination. The greater impact of the classroom program on children's cooperation behavior immediately following the intervention period, attested to the strength of the classroom program over the home learning program during this period. This finding coincided with previous research which indicated that an intensive classroom intervention program may be more efficient than a home learning program in changing children's behavior (Kyskla, 1980). Home learning programs often prohibit controlling modeling and encouragement strategies allowed in classroom programs. For example, in the present study, some parents reported spending only five to ten minutes of active interaction with their children each week on the prosocial activities found in the home learning program. On the other hand, children involved in the classroom program were actively involved in the daily planned prosocial activities where modeling and encouragement were experienced. It was not unusual, therefore, that the classroom program had a greater impact on children's cooperation behavior than the home learning program immediately following the intervention.

As indicated previously, however, six weeks following the intervention there were no significant differences between the

impact of the classroom and home learning programs on children's cooperation behavior. In fact, although not statistically significant, what occurred was a slight decrease in the cooperation scores of children in the classroom program, and a slight increase in such scores among children in the home learning program six weeks after termination of the interventions. The slight "dropping effect" of cooperation behavior among children in the classroom program is well documented in the literature (Bar-Tal, 1976; Smith, 1979). According to social learning theory, the termination of adult modeling and encouragement after an intervention period leads to a slight decrease in children's display of previously encouraged behaviors. This may have resulted in this study, since after the termination of the classroom program, a two-week vacation occurred. Modeling and encouragement, therefore, immediately ceased upon termination of the classroom program. Furthermore, all of the adults who modeled and encouraged prosocial behavior among children during their classroom intervention period, did not return to the classroom following the intervention. Had the adults who modeled and encouraged the display of cooperation behavior among children during the classroom intervention period returned after the vacation, possibly the slight decrease in prosocial behavior among children six weeks after termination of the intervention may not have occurred.

With respect to the slight increase in the cooperation behavior of children in the home learning program, social learning theory also has an explanation. In the present study, adults who modeled and encouraged children's prosocial behavior in the home learning

program continued to interact with the children, although the home learning program intervention was terminated. The continued presence of these adult models after the intervention period, may have led to the slight increase in the cooperation behavior of the children. These adult models may have unconsciously continued to model and encourage the display of prosocial behavior among children, even though they were not instructed to do so. According to social learning theory, such intermittent encouragement does lead to the learning of behavior.

Problems with Situational Tests

As indicated previously, results of the situational tests revealed that both the classroom and home learning programs appeared to have a significant impact on the cooperation behavior of children, but not on their sharing and helping behaviors. The present results on sharing and helping, therefore, are in contrast with previous research (Berndt, 1981; Floody, 1970; Staub & Sherk, 1970). Two basic factors may account for these discrepant findings. These include the measurement tools and testing procedures used.

With respect to the measurement tools used to assess sharing and helping behavior in this study, questions can be raised regarding their adequacy as measurement devices. Situational tests used to measure both behaviors did not appear to simulate a naturalistic setting in which both sharing and helping behaviors could be adequately expressed. For example, in the Sharing Situational Test, two children were given one drawing utensil to make their own drawings for inclusion in a book of pictures. When the experimenter

left the room, a large variety of behaviors other than sharing occurred. For example, some children used the situation as a problem solving one, breaking the drawing utensil in half for their use. Other children played games of give and take not centering on completing their task. Still others just sat and talked for five minutes, while others appeared totally bored in one minute. In the Helping Situational Test, the experimenter accidentally dropped a basket of 20 toys, gradually picking up only five, waiting for the child to participate in picking up the rest of them. While descriptively, this situation appears to be one that might simulate a helping situation, in actuality it may not have. Most children appeared not to perceive the situation as one that called for help. In fact, some children just stood there, waiting for cues from the experimenter as to what to do. Others called the experimenter a "klutz" or "clumsey." Still others appeared irritated about the fact that the experimenter dropped the toys. These measurement tools, while used in this and previous research, may not be adequate in assessing sharing and helping behaviors.

In contrast to the Sharing and Helping Situational Tests, the Cooperation Situational Test appeared to simulate a naturalistic setting in which various levels of cooperating behaviors were displayed. In the test situation, two children were each given different sets of toys on a table before them. The experimenter instructed the children to play with the toys on the table and left the room. In this test situation a variety of levels of previously determined social behaviors, representing various levels

of cooperation, were displayed. These included cooperation, pre-cooperation, active interaction, parallel play, watching, minimal interaction and obstructive interaction (Paulsen, 1974).

In reference to the issue regarding testing procedures, the repeated testing of children using similar administration procedures for the sharing and helping situational tests did appear to affect children's performance on them. Although different materials were used in each testing situation, children appeared to become bored with the test situation, particularly at Posttest II, making comments such as "I did that already!", or "I don't want to do that again!" Some children also invented their own activities with the test materials such as coloring the table, walls, or on each other in a sharing activity. As discovered in the present study, a significant main effect for testing time was obtained for Verbal Sharing. Children's adjusted mean Verbal Sharing scores were significantly higher at Posttest I than at the pretest, but not at Posttest II. This finding, therefore, in part suggests that repeated testing of subjects with the Sharing Situational Test did affect children's scores. This phenomenon, however, did not appear to occur with the Cooperation Situational Test. In all cases, children were active and involved in such a test situation using the materials presented individually and together in a variety of ways.

