This study investigated the influence of structured children's television programming on prosocial behavior. Subjects were 53 children ages 4-6 from two day care centers. Nine videotapes were produced (three for each of three experimental conditions), differing in their presentation of socially-valued behavior, socially-devalued behavior, consequences, and characters. Tapes were black and white and about 20-25 minutes in length. Prior to viewing the tapes, during viewing, and after viewing, the children were observed and/or tested in four different situations using three different measures: (1) an individual test on Piagetian tasks, (2) observation of social behavior in two structured tasks, (3) observation of social behavior occurring naturally in the child's day care center, and (4) observation of attention to the videotapes during viewing. Findings and implications are discussed.
In any attempt — whether by parents, teachers, or television — to teach or encourage socially valued behaviors, one comes face to face with the fact that we in child development have imperfect knowledge of effective ways to do this. Attempts to translate knowledge into practice result in some confusion due to conflicting advice from child development experts whose theoretical persuasions and interpretations of the literature differ and also due to less than startling effects from programs which have translated this advice into practice.

Sesame Street's attempts to program for socially-valued behaviors are a good example. Since its inception Sesame Street had a primary goal of teaching cognitive skills to inner-city disadvantaged children. Yet the staff have also wished to encourage or teach socially-valued behaviors. In doing so they have had to face ethical and philosophical issues about which behaviors are valued by whom, which behaviors produce desirable results for those who display them, and how much anyone should presume to determine the behavior of young children. Even when these concerns can be adequately dealt with, the Sesame Street staff must still face the question of how to teach socially-valued behaviors.
To find answers one can return to existing literature and one can conduct new research. In consulting with Sesame Street I have tried both. I'd like now to report some of my own research in encouraging socially-valued behavior with television and then relate it back to work in child development.

As I talk about socially-valued, prosocial, or positive social behavior, I'm referring to actions which are generally supportive of others within the existing social system. They include such behaviors as sharing, taking turns, expressing affection, spending time in social interaction, cooperative play, and verbal rather than physical attempts to control others. While these behaviors are generally valued in our society, they are not always valued nor are they always used in the pursuit of socially acceptable goals. For instance, some people have argued that young girls should be encouraged to be independent, assertive, and even aggressive if they are to function successfully as adults. Others point out that criminals cooperate in crime and that ill-gotten spoils are often shared. While it is obviously not always functional nor socially constructive to engage in "socially-valued" behaviors, young children do need to learn these behaviors and to become skilled in using them. They have the additional developmental task of learning when to use them. This latter task has not been explicitly addressed in the study I'm talking about today.

This study sought answers to the following three questions:

1. What are the characteristics of television segments which are more effective in encouraging socially-valued behavior? (2) What role do the cognitive abilities of children play in determining the effects of
exposure to such television segments? (3) What role do the initial behav-
ioral skills and proclivities of children play in determining the ef-
effects of exposure to such television segments?

We began by constructing nine videotapes, three for each of three ex-
perimental conditions. Three tapes were made from existing Sesame 
Street segments and conformed to social learning theory tenets for en-
couraging socially-valued behavior. They showed much socially-valued 
behavior, avoided most socially-devalued behavior, frequently presented 
positive consequences for socially-valued behavior and infrequently pre-
sented negative consequences, often used human characters, and generally 
were visually and verbally explicit about the depicted socially-valued 
behaviors. These three tapes were shown to children in the "Most Ef-
f ective" condition. Varying these same five dimensions, three tapes 
were constructed for the "Moderately Effective" condition and three for 
the "Least Effective" condition. Three segments from an earlier CTW 
study of cooperation (Paulson, McDonald and Whittemore, 1972) were con-
tained in each of the nine tapes. These were meant to provide tests of 
generalization of content and will be explained more fully later.

All tapes were black and white, ranging in length from 20 to 25 
minutes. The familiar Sesame Street wraparounds were included at the 
beginning and end. Each tape was reviewed by a Sesame Street writer 
and, when necessary, revised to conform to his concepts of the usual, 
desirable pacing and variety of the show. A woman unfamiliar with the 
purposes of the study content-analyzed all nine tapes. The three sets 
of tapes did differ in their presentation of socially-valued behavior, 
socially-devalued behavior, consequences, and characters and their
explicitness, although the differences were sometimes not as great as we had anticipated in constructing the tapes.

We began the study with 73 boys and girls between the ages of four and six. Usable data, over the many phases of the study, were obtained from 53 children with no evidence that attrition was related to any of the experimental procedures. Participating children attended two different day care centers. About half came from intact families with at least a college education, while the other half came from single parent families most of whom were on welfare. All but one were white. The procedures for each child are summarized in Table 1. They are most easily discussed in terms of three time periods: prior to viewing the tapes, during viewing, and after viewing. During these times children were observed and/or tested in four different situations using three different measures. The situations and measures were an individual test on Piagetian tasks, observation of social behavior in two structured tasks, observation of social behavior occurring naturally in the child's day care center, and observation of attention to the videotapes during viewing.

As you can imagine from my description, I have an overabundance of data. The analyses I'd like to discuss now represent a small part of those I have done and an even smaller part of those I have yet to do.

Let me begin by describing the children's behavior before they were shown any of the videotapes. Social interaction with peers was examined in three different situations: free play in the day care center, the structured draw-a-house situation, and the structured toy
Table 1
Summary of Procedures.

