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The influence of sources in violent news on fright and worry responses of children in the Netherlands

Mariska Kleemans a, Lisa T. Janssen b, Doeschka J. Anschütz a and Moniek Buijzen a,c

a Behavioural Science Institute, Radboud University, Nijmegen, the Netherlands; b Communication Science, Radboud University, Nijmegen, the Netherlands; c Erasmus School of Social and Behavioural Sciences, Erasmus University, Rotterdam, the Netherlands

ABSTRACT

Children display fright and worry responses to violent news. Including involved children, non-involved children or experts as sources in children’s news is assumed to reduce these negative effects. However, exemplification theory gives reason to question whether particularly the use of involved children indeed has a reassuring effect. To test this, an experiment was conducted among 237 children (8–13 y/o). They were randomly exposed to a news video containing (1) involved children as source, (2) non-involved children, or (3) adult experts. Fright and worry responses were measured both before and after exposure. Results showed that the inclusion of involved children as a source significantly increased worry responses, but did not affect fright responses. Non-involved child sources significantly reduced fright and worry responses. Expert sources reduced children’s fright responses, but did not change feelings of worry. These insights can inform news producers on how to alleviate the effects of covering violent events in news.

IMPACT SUMMARY

(a) Prior State of Knowledge
Violent content in news induces negative responses in children. Producers of children’s news try to alleviate these effects by using involved children, non-involved children, or adult experts as sources in violent news stories.

(b) Novel Contributions
This study provides first empirical insights into the effects of involved children, non-involved children, and adult experts as sources in violent news stories on children’s fear and worry responses. It shows how to alleviate children’s negative emotional responses to news.

(c) Practical Implications
News producers are encouraged to use non-involved children or adult experts when presenting violent news to children. They should be careful with the inclusion of involved children as sources in news stories.

CONTACT Mariska Kleemans M.Kleemans@maw.ru.nl Behavioural Science Institute, Radboud University, P.O. Box 9104, Nijmegen 6500 HE, The Netherlands

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Introduction

The proliferation of media violence in the past decades has led to increased attention for the negative effects of violence in entertainment media on children (cf. Anderson et al., 2017). However, social learning theory predicts that “realistic” violence has a stronger negative influence on children’s emotional responses than fictional violence (Bandura, 1977). Consequently, real-life violence as presented in television news might affect children to a greater extent, especially because children are confronted with news media on a daily basis (cf. Apestaartjaren, 2020). Previous research indeed showed that violent content in news induced more negative responses in children than fictional violence (Walma van der Molen & Bushman, 2008). In particular, it was found that children experienced more fright (i.e., a non-cognitive, immediate feeling of threat and danger) and worry (i.e., a delayed fearful cognitive response involving concerns about the impact of threats on safety and well-being) after exposure to violent news than to violent fiction. In addition, several other studies support the assumption that exposure to violent news increases children’s negative emotional responses, including fright and worry (e.g., Buijzen et al., 2007; Riddle et al., 2012).

The current study, therefore, aims to examine how children’s fright and worry responses to violent content in television news can be reduced. These insights can inform news producers how to alleviate the effects of covering violent events in news, but are also relevant for parents and teachers who can enhance children’s understanding of such events. The study focuses on children of 8–13 years old, because they are the target group for children’s television news programs in numerous countries (Alon-Tirosh & Lemish, 2014; Walma van der Molen & De Vries, 2003). These programs are regarded as appropriate media content to inform children about news in society, including violent events, because producers apply a wide range of consolation strategies to prevent children from getting too upset.

We investigate the effects of various sources that are used as consolation strategies in children’s news. First, the inclusion of child sources in the news is frequently applied, featuring either involved or non-involved children (Matthews, 2005; Walma van der Molen & De Vries, 2003). Showing personal accounts of children who are directly involved in the event, and sharing reactions of non-involved children who show how they try to cope with their negative emotions, are both assumed to reduce negative emotional responses to violent news. Taking a child’s perspective makes news more tangible and can prevent children from fantasizing. Furthermore, the use of (adult) expert sources is defined as a consolation strategy, because experts can provide reassuring information such as stressing the distance of events, that violent incidents happen very rarely, or that it is understandable to feel afraid (Walma van der Molen & De Vries, 2003).

