Perceived Television Reality and Children's Emotional and Cognitive Responses to its Social Content

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Children's emotional and cognitive responses to factual and fictional television programs depicting family conflict were investigated. 97 third and fourth graders saw one of three 15-min versions of the same content: documentary, drama, or realistic drama. Self-reports of emotion and facial expressions varied with the content portrayed, and emotions were similar to those perceived for the people shown. Although children perceived the documentary as more factual than the other versions, neither the experimental manipulations nor individual perceptions of factuality had much influence on emotional responses. Children who considered the content factual recalled more complex, inferential content and more psychological states (e.g., intentions, motives) of characters than those who did not. Perceived social realism was positively related to reporting affect similar to that of the characters and to recall of concrete actions and dialogue. The results indicate that children experience vicarious

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emotion in response to both factual and fictional people they observe on television; a multidimensional conception including at least factuality and social realism is required to understand how perceived reality affects emotional and cognitive reactions to televised social content.

During the years from about 3 to 12, children gradually acquire an understanding of the distinctions between real and fictional television content (Flavell, Flavell, Green, & Korfman, 1990; Hawkins, 1977). By middle childhood, at least two dimensions appear to be discriminated in children’s judgments of reality: factuality and social realism (Wright, Huston, Reitz, & Piemyat, 1994).

Factuality represents a judgment of whether the events portrayed actually happened in the unrehearsed world, and whether the people on screen are being seen in their unscripted life. Factuality is discriminated primarily on the basis of format and form cues. By 7 years old, children recognize cues for live broadcasts of real events (e.g., print on screen, long shots) versus fictional content (e.g., flashbacks, dream sequences), even when content is held constant (Calvert, 1988; Wilson, 1991; Wright et al., 1994). They know that certain production conventions indicate certain genres of programming (e.g., laugh track indicates a comedy, talking heads indicate news), and they knew the basic factuality of each genre of programming.

Social realism, the second dimension of reality perception, is similar to the attribute that Dorr (1983) called plausibility. It reflects a judgment about whether the televised people and events are like those in the real world. Where the judgment for factuality is truth, however unlikely, versus make believe, the judgment for social realism is whether a representation is true to life, even though it may be known to be fictional (Potter, 1988; Wright et al., 1994).

Although children understand variations in television reality, we know little about how that understanding affects their reactions to content. It is often assumed that content perceived as real will have a greater impact on children than content known to be unreal, but, other than a few studies suggesting that real aggression is more likely to be imitated than fictional aggression (e.g., Feshbach, 1976; Huesmann, 1986; Soh, Neapolitan, Wright, & Todd, 1993), there are few data. In this study, we investigate how perceived reality of television programs affects children’s emotional responses and interpretation of content.

TELEVISION AND EMOTION

Television by definition presents events and experiences to the viewer vicariously. For very young children who do not have a full understanding of the difference between real and vicarious experience or between appearance and reality, television can arouse emotion directly. Preschool children are frightened
by threatening stimuli (e.g., a swarm of bees approaching) and by physical transformations (e.g., the change from man to monster in the *Incredible Hulk*; Cantor & Sparks, 1984; Sparks & Cantor, 1986; Wilson & Cantor, 1985).

Nevertheless, most emotional reactions to television are probably vicarious responses to the situations and people portrayed. Viewers often share the perceived emotion of another. Shared emotion is defined by some theorists as empathy, although others reserve that term for vicarious emotion that is based on taking the perspective of another person or feeling concern for another (Eisenberg & Strayer, 1987; Eisenberg, Fabes, Schaller, & Miller, 1989). A considerable body of literature exists showing that even young children respond emotionally when they observe laboratory films depicting other children in distress (Eisenberg, 1992; Eisenberg et al., 1989).

Although vicarious emotion is an affective response, most theorists propose that it can be cognitively mediated. Taking the perspective of the other person, which permits one to recognize the other's affect correctly, is one cognitive component. Using Piaget's theory that perspective-taking ability develops as part of concrete operations, Cantor and her associates compared preschool children (preoperational) with children in middle childhood (concrete operational). Only the older children reacted to characters' facial cues showing fear (Wilson & Cantor, 1985).

Perspective taking implies only correct perception, not putting oneself in the place of another. A second mediator is imaginal involvement, fantasying oneself in the place of another person or in an observed situation. Adults' emotional responses to another's situation were better correlated with the extent of imagined involvement than with perspective taking (Davis, 1983). Children who were instructed to imagine they were Dorothy as they watched a frightening scene from the *Wizard of Oz* expressed more fear than children who watched without such instructions (Cantor & Wilson, 1984).

