The effects of television on children's behavior, attitude, and moral judgment

Lauri Reinhardt

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THE EFFECTS OF TELEVISION ON CHILDREN'S
BEHAVIOR, ATTITUDE, AND MORAL JUDGMENT

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Psychology

By
Lauri Reinhardt
December 1978
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Approved by:

Marsha Liss, Chair, Psychology

Gloria Cowan

Charles Hoffman
ABSTRACT

The purpose of the study was to assess television's ability to elicit pro-social or aggressive behavior in children; assess children's moral judgment of cartoon characters; and assess children's ability to extract a "moral" from a cartoon. Sixty white, middle-class, kindergarten children, thirty males and thirty females, were individually shown either a purely pro-social, pro-social with aggression, or purely aggressive cartoon. Next, children were asked to judge the "goodness" or "naughtiness" of the cartoon character. Following this, the subjects were directed to "help" or "hurt" another unseen child. Finally the children were asked to extract a "moral" from the afore-viewed cartoon. Results in the character analysis (good versus naughty), showed a significantly marginal main effect of television conditions, a significant main effect for protagonist/antagonist dimension, and a significant interaction of the two. The results for the behavioral measure revealed a significant interaction between television condition and behavioral (help versus hurt) measure. The results for the moral judgment measure approached but did not reach significance in a 2 (yes/no) by 3 (television condition) design.
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Since the beginning of television's popularity, the question of television's influence as a powerful social model has concerned the general public almost as much as the scientific world. Television, found in few homes in 1946, is now found in about 98% of all American homes (Liebert and Poulos, 1976), and in more homes than have indoor plumbing (Liebert, Neale & Davidson, 1973). Children spend much time watching television: primary grades were found to watch between 15 and 25 hours a week and older children about 25 hours (Liebert, Neale & Davidson, 1973); consequently, concern about television's effects on children's viewing habits, as well as their behavior has been the topic of many studies.

The most troublesome and researched facet of television's programs (adult as well as children) is that of violence. Extensive field studies such as those done by Milgram (1973), and even some television broadcasts such as the "Storyteller," T.V. Guide, (1977) show not only the concern of the academic world but of the public's concern as well. Attention was first brought to this area when, in the early sixties, Albert Bandura supported his theories of vicarious and observational learning. He performed many laboratory studies showing children's imitation of a model,
which are now looked at as classical studies in this field. In Bandura’s study (1965), a child was shown a film in which an adult was rewarded for acting in an aggressive manner. When a measure was taken of that child’s own behavior, it was found that the amount of aggression shown by that subject increased. Not only was there an increase of aggression in a play situation, but a direct imitation of novel behavior seen in the film was acted out by the child as well. With Bandura’s four conditions: adult model, child model, cartoon model and control, it was found that the response of increased imitation was strongest with the most similar model. Thus the children’s highest amount of imitation followed the peer model (Bandura, Ross & Ross, 1963).

Using Bandura’s model, personality attributes, including aggressive behavior, have been seen as acquired through two main social learning processes. The first is a direct contact with socialization agents such as parents and teachers. The second is observational learning acquired by contact with a salient model on television, or on film.

A laboratory study reported in The Early Window (Liebert, Neale & Davidson, 1973) supported Bandura’s theory. In this study 4- to 5-year-old boys were shown either a 2-1/2 minute film of an adult male model aggressing against a human clown or saw no film at all. These two groups were further divided into two groups that either were
permitted to play in a room where they found a human clown standing around or were introduced to a room that contained a plastic BoBo doll instead of the human clown. The boys were allowed to play in these rooms for ten minutes and their behavior was noted. The boys who had not seen an aggressive film were not aggressive in either of the play situations. The ones who had seen the aggressive film were not only aggressive with the BoBo doll in that play situation, but also aggressed against the real human clown, which is in opposition to the strong inhibition against aggressing with a human being.

Collins, Berndt & Hess (1974) performed a study to assess the observational learning of motives and consequences for television aggression. In this study children (grades K, 2, 5, 8) viewed an aggressive television program and were then interviewed to determine their acquisition of motive and consequence cues and their evaluation of the aggressor. The results showed that younger children (grades K, 2) remembered aggression and aggressive sequences as well as their outcomes, while the older children were much better at recalling motives. Younger children evaluated the aggressor according to his/her actions alone; instead the older children judged the aggressive actor by the motives behind his actions. This study infers a strong conclusion that the younger the child, the less likely he or she will be able to separate aggressive acts from motives.
In opposition to these and other similar studies, a theory of catharsis of aggression originating from Freud's studies was applied to the viewing of aggressive acts. Mallick and McCandless (1966), performed a series of studies to see if a catharsis of aggression theory could be supported. In these studies children (grade 6) were first frustrated during a task by a confederate sixth grader. They then performed a series of interpolated activities and were then given the opportunity to hurt the child confederate. There was a control group who received aid instead of frustration from the confederate child but received the following two steps as in the first condition. If catharsis of aggression does take place the expected results would show the interpolated task, such as shooting at a target, would determine whether or not and to what degree the child would hurt the child confederate. This was in fact not the case. What determined whether the child would "hurt" the other child was the condition of frustration. Mallick and McCandless concluded: "Frustration leads to heightened aggressive feelings, but subsequent aggressive behavior does not reduce the aggression."