Additional Findings

Age Differences. In the present study, prosocial behavior of children as measured by the mod-PBQ as well as the Cooperation Situational Test appeared to generally increase from pretest to

Posttest II. Most of the differences between these adjusted pre- and Posttest II means were statistically significant, and occurred in the Classroom, Home Learning and Control Programs. Aside from being related to changes in exposure to a variety of learning experiences within and outside of the experiment, these differences suggest the occurrence of possible maturational changes in the prosocial behavior of children. These findings are consistent with previous research (e.g., White & Burnam, 1975), indicating that during the years three to four-and-one-half, children increase markedly in their ability to display prosocial behavior.

Sex Differences. In addition to age differences, results of the present study related to sex differences were noteworthy. The present study revealed no sex or sex by group interaction effects on children's prosocial behavior. Past research has reported inconsistent findings with respect to the sex variable. Some researchers have found that girls tend to elicit more prosocial behaviors than boys (Eisenberg et al., 1983; Harris & Siebel, 1975). Using social learning theory, these researchers point to differences in the early sex role socialization experiences of children as an explanation (Rushton, 1982). In contrast, other researchers have found no sex differences in children's prosocial behavior, and have suggested that adult modeling and encouragement of prosocial behavior in experimental situations affect both boys and girls equally (Hartup & Keller, 1960; Yarrow & Waxler, 1976). Results of the present study coincide with this latter finding. A number of explanations can be provided for these results.

First, the classroom and home learning programs consisted of activities designed to equally attract boys' and girls' involvement in them. In selecting these activities, care was taken in not having them favor one sex over the other. In addition, prior to program implementation, during an orientation seminar, teachers were provided with information regarding the fact that both boys and girls were equally capable of displaying prosocial behavior and were asked to be conscious of strategies that involved both boys and girls to an equal extent in prosocial activities. Apparently, such an orientation seminar did have an impact, since anecdotal records of teachers interacting with children during prosocial activities revealed that boys and girls involved in these activities received 51% and 49% of the encouragement by teachers, respectively. Furthermore, parent questionnaire data revealed that about an equal number of boys (68%) and girls (71%) were consistently involved in the activities of the weekly home learning program.

Summary

In summary, results of the present investigation revealed that compared to the home learning or control programs, the classroom intervention program had a greater impact on teachers' perceptions of children's prosocial behavior, immediately following the six-weeks intervention and also six weeks after its termination. More specifically, teachers in the classroom program, in comparison to the home learning and control programs, perceived significantly greater increases in children's total prosocial behavior, and their cooperating, sharing, and helping behaviors immediately following

the six-weeks intervention period, which continued to increase significantly or were maintained six weeks after intervention termination.

In addition, the present study revealed that the classroom and home learning programs, in comparison to the control program, lead to significant increases in children's cooperation behavior at the end of the six-week intervention period, which was maintained six weeks following intervention termination. However, the classroom program had a greater impact on children's cooperation behavior than the home learning program immediately following the intervention. Both the classroom and home learning programs had no significant impact on the sharing and helping behaviors of children.

Measurement problems related to the assessment of these behaviors were evident. Repeated testing over time was found to have a significant impact on children's Verbal Sharing behavior. In addition, age increases in the development of prosocial behavior during the experiment were noted. No sex differences were found in the prosocial behavior of children or as a result of participation in the intervention programs.

Limitations and Directions for Future Research

Although results of the present study provided several important findings regarding the impact of prosocial classroom and home learning programs on children's prosocial behavior, certain limitations were encountered in this study which suggested directions for future research.

Measurement Problems. A number of limitations were encountered

with respect to the measurement of prosocial behavior. The use of Situational Tests to assess aspects of prosocial behavior, particularly sharing and helping, was problematic. As a result of experiences in the present study, questions can be raised regarding whether or not these situational tests simulated a natural enough setting for children to express their prosocial behavior and accurately assessed prosocial behavior as a result of repeated testings. In many instances, behaviors other than prosocial ones (e.g., problem solving) were expressed, and some children became exceedingly bored with the experience.

In addition, the interrater reliability estimates of the mod-PBQ were only moderate ($r=.60$). Improvement in the reliability of this measure for future studies appears important. Due to such moderate reliability, the current study employed two teachers to rate the prosocial behavior of children independently, for an average estimate of children's prosocial behavior. Collaboration of teachers in assessing children together might prove a more accurate means of assessment (Iannotti, 1985). Investigation of this hypothesis in future research would be worthwhile.

Furthermore, the mod-PBQ assesses teachers' perceptions of children's prosocial behavior. As such, it may be different from children's actual behavior. In the present study, correlation coefficients expressing the relationships between teacher perceptions of children's prosocial behavior as assessed by the mod-PBQ and children's prosocial behavior as assessed through the situational tests revealed little or no significant relationships between them.

