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ABSTRACT

The two studies reported here investigate the impact of prosocial TV programs and rehearsal techniques on children's learning or acquisition of program content and on performance of behavioral adoption. Subjects for the studies were 73 kindergarten boys and girls who were predominantly middle and lower class. The children saw four 'Mr. Rogers' programs or four neutral programs on consecutive school days. Each of the four television programs was followed by a 15-20 minute training session. Two types of rehearsal were explored for children who saw the prosocial television programs: verbal labeling and role playing. Two principal measures were designed to evaluate learning of program content: (1) a Content Test (36 items with two alternatives each) administered on the last day of television viewing and training, and (2) a Puppet measure which provided an index of the child's verbalization of program themes. In the second study, a measure was taken of the children's inclination to engage in helping behavior in an actual experimentally controlled classroom situation. An overview of study findings indicated these conclusions: (1) Both types of training (verbal labeling and role playing) following prosocial television enhanced learning and performance of prosocial content; (2) Verbal labeling had greatest impact on verbal measures, particularly learning for girls; (3) Role playing was more effective, particularly for boys, in facilitating the performance of nonverbal helping behavior; and (4) The combined training condition often led to elevated scores for both sexes.

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Prosocial Television and Young Children's Behavior

Learning from Prosocial Television

Aletha Huston Stein

Effects of Rehearsal on Performance Measures

Lynette Kohn Friedrich

**Presented at the Meeting of the American
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Learning from Prosocial Television

Aletha Huston Stein

For the past few years, we have been studying the effects of prosocial television programming on children's social behavior. The program that we have used is "Mr. Rogers' Neighborhood." The major emphasis of this program is social and emotional development of young children rather than cognitive development. In our initial study, we found positive changes in prosocial behavior in nursery school free play for children who had seen a series of Mr. Rogers programs.

In our more recent work, we have been exploring the conditions in the child's environment that enhance the effects of viewing prosocial television. The theory and research on observational learning have provided the primary basis for selection of environmental variables. It is striking that there have been few laboratory studies testing the variables suggested by Bandura and others as important environmental influences on imitation. Thus, one purpose of this research is to test hypotheses derived from social learning theory that have not been previously explored empirically. A second reason for the focus on environmental variables is our concern with the potential for using prosocial television in group settings for young children such as day care centers or day care homes. Information about what conditions within such a setting might complement or enhance the television viewing has obvious practical value.

One set of environmental variables that we have studied involves various means of rehearsing television content with the aid of an adult. It is obvious to the casual observer that the content of any television program is much more complex than the modeling sequences that we psychologists create. Because of this complexity we thought that rehearsal would be especially important for young children to learn important themes and generalize them to their own lives.

We began the research program of the past two years with some relatively short-term experimental studies. The second step was a large-scale field experiment for which data are currently being analyzed. Dr. Friedrich will describe some aspects of that study briefly. I will present more detail on one short-term study here. The principal purpose of this study was to develop and test two types of rehearsal procedures (to be described below). We were concerned with examining the impact of the prosocial programs and the rehearsal techniques on both learning or acquisition of program content and on performance of behavioral adoption. These two components--learning and performance--are carefully separated in Bandura's theory of observational learning. In the case of some types of program content many of the themes might be learned, but it is difficult to anticipate what behavior or performance might result. For instance, the idea that friends like you regardless of external appearance, is a theme stressed in many Mr. Rogers programs. While I have heard parents complain that their children use this as an argument for not dressing up to go somewhere, such behavior would be difficult to elicit in the laboratory.

The subjects for the study were 73 kindergarten boys and girls who were predominantly middle and lower class. The children saw four "Mr. Rogers" programs or four neutral programs on consecutive school days. The "Mr. Rogers" programs were a series in which the Make-Believe segments involved a continuing plot. Henrietta, a shy cat, was worried that she would be replaced by a fancy tiger, Collette, who was coming to visit. Her anger and jealousy mounted, but she was not able to tell anyone. She finally knocked down a picture of Collette. Much of the action centered on the attempts of her friends to discover what was wrong and to help her understand that she was unique and could not be replaced. They also identified and accepted her feelings while attempting to show her that a fancy exterior was not important. Another specific theme was that angry wishes do not make things happen. The cake

for Collette's welcoming party was blown down by the wind, and Henrietta felt responsible. Friends helped repair the damage while making it clear her jealousy did not cause it. In the final program, Collette shared her cake at a party, and Henrietta decided to go when she was reassured that she was needed to make the party a success.