Singer and Feshbach disagree with this statement. Singer felt that because these studies were done in the artificial surroundings of a laboratory, they are internally valid though not-experimentally distinctive. Singer and Feshbach (1971) performed an experiment which involved a
combination of experimental control and observation in what they considered a natural setting. They used pre-adolescent boys as subjects. The boys were broken up into two groups and observed over a six-week period for their television viewing habit. One group had nothing but a steady diet of aggressive television programs, for example, "The Rifleman," while the other group of boys had a steady diet of non-aggressive programs like "Petticoat Junction." The investigators took a number of attitudinal and behavioral measures of aggression including observations by parents, teachers and peers over a six-week period. Feshbach and Singer reported findings of more hostile and aggressive behavior in the non-aggressive television group than in the group who received aggressive television diets. Singer and Feshbach felt that these findings could be supported by the theory of catharsis which suggests that the boys watching an aggressive television diet would have had their own aggressive energies catharted or displaced. In response to the catharsis theory, Liebert, Neale & Davidson (1973) felt that the boys in the non-aggressive television diet group showed more aggressive behavior because they had to watch television programs that they did not like.

To challenge Singer's views that field experiments produce different results than the lab studies that he feels are less valid externally, a look at Friedrich and Stein's (1973) study in a natural setting can be beneficial. In
this study, the effects of exposure to aggressive and pro-
social television programs on the naturalistic social
behavior of preschool children was assessed. The study
concerned itself with durability over time which is often
overlooked. Variables expected to effect the extent to
which observation of certain television programs would
result in behavioral changes were attention and levels of
intellectual development and extent to which the content of
the programs was learned. Along with these, subject
variables (sex, social class, etc.) and children's home
viewing experience were all taken into consideration. The
experiment lasted over a nine-week summer nursery school
program. Observations of aggressive and pro-social behavior
were conducted during free play for the entire session.
Children were randomly divided into three groups of program
viewing: aggressive programs, pro-social programs and
neutral films. In each classroom children were divided into
each of the experimental conditions including the neutral
condition, which used a variety of films that were con-
sidered to have no aggression and little or no pro-social
behavior as well. The two weeks following were considered a
post-viewing period in which the behavior (affected by the
programming) could be viewed and evaluated. To determine
the results of the experiment, the aggressive program, as
well as the pro-social, was compared to the neutral program.
One of the most clear-cut findings in the study was the
sharp decline in tolerance of delay by the children in the aggressive condition. This suggests that in viewing the aggressive program, the children decreased in self-control. The aggressive program also excited aggressive behavior in some children but only those who were above the average in aggressive behavior to begin with. The pro-social program produced a number of positive changes in the subjects' behavior, such as increase in task persistence, rule obedience and tolerance of delay. Friedrich and Stein (1973) emphasized the point that although the aggressive condition influenced interpersonal behavior, it did not reduce pro-social interpersonal behavior just as the pro-social programs did not reduced levels of aggression suggesting the specificity of the modelling effect. In fact, aggressive behavior and pro-social interpersonal behavior were positively correlated. In effect, this natural setting study supported Bandura's original theory of observational learning.

A similar field study was done by Leifer (1974), who showed that pro-social videotapes elicited a significant difference in children's verbal attempts at control. A pretest examination of children's behavior was made of three situations: free play in the day care center, the structured toy situation, and the structured "draw-a-house" situation. Such behaviors observed in these situations were time spent in interpersonal interaction, parallel associa-
tive and cooperative play, expressions of affection and hostility, social control strategies and successes, responses to the social control attempts of other's cooperation, initiation of interaction and social dominance. Leifer then looked for the behavioral effects' "draw-a-house" videotape; child's block stacking and painting videotape; "Sesame Street" videotape; and combined videotapes had on children. Children who had not viewed the pro-social videotapes were much more hostile in a "draw-the-house" situation. The results Leifer found in the analysis of a toy situation and the day care setting were more confounded, and significant results were not found. The author felt that it is more difficult to generalize forms of aggression in normal pre-school environment than pro-social behavior, perhaps because aggression is portrayed in a more interesting manner on television or because it has more utility in children's pre-school environments. These explanations suggest a need to examine the ways in which children learn social behavior.

Liebert and Baron (1972) performed an often-cited study that showed a social behavior difference when children viewed an aggressive and an unaggressive television program sequence. One hundred and thirty-six children were separated into two age groups which were further separated into different treatment groups. After the aspects of the experiment were disclosed to the parent, the child (subject)
was escorted into a waiting room containing a television monitor. Every child was allowed to watch television for 6-1/2 minutes. While one group viewed an aggressive short segment from "The Untouchables," containing excessive violence, the other control group watched a short sports sequence. The child was then taken to another room in which there was a box with a help and hurt button on it, adapted from Mallick and McCandless (1966). The child was told that the box connected to a game in a separate room where a child would be turning a lever as part of the game. The subject was then told he could either help or hurt the child in the other room. Pushing the help button made the lever easier to turn; pushing the hurt button made the lever hot so that the child playing the game could not turn it. "Children who had observed the aggressive program later showed reliably more willingness to engage in interpersonal aggression than those who had observed the neutral program," (Liebert & Baron, 1972). Analysis of the free play found that although children exposed to the aggressive programs tended to show a higher level of aggressive play than children exposed to the nonaggressive conditions, the effect was much greater for younger boys than for any of the remaining groups.