However, these assumed reassuring effects have not been investigated empirically yet. It is necessary to do so, particularly because there is theoretical reason to question whether the inclusion of involved children as source in news – who generally vividly share their negative experiences and emotions regarding the violent event – indeed has a reassuring effect. Exemplification theory predicts that testimonials of involved persons make stories more vivid and, thus, more available in memory (Zillmann & Brosius, 2012). Consequently, it is likely that particularly the (negative) information provided by the involved children will be salient to children who watch television news. This would
imply that this strategy has a boomerang effect; increasing rather than decreasing fright and worry responses in children. In contrast, exposure to reactions of non-involved child sources may relieve the child audience, because it shows how other children – with whom they can identify – handle the emotional impact of the event. For adult expert sources, one might expect that the authority and expertise of the source contributes to its intended impact. However, it might also be that the lack of similarity between this type of source and the target audience hinders the goal to reassure children (Matthews, 2005; Walma van der Molen & De Vries, 2003).

By conducting an experiment, this study will provide first empirical insights into the question how the use of involved children, non-involved children, and adult experts as sources in violent news stories influences children’s fear and worry responses.

Methods

Sample

A total number of 256 children (grades 4–6) from 4 primary schools in the Netherlands participated in the study. After obtaining informed consent from the head of each school, parents received a letter with information about the study. We asked them to respond in case they objected to the participation of their child (passive consent), which eight of them did. At the beginning of the study, we also asked for assent from the children. Two children did not want to participate. After data collection, 18 children were removed from the dataset, because of missing data on crucial variables. One child was removed because there was no variation in answers given. A total number of 237 children remained for the analysis. Their age ranged between 8 and 13 (M = 10.42; SD = 1.03; 46.4% male). They watched children’s television news almost four times a week (M = 3.76 days; SD = 2.28) and, to a lesser extent, also watched adult television news programs (M = 2.46 days; SD = 2.27).

Study design

We conducted an experiment (pretest-posttest mixed design) in which children were randomly exposed to a news video reporting about two major violent news events: the Islamic State terrorist attacks in Paris and Brussels. Eighty-one children were exposed to news presenting comments of involved children as source, 84 children watched news in which comments of child sources that were not involved in the events in Paris and Brussels were included, and 72 children watched news containing an adult expert source as consolation strategy. Fright and worry responses were measured both before and after exposure to the news video. We obtained approval for this study from the Ethics Committee of the Faculty of Social Sciences at the host university.

Stimulus materials

To construct the news videos, we used original material from newscasts that were previously broadcasted by the Dutch children’s television news program “NOS Jeugdjournaal”. General information and different types of sources commenting on the
terrorist attacks in Paris (November 2015) and Brussels (March 2016) were selected to create the three conditions. The news videos in all conditions were equal in structure and length (2 minutes and 53 seconds). Moreover, children were exposed to the same male and female anchor in each condition, and to sources of both sexes. What differed between the conditions was the inclusion of sources providing comments.

To be more specific, all videos started with an opening tune and a lead-in of a male news anchor referring to the terrorist attacks in Paris, including a short explanation of what happened. Then, the same anchor introduced either children who witnessed the event (involved condition), interviews with non-involved children (non-involved condition), or an adult expert who knew a lot about Islamic State (adult expert condition). We excluded the part of the story in which the basic information about the terrorist attack was further explained, because children already knew about the attacks, and we did not want to expose them unnecessarily to the violent graphics that came along with such reports. Instead, a report containing comments made by the involved children, non-involved children, or the experts was presented directly after the general introduction by the male anchor.

In the involved condition, an English-speaking girl who observed from her balcony what happened in Paris shared her personal accounts, reporting what she saw and how scared and sad she had felt during the attack and the day after. In the non-involved condition, Dutch boys and girls were interviewed on the street. They shared their concerns about what had happened in Paris. In the expert condition, a Dutch male terrorism expert explained more about Islamic State and told what the government did to prevent an attack in the Netherlands. It was emphasized that these governmental efforts diminish the chance that a terrorist attack would happen in the Netherlands.

After a closing remark by the male news anchor in all conditions, a news jingle marked the start of a part about Brussels. A female news anchor presented in a few sentences that there had been a terrorist attack in Brussels. Also here, no audio and video footage of the attack was presented, except for the source comments. The involved condition presented two Dutch-speaking boys who lived in Brussels. They explained how they took shelter in their school and how anxious they felt at that moment. In the non-involved condition, children at a primary school in the Netherlands described their negative feelings when they heard about what happened in Brussels. In the adult expert condition, a Dutch female expert explained why the terrorist attacks by Islamic State happened and that it was very unlikely that this would also occur in the Netherlands. Moreover, she advised children who were scared to talk with others. All stories ended with a closing statement by the female news anchor, followed by the end tune of the program.