In addition, significant findings regarding the impact of the classroom and home learning programs on children's prosocial behavior as assessed by both of these measures provided contrasting results. Future studies, therefore, should be aware of whether teacher perceptions of children's prosocial behavior or their actual behaviors are being assessed before conclusions are inferred from them.

Finally, in the present study, teachers' perceptions of prosocial behavior were used to assess the impact of a home learning program on children's prosocial behavior. Since teachers are not likely to have an accurate idea of children's prosocial behavior within a home situation, perhaps a more useful measure of children's prosocial behavior in studies of this kind would be one that taps parents' perceptions of children's prosocial behavior or children's actual display of such behavior within the home.

Videotaping Behaviors. Closely associated with measurement problems was the use of videotape recordings in assessing children's prosocial behavior. The use of these recordings greatly aided in the collection of data for this study. In addition to task problems associated with assessing sharing and helping behavior, the problem of coding what behaviors represented sharing and helping was evident. The present study utilized past research in guiding the coding of children's prosocial behavior from videotape recordings. However, such codings may not have actually represented aspects of children's prosocial behavior. For example, is giving a child a crayon to draw actually measuring sharing behavior? Are picking up toys, after they have been dropped by an experimenter, helping? These scoring

procedures need to be further investigated in future studies. The presence of videotape recordings of children's behavior allows the experimenter to reexamine the actual data in an attempt to develop more refined and accurate assessment of children's prosocial behavior.

Sampling and Design Limitations. Children used as subjects in this study were all enrolled in university laboratory programs. They came from highly educated, middle-to-upper socioeconomic class families that were predominantly intact. Generalizations of results to other populations, therefore, must be exercised with great caution. In addition, the control group children used in this study came from Montana, while the two experimental group children came from Oregon. Although family background data, and the philosophy of the preschool programs in which the subjects were enrolled were similar, the fact that children came from different states raises questions regarding the comparitability of results obtained from them. Indeed, pretest prosocial scores of subjects in various groups were significantly different from each other. As a result, statistical manipulation of data using the ANCOVA procedure had to be employed in data analyses. Future studies would do well to use more stringent matching and random assignment procedures to insure the equivalence of groups prior to the intervention. Furthermore, the age range of subjects was limited to 3- to 4-year-old children. Future research might wish to study children of varying ages to obtain developmental data, or study two-year-old children due to their egocentric characteristics. The effectiveness of modeling and encouragement with two-year-olds would be especially

interesting to research.

Intervention Limitations. Although the prosocial classroom intervention program was carefully planned and monitored throughout the experiment, the home learning intervention program was not as closely guided. Parents were asked to complete a simple questionnaire about the use of the home learning program with their children, and were at times telephoned when they were lax in carrying out the program. However, no other means were used to insure that the home learning program was actually carried out. This may be the reason why the classroom program had a greater impact on teachers' perceptions of children's prosocial behaviors and children's actual cooperation behavior than the home learning program. The fact that the home learning program still had a significant impact on children's cooperation behavior, however, suggests that such programs can be effective in facilitating children's prosocial behavior. Future studies, therefore, might wish to develop more adequate home learning intervention programs for use by parents and children and assess their effectiveness in facilitating prosocial behavior among children.

Finally, in the present study, a variety of student teachers were used to implement the classroom intervention program to children in a preschool setting. These student teachers varied in their skills and effectiveness in implementing the prosocial curriculum activities with the children. A study focused on identifying various skill levels in facilitating children's prosocial behaviors may be worthwhile for teacher training programs which

hold prosocial behavior as an important ability for young children to acquire.

BIBLIOGRAPHY

- Altman, K. (1971). Effects of cooperative response acquisition on social behavior during free play. Journal of Experimental Psychology, 12, 387-395.
- Ascione, F. R. & Sanok, R. L. (1982). The role of peer and adult models in facilitating and inhibiting children's prosocial behavior. Genetic Psychological Monographs, 106, 239-259.
- Bandura, A., Grusec, J. E. & Menlove, F. L. (1967). Some social determinants of self-monitoring reinforcement systems. Journal of Personality and Social Psychology, 5, 449-455.
- Bandura, A. & Walters, R. (1963). Social learning and personality development. New York: Holt, Rinehart, and Winston.
- Barnett, M. A. & Bryan, J. H. (1974). Effects of competition with outcome feedback on children's helping behavior. Developmental Psychology, 10, 838-842.
- Bar-Tal, D. (1976). Prosocial behavior: Theory and research. New York: Halstead.
- Bar-Tal, D., Raviv, A. & Goldberg, M. (1982). Helping behavior among preschool children: An observational study. Child Development, 53, 396-402.
- Bar-Tal, D., Raviv, A. & Leiser, T. (1980). The development of altruistic behavior: Empirical evidence. Developmental Psychology, 16, 516-525.
- Barton, E. J. & Ascione, F. R. (1979). Sharing in preschool children: Facilitation, stimulus generalization, response generalization and maintenance. Journal of Applied Behavior Analysis, 12, 417-430.
- Barton E. J., Olszewski, M. J. & Madsen, J. J. (1979). The effects of adult presence on prosocial behavior of preschool children. Child Behavior Therapy, 1, 271-286.
- Berndt, T. J. (1981). Effects of friendship on prosocial intentions and behavior. Child Development, 52, 636-643.
- Bryan, J. H. (1975). Children's cooperation and helping behaviors. in E. M. Hetherington (Ed.). Review of Child Development Research. Chicago, Illinois: The Chicago Press, 127-181.