A later study by Collins and Getz (1975) used the same behavioral measure as Mallick and McCandless (1966) and Liebert and Baron (1972). In their study they were concerned with the effects of a pro-social, constructive
response to threat as opposed to a physically aggressive reaction to the same provocation. A neutral program served as the control condition. Sixty subjects, divided by age, viewed one of the programs. The subjects were then exposed to an aggression machine in a separate room and an assessment of their willingness to help or hurt another (fictitious) child was made. Children chose positive responses significantly more often after seeing the constructive-coping program than after seeing either the aggression or control programs. Since aggression-condition viewers did not differ from control subjects in their likelihood to help, it can be concluded from this study that although willingness to help is affected by the viewing of the pro-social condition, it did not decrease as a function of exposure to the aggressive condition. Children who saw the constructive-coping program were significantly less aggressive than the children in the control condition on frequency of hurt responses. These results "indicate that viewing modeled constructive responses to conflict in a typical plot from commercial television programming enhances general pro-social responding." This finding extends the previous one by showing that pro-social behavior, as well as aggressive behavior, can be learned through observation.

Sprafkin, Liebert and Poulos (1975) found similar results in their study utilizing a pro-social and two-control conditions. In this experiment 15 boys and 15 girls
of first grade age were exposed to one of three half-hour television programs. In the two principle groups, children were exposed to two different episodes from the "Lassie" program. One episode had a strong pro-social message featuring the boy (Jeff) risking his life to save a puppy. The other episode was neutral showing the boy trying to avoid violin lessons. As a control measure, an episode from "The Brady Bunch" was shown. The child was first escorted from his classroom to the television viewing room. In this room, along with the experimenter, were a point game and a help button placed five feet apart. Also a set of earphones connected to a tape recorder was located near the game. The child was then invited to play a game which could win him points and earn him a prize. Then as the experimenter leaves the room, she informs the subject s/he can help the experimenter by listening through earphones (supposedly connected to a kennel) to listen to the puppies. If the subject hears barking, the puppies need help which s/he can give by pushing the help button. The use of dogs here is supposed to elicit an act of helping because of its similarity to the use of a puppy in the pro-social program. If the child spends more time listening for the puppy’s bark, then he will receive less points in the game and therefore receive a lesser prize.

The results yielded a significant difference in treatment conditions. Thus, the subjects who saw the pro-
social "Lassie" program helped significantly more than did the children in either the neutral "Lassie" or the "Brady Bunch" condition. This study strongly supports the idea that under some circumstances, a pro-social program can increase a child's willingness to engage in pro-social behavior.

A highly relevant aspect to examine in observational learning in children is their ability to determine the intent behind the behavior. An aggressive act may not actually be aggressive when the intent is discovered. Age as well as method of presentation play an important role in the ability to make a moral judgment. One study by Buchanan and Thompson (1973) systematically differed the levels of damage and intent. After a pretesting session using Piaget's procedure, subjects were divided into two groups: one moral objective; one moral subjective. The boys were presented with eight stories. Four stories concerned personal injury and four stories dealt with property damage. In each set of stories the amount of intent and damage was varied, ranging from high intent (HI) low damage (LD) to low intent (LI) high damage (HD); (others: HI-HD; LI-HD). The experimenter showed the child a devil scale and explained the size of the devil related to the degree the child was naughty. The child was also shown a spank scale in which the pushing of a button would show a boy being spanked on a television monitor. The length of
time the button was pushed represented the amount of punishment the story character deserved.

The boys were presented with a story, then the opportunity to use the devil and the spank scale. The hypothesis that subjective children make multidimensional moral judgments by primarily taking intent into account and that moral-objective children take into account only the amount of damage, was generally supported.

The present study compares a children's cartoon show that is purely aggressive, one that is pro-social with a high content of aggressive acts, and a pro-social cartoon show void of aggressive acts. A recent content analysis (Poulos, Harvey & Liebert, 1976) revealed that a high amount of aggression was found on commercial networks in Saturday morning television. This aggression is seen in pro-social as well as non-pro-social cartoons. Therefore, an important issue to be examined is the different effects caused by pro-social cartoons with aggression as opposed to ones without. Also it will be helpful to see the comparison of the previous two to a purely aggressive cartoon. In the present experiment three types of measures are taken. The first measure is a behavioral one. This shows the subject's willingness to "help" or "hurt" another child playing a game in an adjacent room. This measure is an index of the different effects the three conditions have on the subject's behavior. The second measure is a measure of moral judgment
in which the subjects will be asked to judge the cartoon’s antagonist and protagonist as "good" or "naughty". This measure is an important asset in discovering whether children view an aggressive character who uses aggressive actions as being naughtier or as good as a pro-social character who uses aggressive actions; and if either are naughtier or as good as a pro-social character who uses no aggressive acts. The third and final measure looks at the subject’s ability to extract a moral from the cartoon episode and if this ability differs for each condition.

Based on previously presented studies, the present study should support the theories that pro-social modeling elicits pro-social behavior as does aggressive modeling elicit aggressive behavior. Because children identify with the model (Bandura, 1965), a pro-social model who aggresses should elicit the largest amount of aggressive behavior. It is expected that the purely aggressive model who performs no pro-social act should be seen as "naughtier" than the pro-social model who aggresses and that both should be seen as "naughtier" than the purely pro-social model. The subject should most often find the moral in the purely pro-social cartoon condition, followed by the pro-social with aggression cartoon condition. The children should find no moral in the purely aggressive cartoon condition.
A brief content analysis was conducted on eight Saturday morning cartoon programs to determine the average amount of aggression on Saturday morning cartoons. This information was then used to determine what cartoons would best represent the three cartoon conditions to be used in the present study. A total of ten cartoon hours were viewed. One 25-year-old male and one 24-year-old white female graduate student performed the content analysis. With reference to Gerbner’s reports for the government (1972), a definition for a unit of aggressive action was extracted from "The Early Window". Using this criteria, the two analysts individually tallied the number of aggressive acts in each cartoon segment and noted if they were performed by protagonist: "good guys", or antagonist: "bad guys". The amounts of aggressive acts ranged from 0 acts for the pro-social program "Fat Albert", to 22 acts of aggression in the cartoon titled, Earthores, from the "Superfriends". From these cartoons, two of the three cartoon conditions were chosen, the episode Earthores, from the "Superfriends", and the episode Joyride, from "Superfriends". The third cartoon condition was chosen to
keep the medium most similar by using cartoon forms of people as opposed to animals. The cartoon "Popeye", showed similar degrees of aggression as the all-aggressive animal cartoons did.
CONTENT ANALYSIS OF SATURDAY MORNING CARTOONS

