

## *Children's Understanding of the Nature of Television Characters*

by Joanne M. Quarfoth

*Not until second grade were a majority of children able to differentiate human from animated and puppet characters.*

Previous research concerning the effects of television on children has tended to focus upon the learning of social behaviors and attitudes (2, 4, 5). That children's age-related cognitive limitations would affect their perceptions of television programming and presumably mediate learning seems evident, yet this area is only now coming under frequent discussion. The purpose of this study was to explore children's understanding of the nature of television characters by assessing their abilities to differentiate between human, animated, and puppet characters.

Researchers who have investigated developmental differences in children's perceptions about television have commonly used questionnaire or rating scale measures to assess children's evaluations of television content. Rubin (9) found that nine-year-old children were more likely to agree that "television presents things as they really are in life" than were 13- and 17-year-old adolescents. Blatt, Spencer, and Ward (1) interviewed kindergarteners, second-, fourth-, and sixth-graders about the nature of commercials and of commercial characters. They found that fourth- and sixth-graders fully grasped the fundamental "reality" or "non-reality" of the characters and situations portrayed on commercials. The kindergarteners and second-graders, however, had difficulty making such

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distinctions. Lyle and Hoffman (6) also found that first-graders were more likely to accept television characters as true-to-life than were sixth- and tenth-graders.

Leifer, Gordon, and Graves (4) assessed the type of cues used by children aged four to fourteen to discriminate what appears to be real from what does not appear to be real on television. It was concluded that children of all ages experience considerable difficulty when asked to explain whether or not a television program conforms to "real life." The type of program (news versus cartoon, for example) and direct comparisons between television situations and their "real-life" counterparts (e.g., "real people can't walk that fast") were most often used as evaluative standards.

Attempts have also been made to investigate children's perceptions about specific television characters. Greenberg and Reeves (3) interviewed third-, fourth-, fifth-, and sixth-graders and found that children at all age levels were more likely to ascribe realism to specific characters than they were to perceive the general category of "people on TV" as realistic. This tendency decreased systematically across age groups, however.

In another study, Reeves and Greenberg (8) attempted to identify the dimensions spontaneously used by children to differentiate between pairs of popular television characters. The third-, fifth-, and seventh-graders who participated in this study stressed the following dimensions: (a) the humor associated with the characters, (b) the strength of the characters, (c) the attractiveness of the characters, and (d) the activity level of the characters. Although children were asked to rate "how much like a real person" each character was, this "real-unreal" dimension was infrequently used to identify the differences between two characters. It should be noted, however, that Reeves and Greenberg included only two cartoon or puppet characters in their sample of 14 popular television characters. This study may thus have underestimated how frequently children use this dimension, since it is likely to be most frequently used to differentiate cartoon or puppet characters from living human characters.

***When does a child begin to understand  
the attributes that make human television characters  
different from cartoon and puppet characters?***

Little is known about such differentiation with regard to television *per se*, but the developmental psychologist Jean Piaget discussed childhood limitations in discerning the distinctions between reality and fantasy in his delineation of the several stages of what he termed "child animism" (7). According to Piaget, during the first stage of animism the child of about six years or younger will endow any object with consciousness so long as the object is associated with some kind of activity. During the ensuing stages, the child learns to attribute consciousness only to those organisms that move of their own accord and that experience a finite life span. The child of about 11 or 12 who is in the final stage of animism attributes full consciousness to human beings only and understands the differences between organic and inorganic objects.

It is interesting to consider Piaget's theory of animism in light of the television viewing experience. If young children judge the consciousness of an object

by its association with motion, they may find it difficult to discriminate human from puppet or cartoon characters. The child, seeing puppets and animated characters move and talk in an apparently self-propelled manner, may infer that the characters are alive. This possibility would seem especially likely in the case of cartoon characters, since few children ever have animation explained to them; however, many children commonly experience playing with hand puppets.

*Picture-sorting tasks, multiple choice questions, and open-ended questions were used to assess the child's understanding in several different ways.*

Previous studies in this area have usually used only open-ended interviews to measure the child's perceptions about television characters. Since young children are often unable to verbalize their comprehension of complex subjects, the children in this study were given four "tasks" which ranged from concrete picture-sorting to abstract interview questions.

Thirty-four kindergarteners, 23 first-graders, 20 second-graders, 21 third-graders, and 20 fourth-graders from predominantly white, middle-class areas of two midwestern cities were interviewed. Mean ages were six years, seven years, eight years one month, eight years nine months, and ten years, respectively. The sex ratio was approximately equal at each grade level. Each child was individually interviewed by one of three female experimenters.