- Coates, D., Pusser, H. E. & Goodman, I. (1976). The influence of "Sesame Street" and "Mister Rogers' Neighborhood" on children's social behavior in the preschool. Child Development, 47, 138-144.
- Cooper, H. M. (1983). A historical overview of teacher expectation effects. ERIC document, #ED239 176.
- DeMarsh, J. P. & Admas, G. R. (1983). Development of social competencies: Preschool influences upon perspective talking and listening skill development. Child Study Journal, 13, 75-83.
- DePalma, D. J. (1974). Effects of social class, moral orientation, and severity of punishment on boys' moral responses to transgression and generosity. Developmental Psychology, 10, 890-900.
- Dunn, L. M. & Dunn, L. M. (1981). The peabody picture vocabulary test - Revised. Circle Pines, Minnesota: American Guidance Service.
- Eisenberg, N., Bartlett, K. & Haake, R. (1983). The effects of nonverbal cues concerning possession of a toy on children's proprietary and sharing behaviors. The Journal of Genetic Psychology, 143, 79-85.
- Elliott, R. & Vasta, R. (1970). The modeling of sharing: Effects associated with vicarious reinforcement, symbolization, age and generalization. Journal of Empirical and Child Psychology, 10, 8-15.
- Flerx, V. C., Fidler, D. S. & Rogers, R. W. (1976). Sex role stereotypes: Developmental aspects and early intervention. Child Development, 47, 998-1007.
- Floody, D. R. (1980). An early childhood educator's guide to prosocial development. ERIC document, #ED192 882.
- Floody, D. R. (1979). Prosocial behavior: A seminar for pre-school teachers. ERIC document, #ED164 116.
- Forman, G. E. & Hill, F. (1984). Constructive play: Applying Piaget in the Preschool. Menlo Park, California: Addison-Wesley Publishing Company.
- Friedrich, L. K. & Stein, A. H. (1973). Aggressive and prosocial television programs and the natural behavior of preschool children. Monographs of Society for Research in Child Development, 38, No. 4.

- Friedrich, L. K. & Stein, A. H. (1975). Prosocial television and young children: The effects of verbal labeling and role playing on learning and behavior. Child Development, 46, 27-38.
- Froming, W. J., Allen, L. & Underwood, B. (1983). Age and generosity reconsidered: Cross-sectional and longitudinal evidence. Child Development, 54, 585-593.
- Grusec, J. E. (1971). Power and the internalization of self-denial. Child Development, 42, 93-105.
- Harris, M. B. (1970). Reciprocity and generosity: Some determinants of sharing in children. Child Development, 41, 313-328.
- Harris, M. B. & Siebel, C. E. (1975). Affect, aggression and altruism. Developmental Psychology, 11, 623-627.
- Hartup, W. W. & Coates, B. (1967). Imitation of a peer as a function of reinforcement from the peer group and rewardingness of the model. Child Development, 38, 1003-1016.
- Hartup, W. W. & Keller, E. D. (1960). Nurturance in preschool children and its relation to dependency. Child Development, 31, 681-689.
- Hay, D. (1979). Cooperative interactions and sharing between very young children and their parents. Developmental Psychology, 15, 647-653.
- Hollingshead, A. B. (1975). Four factor index of social status. Unpublished manuscript. (Mimeographed copy available from Dr. August B. Hollingshead, 1965 Yale Station, New Haven, Connecticut 06520.)
- Iannotti, R. J. (1985). Naturalistic and structural assessments of prosocial behavior in preschool children: The influence of empathy and perspective taking. Developmental Psychology, 21, 46-55.
- Jakibchuk, Z. & Smeriglio, V. L. (1976). The influence of symbolic modeling on the social behavior of preschool children with low levels of social responsiveness. Child Development, 47, 838-841.
- Johnson, D. B. (1982). Altruistic behavior and the development of the self in infants. Merrill-Palmer Quarterly, 28, 379-388.
- Kareev, Y. (1982). An evaluation of the educational impact of HIPPY (Home Instruction Program for Preschool Youngsters). ERIC documents, #ED227 180.