AVERAGE ACTS OF AGGRESSION

Ranked Least to Largest

1. Fat Albert
   Good Guys - 0
   Bad Guys - 0

2. Super Friends (Joy Ride)
   Good Guys - .5
   Bad Guys - 1

3. Super Friends (Whirlpool)
   Good Guys - .5
   Bad Guys - 1.5

4. Scooby’s All Star Laffalympics
   Good Guys - 1
   Bad Guys - 2

5. Baggy Pants
   Good Guys - 0
   Bad Guys - 4

6. Bugs Bunny and Road Runner Show (Mutiny on the Bunny)
   Good Guys - 2.5
   Bad Guys - 4

7. Tarzan
   Good Guys - 3
   Bad Guys - 4.5

8. Batman
   Good Guys - 4
   Bad Guys - 4

9. Bugs Bunny and Road Runner Show (The Solid Tin Coyote)
   Good Guys - 1.5
   Bad Guys - 6.5

10. Bugs Bunny and Road Runner Show (Duck Rabbit Duck)
    Good Guys - 0
    Bad Guys - 9.5

11. Bugs Bunny and Road Runner Show (Sheep in the Deep)
    Good Guys - 5.5
    Bad Guys - 5
12. Bugs Bunny and Road Runner Show (Hoppy Go Lucky)
   Good Guys - 4  
   Bad Guys - 7

13. Speed Buggy
   Good Guys - 4.5  
   Bad Guys - 6.5

14. Bugs Bunny and Road Runner Show (Tweety's S.O.S.)
   Good Guys - 7  
   Bad Guys - 7

15. Super Friends (The Brain Machine)
   Good Guys - 5.5  
   Bad Guys - 8.5

16. Bugs Bunny and Road Runner Show (Tweet and Sour)
   Good Guys - 1.5  
   Bad Guys - 16

17. Super Friends (Invasion of the Earthores)
   Good Guys - 8  
   Bad Guys - 13

*The purely-aggressive cartoon was not chosen from this analysis.
CHAPTER 3
METHOD

Part Two:

Design and Participants:

A 2 x 3 factorial design was used, employing sex of subject and the television condition. The participants were 60 white middle-class kindergarten children, average age 5.5, 30 boys and 30 girls from three San Bernardino elementary schools. The subjects were first given forms to be signed by their parents authorizing their child's participation. Only children whose parents gave permission were employed as subjects. Within each class and sex the children were randomly assigned to treatment conditions.

A white female graduate student (age 24) served as the experimenter.

Equipment:

The experimental room held the apparatus for the behavioral measure along with a black and white television monitor, programmed by a video recorder. The measure for the moral judgment section consisted of a scale symbolized by three cartoon-characterized angels and three devils (six-point scale). From left to right the angels range from a three-inch angel and each angel thereafter decreases approximately 30%. Next to the smallest angel is the same-sized devil, which continuing from left to right is followed
by two larger devils which increased by approximately 30% increments. This was labeled the "angel-devil scale". (See Appendix B.)

The apparatus used for the behavioral measure, (based on Liebert and Baron's study, 1972), was a 10" x 2-1/2" rectangular wooden box with a small light at the top center of the box. Two buttons, one red and one green were located on the box, and labeled "help" and "hurt", respectively. A 15-foot cord lead outside the room where it hooked up to an apparatus containing two recording timers, a repeat-cycle timer and a power source that controls the onset and duration of light.
PROCEDURE

Introduction to the Treatment Condition:

First the experimenter escorted the child from the classroom to the television viewing room which contained tables, chairs, the videotape monitor and recorder and the behavioral measure apparatus unobtrusively hidden. The experimenter told the subject that s/he will be asked some questions and that s/he will get to play a game in a short while but that she, the experimenter, had a couple of things to do first. She then turned on the video recorder and monitor and invited the child to watch it while she was gone. The child then watched a short clip (approximately three minutes in length) from one of the three cartoon conditions.

Experimental Conditions:

Children in the first of the three experimental conditions viewed a purely pro-social cartoon segment called "Joy Ride" from the "Superfriends", in which two teenage boys take a plane for a joyride and when the plane falters, are saved by the "Supertwins". No aggressive acts are present in this segment. In the second condition, the children viewed an edited segment from the "Superfriends" entitled, "Invasion of the Earthors." In the episode the "Superfriends" rally together to stop the "Earthors" from consuming the earth's bedrock and inadvertently destroying
buildings and causing havoc. This cartoon segment contains a pro-social message, but involves several acts of aggression. In the third condition, the subjects viewed a purely aggressive cartoon from the "Popeye" series. In this episode, "Olive Oyl" wants her picture taken and employs "Brutus" and "Popeye" to do it. Throughout the cartoon, all three characters commit aggressive acts against one another and no pro-social moral is made. Therefore, these three conditions represented a pro-social cartoon void of aggressive acts, a pro-social cartoon with aggressive acts, and an aggressive cartoon without a pro-social message. Two of the three cartoons are produced by Hanna-Barbera and all three employed human characters (as opposed to animal characters) in order to minimize extraneous variables.

