Firearm Use in G- and PG-Rated Movies, 2003-2007

To the Editor: In 2005, 1453 firearm deaths occurred among children in the United States, accounting for 8.2% of deaths among persons aged 1 to 17 years.1 Mass media have been reported to influence children’s behavior toward violence.2 From 1995 to 2002, 34% of the G- and PG-rated movies with the highest US box-office gross revenues depicted use of firearms.3,4 We examined movies released during 2003 through 2007 to determine whether depiction of firearms in movies marketed for children had changed.

Methods. The study used the original protocol from the 1995-1997 study.3 We identified the 25 G- or PG-rated movies for 2003-2007 with the highest annual domestic box-office gross revenues for a total sample size of 125 movies.6 Movies or scenes were excluded if they were animated, were not set in the present day (within 10 years of a movie’s release), or were documentaries. The coding unit was person-scene, defined as a scene in which 1 person was involved in an activity with a firearm. Possession or handling of firearms was recorded only for characters with speaking roles. Standardized data-collection forms were used, and movies were watched in DVD format. Each movie was viewed simultaneously by 1 of 2 pairs of reviewers. A pilot was conducted to ensure consistency and interrater reliability. Comparisons between previous studies and 2003-2007 data were analyzed by 2-sided χ² test for trend using Epilinfo version 6 (Centers for Disease Control and Prevention, Atlanta, Georgia) and Wilcoxon rank sum test using SAS version 9.1 (SAS Institute, Cary, North Carolina). Clustering of person-scenes within movies was controlled for using SAS version 9.1; because this had minimal effect, unadjusted results are presented. Differences were considered significant if P < .05.

Results. Of 125 movies, 67 (54%) met the inclusion criteria for the study with 5 G-rated movies (7%) and 62 PG-rated (93%). Eighteen movies (27%) depicted characters with firearms (TABLE). One hundred six person-scenes depicted characters with firearms, with a median of 4.5 person-scenes per movie (range, 1-22). Median (interquartile range) number of person-scenes per movie were 2 (1-8.2), 3 (1-11), and 4.5 (2-8.8) for 1995-1997, 1998-2002, and 2003-2007, respectively (P = .92). Two movies accounted for 37% of the person-scenes with firearms.

Of characters with firearms, 105 (99%) were adults and 1 (1%) was a child; 95 (90%) were male. Fifty-six characters (53%) with firearms were involved in law enforcement (eg, police officers or security guards); 38 (36%) were criminals; and 12 (11%) were other characters (eg, homeowners). Seventy-two person-scenes (68%) depicted characters handling firearms, and 56 person-scenes (53%) depicted characters making a threatening gesture with a firearm.


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<tbody>
<tr>
<td>Discharging a firearm</td>
<td>20 (40) [27-56]</td>
<td>17 (28) [18-41]</td>
<td>18 (27) [16-38]</td>
<td>.15</td>
<td>109 (86) [78-91]</td>
<td>73 (67) [57-76]</td>
<td>72 (68) [59-77]</td>
<td>&lt;.001 a</td>
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<tr>
<td>Character killed by firearm</td>
<td>1 (2) [0-12]</td>
<td>1 (2) [1-10]</td>
<td>1 (2) [1-5]</td>
<td>.84</td>
<td>1 (1) [0-5]</td>
<td>1 (1) [0-6]</td>
<td>1 (1) [0-5]</td>
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Abbreviation: CI, confidence interval.

a Wilcoxon rank sum test.
Twenty-seven characters (23%) discharged a firearm: 16 (59%) at a human, 6 (22%) at an inanimate object, and 5 (19%) at an animal. One person-scene (1%) showed a character who was killed by a firearm; no other injuries were depicted. In comparison with previous studies, the percentage of movies with characters handling a firearm decreased from 36% to 19% ($P = .046$), and the proportion of person-scenes with characters handling a firearm decreased from 86% to 68% ($P < .001$).

Comment. Firearms continue to be shown frequently in G- and PG-rated movies. Except for a decrease in characters handling firearms, results of this study do not demonstrate any meaningful change in firearm depictions in children's movies. Movies rarely showed the consequences of firearm use, including injury or death.

Our study had at least 2 limitations. First, the number of movies and person-scenes in selected firearm categories was limited, which restricted our ability to detect statistically significant changes from previous studies. Second, we coded firearm usage only for characters with speaking roles. Scenes with firearms often contained nonspeaking characters. Our results therefore represent an underestimate of the person-scenes that children viewed.

Because of evidence that viewing violence in the media may have potentially negative effects on children, parents should be aware that G- and PG-rated movies frequently contain scenes of firearm use and educate their children on appropriate firearm safety precautions.

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Analysis and interpretation of data: Tongren, Sites, Pelletier.
Drafting of the manuscript: Tongren, Pelletier.
Critical revision of the manuscript for important intellectual content: Tongren, Sites, Zwicker, Pelletier.
Statistical analysis: Tongren.
Administrative, technical, or material support: Pelletier.
Study supervision: Sites, Pelletier.
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