**Procedure**

The experimenter brought about 12 children at a time to a separate classroom. They started with a paper-and-pencil questionnaire to assess sex, age, level of television news consumption, and pre-experimental levels of fright and worry about terrorist attacks. Subsequently, children individually watched the news video on a computer screen with the use of headphones. After that, a second paper-and-pencil questionnaire was used to measure fright and worry responses after exposure. After finishing participation, the experimenter thanked the children and gave them an apple as a token of appreciation.
Measures

To measure children’s fright and worry responses regarding terrorist attacks, we adapted a scale previously used by Buijzen et al. (2007). We measured children’s fright responses before and after exposure on a scale ranging from 1 (absolutely not) to 6 (absolutely) by asking them “Do you feel scared about what happened in Paris and Brussels?”, “Do you feel scared when you watch the news about terrorist attacks?”, “Are you scared that this might happen again?”, “Are you scared that a terrorist attack will happen in the Netherlands?”, and “Do you feel scared when you are walking on the street?” Principal component analyses (PCA) were conducted for the pre- and posttest items separately. Sample adequacy was verified (Kaiser-Meyer-Olkin = .777 and .796, respectively), and Bartlett’s test of sphericity (respectively, χ²[10] = 408.245; p < .001 and χ²[10] = 469.950; p < .001) showed that the correlations between the items were large enough to conduct the PCAs. The criterion of dimensions with eigenvalues >1 yielded one component for both the pretest (α = .805) and posttest items (α = .835). Therefore, we calculated mean scores based on the five items to indicate fright responses before (M = 3.80; SD = 1.04) and after (M = 3.62; SD = 1.19) exposure to the news video.

Five items were used to measure worry responses: “Do you feel worried about what happened in Paris and Brussels?”, “Do you feel worried when you watch the news about terrorist attacks?”, “Do you have distressing thoughts about what happened?”, “Are you concerned that this might happen again?”, “Are you worried that more terrorist attacks will happen in the future?”, and “Are you afraid that you will become a victim of a terrorist attack?” Again, two PCAs were conducted. For the pretest items, the PCA yielded a one-dimensional scale (Kaiser-Meyer-Olkin = .834; Bartlett’s test of sphericity: χ²[10] = 377.899; p < .001; eigenvalue > 1; α = .813). The same pattern was found for the posttest items (Kaiser-Meyer-Olkin = .843; Bartlett’s test of sphericity: χ²[10] = 535.492; p < .001; eigenvalue > 1; α = .863). Therefore, the mean scores were calculated to indicate children’s worry responses before (M = 3.57; SD = 1.14) and after (M = 3.55; SD = 1.25) exposure to the news.

Statistical analysis

For fright and worry separately, a repeated measures analysis of covariance was conducted with condition (involved children, non-involved children, adult experts) as between-subjects factor and time (before and after exposure) as within-subjects factor. Bonferroni-corrected posthoc F-tests were used to examine the change in fright and worry for each condition. Due to the differences in video, text and demographic characteristics of the different sources, we refrain from comparing the results between the conditions.

We included sex and grade as covariates in the model, because of significant correlations with the dependent variables at both measurement moments (ranging from r = .13 to r = .20; p < .05). Age was not included as covariate, because it highly correlated with grade (r = .84, p < .001). To avoid multicollinearity, we decided to include grade because we believe it is a more accurate indicator of a child’s developmental phase than age. As a check, we re-ran the analyses with age instead of grade, and found comparable results.
Table 1. Results from two repeated measures ANCOVAs with children’s fright and worry responses as dependent variables (n = 237).