**Perceived Reality and Emotional Reactions**

The perceived reality of television content may mediate emotional responses, perhaps through its effects on perspective taking or imagined involvement. If a television program is perceived as factual, rather than fictional, children may be more likely to imagine themselves in the roles of the people involved or in similar situations. Children, 9 to 12 years old, interviewed shortly after the explosion of the space shuttle Challenger reported high levels of emotional distress that they did not feel when they saw comparable fictional events (Wright, Kunkel, Pinon, & Huston, 1989). The emotional effects of fictional content can be reduced by reminding children it is not real, but such reassurance is of little help to children younger than about 7 years old (Cantor & Wilson, 1984; Wilson, Hoffner, & Cantor, 1987).

Although there is good theoretical reason to expect children older than 7 or 8
years to experience more emotional arousal in factual than in fictional program-
moving, a case for the reverse prediction can be made. Dramatic presentations,
because of their deliberate attempt to create excitement, identification with char-
acters, and emotional involvement in the viewer, may elicit more affect than the
typically calmer, drier, factual presentations found in news and documentary
formats. In one study (Soh et al., 1993), children who saw a documentary format
for a fight scene scored higher on approval of aggression, judged effectiveness of
aggression, and willingness to aggress when provoked than did those who saw a
fictional version. However, a condition that simulated "reality-based" programs
(i.e., programs which present factual stories using a mixture of factual footage,
dramatic recreations, and interviews with real people involved) was still more
effective in eliciting those proaggressive responses.

The small amount of research investigating the effects of perceived reality on
emotion has concentrated primarily on frightening television programs and fear-
ful reactions. Studies of empathy, however, demonstrate empathic concern in
response to videotaped physical or psychological distress of another person (e.g.,
Eisenberg et al., 1990). Much of television portrays intense human relationships
that are often fraught with conflict, hurt, love, anger, and other emotionally
charged content. Many educational programs for children deal with emotionally
arousing situations and conflict resolution. The effectiveness of such programs
may depend in part on their ability to engage the emotions of the audience.

Measures of Emotion
Inferences about the effects of an experience on emotion may depend on the
measure of emotion used. Self-report, facial expression, and physiological indi-
ces are the three major types of measures available. In numerous studies of
preschool children and adults, these measures have shown little or no correlation
with each other even though each measure shows predicted variations in response
to experimental stimuli (Buck, 1977; Eisenberg et al., 1989; Eisenberg et al.,
1988; Field & Walden, 1982; Marcus, Roke, & Bruner, 1985). In one study of
emotionally disturbed children in middle childhood (8 to 12 years old), facial
expressions did predict self-reports (Blumberg & Izard, 1991).

In this study, both self-report and facial expressions were measured in order to
obtain two independent indicators of emotion and because there were theoretical
reasons to expect different effects of fiction and reality on the two indices.
Immediate affective responses, as indexed by facial affect, may be especially
likely to be enhanced by the dramatic forms and formats of realistic fictional
production. By contrast, delayed self-report may have a greater opportunity to be
influenced by cognitive consideration of the differences in social importance and
personal emotional significance between a fictional television story and the real-
world events portrayed in a factual television documentary.
Perceived Reality and Interpretation of Content

Children may perceive, remember, and infer different aspects of the content in factual and fictional programming. When something is perceived as real, children may exert increased mental effort in processing it (Salomon, 1983). Once they have identified the genre as factual, they may approach viewing with an orientation to learn or be informed; they may use relatively complex and abstract constructs and infer beyond the content given. When a program is perceived as a fictional drama, children may view primarily for entertainment, exerting relatively little mental effort, and using relatively concrete, simple constructs for interpreting the content.

There is some evidence supporting the hypothesis that children process television fiction differently than real-life situations. When asked to tell stories about events in real life or on television, children generated more common themes in stories about television and more diverse themes about real life (Potts & Masters, 1984, 1986). In another investigation, television stories had a higher ratio of descriptive information about action and dialogue; real-life stories contained more references to feelings and thoughts, more inferences, and more evidence of personal involvement by the storyteller (Watkins, 1988). Positive versus negative consequences received by an aggressive model were more differentially effective in changing attitudes toward aggression and willingness to aggress in factual than in fictional television versions of a televised fight scene (Soh et al., 1993).

In one investigation, children's descriptions of real and television peers were obtained with the hypothesis that descriptions of real peers would be more complex (Babrow, O'Keefe, Swanson, Meyers, & Murphy, 1988). Descriptions of real peers were more differentiated (i.e., contained more attributes) and more integrated (i.e., incorporated a wider range of information) than were those of television peers. Contrary to prediction, however, children provided more abstract descriptors (attitudes and beliefs, psychological dispositions, traits, and motivations) for television peers and more concrete attributes (physical characteristics, behaviors, role, and demographic characteristics) for real peers.

