PATTI M. VALKENBURG
JOANNE CANTOR
ALLERD L. PEETERS

Fright Reactions to Television
A Child Survey

Using telephone interviews with a random sample of Dutch children between the ages of 7 and 12 years, the authors investigated (a) the prevalence of television-induced fright, (b) whether the fear-inducing capacity of different types of television content (interpersonal violence, fantasy characters, war and suffering, and fires and accidents) is associated with the child's age and gender, and (c) how boys and girls in different age groups cope with their television-induced fears. Thirty-one percent of the children reported having been frightened by television during the preceding year. Both children's television-induced fears and their coping strategies to reduce such fears varied by age and gender.

In the past four decades, we have witnessed a remarkable number of empirical studies of television's impact on viewers' aggressive behavior (e.g., Paik & Comstock, 1994; Wilson et al., 1997). It has been estimated that since the introduction of television, several hundreds of publications have addressed the topic (Paik & Comstock, 1994). However, as yet researchers have paid far less attention to television's effect on the emotion of fear (Cantor, 1998). A recent literature search on studies of this topic yielded no more than a few dozen relevant references worldwide. The first aim of this survey study, therefore, was to investigate the prevalence of television-induced fright reactions among school-aged children in the Netherlands. Several earlier surveys have examined the prevalence of media-induced fright reactions among American children (Cantor, Mares, & Oliver, 1993; Cantor & Nathanson, 1996; Cantor & Sparks, 1984; Cantor, Wilson, & Hoffner, 1986; Harrison & Cantor, 1999; Sparks, 1986; Wilson, Hoffner, & Cantor, 1987). In many of the previous studies, media-induced fright was measured by asking children (or parents) whether they (or their child) had been
scared so much by something on TV that the effect was still there after the program was over. If the responses were affirmative, the children (or parents) were asked to describe the story that had upset them (or their child) and the nature of the fright response.

Although the spontaneous responses in these surveys have provided a wealth of knowledge about the types of media-induced fright reactions that occur among children in different age groups, this research method also has disadvantages. First, the open-ended responses need to be reliably coded into content categories, a process that is labor-intensive, especially with large samples. Second, the qualitative method might lack sensitivity because the nominal content categories do not allow researchers to use parametric statistical tests, which in general are considered more powerful (e.g., Siegel & Castellan, 1988). Therefore, the second aim of our study was to create an alternative method to investigate children’s media-induced fright that (a) is less labor-intensive, (b) allows for the use of parametric tests, and (c) can be employed to investigate developmental changes in children’s media-induced fears.

Hypothesizing Developmental Differences

Studies of children’s media-induced fear reactions have repeatedly demonstrated developmental changes in such fears (see Cantor, 1996, for a review). On the basis of this research evidence and theories of cognitive development, we developed the hypothesis that as children mature, they become more responsive to realistic threats and less responsive to fantastic threats depicted on television. This hypothesis has been supported by studies that found that young children are more likely than older children to fear things whose occurrence in the real world is impossible (Cantor & Nathanson, 1996; Cantor & Sparks, 1984; Sparks, 1986). Children’s understanding of the distinction between reality and fantasy plays a crucial role in their emotional responses to television (Cantor, 1996). After all, only when children understand this distinction can they dismiss fantasy content as a threat. Although the biggest increase in the ability to distinguish fantasy from reality occurs between kindergarten and second grade, the understanding of the fantasy-reality distinction continues to improve throughout elementary school (e.g., Morison & Gardner, 1978).

Developmental processes not only influence children’s television-induced fear, they also impact the ways in which children cope with such fears. Theories of cognitive development (Flavell, 1963) lead to the expectation that cognitive strategies, which involve complex mental operations, will be unsuccessful for younger children who do not yet have the ability to perform such
operations. However, noncognitive strategies, which are more physical and automatic, have been expected to be effective for both younger and older children (Cantor, 1996; Cantor & Wilson, 1988). Several studies have found that younger children benefit more from noncognitive strategies—for example, desensitization (Wilson & Cantor, 1987) or the presence of an older sibling (Wilson & Weiss, 1993)—than from cognitive strategies, such as thinking that what is being seen is not real (Cantor & Wilson, 1984). For older elementary school children, both cognitive and noncognitive strategies have been shown to be effective (Cantor, Sparks, & Hoffner, 1988; Cantor & Wilson, 1984; Wilson & Weiss, 1991), although children in this age group tend to prefer cognitive strategies (Wilson et al., 1987).

