Objective: To characterize children’s television programs in terms of their unintentional injury-related messages.

Design: Content analysis. Episodes representing a total of 216 unique television programs were coded for the presence of imitable unsafe behaviors without consequences.

Setting: A census of all children's programming airing in a northeastern city during the first week of December 1996.

Results: Exactly 47.0% of children’s programming depicted at least 1 instance of unsafe, imitable behavior without consequences; one third had more than 3 instances. Exactly 51.0% of the programs targeted to school-age children and 33.4% of the programs targeted to preschoolers contained these unsafe behaviors. The majority (56.8%) of children's programs on basic cable television depicted unsafe behavior as compared with 23.1% of programs shown on public television. Cartoon programs depicted the most unsafe behaviors (60.3%), as compared with live-action programs (33.4%) and other genres (23.3%).

Conclusions: Children’s television programs depict too many unsafe behaviors without consequences. Future work should explore the role of these programs in the development of unsafe behaviors in children.


UNINTENTIONAL injury remains the leading cause of death and acquired disability for children in the United States. Many effective strategies to prevent unintentional injuries exist but are not fully applied by children despite numerous safety education campaigns. For example, programs in physicians' offices and schools promote bicycle helmet and safety belt use. Despite this, in 1996, more than 60% of the fatally injured vehicle occupants younger than 15 years were unrestrained, and the rate of helmet wearing among children currently remains as low as 15% to 25%. The reasons for this lack of translation between education and behavior have not been fully explored. The role of television viewing, in particular, in promoting or impeding the adoption of these and other safe behaviors is not completely understood.

Television viewing among children is substantial: by age 18 years, the average child has spent the equivalent of more than 2 years of his or her life watching television—more time watching television than receiving formal classroom instruction. The average child watches more than 20 hours of television per week, with the youngest children watching the most.

Negative portrayals on television can have a profoundly adverse influence on children’s behaviors and attitudes in areas including aggression, gender role perceptions, smoking, sexual activity, and nutrition. Other research suggests that prosocial messages in television programming may have a positive effect on preschool- and school-aged children’s social interactions, altruistic behavior, and self-control. Taken in aggregate, the previous research implies that children incorporate at least some of what is depicted on television into how they perceive the world and their place in it.
METHODS

A content analysis of injury-related messages in children’s television programming was performed with the use of the 1997 State of Children’s Television database of the Annenberg Public Policy Center, Philadelphia, Pa. This database was developed primarily to assess the quality of television programming specifically designed for children.18 Content analysis involves a structured review and standardized coding of print, visual, and other media into predefined categories for further analysis.

The program sample included a census of all children’s programming airing on 21 network, syndicated, cable, and premium channels in a top-10 television market in a northeastern city in the United States during the first week of December 1996. Children’s programming was defined as television programs designed specifically for a child audience, as indicated by the Nielsen ratings and as noted in TV Guide listings.19,20 Only regularly scheduled programs at least 30 minutes in length were included in the sample. Programs designed for a general audience, as well as movies, specials, and shorts, were excluded. The target age group for each program was coded according to the content (basic or sophisticated) and age of the program’s characters (0-4 years, preschool; 5-11 years, elementary and early middle school; and 12-16 years, late middle and high school), as well as the time of day the program aired. The unit of analysis was the program as a whole, excluding commercials, public service announcements, promotions, program buffers, and coming attractions.

Where technical difficulties occurred with taping, programs were filled in with those that aired the same time and day during the second week of December. Programs that aired multiple times during the 7-day period were coded only once even if they aired on different channels and were different episodes.

A total of 1062 children’s programs meeting these criteria aired during the sample week. One episode per program, regardless of the number of times or stations on which it appeared, was randomly selected to be coded. Episodes representing a total of 216 unique television programs designed for children were coded (because of technical difficulties, such as a breakdown of the videocassette recorder, a broken cassette tape, and poor reception, 9.6% of the sample was unable to be coded).