The major purposes of this study were to test the effects of perceived factuality and social realism on children's emotional responses and interpretation of content in a television program from an educational series designed to stimulate children to think about, understand, and learn to cope with emotionally conflictful situations. Children saw one of three versions: documentary, drama, or realistic fiction (control). Children in third and fourth grades were studied because they are the target age group for the program series used and because they are likely to understand the distinction between television fact and fiction fairly well.
Participants
Third and fourth graders (49 girls and 48 boys) from a small-town elementary school participated in the experiment. The mean age was 9.90 years old (range = 8.75–11.0). All children who returned written parental permission slips were randomly assigned to view one of three versions of a television program: documentary, drama, or realistic fiction (control).

Stimuli
A 15-min story from the Instructional Television “Inside-Out” series entitled Love Susan served as the basic film. The original was shot in a realistic style with little music and few elaborate production techniques. Therefore, it could be edited to appear to be a documentary or a drama. It was shown unchanged to the control group and was edited to produce a documentary version and a dramatic fictional version. The content in all three versions was almost exactly the same. For purposes of analysis, the story was divided into six segments:

1. A 9- to 10-year-old girl named Susan is painting a picture for her father. She expresses excitement about surprising him when he comes home from work. Father is shown caught in traffic and looking frustrated.
2. When her father comes home, she begs him to see her picture immediately, but he says he is tired and asks her to wait. She knocks some of his business papers on the floor and he shouts at her angrily to go away.
3. She runs upstairs to her room and cries. She hits her dog angrily, then begins to draw some pictures to express her anger.
4. Mother and father talk in the living room. Mother explains that Susan has been working on the painting for a week. Father goes upstairs, stands outside her door, and apologizes. She opens the door and asks him to take the dog out. She is unsmiling and refuses to come to dinner.
5. Susan sits at her bedroom window and thinks. In the original and drama versions, she envisions an earlier time when she and her parents were happily celebrating her birthday. After dinner, dressed in her bathrobe, she creeps downstairs into the kitchen and gets a snack. She hears her parents talking about what happened during the day. Father describes his bad day at the office.
6. After mother goes upstairs, Susan enters the living room and sits on a hassock facing her father. They look at each other. Their facial expressions are not clearly positive or negative. The ambiguous ending was a deliberate strategy in the “Inside Out” series to provoke thought and class discussion about the issues presented.
In the documentary version, during the titles, a voice-over announcer thanked a "real" family in a nearby city by name for permitting the cameras in their home. The postproduction techniques used were those common to programs showing on-the-scene footage of real events; music and special effects were removed. Scenes were rearranged so as not to make it appear that the camera was alternating between locations inside the bedroom and outside in the hall as the speakers alternated. The flashback scene was omitted, but dialogue referring to the same events was included in Scene 4.

The dramatic version used enhanced special effects (e.g., freezes of father's angry face in Scene 2, more dramatic music than the original version, instant camera relocations, and wipes and dissolves between scenes) to enhance the dramatic impact of the story. During the titles, the narrator described the series as containing "dramatic stories for children and families." Wipes using an expanding or contracting diamond were used at the beginning and end of Susan's daydream/recall scene to mark the flashback/daydream scene.

**Measure of Perceived Reality**

As a manipulation check, perceived factuality of the program was measured with three items: (a) Were the characters shown really a family off screen? (b) Did they really live together in [nearby city]? (c) Did the events shown happen to a real family?

Perceived social realism was assessed with three items: (a) Do you know someone in real life like the father in the television program? (b) Is Susan a lot like some of the kids you know in real life? (c) Are the things that happened in the television program a lot like things that happen to people you know in real life?

The response scale for each question was a 4-point Likert-type scale ranging from 1 (no, very sure) to 4 (yes, very sure) and were derived from a two-part question. Children were first asked to decide whether the answer was "yes" or "no" and were then asked if they were "sort of sure" or "very sure." The perceived factuality and perceived social realism scores were the means of the three items in each scale.

**Affect**

**Self-Report.** Self-reports of affective state were obtained immediately after watching the program (global self-report) and (by recall) for different parts of the program (segment self-reports). Immediate global affect was measured by asking children how they felt "right now." For the self-reports of affect in different segments, the interviewer showed children one photo at a time from each of the six scenes in the program asking how the child had felt during that part of the program. Children rated how intensely they felt four different emotions (an-
gry, happy, sad, and scared) on a 4-point scale ranging from 1 (not at all) to 4 (very, very); order was counterbalanced across participants.

Social Comprehension of Characters’ Affect. The interviewer showed a set of pictures representing the six segments in the program. For each picture, children were asked: “How did Susan/father feel?” “Why did Susan/father feel that way?” Their open-ended responses were coded on a 6-point scale ranging from 1 (positive; including “happy” and “good”) to 6 (miscellaneous other; e.g., “OK”).