<table>
<thead>
<tr>
<th></th>
<th>Fright</th>
<th>Worry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F(1,231) = .057; p = .82; η²_p = .00</td>
<td>F(1,231) = .035; p = .85; η²_p = .00</td>
</tr>
<tr>
<td>Time</td>
<td>F(2,231) = .133; p = .87; η²_p = .00</td>
<td>F(2,231) = .371; p = .69; η²_p = .00</td>
</tr>
<tr>
<td>Condition</td>
<td>F(2,231) = 8.033; p &lt; .001; η²_p = .07</td>
<td>F(2,231) = 8.387; p &lt; .001; η²_p = .07</td>
</tr>
<tr>
<td>Time*Condition</td>
<td>F(2,231) = 12.921; p &lt; .001; η²_p = .05</td>
<td>F(2,231) = 8.862; p &lt; .003; η²_p = .04</td>
</tr>
<tr>
<td>Sex (control)</td>
<td>F(1,231) = 9.011; p = .003; η²_p = .04</td>
<td>F(1,231) = 9.723; p = .002; η²_p = .04</td>
</tr>
<tr>
<td>Grade (control)</td>
<td></td>
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Table 2. Means scores (standard deviations) for fright and worry per condition (n = 237).

<table>
<thead>
<tr>
<th></th>
<th>Fright</th>
<th>Worry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before exposure</td>
<td>After exposure</td>
</tr>
<tr>
<td>Involved</td>
<td>3.71 (1.08)</td>
<td>3.71 (1.21)</td>
</tr>
<tr>
<td>Non-involved</td>
<td>3.88 (0.97)</td>
<td>3.50 (1.15)</td>
</tr>
<tr>
<td>Expert</td>
<td>3.79 (1.10)</td>
<td>3.64 (1.23)</td>
</tr>
</tbody>
</table>

Results

For fright responses, the analysis only showed a significant effect for the interaction between time and condition (Table 1). Posthoc analyses (Table 2) showed that children’s fright responses before exposure did not change after watching a news video including personal accounts of involved children, $F(1,231) = .004; p = .95$ η²_p = .00. The inclusion of comments from non-involved child sources in news did lead to a significant decrease in fright responses, $F(1,231) = 31.776; p < .001; η²_p = .12$. Finally, a significant effect of expert sources was found, $F(1,231) = 4.357; p = .04; η²_p = .02$, showing that the expert comments also reduced fright responses.

For worry responses, the analysis again revealed a significant interaction between time and condition only (Table 1). Posthoc tests (Table 2) showed that exposure to personal accounts of involved children increased worry responses, $F(1,231) = 9.429; p = .002; η²_p = .04$. In contrast, in the non-involved condition exposure to news containing comments of non-involved children led to a decrease in worry responses, $F(1,231) = 5.765; p = .02; η²_p = .02$. Exposure to adult expert sources led to a non-significant change in worry responses, $F(1,231) = 1.729; p = .19; η²_p = .01$.

Sex and grade were included as covariates. For both fright and worry, we found significant direct effects of those control variables (Table 1), but no interaction effects with condition or time. Results indicate that girls and children in lower grades had in general higher levels of fright and worry than, respectively, boys and children in higher grades, but there is no indication that their responses to the sources at the two measurement moments followed different patterns – and thus that the findings could be explained by sex or grade of the participants.

Discussion

The current study investigated how the use of involved children, non-involved children, and adult experts as sources in violent news stories influenced children’s fear and worry.
responses. The vivid information as presented by children involved in the terrorist attacks caused increased worry responses in children, which provides support for the prediction derived from exemplification theory (cf. Zillmann & Brosius, 2012). Comments of non-involved child sources showed to have a reassuring effect on both fright and worry responses. Expert sources only reduced fright responses in children.

We did not find that involved child sources would make the young audience more (or less) frightened. This might be explained by the fact that the terrorist attacks had received extraordinary media attention in the months before the study was conducted. Fright is an emotional response particularly representing immediate feelings of fear and danger (Walma van der Molen & Bushman, 2008). It could be that exposure to comments made by involved children did not lead to increased emotional impact anymore, because children who watched the news already had too much pre-existing knowledge about the event. Instead, more delayed, cognitive responses (i.e., worry responses) were affected, because the worries children already had were reinforced by what they saw. A study limitation in this regard might be that we did not expose the children to the report about the terrorist attacks for ethical reasons. In particular, this part of the story can be assumed to induce negative emotions in children, and thus could have activated stronger fright responses. Future research can shed more light on involved children as sources affecting fright responses by using news about a violent event that is yet unknown by children.