Hypothesizing Gender Differences

Research has consistently shown that females are more likely than males to admit to being afraid in a variety of situations (LaFrance & Banaji, 1992). A recent meta-analysis of gender differences in fright responses to mass media stimuli (Peck, 1999) found that the overwhelming majority of studies showed females reporting more fear than males. Although research suggests that the degree to which the two genders differ may be overestimated because of the two genders' differential willingness to admit to being afraid (Peck, 1999), previous research led us to expect that girls would report more frequent fright responses than boys.

Gender has also been shown to play a role in children's coping strategies, at least among adolescents. Hoffner (1995) found that adolescent girls reported using more noncognitive coping strategies than boys, but that there were no gender differences in the use of cognitive strategies. Hoffner argued that because boys are less willing to show their emotions than girls, they avoid noncognitive strategies that are visually apparent to others. However, she argued, the two genders employ cognitive strategies equally, because these strategies are less readily observable.

Research Questions and Hypotheses

In the most recent U.S. survey on television-induced fright reactions, Cantor and Nathanson (1996) reported that 43% of parents of a random sample of children in kindergarten through sixth grade said that their child had been frightened by something on television. One purpose of the present study was to ask a similar question to a sample of Dutch children. Our first research question was therefore,
Research Question 1: What is the prevalence of television-induced fright reactions among Dutch children between the ages of 7 and 12 years?

Because earlier studies give reason to expect that younger children are frightened by fantasy characters and events, whereas older children are more often upset by realistic content, we expected to find that

Hypothesis 1: The frequency of being frightened by fantasy characters and events will decrease with age and the tendency to be frightened by realistic events will increase with age.

Several studies have found that younger children benefit mostly from noncognitive strategies, whereas for older elementary school children, both cognitive and noncognitive strategies seem to be effective, although children in this age group tend to prefer cognitive strategies. We therefore expected to find that

Hypothesis 2: The use of cognitive strategies to reduce fear from television will increase with age. However, the use of noncognitive strategies will either decline with age or not differ across age groups.

Because gender has been shown to play a role in children's television-induced fright as well as their coping strategies, we advanced the following two hypotheses:

Hypothesis 3: Girls will report experiencing television-induced fear more often than boys will.
Hypothesis 4: Girls will report using noncognitive strategies more often than boys, but there will be no gender differences in the reported use of cognitive strategies.

Method

Sample

In February 1997, the Audience Research Department of the Netherlands Broadcasting Corporation carried out telephone interviews among a random sample of 314 Dutch children between the ages of 7 and 12 years. This sample was drawn from a large, nationally representative data bank (N = 10,000) of families who had promised to participate in telephone interviews. The interviews were conducted during afternoon and evening hours.
The nonresponse rate was 42%. For 33% of the families, the people were not at home or refused to participate. In addition, in 9% of the homes, it was not possible to talk to the child, either because the child was reluctant or too shy (6%), or because the parent did not approve of a child interview (3%). The resulting sample of children was 52.6% male and 47.4% female. For purposes of analysis, the children were grouped into three age ranges: 7 to 8 (31.2%), 9 to 10 (33.1%), and 11 to 12 years (35.6%).

Procedure

To make children feel at ease with the telephone interviewer, they were first presented with some filler questions about their television viewing and their favorite programs. Then the interviewer asked each child, “Have you been frightened so much by a television program in the past year that you remained frightened after the program was over?” If the child responded affirmatively, the interviewer asked the child to describe the scene that had frightened him or her, and to mention the program.  

Television-induced fright scales. In addition to the open-ended questions about television-induced fright, children were presented with 20 items tapping the frequency (“never,” “almost never,” “sometimes,” or “often”) with which specific content on television had frightened them. Each of these items dealt with a threat that is commonly depicted in fictional or nonfictional (e.g., news, documentaries) television programs. The items were based largely on the content categories developed by Cantor and Nathanson (1996) in their study of children’s fright reactions to the news. They dealt with interpersonal violence (fighting, shooting, killing), wars, suffering, violence involving animals, fires, accidents, and violence against children. In addition to the content categories of Cantor and Nathanson, we included several items about unrealistic television characters, such as monsters, ghosts, and aliens. The order in which the 20 questions were asked was randomly varied by means of a computerized rotation technique.