Matching Affect. The term empathy has so variable a definition that we choose to use instead the term matching affect. It was operationally defined as the similarity between a child’s self-reported affect and his or her perception of the main character’s affect in the same segment. Matching affect with Susan was calculated as follows. Children answered social comprehension questions about Susan’s emotions in five of the six segments. For each of those segments, each child had self-report intensity scores for each of four emotions (a total of 20). Children’s own self-report scores for the emotions they attributed to Susan in all five segments were averaged. This score, then, represents the mean self-reported intensity of those emotions that the participant thought Susan experienced (matched emotion). A second score, nonmatched emotion, was the mean self-report score for the remaining emotions in each segment (i.e., the mean self-reported intensity of emotions that the participant thought Susan did not experience). The nonmatched emotion score served as a control or baseline for the participant’s overall intensity of emotion. The same procedure was followed for matching affect with father, but was based on three segments (12 self-report items).

Facial Affect. Facial expressions of participants as they viewed the video were coded from videotapes using Affect Expression (AFFEX; a system for identifying affect expression by holistic judgments). Eight basic emotional expressions were coded: (a) interest, (b) joy, (c) surprise, (d) sadness, (e) anger, (f) disgust, (g) contempt, and (h) fear and pain (Izard, Doughtery, & Hembree, 1983). Three areas of the face were coded: eyes and lids, mouth and lips, and forehead and brows for each 5-set interval. When an affect indicator was coded, its intensity was rated on a 3-point scale ranging from 1 (minimal) to 3 (intense).

Coding was done for those parts of the program that represented the important

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1 In some systems of coding empathy, credit is given only if the participant perceives the affect of the other person correctly. In this system, correct social comprehension scores were not required, in part because it was reasonable to infer more than one emotion in some scenes (e.g., angry or sad in Scene 3). Inspection of the social perception scores indicates that the great majority of children perceived a character emotion that was reasonable in each scene.
affective expressions by the characters. These included the peak moments in Segments 2 to 6 (total time coded in documentary = 375 s, drama = 440 s, control = 415 s). Because Segment 1 did not show or elicit strong emotion, it was not coded.

Scores were calculated separately for segments of the program. Segments in which similar affect was predicted were collapsed in order to obtain the most reliable scores, resulting in three segments: Scenes 2 to 3, Scenes 4 to 5, and Scene 6. Frequencies were counted and intensities for each emotion were calculated for each of the three segments by averaging the intensity scores in all 5 s intervals in that segment.

Coders were trained on AFFEX using the manual and videotapes supplied by Izard and Cantor. Pairs of individuals then coded videotapes from this study independently. For both types of training, a criterion of 80% agreement was used for both occurrence and categorization. All tapes were coded by a coder who had reached those criteria.

Recall

Recall of Story Content. Children were asked to pretend that the interviewer was one of their friends who had not seen the program and to tell the friend what happened in the program. There were two standard prompts (e.g., “Tell me a little more”).

Inferences About Story Resolution. As the child looked at a photograph of the final scene, the interviewer said, “The program ended there. What do you think happened next?”

Coding. Recall and inferential responses were transcribed and coded without identifying information. Each transcript was first divided into units representing one idea (usually a subject and predicate) each. These units were then coded as one of six categories that were ultimately collapsed into three groups: (a) Observed behavior included character actions and behaviors (e.g., “Dad goes upstairs”), actions and events described in the program but not actually seen on the screen (e.g., “Susan had worked on the painting for a week”), and dialogue (direct quotes of dialogue which occurred in the program or statements of the form “She said that, . . .”); (b) affect included affect words (e.g., “Susan gets mad”), any statement including a description of an affective state (e.g., “She said she hated her dog”), or a statement using the verb feel, and actions clearly signaling affect (e.g., crying); and (c) internal states of characters. These differed from affect in that they described thoughts and psychological states rather than pure feeling. They included intention (e.g., “She didn’t mean to knock over the papers”), motive, desire, or need (e.g., “She wants to show him the picture”), and reason for behavior (e.g., “Her dad doesn’t want to come because he’s tired”).
After coders were trained, reliability (intercoder agreement) was assessed by having 29% of the transcripts coded independently by two coders. Agreement was defined as assigning a statement to the same subcategory. There were six possible subcategories, as defined earlier. Percent agreement was calculated as number of agreements and total number of units. The mean percent agreement was 90% (range = 81%–100%). The probability of chance agreement with six subcategories was .167. All remaining transcripts were then coded by one coder.

Procedure
Two children at a time came to the experimental room of a mobile laboratory parked on the school grounds. They sat facing one television monitor, separated from each other by a partition to prevent them from communicating. Behind the one-way mirror (which was tilted so they could not see their own reflections), two video cameras recorded the faces of the children as they viewed.