- Keller, M. F. & Carlson, P. M. (1974). The use of symbolic modeling to promote social skills in preschool children with low levels of social responsiveness. Child Development, 45, 912-919.
- King, L. J. & Barnett, M. A. (1982) Age and sex differences in preschooler's helpfulness. Child Study Journal, 12, 143-149.
- Klein, R. P. & Yarrow, L. J. (1980). Maternal behavior and sharing by toddlers. Psychological Reports, 46, 1057-1058.
- Knight, G. P. & Kagan, S. (1977). Acculturation of prosocial and competitive behaviors among second- and third-generation Mexican-American children. Journal of Cross-Cultural Psychology, 8, 273-283.
- Knight, G. P., Kagan, S. & Buriel, R. (1982). Perceived parental practices and prosocial development. The Journal of Genetic Psychology, 141, 57-65.
- Koblinsky, S. A. & Sugawara, A. I. (1979). Effects of non-sexist curriculum intervention on children's sex role learning. Home Economics Research Journal, 7, 399-406.
- Kysela, G. M. (1978). The early education project: A home and school approach for infants and preschool children exhibiting developmental handicaps. ERIC document, #ED175 564.
- Lipscomb, T. J., Larrieu, J. A., McAllister, H. A. & Bregman, N. J. (1982). Modeling and children's generosity: A developmental perspective. Merrill-Palmer Quarterly, 28, 275-282.
- Madsen, M. C. (1967). Cooperative and competitive motivation of children in three Mexican sub-cultures. Psychological Reports, 20, 1307-1320.
- Maquire, J. D. (1962). Speed of germination aid in selecting and evaluating of seedling emergence and vigor. Crop Science, 2, 176-177.
- Marcus, R. F. & Leiserson, J. (1978). Encouraging helping behavior. Young Children, 33, 24-34.
- McConkey, R. & O'Connor, M. (1982) A new approach to parental involvement in language intervention programmes. Child: Care, Health and Development, 8, 163-176.
- Midlarsky, E. & Bryan, J. H. (1972). Affect expressions and children's imitative altruism. Journal of Experimental Research in Personality, 6, 195-203.

- Midlarsky, E., Bryan, J. H. & Brickman, P. (1973). Aversive approval: Interactive effects of modeling and reinforcement on altruistic behavior. Child Development, 44, 321-328.
- Midlarsky, E. & Suda, W. (1978). Some antecedents of altruism in children: Theoretical and empirical perspectives. Psychological Reports, 43, 187-208.
- Miller, L. B. & Dyer, J. L. (1975). Four preschool programs: Their dimensions and effects. Monographs of the Society for Research in Child Development, 40, No. 162.
- Moore, S. (1977). Research in review: Considerateness and helpfulness in young children. Young Children, 32, 73-76.
- Mussen, P. & Eisengerg-Berg, N. (1977). Roots of caring, sharing and helping. San Francisco: W. H. Freeman and Company.
- O'Bryant, S. L. & Brophy, J. E. (1976) Sex differences in altruistic behavior. Developmental Psychology, 12, 554.
- O'Connor, M. & Cuevas, J. (1982). The relationship of children's prosocial behavior to social responsibility, prosocial reasoning, and personality. The Journal of Genetic Psychology, 140, 33-45.
- O'Malley, J. M. (1977). Research perspectives on social competence. Merrill-Palmer Quarterly, 23, 29-44.
- Paulson, F. L. (1974). Teaching cooperation on television: An evaluation of Sesame Street social goals program. Audio-Visual Communications Review, 22, 229-246.
- Peterson, L. (1982). Altruism and the development of internal control: An integrative model. Merrill-Palmer Quarterly, 28, 197-222.
- Rheingold, H. (1982). Little children's participation in the work of adults. Child Development, 53, 114-125.
- Rogers-Warren, A. & Baer, D. M. (1976). Correspondence between saying and doing: Teaching children to share and praise. Journal of Applied Behavior Analysis, 9, 335-354.
- Rogers-Warren, A., Warren, S. F. & Baer, D. M. (1977). A component analysis: Modeling, self-reporting, and reinforcement of self-reporting in the development of sharing. Behavior Modification, 1, 307-322.
- Rosser, R. A. (1982). Information use by preschool children in altruistic decision-making: An exploratory investigation of donating behavior. The Journal of Genetic Psychology, 141, 19-27.