The purpose of the *spontaneous grouping* task was to determine whether children would spontaneously sort a set of pictures of television characters into human, animated, and puppet categories. A practice task was administered to ensure that children understood what was meant by sorting pictures into groups. An array of 20 black-and-white photographs of television characters, approximately 9 × 12 cm. in size, was then placed in front of the child. The set included 8 photographs of human characters (e.g., Laura Ingalls from "Little House on the Prairie," John Boy Walton), 8 of cartoon characters (e.g., Bugs Bunny, Fred Flintstone), and 4 of puppet characters (from Sesame Street). The characters were chosen from programs oriented toward a child audience. The child was told to "sort the pictures into groups, to put the ones together that belong together," and was then asked to explain why each set of characters had been grouped together.

For the first *character discrimination* task, the 20 photographs used in the spontaneous grouping task were shuffled and arranged on the table. The purpose of this task was to ascertain whether children would ascribe the quality of "alive-ness" and the ability to "walk and talk by themselves" only to the human characters. It was of interest whether the child would choose the same characters on the two discriminations, since cartoon and puppet characters are not alive yet seem to move of their own accord. The child was told to look at the pictures and to "pick out the ones that are alive and place them in a pile over here." The picture choices were recorded, the set of pictures was reshuffled, and the child was next asked to "pick out the ones that can walk and talk by themselves."

For the second character discrimination task, the child was asked to explain how humans differ from cartoons and puppets, and how cartoons and puppets differ from each other. The child was presented with three consecutive sets of pictures in random order. One set contained pictures of human characters and pictures of cartoon characters. In the second set, human characters and puppet characters were presented, and cartoon and puppet characters were in the third set. For each of the three sets, the child was asked how one group of pictures differed from the other, and how they were alike. The groups were deliberately *not* labelled "people," "cartoons," or "puppets" because of a desire to see if children would spontaneously label the groups. Only labels proffered by the child were used.

In addition, each child verbally completed three questionnaires. The first consisted of six multiple choice questions designed to clarify whether the child understood the nature of cartoon and puppet characters. For example, the child was asked whether puppets (a) can talk and move by themselves, (b) are controlled by people who talk for them and make them move, or (c) can talk by themselves but people have to help them move around. The order of alternatives was varied for different questions. The second questionnaire was a set of open-ended questions about specific characters. The third was a set of open-ended general questions about television, one example being "Suppose you were watching TV with a child from another country who had never seen TV before. He asks you how the people got inside the little box. What would you say?"

***On the spontaneous grouping task, the percentage of children who organized the pictures into discrete groups of human, animated, and puppet characters increased systematically across the age range studied.***

Forty-eight percent of the kindergarteners grouped the pictures by these categories, as compared to 95 percent of the fourth-graders. The percentages for grades one, two, and three were 57, 75, and 83, respectively. Thus the human/animated/puppet distinction appears to become increasingly salient with age. There were other dimensions along which pictures tended to be grouped. Some children put all the characters they liked in one pile and all they disliked in another. Others established several pairs of characters as groups, maintaining that the two characters of each pair were alike because they were on the same show, because they looked alike, etc. A few of the younger children asserted that the characters were either all alike or all different and refused to group them in any other fashion.

A ratio score ( $a - b/c$ ) was computed for both parts of the first character discrimination task. In this ratio,  $a$  refers to the number of human characters chosen by the child as "alive" or as having the ability to "walk and talk by themselves,"  $b$  refers to the number of animated or puppet characters chosen to have these characteristics, and  $c$  refers to the total number of human characters that could have possibly been chosen.

A grade  $\times$  sex ( $5 \times 2$ ) analysis of variance performed on the ratio scores from the "alive" discrimination task yielded a significant grade effect,  $F(4,108) =$

3.14,  $p < .025$ . The third- and fourth-graders were significantly more accurate than the kindergarteners in attributing "alive-ness" only to human characters ( $p < .05$ ). A significant grade effect,  $F(4,108) = 9.31$ ,  $p < .001$ , was also found for the ratio scores from the "walk and talk by themselves" discrimination. The performance of the kindergarteners on this task was significantly inferior to the performance of the first- through fourth-graders ( $p < .001$ ). The younger children (kindergarten, first-, and second-graders) were in general less accurate than the third- and fourth-graders ( $p < .05$ ). The sex effect and the grade  $\times$  sex interaction were nonsignificant for both discriminations.