Immediately after viewing, the children were interviewed in separate rooms by different interviewers. The procedures were administered in the following order: global self-report of emotion, free recall of story content, self-report of affect in segments, social comprehension of character affect, inferences about story resolution, and perceived reality of program.

Although children were run in pairs for efficiency, they were separated during the entire procedure. Individuals rather than pairs were therefore the appropriate units of analysis.

RESULTS

Perceived Factuality and Realism
Responses to the questions about perceived factuality indicated that the manipulation was successful. The perceived factuality scores were submitted to an analysis of variance (ANOVA) of 2 (gender) × 3 (condition). The main effect of condition was significant, $F(2, 91) = 27.17, p < .001$. Children perceived the documentary version as significantly more factual than the original or dramatic versions. The latter two did not differ. The mean for the documentary version was 3.10, a value just above “yes, sort of sure” in response to the questions about whether the film was factual. The means for the other two groups were: drama = 2.22 and control = 2.18; they were closest to a response of “no, sort of sure.”

For social realism, the main effect of conditions was not significant, $F(2, 90) = 2.12, ns$. The means were: documentary = 3.08, drama = 2.75, and control = 2.87. As the manipulation was not intended to alter social realism, this finding is as predicted.

Affective Responses to Television
Children’s emotions varied with the events in the program in expected ways.
Self Report: Affect Intensity

Figure 1. Mean intensity of self-reported affect by type and scene.

Self-Report. The mean self-reports of each emotion for the six segments sampled are shown in Figure 1. Children reported feeling happy during Segment 1; happiness declined in Segments 2 and 3 (the emotional crisis segments) and began to recover after that. Reports of feeling sad and angry increased in Segment 2 and reached a peak in Segment 3 (when Susan was shown crying and expressing anger), then declined. Fear increased in Segments 2 and 3, then declined, but rose slightly in Segment 6.

ANOVA's of 2 (gender) × 3 (condition) × 4 (affect) × 7 (segment) were
TABLE 1
Mean Proportion of Children Who Perceived Characters as Happy, Sad, Angry, and Afraid in Each Scene

<table>
<thead>
<tr>
<th>Scene</th>
<th>Happy</th>
<th>Sad</th>
<th>Angry</th>
<th>Scared</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Susan’s Affect</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 — Susan painting</td>
<td>.92</td>
<td>0</td>
<td>0</td>
<td>.01</td>
</tr>
<tr>
<td>2 — Susan, father argue</td>
<td>.02</td>
<td>.70</td>
<td>.28</td>
<td>.17</td>
</tr>
<tr>
<td>3 — Susan in her room</td>
<td>0</td>
<td>.68</td>
<td>.51</td>
<td>.05</td>
</tr>
<tr>
<td>5 — Susan looks in her mirror</td>
<td>.32</td>
<td>.64</td>
<td>.06</td>
<td>.03</td>
</tr>
<tr>
<td>6 — Final scene, living room</td>
<td>.62</td>
<td>.18</td>
<td>.02</td>
<td>.19</td>
</tr>
<tr>
<td><strong>Father’s Affect</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 — Susan, father argue (father)</td>
<td>0</td>
<td>.03</td>
<td>.91</td>
<td>0</td>
</tr>
<tr>
<td>4 — Father outside Susan’s door</td>
<td>.21</td>
<td>.50</td>
<td>.11</td>
<td>.03</td>
</tr>
<tr>
<td>6 — Final scene, living room</td>
<td>.45</td>
<td>.33</td>
<td>.07</td>
<td>0</td>
</tr>
</tbody>
</table>

performed. Global affect and reported affect for the six segment pictures were included as levels of the segment factor. The interaction of Affect × Segment was significant, $F(18, 73) = 44.92, p < .001$. Within-segment ANOVAs of 2 (gender) × 3 (condition) × 4 (affect) were conducted to clarify the meaning of the interaction. The main effect of affect was significant at $p < .001$ in all analyses with $F(3, 89)$ ranging from 10.18 to 287.54 (see Figure 1).

**Social Comprehension of Character Affect.** Children were asked how the characters felt in each of the six segments. The proportions of children mentioning each of the four emotions are shown in Table 1. Children’s perceptions were generally consistent with the story events. Moreover, they discriminated the feelings of Susan from those of the father (e.g., in Segment 2) in appropriate ways. That is, they were able to take the perspectives of either of the two characters.