- Rushton, J. P. (1976). Socialization and the altruistic behavior of children. Psychological Bulletin, 83, 898-913.
- Rushton, J. P. (1975). Generosity in children: Immediate and long term effects of modeling, preaching and moral judgements. Journal of Personality and Social Psychology, 31, 459-466.
- Rushton, J. P. (1982). Altruism and society: A social learning perspective. Ethics, 92, 425-446.
- Sagotsky, G., Wood-Schreider, M. & Konop, M. (1981). Learning to cooperate: Effects of modeling and direct instruction. Child Development, 52, 1037-1042.
- Sawyer, J. (1966). The altruism scale: A measure of cooperative, individualistic and competitive interpersonal orientation. American Journal of Sociology, 71, 407-416.
- Shaffer, D. R. (1979). Social and personality development. Monterey, California: Brooks/Cole Publishing Company.
- Smith, C. A. & Foat, C. L. (1981). Once upon a mind: Using children's books to nurture self-discovery. Ames, Iowa: North Central Regional Extension Publications.
- Smith, C. L. (1979). Training prosocial behavior in preschool children. ERIC document #ED163 325.
- Staub, E. (1971). A child in distress: The influence of nurturance and modeling on children's attempts to help. Developmental Psychology, 5, 124-132.
- Staub, E. (1979). Positive social behavior: Socialization and development. New York: Academic Press.
- Staub, E. & Sherk, L. (1970). Need for approval: Children's sharing behavior and reciprocity in sharing. Child Development, 41, 243-252.
- Steel, R. G. D. & Torrie, J. H. (1980). Principles and procedures of statistics: A biometrical approach. New York: McGraw-Hill Book Company.
- Vogler, R. E., Masters, W. M. & Morrill, G. S. (1970). Shaping cooperative behavior in young children. Journal of Psychology, 74, 181-186.
- Vogler, R. E., Masters, W. M. & Morrill, G. S. (1971). Extinction of cooperative behavior as a function of acquisition by shaping or instruction. The Journal of Genetic Psychology, 119, 233-240.

- Wier, K. & Duveen, G. (1981). Further development and validation of the Prosocial Behaviour Questionnaire for use by teachers. Journal of Child Psychology and Psychiatry, 22, 357-374.
- White, G. M. & Burnam, M. A. (1975). Socially cued altruism: Effects of modeling instructions and age on public and private donations. Child Development, 46, 559-563.
- Yarrow, M. R., Scott, P. M. & Waxler, C. Z. (1973). Learning concern for others. Developmental Psychology, 8, 240-260.
- Yarrow, M. R. & Waxler, C. Z. (1976). Dimensions and correlates of prosocial behavior in young children. Child Development, 47, 118-125.
- Ziegler, E. & Trickett, P. K. (1978). IQ, social competence and evaluation of early childhood intervention programs. American Psychologist, 33, 789-798.

APPENDICES

APPENDIX A

Prosocial Preschool Classroom Activity

PROSOCIAL PRESCHOOL CLASSROOM

ACTIVITY

AREA OF CURRICULUM: Manipulatives

ACTIVITY: Small Hammers and Nails

PURPOSE: To encourage children to share materials while constructing their own three-dimensional pictures.

MATERIALS: 4 Particle Boards
4 Small Hammers
2 Bowls of Small Nails
2 Bowls of Colored Wooden Shapes

PROCEDURE: (a) Set the table with 4 boards and 4 hammers in front of 4 places.
(b) Position 1 bowl of nails and 1 bowl of shapes in between two places.
(c) Sit in one place, with 3 children in the other places.

TEACHER'S ROLE: Demonstrate sharing of materials with the child sitting next to you and encourage all children to share. Some examples of teaching strategies might include:

- * Take 1 nail and give 1 to your partner saying, "I'll share the nails with you."
- * When 1 child shares the nails with another, comment, "I like the way you shared your nails with her."
- * Locate a shape and remark, "I found a circle. Can I share it with you?"
- * Search for a specific shape, for example a purple square, and ask, "Can anyone find a purple square?" If a child gives you one reply, "Thank you for sharing that with me."

APPENDIX B

Prosocial Preschool Classroom Curriculum and Home Learning Activities

PROSOCIAL PRESCHOOL CLASSROOM CURRICULUM

GROSS MOTOR

1. Tilt-a-Hole Tray*
2. Twin-Line Tennis*
3. Trucks with Macaroni
4. Home Building

CREATIVE ART

1. Gluing Collage
2. Painting
3. Group Thank-You Note
4. Cooperative Mobile

SCIENCE & COOKING

1. Water Play
2. Squeezing Oranges
3. Magnet Fishing
4. Making Cinnamon Rolls

GROUP TIME

1. Row, Row, Row Your Boat
2. Helping Story with Discussion
3. Flannel Story and Coop Gluing
4. Pictures to Discuss "What Would You Do?"

DRAMATIC PLAY

1. Medical Play
2. Airline Travel
3. Beauty/Barber Shop
4. Playdough Cooking

MANIPULATIVES

1. Marble Runs
2. Peg Boards
3. Game with Turn-Taking
4. Hammer and Nails

OUTSIDE PLAY

1. Teeter Totters
2. Coop Fire Engine*
3. Ladder Train*
4. "Basketball"

* See Forman, G. E. & Hill, F., 1984.