**Assessment of Moral Judgment of Cartoon Characters:**

After the child viewed one of the cartoon conditions, the experimenter returned to the room with the angel-devil scale. The subjects were told their task was to show on the angel-devil scale how naughty or good the main protagonist (i.e. "Superman") and the main antagonist (i.e. "Craig") of that cartoon were. They were asked to show this by circling the appropriate angel or devil. The directions were given and then repeated in a very simplistic way to assure the subject's understanding. Some of the questions asked were: "Do you think this figure means good or naughty?" "Do you think it is nicer or naughtier than this figure?" (indi-
cating different figures for comparison). These questions were to help assure the child's comprehension of the scale. The child then filled out a scale for both the protagonist and the antagonist. The characters in the first condition were "Supertwins" as the protagonist and "Corky" as the antagonist. In the second condition, "Superman" was protagonist, "Craig" antagonist. In the third and final condition, "Popeye" was considered protagonist and "Brutus" antagonist.

Assessment of Willingness to Hurt Another Child:

The subject was then told it was time for her/him to play a game. The experimenter then introduced the response box apparatus and placed it on the desk at which the subject was sitting. The experimenter then explained to the subject that the wire leading from the box connected up to a game in another room and that a child from a different grade level was playing a game. This was also stated in simplistic terms. She continued to explain that the game will require the other child to turn a handle and that the white light in the middle of the subject's box will come on each time the other child in the next room starts to turn the handle, thus activating the red and green buttons. The experimenter then continued to relate the following instructions:

"When this white light comes on, you have to push one of these two buttons. If you push this green button, that will make the handle next door easier to turn and will help

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the child to win the game. If you push this red button, that will make the handle next door feel hot. That will hurt the child, and he/she will have to let go of the handle. Remember, this is the help button, and this is the hurt button (indicating). See, it says help and hurt ...

You have to push one of these two buttons each time the light goes on, but you can push whichever one you want to. You can always push the same button or you can change from one button to the other whenever you want to, but just remember each time the light goes on, you can push only one.

If you push this green button, then you help the other child; if you push this red button, you hurt the other child. Now if you push this green button for just a second, then you help the other child just a little; but if you push this green button down longer, then you help the other child a little more. If you push this red button down a little longer, then you hurt the other child a little more. The longer you push the green button, the more you help the other child, and the longer you push the red button, the more you hurt the other child."

This explanation was repeated with variations in the wording. After being assured that the subject understood the task s/he was to perform, the experimenter left the room. Although the subjects were led to believe that there was a child in the other room playing a game, in actuality there was no other child. The box containing the timers and
interval-duration timer controlled the onset of the light and buttons with the onset of the light coming at five-second intervals lasting for ten seconds apiece for a total 15 trials. The child’s response was registered cumulatively on the two timers (help and hurt) and recorded at the end of each subject session by the experimenter. The experimenter then re-entered the room and announced that the game was over. The order in which the angel-devil scale and the help-hurt game were presented counterbalanced.

**Assessment of Child’s Content Analysis:**

When returning the subject back to his/her classroom, the experimenter asked the subject what the cartoon story was about. The experimenter noted whether or not the child picked out a moral of the story. If the child’s answer contained a moral, that ended the conversation. If not, the experimenter then asked the subject if he/she thought there was a moral (special message) to the cartoon. If the child said yes, s/he was asked what that moral was. All this was also recorded by the experimenter. The last thing the child was told in returning to the classroom was not to discuss the experiment with his/her friends.
CHAPTER 4

RESULTS

Behavioral Measure: Willingness to help or hurt another child:

A three-factor analysis of variance (ANOVA) involving 2 (sex of subject) x 3 (television condition), x 2 (behavioral response help or hurt) design was used. The analysis, as summarized in Table 3, revealed no main effect for either sex, television condition or behavioral response help versus hurt. However, the analysis revealed a significant interaction between television condition and behavioral measure of helping or hurting $F(2,108) = 5.25, p < .01$. No other interaction proved significant. This supports the hypothesis that the television condition has an effect on the behavioral response. Post tests were performed using Tukey's Test of Simple Comparison of Means. Comparisons were made between the three television conditions with male and female responses tested separately; and behavioral responses (help versus hurt) tested separately. Tukey's Comparison Test was also used to compare the behavioral responses (help versus hurt) with male and female responses tested separately and television conditions tested separately. Table 3 summarizes the results. No significant differences were found for any of the above comparison tests. However, Figure 1 indicates that Condition 1 (purely pro-social cartoon) elicited the greatest amount of
helping behavior followed by Condition 2 (pro-social with aggression) with Condition 3 (purely aggressive) eliciting the smallest amount of helping behavior. This applies to both sexes. However, Condition 1 elicited the least amount of hurting behavior, Condition 2 elicited the largest amount of hurting behavior, and Condition 3 elicited more hurting behavior than Condition 1, but less than Condition 2. This was true for both sexes.
<table>
<thead>
<tr>
<th>Condition 1:</th>
<th>HELP</th>
<th>HURT</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>67.76</td>
<td>32.11</td>
<td>99.87</td>
</tr>
<tr>
<td>Female</td>
<td>54.39</td>
<td>18.87</td>
<td>73.26</td>
</tr>
<tr>
<td>TOTALS</td>
<td>122.15</td>
<td>50.98</td>
<td>173.13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition 2:</th>
<th>HELP</th>
<th>HURT</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>31.88</td>
<td>65.53</td>
<td>97.41</td>
</tr>
<tr>
<td>Female</td>
<td>39.10</td>
<td>51.99</td>
<td>91.09</td>
</tr>
<tr>
<td>TOTALS</td>
<td>70.98</td>
<td>117.52</td>
<td>188.50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition 3:</th>
<th>HELP</th>
<th>HURT</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>25.92</td>
<td>49.07</td>
<td>74.99</td>
</tr>
<tr>
<td>Female</td>
<td>31.27</td>
<td>25.35</td>
<td>56.62</td>
</tr>
<tr>
<td>TOTALS</td>
<td>57.19</td>
<td>74.42</td>
<td>131.61</td>
</tr>
<tr>
<td>Source</td>
<td>SS</td>
<td>df</td>
<td>MS</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------</td>
<td>----</td>
<td>--------</td>
</tr>
<tr>
<td>A (television condition)</td>
<td>4,331.19</td>
<td>2</td>
<td>2,165.60</td>
</tr>
<tr>
<td>B (sex of subject)</td>
<td>2,192.29</td>
<td>1</td>
<td>2,192.29</td>
</tr>
<tr>
<td>C (behavior help/hurt)</td>
<td>45.29</td>
<td>1</td>
<td>45.29</td>
</tr>
<tr>
<td>A x B</td>
<td>520.20</td>
<td>2</td>
<td>260.10</td>
</tr>
<tr>
<td>A x C</td>
<td>18,775.14</td>
<td>2</td>
<td>9,387.57</td>
</tr>
<tr>
<td>B x C</td>
<td>2,057.52</td>
<td>1</td>
<td>2,057.52</td>
</tr>
<tr>
<td>A x B x C</td>
<td>1,131,79</td>
<td>2</td>
<td>565.90</td>
</tr>
<tr>
<td>S/ABC</td>
<td>193,064.55</td>
<td>108</td>
<td>1,781.63</td>
</tr>
<tr>
<td>TOTALS</td>
<td>222,117.97</td>
<td>119</td>
<td></td>
</tr>
</tbody>
</table>

***P = .01
### TABLE 3
TUKEY'S MEAN COMPARISON TESTS

\[(p = .05) \quad r = 3 \quad q = 3.36 \quad \text{critical difference} = 44.86\]

<table>
<thead>
<tr>
<th>(C_1) (Help)</th>
<th>(b_1) (male)</th>
<th>(b_2) (female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a_1) vs (a_3): diff = 41.84 n.s.</td>
<td>(a_1) vs (a_3): diff = 28.47 n.s.</td>
<td></td>
</tr>
<tr>
<td>(a_1) vs (a_2): diff = 35.88 n.s.</td>
<td>(a_1) vs (a_2): diff = 22.51 n.s.</td>
<td></td>
</tr>
<tr>
<td>(a_2) vs (a_3): diff = 5.96 n.s.</td>
<td>(a_2) vs (a_3): diff = 5.96 n.s.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(C_2) (Hurt)</th>
<th>(b_1) (male)</th>
<th>(b_2) (female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a_1) vs (a_3): diff = 16.96 n.s.</td>
<td>(a_1) vs (a_3): diff = 6.48 n.s.</td>
<td></td>
</tr>
<tr>
<td>(a_1) vs (a_2): diff = 33.42 n.s.</td>
<td>(a_1) vs (a_2): diff = 33.09 n.s.</td>
<td></td>
</tr>
<tr>
<td>(a_2) vs (a_3): diff = 16.46 n.s.</td>
<td>(a_2) vs (a_3): diff = 26.61 n.s.</td>
<td></td>
</tr>
</tbody>
</table>

\[(p = .05) \quad 4 = 2 \quad q = 2.80 \quad \text{critical difference} = 37.38\]

<table>
<thead>
<tr>
<th>(A_1) (Prosocial)</th>
<th>(b_1) (male)</th>
<th>(b_2) (female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(C_1) (help) vs (C_2) (hurt):</td>
<td>(C_1) vs (C_2): diff = 35.52 n.s.</td>
<td></td>
</tr>
</tbody>
</table>

\[\text{diff} = 35.65 \text{ n.s.} \]
TABLE 3 (Cont’d)

<table>
<thead>
<tr>
<th></th>
<th>b₁ (male)</th>
<th>b₂ (female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A₂ (Prosocial/Aggressive)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C₁ vs C₂: diff = 33.65 n.s.</td>
<td>C₁ vs C₂: diff = 12.90 n.s.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>b₁ (male)</th>
<th>b₂ (female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A₃ (Aggressive)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C₁ vs C₂: diff = 23.15 n.s.</td>
<td>C₁ vs C₂: diff = 5.92 n.s.</td>
<td></td>
</tr>
</tbody>
</table>