Children’s coping strategies to reduce fear from television. Finally, each child was presented with a series of 21 questions dealing with the frequency (“never,” “almost never,” “sometimes,” or “often”) with which they used various coping strategies to reduce fear from television. For instance, children were asked, “When you get frightened by something on TV, how often do you tell yourself that the program will end all right?” “How often do you tell yourself that blood and gore is only ketchup?” “How often do you sit on your mom
or dad’s lap?” and “How often do you close your eyes or put your hands over your eyes?”

Results

Prevalence of Television-Induced Fright

Thirty-one percent of the children reported that they had been upset by something on television during the preceding year. There were no significant age ($\chi^2[2, N = 314] = 5.26, p = .07$) or gender ($\chi^2[1, N = 314] = 1.34, p = .24$) differences. The programs that were most often mentioned as the cause of children’s fears were all movies or series primarily intended for adults: (a) the movie Gremlins (10%), (b) the movie It (8%), (c) Commissaris Rex, a German detective series (6%), and (d) the television series The X-Files (6%).

Television-Induced Fright Scales

To explore the dimensional structure of the 20 items measuring children’s television-induced fright, we conducted a principal components analysis with varimax rotation. After the elimination of two items that failed to load high enough on a single factor, four interpretable factors with an eigenvalue higher than 1.0 emerged. This factor analysis explained 55.8% of the variance. The individual items and their factor loadings are listed in Table 1.

The first factor (eigenvalue = 2.84), which represented realistic violence such as shooting and killing, was labeled interpersonal violence. The second factor (eigenvalue = 2.41), which included wars, famine, and children and animals getting hurt, was labeled war and suffering. The third factor (eigenvalue = 2.60), which included car crashes and house fires, was called fires and accidents. The final factor (eigenvalue = 2.53), which contained fantasy content such as monsters and ghosts, was labeled fantasy characters.

Scales were constructed for each of the four types of fear-producing television content by averaging the child’s unweighted scores on each of the items that defined the scale. Cronbach’s alpha values were .83 for interpersonal violence, .76 for war and suffering, .76 for fires and accidents, and .76 for fantasy characters. The intercorrelations among the four television-induced fright scales are shown in Table 2. As Table 2 shows, the correlations between the three realistic factors were higher than the correlations between the fantasy factor and the three realistic items. The correlation between children’s responses to the four scales and their responses to the question of whether they had been frightened by TV in the past year were all significant (see bottom row, Table 2).
<table>
<thead>
<tr>
<th>&quot;When you watch television, how often have you been frightened by . . .&quot;</th>
<th>Factor 1 Interpersonal Violence</th>
<th>Factor 2 War and Suffering</th>
<th>Factor 3 Fires and Accidents</th>
<th>Factor 4 Fantasy Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal violence</td>
<td>People who fight with knives</td>
<td>.75</td>
<td>.21</td>
<td>.28</td>
</tr>
<tr>
<td></td>
<td>Somebody who gets murdered</td>
<td>.70</td>
<td>.19</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>Blood</td>
<td>.63</td>
<td>.16</td>
<td>.12</td>
</tr>
<tr>
<td></td>
<td>People who shoot each other</td>
<td>.58</td>
<td>.17</td>
<td>.44</td>
</tr>
<tr>
<td></td>
<td>Children who are kidnapped</td>
<td>.52</td>
<td>.32</td>
<td>.49</td>
</tr>
<tr>
<td>War and suffering</td>
<td>Children in poor countries who are starving</td>
<td>.14</td>
<td>.73</td>
<td>.15</td>
</tr>
<tr>
<td></td>
<td>Animals who get hurt</td>
<td>.25</td>
<td>.68</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>Children who get hurt</td>
<td>.38</td>
<td>.66</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td>Wars in other countries</td>
<td>.30</td>
<td>.64</td>
<td>.21</td>
</tr>
<tr>
<td>Fires and accidents</td>
<td>Houses or buildings on fire</td>
<td>.20</td>
<td>.25</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>Cars that run into each other</td>
<td>.20</td>
<td>.09</td>
<td>.67</td>
</tr>
<tr>
<td></td>
<td>Air crashes</td>
<td>.27</td>
<td>.31</td>
<td>.59</td>
</tr>
<tr>
<td></td>
<td>Car accidents</td>
<td>.31</td>
<td>.27</td>
<td>.53</td>
</tr>
<tr>
<td>Fantasy characters</td>
<td>Ghosts</td>
<td>.09</td>
<td>.17</td>
<td>.13</td>
</tr>
<tr>
<td></td>
<td>Monsters</td>
<td>.24</td>
<td>-.02</td>
<td>.00</td>
</tr>
<tr>
<td></td>
<td>Witches</td>
<td>.07</td>
<td>-.06</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>Dragons</td>
<td>.08</td>
<td>.00</td>
<td>.32</td>
</tr>
<tr>
<td></td>
<td>Aliens</td>
<td>.14</td>
<td>.25</td>
<td>-.25</td>
</tr>
</tbody>
</table>
Valkenburg et al. • Fright Reactions to TV