PROSOCIAL HOME LEARNING ACTIVITIES

1. Let's Make This Puzzle Together
2. Pictures and Questions
3. Let's Play Lotto!
4. Working Together
5. Fill-In-The-Blank Story
6. Going to the Moon

APPENDIX C

Schedule of Prosocial Preschool Classroom Curriculum and Home Learning Activities

SCHEDULE OF PROSOCIAL PRESCHOOL CLASSROOM AND HOME LEARNING ACTIVITIES

HOME ACTIVITIESCLASSROOM ACTIVITIES

	January 29	30	31	February 1
Puzzle	ART-Gluing collage	DRAMATIC PLAY-Airline travel	GROSS MOTOR-Trucks/Noodles	COOKING-Squeezing Oranges
	5	6	7	8
Pictures & Questions	MANIPULATIVES-Hammer & nails GROUP-Story & discussion	GROSS MOTOR-Tilt-a-Hole tray	DRAMATIC PLAY-Medical play	ART-Painting OUTSIDE-Teeter totters
	12	13	14	15
Lotto	GROSS MOTOR-Home building OUTSIDE-Coop fire engine	SCIENCE-Magnet fishing GROUP-Row, Row, Row Your Boat	ART-Group thank you note	MANIPULATIVES-Marble runs
	19	20	21	22
Working Together	COOKING-Cinnamon rolls	ART-Cooperative Mobile OUTSIDE-Basketball	MANIPULATIVES-Peg boards GROUP-Flannel story & coop gluing	DRAMATIC PLAY-Beauty/Barber shop
	26	27	28	March 1
Fill-in-the-Blank Story	DRAMATIC PLAY-Playdough in house	MANIPULATIVES-Game with turn-taking	SCIENCE-Water play OUTSIDE-Ladder train	BLOCKS-Twin-line tennis GROUP-Pictures & discussion
	5	6	7	8
Going-to-the Moon	SCIENCE-Magnet fishing	DRAMATIC PLAY-Medical play	GROSS MOTOR-Tilt-a-hole tray	MANIPULATIVES-Hammer & nails

APPENDIX D

Sample Letter to Parents in Home Learning Group

College of
Home Economics



Corvallis, Oregon 97331

(503) 754-3551

January 14, 1985

Dear Parents:

Has your child ever refused to share his or her toys or to help pick up his or her room? If so, you are not alone. Many parents have difficulty in finding methods and ways by which to encourage their children to behave in prosocial ways (i.e. sharing, helping, cooperating).

You and your child can help us identify ways to promote prosocial behavior in young children. As a graduate student in the Department of Human Development and Family Studies, and a teacher in the afternoon Child Development Center, I am investigating the effects of a prosocial education program. This study will assess children's understanding of sharing, helping and cooperating behavior. It will also determine how parents and teachers will be better able to facilitate such prosocial behavior in preschool-aged children.

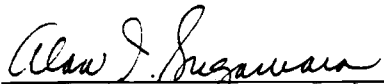
Your child's preschool will be one of several schools involved in this study. Because you as parents, play a significant role in the development of your child's prosocial behavior, this study has been designed to include a home learning component. The home learning program will consist of one prosocial activity each week for five weeks that you and your child can do at home. Activities are designed to be simple and fun to complete, while encouraging helping, sharing and cooperating behavior.

In addition, three situational tasks will be used to measure your children's sharing, helping and cooperative behaviors. They will include an art activity and two block activities. Children's prosocial responses occurring during these activities will be observed and recorded. The procedure will take place at three points in time, in January, March and May, 1985, and will take approximately 15 minutes each time.

You and your child's participation will add greatly to our understanding of children's prosocial behavior. Within the next week you will be contacted by telephone so that the research project can be more fully explained, and any questions or concerns may be answered.

Thank you for your cooperation.


Sue Doescher, Principal Investigator
Human Development & Family Studies


Alan I. Sugawara, Ph.D., Professor
Human Development & Family Studies

APPENDIX E

Prosocial Home Learning Activity

Fun with Fird
PROSOCIAL HOME LEARNING ACTIVITY SHEET

Working Together

We want children to learn to work together with others. We can do this by practicing cooperative efforts using enjoyable tasks. Here's a game you and your child can play that will help him or her practice cooperation.

WHAT YOU CAN DO:

- * Take turns identifying objects in the picture found on the next page which begin with the letter "F."
- * You take the first turn and name one object. Then ask your child to name just one object that he or she sees.
- * Repeat this activity until all objects in the picture are named.
- * Try taking turns and color all the objects in the picture.