**Matching Affect.** The matching affect scores for each character were submitted to an ANOVA in which gender and condition were between subject variables and matched versus nonmatched emotion was a repeated measure. Children did exhibit matching affect with both characters; that is, they reported themselves as feeling more intensity of those emotions that they perceived the characters to experience (matched emotion to Susan, $M = 2.52$; to father, $M = 2.25$) than of other emotions (nonmatched emotion to Susan, $M = 1.59$; to father, $M = 1.77$). With Susan, the main effect of matched versus nonmatched emotions was $F(2, 89) = 395.9, p < .001$; for father it was $F(2, 84) = 40.98, p < .001$. 
**Facial Expression.** The most frequent facial affects observed were happy, sad, and interest. The frequencies of other negative affects (shy, sad and shy, negative surprise, and angry) were too low to allow separate analyses; accordingly, they were collapsed with sad into a total negative affect score. Similar patterns appeared for sad and the combined negative affect score. The mean facial affect scores are shown by segment in Figure 2.

Children showed interest throughout. There were low frequencies of happy expressions until Segment 6. The intensities of sadness and other negative affect were highest in the most highly charged segments (2–3) and gradually declined thereafter. ANOVAs of 2 (gender) × 3 (condition) × 3 (affect) × 3 (segment) confirmed a significant interaction of Affect × Segment, $F(4, 86) = 15.04, p < .001$.

**Relation of Self-Report to Facial Affect.** Although the patterns of emotion on both self-report and facial affect followed the emotions within the story, the two indices were independent or slightly negatively related. To examine their relation, self-report scores were collapsed to three segments (2–3, 4–5, and 6) to match the facial affect scores for two affect types: happy and negative (angry, afraid, sad). Correlations were computed for comparable affects within each segment and for the three segments averaged for each affect type. Four of the eight correlations were significantly negative at $p < .05$: facial happy with self-report happy in Segment 4 to 5, $r = - .21$; averaged across segments, $r = - .22$;
facial negative with self-report negative in Segment 2 to 3, $r = -0.17$; and averaged across segments, $r = -0.23$.

**Perceived Reality and Affect**

**Self-Reported Emotion.** In the ANOVAs of 2 (gender) $\times$ 3 (condition) $\times$ 4 (affect) $\times$ 7 (segment), there were no significant main effects or interactions involving condition.

Because it was possible that the experimental manipulations were more successful with some children than with others, additional analyses were performed using hierarchical regressions that incorporated the effects of experimental treatments and of individual differences within treatment in perceived factuality and social realism. The three experimental treatments were entered as two dichotomous variables. The first, Condition 1, was a 2-value variable comparing the documentary condition with the other two treatments. This division was chosen because children's ratings of factuality differentiated the documentary from the other two treatments. Condition 2 contrasted the drama and control treatments. These two variables were entered as the first two steps in hierarchical multiple regressions to control for treatment differences while testing the individual difference variables. In a third step, perceived factuality and perceived social realism were entered. Gender was entered in a fourth step to correct for any main effects. The dependent variables were the self-report scores in each segment and the total for each emotion across segments. None of the predictors was consistently related to the dependent variables.

**Matching Affect.** In the ANOVA of 2 (gender) $\times$ 2 (condition) $\times$ 2 (matched or nonmatched affect), there were no effects of condition on matching affect with Susan, $F(2, 89) = 0.85$, ns. For matching affect with father, the three-way interaction was significant, $F(2, 84) = 3.24$, $p < .05$. Boys expressed most in the drama condition (matched = 2.44, nonmatched = 1.71) and least in the documentary (matched = 1.97, nonmatched = 2.07); the control was in between (matched = 2.14, nonmatched = 1.74). Girls displayed about equal amounts in all three conditions (documentary matched = 2.34, nonmatched = 1.72, drama matched = 2.29, nonmatched = 1.76, control matched = 2.35, nonmatched = 1.65).

Regressions like those described for self-reports were performed on the matched emotion scores. The score for nonmatched emotions was entered first as a control for overall level of self-reported emotion. The results appear in Table 2.

Perceived social realism predicted matching affect with Susan. Children who thought the films were socially realistic had higher levels of matched emotion than those who thought they were unrealistic. Girls had higher scores than boys. None of the predictors was related to matching affect with father.
### TABLE 2
Hierarchical Regressions Predicting Affective Responses

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Matching Affect With Susan</th>
<th>Facial Happy (4–5)&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Facial Negative (4–5)&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>Change in $R^2$</td>
<td>β</td>
</tr>
<tr>
<td>Nonmatched affect</td>
<td>.35***</td>
<td>.012***</td>
<td>—</td>
</tr>
<tr>
<td>Condition 1&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.07</td>
<td>.003</td>
<td>.22*</td>
</tr>
<tr>
<td>Condition 2&lt;sup&gt;b&lt;/sup&gt;</td>
<td>—</td>
<td>0</td>
<td>.17*</td>
</tr>
<tr>
<td>Factuality</td>
<td>—</td>
<td>—</td>
<td>.15</td>
</tr>
<tr>
<td>Social realism</td>
<td>.21**</td>
<td>.049</td>
<td>.21**</td>
</tr>
<tr>
<td>Gender (1 = male, 2 = female)</td>
<td>.10</td>
<td>.010</td>
<td>—</td>
</tr>
<tr>
<td>$R^2$ (Adjusted $R^2$)</td>
<td>.182 (.127)**</td>
<td>.150 (.100)**</td>
<td>.076 (.025)*</td>
</tr>
</tbody>
</table>