Behavior was defined as self-initiated actions of child characters or characters with whom children identify. Unsafe behaviors were defined as actions with the potential for harmful consequences. Examples of unsafe actions included crossing the street in midblock by a pedestrian or bicyclist and failure to wear helmets or protective gear. Behaviors were further classified as being without consequences or uncontradicted if no resultant negative consequences were shown and as imitable if the behaviors demonstrated actions that children were capable of performing. Examples of these behaviors included a child running into the street without first looking for cars, young children swimming unsupervised in a pool, and a bicyclist not wearing a helmet. Unrealistic behaviors that children could not perform were not coded. Each program was coded according to degree of unsafe behaviors demonstrated: none, a little (unsafe behavior in 1 or 2 scenes), and a lot (unsafe behavior in 3 or more scenes). A conservative approach was used in coding so that behaviors were coded only if they met all 3 criteria at once: unsafe, without consequences, and imitable.

Programs were coded and data were entered into SPSS for MS Windows (Release 6.0; SPSS Inc, Chicago, Ill) for descriptive analyses by 8 undergraduate and graduate students. Intercoder reliability was calculated for individual variables.21

RESULTS

The prevalence of television in the daily lives of children and adolescents and the established effect that television can have on children suggest that television’s injury-related content and role in injury prevention should be explored. As a first step, this study characterizes children’s television programs in terms of their unintentional injury-related messages.

Episodes representing 216 unique programs were coded. In all, 37.0% of the programs aired on basic cable channels, 28.0% on fledgling networks, 12.0% on premium cable, 12.0% on public broadcasting, and 8.0% on the big 3 networks. We determined that 54.2% of the programs aired on weekdays, 24.5% on Saturday, and 21.3% on Sunday. In all, 96.8% of the programs were a half-hour long and 2.2% were 1-hour programs. From the episodes studied, 67.6% of the programs were targeted to school-aged children (children aged 5-11 years), 16.7% to preschool-aged children (children aged 0-4 years), and 9.3% to preteen and teen audiences (children aged 12-16 years). We categorized 58.3% of the programs as cartoons, 19.9% live action, 7.9% mixed format, 4.2% Muppet or puppet shows, 3.7% quiz or game shows, 3.2% news or documentary shows, 2.3% magazine shows, and 0.5% exercise shows.

Forty-seven percent of all programs depicted at least 1 uncontradicted, unsafe behavior that could be imitated by children. One third of these programs had more than 3 instances of uncontradicted, unsafe behavior.

Uncontradicted, unsafe behavior was depicted in more than half of the programs targeted to school-age children and in one third of the programs targeted to preschoolers (Table 1). These behaviors were significantly more common in cartoons (60.3% of cartoon programs) than live-action programs (33.4% of programs) or programs from other genres (23.3% of programs) (Table 2). Programming depicting unsafe behavior was most prevalent on basic cable channels (eg, TNT, TBS, Nickelodeon, USA, Cartoon Network, and BET) (56.8% of programs) and on the fledgling networks (eg, Fox, United Paramount Network, Warner Brothers Network) (50.0% of programs). In contrast, programming on the Public Broadcasting Service depicted the fewest unsafe behaviors (23.1% of programs) (Table 3).

Interrater reliability among the 8 coders was assessed. In all cases, the level of agreement was above the accepted level of 0.7522; for safe behavior, intercoder re-
on unintentional injury. Earlier this year, Uberos et al²⁴ demonstrated previously. Previous research has identified the negative influence of television on children’s behavior and attitudes. Similarly, exposure to safe behavior on television may have positive consequences for children’s behavior. The implications of this study are that further research must be conducted to explore the impact of both safe and unsafe injury-related messages in children’s television on children’s behavior and attitudes.

**CONCLUSIONS**

This study provides important preliminary evidence that television programs depict too many unsafe behaviors without consequences, a finding that has implications for policy related to the content of children’s television programs and for television programming in general.