***Not until the third and fourth grades did most children come to realize that being alive and having the ability to move autonomously are characteristic only of human characters and not of animated or puppet characters.***

The mean ratio scores by grade for the "alive" discrimination in contrast to the "walk and talk" discrimination are compared in Figure 1. Only 18 percent of the kindergarteners attributed the quality of being alive and of exhibiting autonomous movement only to the human characters. This percentage increased systematically across grades until 70 percent of the fourth-graders chose only the human characters on both discriminations. The children were, on the average, more accurate when asked to choose the characters that were alive than when asked to choose those that could walk and talk by themselves. This pattern held true even among the third- and fourth-graders.

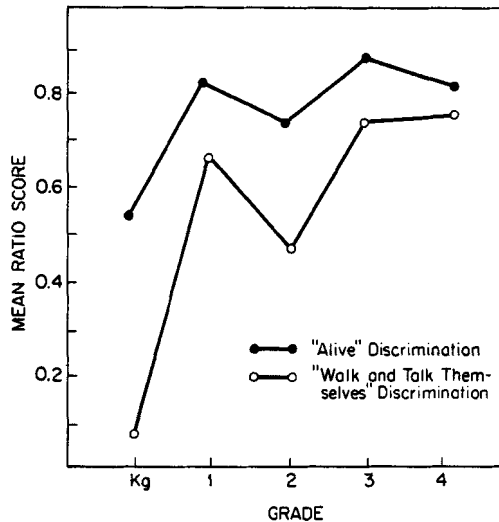


Figure 1: Mean ratio scores by grade for "alive" discrimination versus "walk and talk themselves" discrimination

An analysis of incorrect choices made in the different age groups reveals that more than half of the kindergarteners attributed autonomy of movement to both cartoon and puppet characters, while only a third chose both types of characters as alive. The number of incorrect choices decreased with age for both "alive" and "walk and talk themselves" discriminations. In addition, the incorrect choices made by the first- through fourth-graders tended to be restricted to the group of cartoon characters. Unlike the kindergarteners, few of the other children chose puppets on either discrimination task. Thus it appears that most older children can accurately differentiate human from puppet characters. Even among the older children, however, there is still some confusion about the nature of cartoon characters.

Children's answers to the second character discrimination task were transcribed from audio-tapes for analysis. Two coders independently rated the answers by assigning them to one of four categories based on the extent to which children could discriminate the human-animated, human-puppet, and animated-puppet groups.

1. Children were assigned a CD (*complete differentiation*) rating if they discriminated between all three pairings with success. A sample response by a fourth-grader in discussing the animated vs. puppets group was, "These are cartoon strips and these are puppets. Puppets are run by people with motions with their hands, but these are kind of different. And also their [puppets'] actions are limited and with animated cartoons they can do almost anything. Sometimes they can do things that can't happen, like walk upside-down. Cartoons and puppets are alike because they're imaginary."

2. A PD (*partial differentiation*) rating was assigned if the child understood the nature of puppets but was unsure how animated characters differed from both human and puppet characters. For instance, a first-grader said of the human vs. animated groups, "These are different because they're cartoon characters and these aren't cause these are different TV programs. I don't know if they're [the cartoon characters] puppets but I think they're puppets."

3. An A (*anthropomorphic explanation*) rating described the child who considered cartoon and sometimes puppet characters to be human beings in costumes. This group was considered separately from the PD group because of the specificity of the explanation of animation, although the two groups were similar in evincing an understanding that cartoon and puppet characters were in some way different from human characters. A second-grader said of the animated vs. puppet groups, "These are all on 'Sesame Street' and these are—these are cartoons. These [cartoons]—some people put on—like—costumes and things—on the TV. Like the Pink Panther wouldn't even be a panther—there'd be some person in a—like a—disguise. . . . That's somebody dressed up as Fred [Flintstone] and that's somebody dressed up like a dog."

4. An ND (*no differentiation*) rating was given if the three character types were considered to be synonymous or if children differentiated by characteristics other than human/puppet/cartoon even after extensive probing by the interviewer. For example, a kindergartener's response to the human vs. puppet

groups was, "They're all on 'Sesame Street' and these [humans] aren't. They're all on shows. They have different kinds of heads and do different things."

Inter-rater reliability (number of agreements divided by number of agreements plus disagreements) between the two coders was 89.8 percent. For the 12 of 118 cases in which the raters were not in accord, disagreements were resolved through mutual reconsideration and re-coding of the transcriptions involved.