**Prior to Viewing Tapes**
- **Piagetian Test**
  - Alone
  - Experimental room
  - About 20 minutes
- **Draw-A-House**
  - With same sex peer
  - Experimental room
  - 5 minutes
- **Toy**
  - With same sex peer
  - Experimental room
  - 10 minutes

**Free Play**
- At least one peer in social interaction
- Day care center
- 15 minutes
- Two different observations and observers

**During Viewing of Tapes**
- **Attention**
  - With mixed sex groups of 2 to 8
  - Experimental room (different from that for Piagetian Test, Draw-A-House, or Toy)
  - 3 tapes one week, repeated second week

**After Viewing Tapes**
- **Draw-A-House**
  - With different same sex peer
  - Experimental room
  - 5 minutes
- **Toy**
  - With different same sex peer
  - Experimental room
  - 10 minutes

**Free Play**
- At least one peer in social interaction
- Day care center
- 15 minutes
- Two different observations and observers
situation. We looked at such behaviors as time spent in interpersonal interaction, parallel, associative, and cooperative play, expressions of affection and hostility, social control strategies and successes, responses to the social control attempts of others, cooperation, initiation of interaction and social dominance.

We were interested in pretest differences between boys and girls and children in the three different conditions (even though children were randomly assigned to condition). Since we examined 25 different behaviors in each of the three conditions, we could expect some significant differences which would be attributable to chance. Taking this fact and the patterns of differences into account, I conclude that there were no significant differences in the behavior of boys and girls and children in the three conditions in the three pretest observations.

In examining the effects of the videotapes on the children we asked: (1) if children who saw the draw-a-house segment six times displayed more socially-valued behavior in the same situation than children who did not see it at all; (2) if children who saw the block stacking and kids painting segments six times displayed more socially-valued behavior in the analogous toy situation than children who did not see them at all; (3) if children who saw a series of six experimental Sesame Street videotapes displayed more socially-valued behavior in their normal day care environment than children who did not see any at all; and (4) whether children who saw the three different types of videotapes differed in social behavior in their normal day care environment.
In comparing children who saw the experimental videotapes with children who did not see them we particularly looked at the following six behaviors with peers: the number of cooperative strategies displayed, the percentage of social interaction time spent in cooperative play, the percentage of control attempts which were verbal or demonstrative rather than physical, the percentage of control attempts which were successful, the percentage of affect displays which were positive rather than negative, and the number of instances of hostility. In the draw-a-house situation, which was an exact replication of a segment in all nine videotapes, we found that the first five behaviors were much more frequent among children who had seen the tapes than among children who had not. We also found that children who had not viewed the videotapes were much more hostile in this situation than children who had. Using planned comparisons we tested whether the three experimental groups differed significantly from the control group and found a significant difference in verbal attempts at control \( (F = 4.28, \text{df} = 1,24, p \leq 0.05) \) and a nearly significant difference in expressions of hostility \( (F = 3.03, \text{df} = 1,24, p \leq 0.10) \). The other four comparisons were nonsignificant, although they were all in the predicted direction.

As we moved to the toy situation, which was analogous to -- but not the same as -- two of the segments in all nine tapes, we found less consistent differences between the experimental and control groups. As we moved still further along a generalization gradient to the normal day care environment, we found still fewer consistent differences between the experimental and control groups. In neither the toy
situation nor the day care setting did we find any significant or nearly significant differences between the experimental and control groups.

When we dropped the control group from our analyses and asked whether children who saw the three different types of videotapes differed in predictable ways in the day care setting, the answer was a resounding no. Predictions based on content analyses of the tapes and those based on our evaluation of the types of behaviors the tapes ought to encourage were never supported in the post-test data. When we were collecting the post-test data, we did see clear imitations of behaviors which had been portrayed in the videotapes. They were not, however, differentially distributed among the three groups. The three sets of tapes differed in the clarity and consistency with which socially-valued behaviors were presented. We had expected these differences to be reflected in differential social behavior. As far as we can tell now they were not, although some additional analyses will be done.

We had also anticipated that children with less well-developed cognitive abilities would profit more from the greater clarity and consistency of the "Most Effective" tapes than would children with better-developed cognitive abilities. To test this hypothesis all of the children were administered a series of Piagetian tasks, which we assumed were a rough indication of cognitive abilities, and divided into two groups on the basis of the number and types of tasks they could perform. Three-way analyses of variance (sex, condition, and cognitive ability) were carried out. These analyses did not support our hypothesis for any of the social behaviors we examined.
We had also anticipated that a child's habitual patterns of social interaction would modulate the effect of viewing the videotapes. There is some indication for this phenomenon in the literature on television and aggression. We were not, however, able to test this hypothesis with our data because children could not be evenly divided into two or more groups on the basis of their pretest behavior.

Now, what have I learned? First and foremost, I have a renewed appreciation for how much we as developmental psychologists have yet to learn about the ways in which children can be encouraged to perform socially-valued behaviors. I had thought that our knowledge was sufficiently complete that I could put together television material which roughly conformed to our theories and demonstrate that it would indeed affect children's social behavior. I learned that one can do this, but only in very limited ways.

I have asked myself a number of times why researchers have found that preschoolers will view particular aggressive acts in unfamiliar environments and generalize them to other forms of aggression in their normal preschool environment and yet will not as easily generalize from prosocial displays. Perhaps it is because aggressive displays are portrayed in a more interesting manner on television or are for some reason more intrinsically interesting to children. This would lead them to attend more to such displays and learn more from them. Or perhaps it is because aggression has more utility in children's preschool environments. If so, a study which only measured performance would more easily find generalization of aggressive behaviors. The
The final possibility is that children have a more well-developed cognitive schema for aggressive behavior and so find it easier to learn specific behaviors from an aggressive display and to generalize from it. None of these possible explanations is very appealing, but they all suggest a need to examine further the ways in which children learn social behavior.