Evidence suggests that children’s concepts about a variety of different behaviors and topics are influenced by what they see on television.¹¹ It is also evident that both safe and unsafe behaviors, once established at a young age, are more likely to continue as the child ages,²⁰ suggesting that early exposure to unsafe behaviors may have long-term implications for a child’s safety-related behavior. Similarly, exposure to safe behavior on television may have positive consequences for children’s behavior. The implications of this study are that further research must be conducted to explore the impact of both safe and unsafe injury-related messages in children’s television on children’s behavior and attitudes.

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**Table 1. Children’s Television Programs Depicting Unsafe Behavior by Target Audience**

<table>
<thead>
<tr>
<th>No. of Unsafe Behaviors</th>
<th>Target Audience, No. (%)†‡</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Preschool</td>
</tr>
<tr>
<td>0</td>
<td>24 (66.7)</td>
</tr>
<tr>
<td>1-2</td>
<td>1 (2.8)</td>
</tr>
<tr>
<td>≥3</td>
<td>11 (30.6)</td>
</tr>
</tbody>
</table>

*χ² = 10.0; P < .05.
† Because of rounding, percentages may not all total 100.

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**Table 2. Children’s Television Programs Depicting Unsafe Behavior by Program Genre**

<table>
<thead>
<tr>
<th>No. of Unsafe Behaviors</th>
<th>Program Genre, No. (%)†‡</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cartoon</td>
</tr>
<tr>
<td>0</td>
<td>50 (39.7)</td>
</tr>
<tr>
<td>1-2</td>
<td>30 (23.8)</td>
</tr>
<tr>
<td>≥3</td>
<td>46 (36.5)</td>
</tr>
</tbody>
</table>

*χ² = 28.14; P < .001.
† Because of rounding, percentages may not all total 100.

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**Table 3. Children’s Television Programs Depicting Unsafe Behavior by Channel**

<table>
<thead>
<tr>
<th>No. of Unsafe Behaviors</th>
<th>Channel, No. (%)†‡</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Big 3 Networks</td>
</tr>
<tr>
<td>0</td>
<td>12 (66.7)</td>
</tr>
<tr>
<td>1-2</td>
<td>3 (16.7)</td>
</tr>
<tr>
<td>≥3</td>
<td>3 (16.7)</td>
</tr>
</tbody>
</table>

*χ² = 13.63; P < .10.
† Because of rounding, percentages may not all total 100.

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This preliminary study demonstrated that depictions of unsafe behaviors without consequences are prevalent in children’s television programming, especially in programs targeted to school-aged children. This finding corroborates the results of previous work from Michigan State University that found that only 17% of motor vehicle passengers depicted in prime-time television programs used safety belts.²¹

The profound influence of television on children has been demonstrated previously. Previous research has identified the negative influence of television on children.⁹⁻¹⁷ Other research suggests that prosocial messages in television programming may have a positive effect on preschool- and school-aged children’s social interactions, altruistic behavior, and self-control.⁹⁻¹²,¹⁷

Little work has focused on the effect of television on unintentional injury. Earlier this year, Uberos et al²⁴ reported that children who view 4 hours of television daily are 4.3 times more likely to be hospitalized for injury than are children who watch no television. Although this important study affirmed the profoundly negative effect that television has on child injury, the exact reasons for this effect were not explored. A 1976 case series began to link specific television content to injury: 3 children received severe injuries attributed directly to imitation of the motorcycle-riding daredevil Evel Knieval.²⁵ The current study builds on previous research by identifying that children are bombarded by unsafe messages on television: they watch excessive amounts of television and the programming geared to them depicts excessive amounts of unsafe behaviors. These unsafe messages potentially outweigh the benefits of safety education campaigns and may, in part, explain the persistence of unsafe behaviors and injury among America’s youth. Future work must explore children’s perceptions of unsafe messages in television and what influence these messages have in the adoption of safe behaviors.

The current study focused on programs designed for children. However, children watch a considerable amount of prime-time programming. A future study should quantify the presence of injury-related messages in these programs to elucidate more fully the safety-related information to which children may be exposed during television viewing.

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**COMMENT**

liability was 0.77, and for target age and genre of the program, the coefficients were 0.81 and 0.88, respectively.
REFERENCES