Table 2
Correlations Among the Different Television-Induced Fright Measures

<table>
<thead>
<tr>
<th></th>
<th>Fantasy Characters</th>
<th>Interpersonal Violence</th>
<th>Fires and Accidents</th>
<th>War and Suffering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal violence</td>
<td>0.41**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fires and accidents</td>
<td>0.34**</td>
<td>0.68**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>War and suffering</td>
<td>0.24**</td>
<td>0.58**</td>
<td>0.54**</td>
<td></td>
</tr>
<tr>
<td>Responses to open question</td>
<td>0.36**</td>
<td>0.20**</td>
<td>0.13*</td>
<td>0.13*</td>
</tr>
</tbody>
</table>

*p < .05. **p < .001.

Age and Gender Differences in Television-Induced Fright

To investigate age and gender differences in television-induced fright, we conducted a multivariate analysis of variance with type of content producing fear (interpersonal violence vs. war and suffering vs. fires and accidents vs. fantasy characters) as a within-subjects factor, and gender and age (7 to 8 vs. 9 to 10 vs. 11 to 12) of the child as between-subjects factors. The mean levels of television-induced fright for boys and girls and for the three age groups are presented in Table 3.

The MANOVA yielded a significant main effect of type of fear-producing content, $F(3, 876) = 126.49, p < .001, \eta^2 = .30$. As Table 3 shows, this effect meant that interpersonal violence was the most frequent fear-producing content, whereas fantasy characters were the least frequent fear provokers. War and suffering and fires and accidents fell in between. Post hoc pairwise tests revealed that each type of fear-producing content significantly differed from each other at the $p < .001$ level.

The MANOVA also revealed a significant main effect of gender, $F(1, 292) = 13.03, p < .001, \eta^2 = .04$, indicating that girls reported experiencing television-induced fright more often than boys. However, a significant interaction between gender and type of content, $F(3, 876) = 11.17, p < .001, \eta^2 = .04$, showed that these gender differences did not hold for all kinds of content. Post hoc simple effects analyses (Tabachnick & Fidell, 1989) revealed that the differences in television-induced fear between boys and girls held for interpersonal violence, war and suffering, and fires and accidents, whereas no significant gender difference was found for fantasy characters.

The MANOVA also yielded a main effect of age group, $F(2, 292) = 4.13, p < .05, \eta^2 = .03$, indicating that older children in general experienced less television-induced fright than did younger children. However, the significant interaction between age and type of content, $F(6, 876) = 5.06, p < .001, \eta^2 = .03$, indicated that the decline of television-induced fright over the age groups did not hold for all types of content. Simple effects analyses clarified that fear
Table 3
Frequency of Fear Produced by Four Types of Television Content