<sup>a</sup>Numbers in parentheses indicate segment or segments of program. <sup>b</sup>Condition 1 = documentary versus other treatments; Condition 2 = drama versus control.

*p < .10.  **p < .05.  ***p < .01.

**Facial Expression.** In the ANOVA of 2 (gender) × 3 (condition) × 3 (affect) × 3 (segment), there were no significant main effects or interactions involving condition.

Multiple regressions like those for self-report were performed for happy, negative, and interested facial expressions in Segments 2 to 3, 4 to 5, and 6, as well as for all segments combined (see Table 2). Perceived social realism was a significant predictor of happy facial expression during Segments 4 to 5, and it was slightly negatively related to negative affect in Segments 4 to 5. When the emotional intensity in the program began to decline, children who perceived it as socially realistic showed more signs of happiness and less negative affect than those who considered it unrealistic. Boys showed less happy and more sad expressions than girls during these segments.

**Reality of Television and Interpretation of Content**

Analyses of story recall and of inferences about story resolution were performed on the raw frequencies of three content categories: (1) physical actions and dialogue, (2) affect, and (3) internal psychological states. It was expected that real stimuli would lead to more emphasis on affect and internal states than fictional stimuli. Real content was also expected to produce more inferences about story resolution than fictional content.

The analyses were parallel to those reported for affective responses. There were no effects of experimental conditions on any of the free recall measures. The results of the regressions are shown in Table 3.
TABLE 3
Hierarchical Regressions Predicting Free Recall of Different Types of Contents

Recall of Story

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Actions and Dialogue</th>
<th>Affect</th>
<th>Internal States</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>Change in $R^2$</td>
<td>β</td>
</tr>
<tr>
<td>Condition 1</td>
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<td>0</td>
<td>-.11</td>
</tr>
<tr>
<td>Condition 2</td>
<td>.12</td>
<td>.011</td>
<td>.05</td>
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<tr>
<td>Factuality</td>
<td>.10</td>
<td>.16</td>
<td>.19*</td>
</tr>
<tr>
<td>Social realism</td>
<td>.22**</td>
<td>.061*</td>
<td>.31***</td>
</tr>
<tr>
<td>Gender (1 = male; 2 = female)</td>
<td>13</td>
<td>.017</td>
<td>.084**</td>
</tr>
</tbody>
</table>

Inferences About Story Resolution

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Actions and Dialogue</th>
<th>Internal States</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>Change in $R^2$</td>
</tr>
<tr>
<td>Condition 1</td>
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<td>0</td>
</tr>
<tr>
<td>Condition 2</td>
<td>.05</td>
<td>.001</td>
</tr>
<tr>
<td>Factuality</td>
<td>.26**</td>
<td>-.03</td>
</tr>
<tr>
<td>Social realism</td>
<td>.16</td>
<td>.084**</td>
</tr>
<tr>
<td>Gender</td>
<td>.09</td>
<td>.009</td>
</tr>
</tbody>
</table>

*aCondition 1 = documentary versus other treatments; Condition 2 = drama versus control.

*p < .10. **p < .05. ***p < .01.

Children's perceptions of factuality and social realism did predict free recall. The perceived reality scores increased $R^2$ at a significant or borderline significant level for all three types of story recall and for the amount of action and dialogue in children’s inferences about what happened after the program ended. Although both perceived reality scores were positively related to recall and inference, judged factuality was the single significant predictor for internal psychological states of characters in the story and for action and dialogue in imagined story resolutions. By contrast, perceived social realism was the better predictor of recall of action and dialogue and of affect from the program itself.

Girls recalled more affect and internal states in the story and described more internal states in their imagined story resolutions than did boys.
DISCUSSION

The major purpose of this investigation was to determine whether children respond with more intense emotion and with different types of cognitive processing to a television program that is factual than to one that is fictional. Two contrasting hypotheses about emotional responses were proposed. One hypothesis predicted that a factual program would generate more emotion because children would be more apt to take the perspectives of the people and to imagine themselves in the situations depicted. The other led to the prediction that fictional drama would generate more emotion because it contains arousing formal features and because experienced viewers of television expect more intense feeling in drama than in documentary formats. Neither hypothesis was supported. Despite the findings that children perceived the intended differences in factuality correctly and that their affective reactions varied with the events in the program, there were few effects of perceived reality on self-reported affect or facial expression. There was some evidence that children processed information more extensively from programs they perceived as real than from programs they considered unreal.