Another limitation of the current study is that it focused on short-term effects only. Previous studies on the impact of news about the 9/11 terrorist attacks showed that exposure to such news could also have long-term harmful effects, such as sleep problems and post-traumatic stress reactions (Duggal et al., 2002; Redlener & Grant, 2002). It is, therefore, important to investigate whether children’s long-term negative responses to violent news can be reduced by using consolation strategies, such as including non-involved children or expert sources.

Finally, the study is limited in that the sources we used differed on certain aspects that could not be avoided in general (e.g., age differences between adult and child sources) or in this particular study (e.g., home country). Proximity of and similarity between a media character and the media consumer can explain effects on, for example, emotions and behaviors (cf. Bandura, 2001; Zillmann & Brosius, 2012), and may also have played a role in the current study. For example, the sources in the involved condition were clearly non-Dutch, while the sources in the other conditions seem to be from the Netherlands. We, therefore, did not compare the effects of sources across conditions, but only focused on the within-effects (before versus after exposure). However, more insight is still warranted in how specific characteristics of sources play a role in its effects on emotions, and particularly whether proximity and (perceived) similarity serve as mediators in this regard.

In addition to directions for future research, the current study also provides important information for caregivers. Caregivers should be aware that violent news has negative effects on children’s emotions. Consequently, they have an important role in guiding children’s news consumption (Walma van der Molen & Bushman, 2008). In particular, caregivers can encourage children to follow news that is appropriate for their age, because this news includes strategies – such as comments of non-involved children – that can help children to handle their emotions (Walma van der Molen & De Vries, 2003). This is especially important given the fact that the children in our sample often reported
to also watch adult news. Although not all countries provide television newscasts aimed at children (cf. Alon-Tirosh & Lemish, 2014), the Internet offers increasing possibilities to get access to news outlets targeting younger audiences. Parents and teachers should educate and guide children on how to find and use these news outlets.

Moreover, it is conceivable that the beneficial effect of comments made by non-involved children also persists in real-life situations. Therefore, it can be advised that caregivers stimulate discussions among peers after a violent event occurs. Previous research already showed that parent–child discussions can contribute to children’s ability to cope with violent news (Comer et al., 2008) and the current study suggests that this can be strengthened when parents stimulate their child to discuss violent news with, for instance, siblings or friends of the same age. In addition, teachers can facilitate in-class discussions. Previous research already provided some support for the expectation that student-to-student interactions are effective in reducing negative emotional responses to news (Kleemans et al., 2017), and the results of the current study provide future indications for this. Therefore, peer discussions (face-to-face, but also online) as a strategy to cope with violence news deserve attention in future research.

To conclude, exposure to personal accounts of involved children in violent television news increased worry responses in child audiences. In contrast, non-involved child sources showed to be effective in reducing children’s fright and worry responses. Adult expert sources diminished fear. News producers are thus encouraged to use the latter two strategies when presenting violent news to children. Scholars can further contribute to this by continuing the investigation of how the production of violent news coverage for children can be optimized in order to help children to cope with the violent news they are regularly exposed to. It is particularly interesting in this regard to further unravel the conditions (e.g., different story topics, proximity to the event) or child characteristics (e.g., younger or older participants) for which the direct effects of various sources in the news on emotions may or may not persist.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributors

Mariska Kleemans is an associate professor at the Behavioural Science Institute at Radboud University. In her research, she investigates how the bond between children, adolescents and the news can be improved, in order to prepare them for their (future) role in society. She also investigates how young news consumers can become more news literate, with a focus on fake news.

Lisa T. Janssen obtained a Master’s in Communication Science at Radboud University. This paper is based on her master thesis. Her thesis was awarded with the program’s best thesis of the year award. Lisa currently works as manager HR and Communication at a Dutch company.

Doeschka J. Anschütz is an assistant professor at the Behavioral Science Institute at Radboud University. Her dissertation focused on media influence on body image and eating behavior in young women and children. Her current research interest is very broad, ranging from health
behaviors like eating and exercising to the effects of new (social) media platforms on psychological wellbeing.

Moniek Buijzen is a professor of Communication and Behavioural Change in the Erasmus School of Social and Behavioural Sciences at the Erasmus University Rotterdam. In her research, she investigates how we can harness the potential of digital media technology to improve young people’s well-being, while minimizing potential risks. She strives for a continuous interaction between research and innovative technological applications.

ORCID

Mariska Kleemans https://orcid.org/0000-0003-0634-1298
Moniek Buijzen https://orcid.org/0000-0003-3780-0856

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