Each of the four television programs was followed by a 15-20 minute training session. Two types of rehearsal were explored for children who saw the prosocial television programs. The first was verbal labeling. Coates and Hartup (1969) did a study a few years ago in which they demonstrated that preschool children learned a model's behavior better when an adult provided a label for the behavior and the child rehearsed it than when they simply observed. Other theory and research suggests that learning and memory for preschool children can be improved by providing them with verbal labels although they do not spontaneously produce such labels for themselves. In the present study, a series of short books were developed in which the themes of the program were labeled. The children were asked to rehearse the labels. The first half of each book summarized the program; the second half applied the same themes to a story involving children in order to facilitate generalization.

The second type of rehearsal was role playing. Staub (1971) found that young children showed increased helping and sharing after role playing training without any modeling experience, though the results varied for boys and girls. One would expect role playing to be useful simply as rehearsal that involves the child actively, and it may also be particularly effective in inducing children to see others' perspectives. Therefore, we thought that role playing would be particularly likely to enhance helping, sharing, sympathy, and similar behaviors that involve some understanding of another's situation and feelings.

The role playing training was carried out with puppets. Each child was given a puppet from the TV program and the adult trainer led the children through a script

that replicated some elements of the television plot. Again, the second half of each session was devoted to generalization training. The children used child puppets and acted out a plot using similar themes to those in the programs. We discovered in pretesting that these sessions had to be quite structured.

An irrelevant training condition was introduced for control purposes. It involved books and games that were irrelevant to the program content or to prosocial television form a 2 x 2 factorial design. The neutral film group serves as a control for the effects of seeing the programs.

Two principal measures were designed to tap learning of program content. One measure, the Content Test, consisted of 36 items with two alternatives each. A stem was read to the child by the experimenter, then two pictures representing the alternatives were pointed out. The child pointed to the one she or he thought was correct. The items included both specific content from the programs and generalization to situations involving children. (Example: Henrietta was angry and wished the cake would fall. It did fall. Why? a) Henrietta's wishes made it fall, or b) The wind made it fall). (Example of generalized item: When Joan's friend looks sad, Mr. Rogers says: a) Ask what's wrong or b) leave him alone). We hoped that using "Mr. Rogers says" would reduce the likelihood of this being a projective test. This test was administered on the last day of television viewing and training.

All groups who had seen the prosocial programs performed significantly better on the content test than those who had seen the neutral programs. The means appear in Table 1. In fact, scores for the neutral group were about chance. Thus, it is clear that exposure to the program led children to learn at least some of the content and to be able to generalize that content to everyday situations involving children. Performance on the generalization section was about like that on the items directly from the television programs.

While exposure to the programs produced clear evidence of learning, the

rehearsal treatments had relatively small effects. Verbal labeling training was associated with high scores but this was true primarily for girls. Boys showed little effect of either kind of training. Role playing training did not improve learning for either sex. These rather minimal effects of rehearsal are somewhat surprising, particularly when we compare these findings to those from another measure that appears to be a more demanding test of learning.

The second measure, called the Puppet measure, provided an index of the child's verbalization of program themes. In the Puppet measure, the child was seated before a small puppet theater. The experimenter manipulated a puppet representing Henrietta, the major character from the "Mr. Rogers" programs. She made remarks and engaged in behavior to which the child could respond verbally or nonverbally. For instance, she said, "I'm afraid people won't like me any more. Do you think they would like me better if I dressed up fancy?" The second section of the puppet measure was a test of generalization. The child and experimenter both manipulated puppets representing children. Again, a series of probes was presented by the E to which S could respond. The puppet measure was administered to most Ss either one or two days after end of viewing. The maximum time interval was one week.