On two independent measures of affect, children reacted with vicarious emotion to a televised depiction of family conflict and sadness. Both self-reports and facial expressions changed across parts of the program in ways that fitted the content portrayed. Children also showed correct social comprehension of the characters' emotions, and, more importantly, demonstrated emotions similar to those of the characters. Hence, the results indicate that children experience vicarious emotion and show evidence of empathy with people they observe on television.

The two measures of affect—self-report and facial expression—were essentially independent of one another; in fact, they were slightly negatively related. This finding is consistent with earlier literature (e.g., Buck, 1977; Eisenberg et al., 1989; Eisenberg et al., 1988; Field & Walden, 1982; Marcus et al., 1985). The hypothesis that drama would affect immediate affect (facial expression) and documentary would influence cognitively mediated affect (self-report) was not, however, supported.

Although children perceived the documentary version as more factual than the fictional or control versions, neither the experimental manipulations nor individual perceptions of factuality had much influence on their emotional responses. One reason for the absence of differences between treatments may be that emotional responses depend more on judged social realism than on perceived factuality. Perceptions of factuality depend on both the content and the forms and format of a program. Judgments about social realism, however, depend primarily on content. In this study, perceived factuality was manipulated almost entirely by changes in form, and therefore genre of program, although holding content fairly
constant across versions. Children rated all three versions as about equally socially realistic.

In the few instances in which perceived reality predicted emotion, it was perceived social realism rather than factuality that appeared to be important. Children who perceived the program as socially realistic showed more matching affect with the central character. When children considered the people and events as true to life or similar to their own experiences, they were more apt to share in the emotions of the child they watched. They also showed more facial indicators of happiness during the middle segment of the program as the tension of the portrayed events declined.

Gender differences were not of theoretical interest in this study, but they might be expected because the protagonist in the story was a girl and because girls tend to express more emotion and empathy than boys, at least on measures involving verbal self-report (Eisenberg et al., 1989). Girls did report emotions matching the lead character more than boys, and their story recall and inferences about events after the story contained more affect and more descriptions of characters' internal psychological states than did those of boys. These differences probably reflect patterns of gender socialization that begin in early life (Golombok & Fivush, 1994). Girls and boys did not differ, however, in their responses to the perceived reality of the television programs.

Children were expected to process and recall factual content in different ways than fictional content. When they considered the program factual, they were expected to exert more mental effort and to use more complex, inferential constructs to represent what they were seeing. When they considered it fictional, they were expected to exert less mental effort and recall it more superficially. The results partially support these predictions. Although there were no differences among experimental treatments, individual differences in perceived factuality and realism did predict recall and inference. In general, recall and inference were greater for children who perceived the content as factual or realistic. Children who considered the content factual reported more internal psychological states of characters and more inferences about what happened after the events shown in the program than those who thought it was not factual. Perceived factuality seemed to lead children to recall more complex, inferential content and more psychological states of characters. Children who considered the content socially realistic recalled more actions, dialogue, and affect states.

These results suggest that a multidimensional conception of perceived reality can help us to understand children's emotional and cognitive reactions to televised social content. Formal features signal the genre or type of television program to a viewer; when they signal that the genre is documentary, a knowledgeable viewer assumes that the content represents people and events in the real world. The viewer may then take the content more seriously and may exert more effort to understand and process it. As a result, the viewer may think about what
is shown, exercising evaluation, rehearsal, and other cognitive strategies to understand it. Cognitive responses stimulated by perceived factuality also result in recalling more complex and abstract aspects of the people and events in the program and in inferring more about the subsequent interactions between the people shown.

Perceived social realism may induce children to imagine themselves in the situations portrayed, leading them to process and recall the actions, events, and feelings of the characters at a fairly concrete and descriptive level. They may maintain less distance from the observed content than viewers who consider it unrealistic.

Both defenders of the current television system and educators wishing to promote media literacy have emphasized teaching children to distinguish fact from fiction on television. By 8 to 10 years old, children recognize the form and content cues denoting factuality, but the knowledge that a program is fictional does not in itself reduce their emotional responsiveness to the content. Perceiving a program as factual does appear to lead them to process the content a little more deeply and analytically. However, even if a program is fictional, it can elicit emotion and empathy with the people shown, particularly if the viewer judges it to be socially realistic. It appears that at least two dimensions of perceived reality need to be addressed in order to understand children’s affective and cognitive responses to the social content that forms a large part of modern television fare.

REFERENCES