diff = differences
n.s. = not significant at \( \alpha = .05 \)
Figure 1
A three-factor analysis of variance (ANOVA) involving a 2 (sex of subject) x 3 (television condition) x 2 (cartoon character protagonist, antagonist) design was used. The analysis, as summarized in Table 5, revealed a marginally significant main effect of television conditions $F(2,108) = 4.52, p < .01$). It also showed a significant main effect for the protagonist/antagonist dimension $F(1,108) = 242.49, p < .01$. The sex of subject factor showed no significant effect $F(1,108) = .28$. A significant interaction was found between the television condition and the protagonist-antagonist dimension. No other interactions were found significant. This indicates that the television conditions affected the subjects' analysis of characters. The subjects differentiated in their character analysis of the protagonist and antagonist, consistently finding the antagonist as naughtier than the protagonist. Figure 2 indicates that subjects found the protagonist in Condition 1 as least "naughty". The protagonist was seen as most "naughty" in Condition 3 while the antagonist was seen as most "naughty" in Condition 2. This is true for both sexes. An overall average of the scores for each condition shows Condition 3 eliciting the most "naughty" response and Condition 1 eliciting the least "naughty" response.
Post tests were performed using Tukey's Test of the Comparisons of Means. Comparisons were made between the three television conditions with male and female responses tested separately as well as the antagonist/protagonist dimension tested separately. Significant differences were found for the protagonist character between $a_1$ (prosocial) and $a_3$ (aggressive) when male responses were tested ($r=3$, $q=3.36$, C.diff=1.31, $p=.05$); $a_2$ (protagonist/aggressive) and $a_3$ when males were tested ($r=3$, $q=3.36$, C.diff=1.31, $p=.05$); $a_1$ and $a_3$ when female responses were tested ($r=3$, $q=3.36$, C.diff=1.31, $p=.05$). No significant differences were found between television conditions when the antagonist character dimension was tested. These results can be seen in Table 6.
<table>
<thead>
<tr>
<th>Condition 1</th>
<th>Protagonist</th>
<th>Antagonist</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1.2</td>
<td>5.4</td>
<td>6.4</td>
</tr>
<tr>
<td>Female</td>
<td>1.2</td>
<td>5.2</td>
<td>6.6</td>
</tr>
<tr>
<td>TOTALS</td>
<td>2.4</td>
<td>10.6</td>
<td>13.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition 2</th>
<th>Protagonist</th>
<th>Antagonist</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1.2</td>
<td>5.8</td>
<td>8.0</td>
</tr>
<tr>
<td>Female</td>
<td>2.0</td>
<td>6.0</td>
<td>7.0</td>
</tr>
<tr>
<td>TOTALS</td>
<td>3.2</td>
<td>11.8</td>
<td>15.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition 3</th>
<th>Protagonist</th>
<th>Antagonist</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3.2</td>
<td>5.0</td>
<td>8.1</td>
</tr>
<tr>
<td>Female</td>
<td>2.8</td>
<td>5.3</td>
<td>8.2</td>
</tr>
<tr>
<td>TOTALS</td>
<td>6.0</td>
<td>10.3</td>
<td>16.3</td>
</tr>
</tbody>
</table>

TABLE 4
MORAL JUDGMENT MEASURE: GROUP MEANS
TABLE 5
ANGEL/DEVIL
ANOVA

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (television condition)</td>
<td>13.82</td>
<td>2</td>
<td>6.91</td>
<td>4.52**</td>
</tr>
<tr>
<td>B (sex of subject)</td>
<td>.41</td>
<td>1</td>
<td>.41</td>
<td>.28</td>
</tr>
<tr>
<td>C (Angel/Devil pro. vs. ant.)</td>
<td>371.01</td>
<td>1</td>
<td>371.01</td>
<td>242.49 ***</td>
</tr>
<tr>
<td>A X B</td>
<td>2.21</td>
<td>2</td>
<td>1.11</td>
<td>.73</td>
</tr>
<tr>
<td>A X C</td>
<td>28.21</td>
<td>2</td>
<td>14.11</td>
<td>9.222***</td>
</tr>
<tr>
<td>B X C</td>
<td>0.00</td>
<td>1</td>
<td>0.00</td>
<td>0.000</td>
</tr>
<tr>
<td>A X B X C</td>
<td>2.23</td>
<td>2</td>
<td>1.12</td>
<td>.732</td>
</tr>
<tr>
<td>S/ABC</td>
<td>165.70</td>
<td>108</td>
<td>1.53</td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>583.59</td>
<td>119</td>
<td>4.90</td>
<td></td>
</tr>
</tbody>
</table>

* P < .10
** P < .05
*** P < .01
Figure 2
TABLE 6
TUKEY'S MEAN COMPARISON TESTS

\[(p = .05) \quad r = 3 \quad q = 3.36 \quad \text{critical difference} = 1.31\]

**C₁ (Protagonist)**

\begin{align*}
&b_1 \text{ (male)} \\
&\text{a₁ vs a₃: diff = 2 s.} \\
&\text{a₁ vs a₂: diff = 0 n.s.} \\
&\text{n.s.} \\
&\text{a₂ vs a₃: diff = 2 s.} \\
&\text{n.s.}
\end{align*}

**C₂ (Antagonist)**

\begin{align*}
&b_1 \text{ (male)} \\
&\text{a₁ vs a₃: diff = .4 n.s.} \\
&\text{a₁ vs a₂: diff = .4 n.s.} \\
&\text{a₂ vs a₃: diff = .8 n.s.}
\end{align*}

\begin{align*}
&b_2 \text{ (female)} \\
&\text{a₁ vs a₃: diff = 1.6 s.} \\
&\text{a₁ vs a₂: diff = .8} \\
&\text{a₂ vs a₃: diff = .8}
\end{align*}

\begin{align*}
&\text{s. = significant} \\
&\text{n.s. = not significant} \\
&\text{diff = difference between means}
\end{align*}
Moral Judgment Measure: Moral of the Cartoon