One score obtained from the puppet measure was the amount of verbalization representing themes from the "Mr. Rogers" programs that the child produced. This score was composed of both one-word "yes" or "no" answers and of phrases such as, "Everyone will like you just the way you are, Henrietta." The results for the section where the program content was replicated and for the generalization section were virtually identical, so I am presenting only the total scores. The means appear in Table 2. In addition to the raw scores, the amount of program-related verbalization was calculated as a proportion of total verbalization. These means appear in Table 3.

For both sections, children who saw the prosocial programs, regardless of training, had significantly higher scores than those who saw the neutral programs.

Clearly, they did learn the program content from simple exposure.

The verbal labeling training condition led to significantly better scores than those obtained by children who saw the program without the verbal labeling training. This was primarily true for girls. Boys' scores were elevated only when they received both types of training, not with verbal labeling alone. Role playing by itself did not improve learning significantly for either sex.

It appears that the rehearsal effects were more clearly evident in the puppet measure than in the content test because the puppet measure was more discriminating and sensitive to differences. The puppet measure required recall whereas the content test demanded only recognition. We can eliminate the possibility that the training affected overall willingness to verbalize. We found the same training effects on proportion scores and absolute scores. In addition, there were no condition differences in the overall amount of verbalization on the puppet measure.

The principal conclusions to be drawn from this portion of the study are:

- 1) young children can learn the complex and abstract prosocial ideas represented in this television program. More important, they can generalize these ideas to situations like those they encounter in their own lives.
- 2) Verbal labeling training is quite effective in enhancing learning, particularly for girls. Combining verbal labeling with role playing promotes learning, especially for boys, but role playing alone does not increase learning.

Dr. Friedrich will now discuss the measures of performance.

Effects of Rehearsal on Performance Measures

Lynette Kohn Friedrich

A principle area of interest in our research has been that of performance or the child's ability to include prosocial content in his behavioral repertoire. Both types of training techniques involved generalization of the content seen on television to new situations.

We assessed the affects of rehearsal on performance in two different experimental tasks. In the puppet measure, described earlier, we looked at helping behavior and nonverbal imitation of prosocial behavior in a fantasy context. Helping acts were directed toward puppets. In the second experimental task helping behavior was assessed in a situation far removed from those presented in television viewing or training and was separated in time from two to three days.

Data from both tasks support the prediction that the performance of helping behavior is enhanced by short-term exposure to prosocial television and rehearsal training.

On the puppet measure, children who had been in role playing training--by itself or in combination with verbal labeling--showed significantly higher prosocial nonverbal behavior (that is, imitation and generalized helping) than children in the neutral condition. The means appear on Table 4 in handout. Another helping score involved the amount of help given and latency in assisting a puppet to pick up and restring beads and replace a picture knocked down in anger. The means appear in Table 5.

For males, the neutral condition was lower than the prosocial television conditions, although the difference was significant only for the group that received role playing training by itself. Females were more helpful when they were exposed to the combined role playing and verbal labeling training and this was

the only condition in which helping exceeded the neutral group, but the difference was not significant. The strongest effect of training on the program related score was role playing for boys.

On the behavioral helping measure, children were taken individually by an experimenter to make a collage. A torn collage, ostensibly made by a child who had left the room, was pointed out and the experimenter explained that the child had been sad and angry when it was torn, as it was for his mother's birthday. After the subject finished his own collage, there were three timed probes designed to be increasingly explicit in facilitating helping behavior.

The number of pieces repaired (frequency), time spent helping (duration), and latency before the first helping act were the principle scores derived. For frequency and duration, weighted scores were also calculated by weighting responses that occurred before the probes more heavily than those that occurred following the probes. As these three dependent variables were highly correlated, they were analyzed in a multivariate analysis of variance of sex by condition.

The results for the weighted scores are reported; the unweighted scores produced similar results.

On the multivariate analysis, there was a significant effect of conditions ($F = 2.66$, 12,159 df , $p < .01$). Children of both sexes showed the highest level of helping in the role playing condition without previous verbal labeling, significantly different from the neutral condition. The other three prosocial television groups were not significantly different from the neutral group.

Although the interaction of sex x condition was not significant on the multivariate analysis, there was a border line main effect of sex--girls tended to be more helpful than boys ($F = 2.54$, 3,60 df , $p < .10$).

The means for the individual components of helping appear in Table 6. The effect of role playing training by itself for boys is clear. Boys showed higher