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Johns Hopkins Center for Injury Research & Policy

Understanding the Impact of Fire and Life Safety Messages on Children

Final Report

**A project for the National Fire Protection Association
conducted with funding from the
U.S. Department of Homeland Security
Federal Emergency Management Agency
Fire Prevention and Safety Grant Program**

by

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EXECUTIVE SUMMARY

The National Fire Protection Association contracted with the Johns Hopkins Center for Injury Research and Policy to conduct a study to determine the best way to communicate safety messages to children 4-9 years old. This research project sought to understand whether safety messages should be communicated positively (by focusing on the positive outcomes of doing the appropriate behaviors) or negatively (by focusing on the negative outcomes of doing the inappropriate behaviors). Given that parents are often asked to discuss safety issues with children, this research also sought to understand how parental mediation – the manner in which parents communicate with children – affects children’s understanding of safety messages. Using three- to five-minute videos to show safety content, the project was designed to learn:

- Whether positively- or negatively-framed fire safety messages delivered via videos are more effective to reach children of different ages;
- Whether including parent/guardian mediation after viewing the videos has an effect on the impact of the videos on children;
- How parents/guardians respond to positively- and negatively-framed fire safety messages for their children.

A total of 320 children ages 4-5 years and 321 children ages 6-9 years and their parents were shown two age-appropriate videos -- one about burns and one about house fires, each of which was incorporated into an episode of a popular children’s television show. The sample was randomly assigned to watch either a video that modeled the correct behavior with a positive outcome (positive valence), or one that showed the incorrect behavior with a negative outcome (negative valence). The burn video focused on the message “Cool the Burn” and compared the positive behavior (using cool water) to a negative behavior (putting butter on the burn). The house fire video centered on the message “Get Low and Go” and also compared the positive behavior (getting low under the smoke) to a negative behavior (standing and walking through the smoke). The positive behavior was accompanied by a positive outcome (e.g., the character was able to resume normal activities) while the negative behavior was accompanied by a negative outcome (e.g., the character went to the hospital). The videos for the younger children were animated, while live action was used in the videos for the older children.

To examine the role of parental mediation, parents were also randomized to one of three experimental conditions: no mediation (control group), where they received no special instructions about talking to their child about the video; unguided mediation, where they were asked to talk to their child about the video but were not provided any guidelines on how to do so; and guided mediation, where they were given a sheet of talking points to use in talking with their child. After watching the video, parents were left alone with their children for a few minutes and whatever conversation transpired was audio-taped to capture the conversation. Then, the children were interviewed while parents completed a self-administered questionnaire.

The outcomes of interest from the children’s interviews included: recall and understanding of the safety message, perceived social norms about the behavior, valence of the message, self-efficacy to perform the behavior, and general interest and appeal of the video. The outcomes of interest from the parent questionnaire included their perceptions of the impact of the videos on their children and the helpfulness of the videos.

Major findings for younger children (aged 4-5) include:

- Recall was not affected by whether the children saw the positive or negative video. Children in the unguided and guided mediation groups had higher unprompted recall of the fire video than children in the no mediation control group.
- Children who saw the positive video had better understanding of depicted behaviors in the burn video than children who saw the negative video. Children who were in the guided mediation group had the best understanding of depicted behaviors for both the fire and the burn videos.
- Perceptions of social norms were not affected by whether the video was positive or negative. Children in the guided mediation group were more likely to indicate that other children would engage in the correct behavior compared to children in the control group.
- Children who saw the positive video were more likely to correctly rate the behavior as beneficial for the burn video but not for the fire video. Guided mediation tended to improve children's perceptions of how harmful the negative behaviors were.
- Children who saw the positive video were significantly more likely to have high self-efficacy for correctly handling burns and fires than children who saw the negative video. Children who had guided mediation also had the highest self-efficacy, although this was only significant for the burn video.
- General interest and appeal did not differ by whether the children saw the positive or negative videos.

Major findings for older children (aged 6-9) include:

- Recall was not affected by whether the children saw the positive or negative video. Children in the guided and unguided mediation groups had higher unprompted recall of the burn video than children in the no mediation control group.
- Children who saw the positive video had better understanding of the video content in both the burn and fire videos. Children in the guided mediation group consistently had better understanding of depicted behaviors for both videos than children in the other two mediation groups.
- More children perceived that others like them would engage in positive behaviors than in negative behaviors, but this perception was not affected by whether children themselves saw positively framed videos or negatively framed videos. This perception was also not affected by parental mediation.
- For the burn video, children who saw the positive video perceived positive behavior as more beneficial than the children who saw the negative video. Likewise, the negative behavior was perceived to be more harmful by children who saw the negative video, compared to the positive video. Children in the guided mediation group perceived positive behaviors to be more beneficial and negative behaviors to be more harmful than children in the unguided and control groups.
- Children who saw the positive video had higher self-efficacy related to burns than children who saw the negative video. Children in the guided mediation group generally had higher self-efficacy, but this was not a statistically significant finding.
- General interest and appeal did not differ significantly by whether the children saw the positive or negative video.

Major findings for parents include:

- Parents rated the positive videos significantly higher than the negative videos for both the burn and fire videos on: 1) effectiveness in teaching the safety message; 2) how well they thought their child understood the message; 3) how likely they thought it was that their child would be able to do the right thing if confronted with the same situation; and 4) how effective they thought the video would be to teach other children.
- There were no differences in parents' ratings of how much attention their child paid to the video or how well they liked it.
- Parents thought receiving videos like the ones they saw would be very helpful, and that the positive videos would be more helpful than the negative videos.
- Few parents thought their children would be upset by anything they saw in the videos, although parents with younger children were more likely to report something upsetting.

Overall conclusion and recommendations for safety programming:

- For both younger and older children watching positively framed videos was more effective than watching negatively framed videos. Parents also rated positively framed videos as more effective. Thus, safety messages should focus on depicting the positive outcomes that result from engaging in safety behaviors. Communicating safety messages by depicting the negative consequences of unsafe behaviors were not as effective as communicating the positive outcomes of safe behavior.
- When parents discuss media content with their children, children learn more. These parental mediation effects were maximized when parents were provided with discussion guidelines. When parents were simply asked to discuss the videos with their children, without being given specific guidelines on how to do so, outcomes were less favorable. Parents need assistance with how to discuss media content with their children.
- Overall, findings from this research suggest that the impact of safety messages on children will be greatest when messages are framed positively, parents are encouraged to discuss these messages with children, and parents are provided with discussion guidelines.
- Even though this study used parents (or legal guardians), study findings will likely generalize to teachers and other adults who discuss media content with children. Thus, if safety videos are to be developed for use in schools, our findings indicate that such videos should be accompanied with guides to assist teachers.