A Chi Square analysis was used to determine if television conditions would determine child's ability to extract a "moral of the story" from the cartoon in a 2 (yes - extract moral; no - not extract moral) x 3 (television condition) design. Significance was approached but not reached ($\chi^2 = 3.52$, $p < .20$). A Chi Square analysis was also used to determine if sex of subject affects ability to extract a moral; a 2 x 2 design. No significance was found ($\chi^2 = .35$) suggesting that sex does not determine ability of subject to extract a "moral of the story" from the cartoon. Only 14 of 60 children extracted a moral from the three cartoon conditions.
### MORAL JUDGMENT

#### Chi Square

<table>
<thead>
<tr>
<th></th>
<th>$A_1^p$</th>
<th>$A_2^{p/a}$</th>
<th>$A_3^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YES</strong></td>
<td>5</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td><strong>NO</strong></td>
<td>15</td>
<td>13</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>$B_1$ males</th>
<th>$B_2$ females</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YES</strong></td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td><strong>NO</strong></td>
<td>24</td>
<td>22</td>
</tr>
</tbody>
</table>

A = TELEVISION CONDITION  
B = SEX OF SUBJECT

**TABLE 7**
The overall results of the experiment showed that children imitate aggressive acts most often when they are performed in a pro-social cartoon by a pro-social character. Yet, young boys do not find the "good guy" who aggresses as any naughtier than the good guy who does not. The children are most often unable to extract the moral, suggesting they don't know whether the show is pro-social or not or that a more sensitive assessment of moral messages is needed.

Looking at observational learning from a social learning perspective, it was Bandura et al (1961) who first brought acknowledged attention to the strength of a model on children’s behavior. Liebert and Baron (1972) furthered Bandura’s studies and showed that children imitated television characters by aggressing against a peer. This study has shown that children will also imitate pro-social behavior but when presented with both pro-social and aggressive behavior, children will more often imitate the aggressive behavior.

More specifically, the present study showed that a purely pro-social cartoon segment with no aggressive acts not only elicited the largest amount of helping behavior but also the least amount of "hurting" behavior. The most important behavioral finding of the study is that the pro-
social cartoon, with aggressive acts incorporated in the story action, elicited a larger "hurting" response from the subjects than did the purely aggressive cartoon. This result finds that children respond and are more likely to imitate aggressive behavior when it is presented in a pro-social context. The danger of this finding is that children are learning that aggressive behavior is acceptable when performed on the behalf of a good cause. History is good evidence of this principle.

Children's willingness to help steadily decreased with each condition. Willingness to help was lowest in the condition where the child viewed an aggressive cartoon with no pro-social meaning. It has also been seen that there is no main effect for sex of subject of interactions of sex with treatments. The sexes do not differ for hurt responses, and although girls show trend for a lower degree of "hurting" behavior, no significant differences are found. Within the context of the experimental situation, the viewing of pro-social as well as aggressive cartoons does increase the viewers pro-social or aggressive behavior. Because of the vicarious learning children absorb from watching cartoons, parental, as well as network, monitoring is an important consideration. If children watch television unsupervised, they cannot distinguish when or if aggressive behavior is appropriate for themselves.
The angel/devil scale modified from a scale presented by Buchanan and Thompson (1973) was designed to show the effect of the different cartoon conditions on children's character assessment. Although as expected, the antagonist was always shown as "naughtier" than the protagonist by the subject, it has also been shown that there is a condition effect. The behavioral measure showed the pro-social cartoon with aggressive actions produced the largest amount of aggressive behavior in the subjects and received the "naughtiest" ratings for the antagonist character (Figure 2). This suggests that children see the "bad guy" as naughtiest when he is fighting a "good guy" who fights in return but for a pro-social reason. The protagonist is seen as naughtiest in the purely aggressive cartoon but what's important is that the "good guy" who aggresses is not seen as naughtier than the "good guy" who does not aggress. The subjects aggress the most when observing aggressive behavior in a pro-social condition. The children's attitudes as assessed from the "naughty/good" measure indicates that aggressive behavior is more acceptable in the name of good than passive behavior, and a "good" aggressor was not considered naughtier in comparison to passiveness on the behalf of good. Children today are watching television cartoon presentations and seeing a large amount of aggression (Gerbner, 1972), and most of it is being done by the "good guy" against the "bad guy". This is an aspect of
the study that suggests further research to see if young children are receiving some message that it is all right for people to aggress if it is for a "good" reason.

The moral judgment measure was an assessment to determine if television conditions can affect children's ability to extract a message or "moral of the story" from the cartoon. The expected result would be that a purely pro-social cartoon should have the strongest and easiest message to extract followed by pro-social cartoon with aggression. The purely aggressive cartoon should elicit a response of no moral message. Although a tendency toward this expected result was seen (Table 7) it was too weak to be significant. The Chi Square Test run on sex difference showed no significant differences between the sexes. It is possible that the subjects were at an age where only a few were able to comprehend the meaning of a "moral" or were of an age where such assessment is not yet a part of the cognitive repertoire. This in relationship to the two previous measural findings suggests that not only are children learning to aggress in the name of good but they're learning these things before they are able to verbalize them. This could be expanded into further research that takes a cross-section of age groups to determine at what age a child can best assess a moral from a cartoon.

This study demonstrates that children (at age five) when viewing videotaped cartoons are not understanding or
able to state exactly why the "good guy" is aggressing. As he is aggressing he continues to be the "good guy" and therefore the children's behavior becomes actively aggressive.
APPENDIX B

GOOD

ANGEL–DEVIL SCALE

NAUGHTY

47
REFERENCES