<table>
<thead>
<tr>
<th></th>
<th>Interpersonal Violence</th>
<th>War and Suffering</th>
<th>Fires and Accidents</th>
<th>Fantasy Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M  SD</td>
<td>M  SD</td>
<td>M  SD</td>
<td>M  SD</td>
</tr>
<tr>
<td>Overall sample</td>
<td>2.26a .91</td>
<td>1.97b .86</td>
<td>1.75c .78</td>
<td>1.40d .59</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>2.00x .89</td>
<td>1.84x .82</td>
<td>1.65x .79</td>
<td>1.40 .60</td>
</tr>
<tr>
<td>Girls</td>
<td>2.54y .85</td>
<td>2.12y .88</td>
<td>1.87y .76</td>
<td>1.41 .58</td>
</tr>
<tr>
<td>Age group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-8</td>
<td>2.41x .94</td>
<td>2.05 .84</td>
<td>2.03x .84</td>
<td>1.60x .70</td>
</tr>
<tr>
<td>9-10</td>
<td>2.33x .89</td>
<td>2.13 .91</td>
<td>1.86x .74</td>
<td>1.46x .57</td>
</tr>
<tr>
<td>11-12</td>
<td>2.06y .87</td>
<td>2.17 .88</td>
<td>1.73y .70</td>
<td>1.19y .39</td>
</tr>
</tbody>
</table>

Note: The scales ranged from 1 (never) to 4 (often). Within-subject comparisons in the overall sample with different subscripts were significant at p < .001 level. Between-subject comparisons with different subscripts were significant at p < .05 level.

of interpersonal violence, fires and accidents, and fantasy characters declined with age. Television-induced fear of war and suffering, on the contrary, did not decline and showed a nonsignificant tendency in the opposite direction.

Children's Coping Strategies to Reduce Fear From Television

To investigate whether children’s responses to the 21 items measuring their coping strategies for television-induced fear reflected underlying dimensions, another principal components analysis with varimax rotation was carried out. The factor analysis yielded four interpretable factors that accounted for 45.6% of the variance. Table 4 presents the individual items and their factor loadings.

The first factor (eigenvalue = 2.57) was represented by items such as, “Close your eyes or put your hands over your eyes,” and was labeled physical intervention. The second factor (eigenvalue = 2.75) was made up primarily of cognitive coping strategies, such as, “Tell yourself that the show will end all right.” This factor was labeled cognitive reassurance. The third factor (eigenvalue = 2.28) was represented by items measuring how often children look for support from others, with items such as, “Ask somebody to watch with you,” and was labeled social support. The fourth factor (eigenvalue = 2.32) was made up of items measuring the frequency with which children take initiative to escape from frightening TV by switching to another channel or turning the TV off: This factor was labeled escape.
Scales were constructed by averaging the unweighted scores on the items that defined the different factors. Cronbach’s alphas were .71 for the physical-intervention scale, .70 for the cognitive-reassurance scale, .66 for the social-support scale, and .68 for the escape scale.
Age and gender differences in children’s coping styles. To investigate whether boys and girls and children in different age groups differed in their coping strategies to reduce fear from television, we conducted a MANOVA with coping style (cognitive reassurance vs. physical intervention vs. social support vs. escape) as a within-subjects factor, and gender and age group as between-subjects factors. Table 5 presents the mean scores on the four coping styles for boys and girls in the three age groups.

The MANOVA showed a significant main effect of coping style, $F(3, 792) = 44.70, p < .001, \eta^2 = .15$. This effect indicated that in the overall sample, cognitive coping strategies were the most frequently used ($M = 2.51$), whereas the social support style was the least frequently used ($M = 1.99$). The physical intervention ($M = 2.39$) and escape strategies ($M = 2.15$) fell in between.

Post-hoc pairwise t-tests revealed that all coping strategies significantly differed from each other at the $p < .001$ level.

The MANOVA also yielded a significant main effect of gender, $F(1, 264) = 18.68, p < .001, \eta^2 = .07$, indicating that boys and girls differed in their coping strategies. However, a significant interaction between gender and coping style, $F(3, 792) = 4.23, p < .01, \eta^2 = .02$, showed that gender differences did not hold for all coping styles. As can be seen from Table 5, post hoc simple effects analyses revealed that the differences in coping styles between boys and girls held for social support, physical intervention, and escape, but not for cognitive reassurance.

The MANOVA also yielded a main effect of age group, $F(2, 264) = 5.96, p < .01, \eta^2 = .04$, which indicated that older children reported using the coping strategies less frequently than younger children. However, a significant interaction between age and coping style, $F(6, 792) = 4.43, p < .001, \eta^2 = .03,$
indicated that not all coping styles declined with age. Simple effects analyses revealed that although the social support style significantly decreased with age, the remaining strategies did not significantly differ among the three age groups.