Table 1 lists the number of children at each grade level who fall into the four categories. The number of children able to make the human/puppet/cartoon character distinction increased systematically as the child grew older with 15 percent of the kindergarteners as opposed to 85 percent of the fourth-graders making complete differentiations.

*Responses to the questionnaires revealed that the more specific the question, the greater the success of younger children in making appropriate judgments about the nature of the characters.*

For example, on a multiple-choice question almost 60 percent of the kindergarteners identified Tony the Tiger as a "make-believe tiger" as opposed to a "person dressed up to look like a tiger" or a "tiger like the tigers you can see at the zoo." However, when asked the open-ended question "Is Tony the Tiger alive?" only 40 percent of the kindergarteners gave answers indicating they thought Tony was "just a cartoon" and therefore not alive. Even fewer kindergarteners (15 percent) could fully discriminate among the three types of characters on the second character differentiation task.

The kindergarteners as a group seemed uncertain about the mechanics of television, and this seemed to affect their perceptions about the reality of television. About 20 percent of the kindergarteners stated that they thought Tony the Tiger could look out from the TV and see them when they were watching him, and that people seen on programs are really standing *inside* the television set. When asked how the people got inside the TV, these kindergarteners would give answers like "Those people are made smaller than us and when you turn the TV on, they're lowered down by a rope," or "God put them there." Another 50 percent of the kindergarteners would assert or agree that people aren't actually "in the TV" but they could in no way explain the mechanical nature of

**Table 1: Number of children by grade according to their ability to differentiate characters on the second character discrimination task**

Grade	Complete differentiation	Partial differentiation	Anthropomorphic explanation	No differentiation
Kindergarten (N = 34)	5	13	6	10
First (N = 23)	7	11	4	1
Second (N = 20)	11	2	7	0
Third (N = 21)	13	3	5	0
Fourth (N = 20)	17	2	1	0

television. It was not until the fourth grade that the majority of children could give an answer showing some understanding of electrical waves (e.g., "Particles travel through air and form a picture on the screen").

***A substantial number of second-, third-, and even fourth-graders demonstrated an incomplete understanding of the functioning of cartoon and puppet characters.***

While such confusion had been expected of the younger children, and indeed was more prevalent among the kindergarteners and first-graders in the sample, it was considerable even among the older children. For example, when asked to explain the differences between human and animated groups on the second character differentiation task, about one-fourth of the second- and third-graders maintained that cartoon characters have "people inside them making them move and talk."

It seems likely that some children fell back upon these explanations because they could not figure out how else to account for the existence of cartoons. For example, a second-grader who was asked "Is Tony the Tiger alive?" responded "No way!" When subsequently asked "Then how does Tony move?" she looked confused, thought for a moment, and then said, "It's a costume—it just *has* to be a costume." This child's responses were not atypical. Many of the children appeared to simply accept television and to be thinking about how cartoons move and talk for the first time as a response to our questions. Many of the children who could explain how cartoons work volunteered the information that they could do so only because they had seen animation demonstrated at school or on television.

It is interesting to consider the children's performances on the "alive" and the "walk and talk" discriminations in the light of Piaget's theory of animism (7). Piaget asserted that the child, over a period of years, gradually comes to realize that the fact that an object moves does not necessarily imply that the object is conscious. Taking this into consideration, it is notable that children at each grade level were, on the average, less accurate when asked to choose characters that could move by themselves than when asked to choose characters that were alive. It is not until the third and fourth grades that the majority of children come to realize that autonomous movement is characteristic only of things that are alive. Even among this older group, 25 percent of the children attributed autonomy of movement to cartoon characters.

***The results of this study clearly indicate that children's understanding of the nature of television characters increases systematically across the early school years.***

The third- or fourth-grader may not completely understand the mechanics of animation, but most children of this age group do distinguish cartoon characters from human characters or puppet characters. Many kindergarteners, on the



other hand, could not make this differentiation. This finding does not appear to be an artifact of the young child's lesser verbal ability, since the age-related differences were strong even on the picture-sorting tasks which did not require verbal answers.

Young children's difficulty in differentiating human from other characters could have important implications. Many adults assume that because it is obvious to them that cartoon characters are "make-believe," the same fact must be as obvious to children. This study has demonstrated, however, that young children do *not* discriminate clearly between different types of television characters. Given that the rate of violence on children's cartoon programs is three times the rate of violence on other television programs (10), it would make sense to look more carefully at what young children learn from cartoon programs.

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