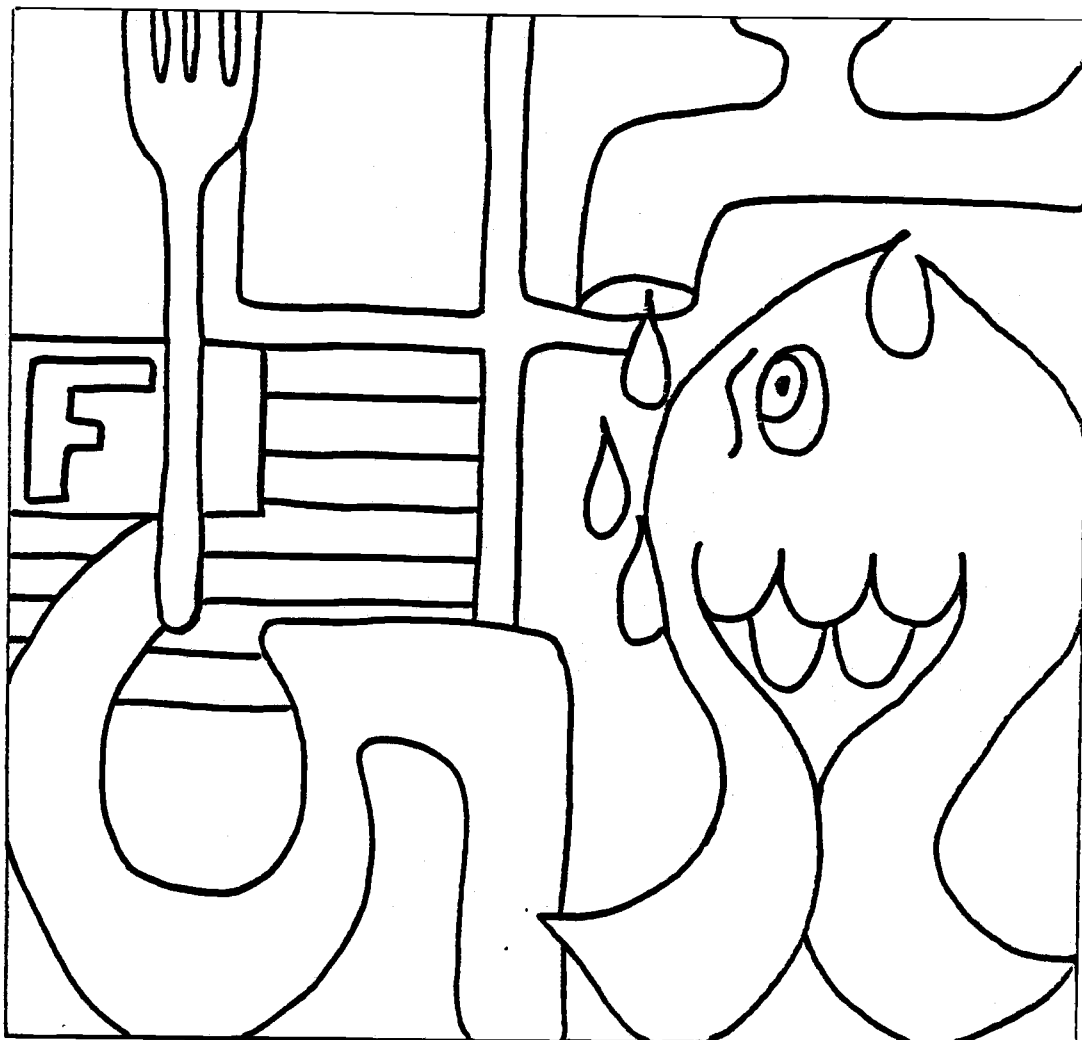
ENCOURAGING IDEAS:

- * Talk about how you are cooperating and working together to play the game.
- * Provide encouraging words for your child when he or she cooperates in the game.
- * Examples of statements you can use are:
 - * "We work well together!"
 - * "It's fun to play this game with you!"
 - * "I like the way you are taking turns with me!"



PLEASE TEAR OFF AND RETURN TO ENVELOPE
AT SCHOOL

-
1. Did you complete this activity? YES NO
 2. How long did you spend with this activity? _____
 3. How would you evaluate this activity?



* Taken from Behring, H. R. & Behringer, M. (1973). Hidden Pictures. Middletown, Connecticut: Xerox Education Publications.



APPENDIX F

Modified Prosocial Behavior Questionnaire

(Mod-PBQ)

MODIFIED PROSOCIAL BEHAVIOR QUESTIONNAIRE

Name of child:

Sex: (Please circle) M / F

Instructions: Below is a list of 15 statements about children's behavior which may be shown during the school day. Based on your knowledge about the child, place a mark in the appropriate column.

If the child definitely shows the behavior described by the statement, place the mark in the column headed "certainly applies." If the child shows the behavior but to a lesser degree or less often, place the mark under "applies somewhat." If the child rarely or never shows such behavior, place the mark under the column headed "rarely applies."

Although it is difficult, it is important to try and answer each question as objectively and independently as possible. BE SURE TO MARK EACH STATEMENT!

	Rarely Applies	Applies Somewhat	Certainly Applies
1. Will try to help someone who has been hurt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Gives away an object voluntarily to an adult or another child.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Can work easily in a small peer group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Spontaneously helps pick up objects which another child has dropped. (e.g., toys, crayons, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Gives up object when asked by peer or adult.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Will invite bystanders to join in their play	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Rarely Applies	Applies Somewhat	Certainly Applies
7. Offers to help other children who are having difficulty with a task in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Allows another child to take his/her materials.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Will take turns in games.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Is efficient in carrying out regular tasks such as helping with clean-up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Will help others with a task when asked or told by adult or peer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Simultaneously uses materials with others. (e.g., glue bottles, scissors, crayons)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Will work together with peers on a common project.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Requests other children to share their materials with him/her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Will take turns with objects. (e.g., both pulls and is pulled in wagon)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>