Discussion

The first aim of our survey was to investigate the prevalence of television-induced fright among Dutch school-aged children. Our findings revealed that 31% of our Dutch child sample reported having been frightened by something on TV during the preceding year (Research Question 1). In comparison to the most recent U.S. survey (Cantor & Nathanson, 1996), in which 43% of the children were reported to have been frightened or upset by something on TV, the prevalence of television-induced fright among Dutch school-aged children was 12% lower. This difference could be explained in four ways. First, the age range in the Dutch survey was older than that in the U.S. survey (the youngest respondents in the Dutch sample were 7 years old; in the U.S. sample, the youngest children were 5). Second, whereas our study asked whether a child had been frightened by something on TV in the past year, the U.S. survey asked whether a child had ever been frightened by something on TV. Third, U.S. children spend on average more time watching television, between 3 and 4 hours per day (Harris, 1999) compared to up to 2 hours per day for Dutch children (Valkenburg & Janssen, 1999). Of course, as children’s viewing time increases, the chance of being frightened by something on TV also increases. Fourth, although (to our knowledge) there has never been a systematic investigation of whether U.S. television is more violent than Dutch television, anecdotal observations suggest that this may in fact be the case.

The second aim of our study was to create an alternative method to investigate children’s television-induced fright. To do so, we presented children with a series of threats that are commonly shown in fictional and nonfictional television programs and asked them to indicate how frequently each type of content had frightened them. Using factor analysis, four internally consistent fear-producing content scales were developed: fantasy characters, interpersonal violence, war and suffering, and fires and accidents. All of these scales correlated significantly with children’s responses to the open-ended question of whether they had been frightened by something on TV in the past year.

As anticipated in our introduction, the television-induced fright scale showed more power than the open-ended question in differentiating between subgroups. First, whereas the differences between the three age groups only approached significance in the open-ended question (p = .07),
these age differences were significant for the television-induced fright scale. Second, whereas the open-ended question did not reveal gender differences at all, the results with the television-induced fright scale showed that girls reported significantly more television-induced fright than boys did. Future research that uses open-ended responses should try to compensate for this lack of sensitivity, for example, by increasing sample size.

Hypothesis 1 stated that younger children would be more frightened than older children by fantasy characters, whereas older children would be more frightened than younger children by realistic threats. This hypothesis was only partially confirmed by our results. In accordance with Hypothesis 1 and with earlier studies, fantasy characters such as monsters and dragons indeed frightened younger children more often than older children. However, our results did not confirm the earlier findings that older children are frightened by realistic content more often than younger children. Our television-induced fright scale tapped three kinds of realistic content: interpersonal violence, fires and accidents, and war and suffering. Fear of interpersonal violence and of fires and accidents declined with age, whereas fear of war and suffering showed a nonsignificant trend to increase.

An explanation for the finding that fear of interpersonal violence and of fires and accidents declined with age could lie in the fact that the youngest children in our survey were older than the youngest children in previous studies. Most predictions based on age differences in earlier studies were based on comparisons between children in Piaget's (1929) preoperational stage—roughly between the ages of 3 and 7—and children in the concrete operational stage—roughly between 8 and 12. The emerging ability of children in the youngest group to appreciate the import of realistic threats, together with the enhanced ability of the older groups to use reasoning to override their immediate emotional reactions (Cantor, 1998; Cantor & Wilson, 1984), might explain the decline of fear of interpersonal violence and fires and accidents in our sample.

Another possible explanation for the decline in fear reactions with age that was observed for interpersonal violence, fires and accidents, and fantasy characters is that these three categories of stimuli tend to be vividly visual in their presentation. Previous research has shown that the tendency to respond to stimuli in terms of their immediately perceptible characteristics declines over the age range studied (Bruner, 1966; Flavell, 1963), and that there is a concomitant decline in children's fright reactions to visually disturbing and grotesque characters (Cantor & Sparks, 1984; Hoffner & Cantor, 1985; Valkenburg, 1997).
The fact that there were no significant differences between age groups in fear for the war and suffering category could be attributable to conflicting tendencies as children mature. On one hand, as mentioned above, with increasing maturity comes a greater ability to use reasoning to override emotional reactions (Cantor & Wilson, 1988; Wilson & Cantor, 1985). On the other hand, with maturity comes an increasing ability both to think in an abstract way (Flavell, 1963) and to empathize with others (Selman & Byrne, 1978). Consistent with the latter reasoning, research has shown that the tendency to be frightened by abstract concepts such as the threat of nuclear war increases with age (Cantor et al., 1986), and the tendency to empathize with frightened television characters also increases with age (Wilson & Cantor, 1985). Another factor that might account for the tendency for greater fear with increasing age for the war and suffering category is that these images are most likely to come from news stories. Cantor and Nathanson (1996) found that the tendency to be frightened by television news increased from preschool through Grade 6.

Hypothesis 2, which stated that younger children would employ noncognitive strategies more often than older children whereas older children would use cognitive styles more often than younger children, received only partial support. Younger children indeed showed a greater tendency than older children to use one of the noncognitive strategy types, social support. However, the older children did not differ from younger children in their use of the other three strategies. This result could again be explained by the fact that the existing hypotheses were based on comparisons between preoperational and concrete operational children, whereas the youngest age group in our study was on the threshold of the concrete operational level. Because some of our youngest children might have been able to distinguish fantasy from reality, they would also have the capacity to use coping strategies that are directly related to their ability to understand this distinction.

Another likely explanation for the failure to confirm some of the expected developmental increases in responses may be due to the fact that as children mature, their tendency to admit being fearful may decline. This explanation highlights one of the differences between the survey methodology employed here, and previous studies in which responses were more open-ended. For example, asking how often a child has been frightened by a particular type of content might elicit an increasing tendency to downplay all fears as children get older. In contrast, asking children to describe something that has frightened them and content analyzing these responses should be more likely to allow developmental increases in the occurrence of certain types of fears to emerge.
A similar tendency might explain why we did not observe an increase in the use of cognitive strategies with age. Wilson and colleagues (1987), in studying strategies for coping with media-induced fear, found a strong yea-saying tendency among younger children. In an initial study, children in the youngest group were the most likely to say that all of the strategies presented to them would make them feel better. In a follow-up study, however, when children were asked which strategy within successive pairs of choices would work better than the other, yea-saying was not an issue, and the predictions for some strategies to increase and others to decrease with age were confirmed. The findings, therefore, suggest that the two methods of assessing fright reactions, the scaled questionnaire responses used here and the open-ended assessments used in previous research, should complement each other because each method has its strengths and weaknesses.

Hypothesis 3, which predicted that girls would report experiencing television-induced fright more often than boys, was supported in our data. Several explanations for this stronger fearfulness of girls have been proposed in the literature. Some researchers assume that girls are born with a greater susceptibility to fears, resulting from biological gender differences. Others believe that the gender differences result from differences in child-rearing practices imposed upon boys versus girls. Whereas boys are expected to behave in a "masculine" and stoic fashion, girls are allowed or even encouraged to show their emotions and vulnerabilities, with the result that girls may feel fewer constraints to admit their fears (e.g., Oliver, 1993; Peck, 1999).

Hypothesis 4, which stated that boys and girls would differ in their use of noncognitive coping strategies, was confirmed. In agreement with Hoffner's (1995) study among adolescents, girls indeed reported using more noncognitive coping strategies than boys, whereas girls and boys did not differ in their reported use of cognitive strategies. Hoffner's explanation that adolescent boys' reluctance to show their emotions causes them to avoid observable coping strategies seems to hold for boys between the ages of 7 to 12 years.

In conclusion, our results showed that, as in the United States, a considerable proportion of school-aged children in the Netherlands experience enduring fright from television. Not only in the United States, but also in Europe, television series, news programs, and movies have become increasingly graphic in recent years. Furthermore, research is now showing that the impact of exposure to frightening media can be both devastating and long-lasting for a substantial proportion of children (Cantor, 1998; Harrison & Cantor, 1999; Hoekstra, Harris, & Helmick, 1999). Future research should focus on the long-term impact of such fright reactions using nationally representative samples of children.
Valkenburg et al. • Fright Reactions to TV

Notes

1. The authors would like to thank the Netherlands Broadcasting Corporation (NOS) and the Dutch Royal Academy of Arts and Sciences (Koninklijke Nederlandse Academie van Wetenschappen) for providing support for this study.
2. This literature search was conducted in all standard computer searchable databases (Eric, Current Contents, Dissertation Abstracts, Psychlit, and Sociofile) and included studies published up to the end of 1997.
3. The interview was conducted in Dutch; its content is translated here.

References


