

Weapon Involvement in the Victimization of Children

Kimberly J. Mitchell, PhD^a, Sherry L. Hamby, PhD^b, Heather A. Turner, PhD^c, Anne Shattuck, MA^a, Lisa M. Jones, PhD^a

abstract

OBJECTIVE: To report the prevalence of weapons involved in the victimization of youth with particular emphasis on weapons with a “high lethality risk” and how such exposure fits into the broader victimization and life experiences of children and adolescents.

METHODS: Data were collected as part of the Second National Survey of Children’s Exposure to Violence, a nationally representative telephone survey of youth ages 2 to 17 years and caregivers ($N = 4114$) conducted in 2011.

RESULTS: Estimates from the Second National Survey of Children’s Exposure to Violence indicate that >17.5 million youth in the United States have been exposed to violence involving a weapon in their lifetimes as witnesses or victims, or >1 in 4 children. More than 2 million youth in the United States (1 in 33) have been directly assaulted in incidents where the high lethality risk weapons of guns and knives were used. Differences were noted between victimizations involving higher and lower lethality risk weapons as well as between any weapon involvement versus none. Poly-victims, youth with 7 or more victimization types, were particularly likely to experience victimization with any weapon, as well as victimization with a highly lethal weapon compared with nonpoly-victims.

CONCLUSIONS: Findings add to the field’s broadening conceptualization of youth victimization highlighting the potentially highly consequential risk factor of weapon exposure as a component of victimization experiences on the mental health of youth. Further work on improving gun safety practices and taking steps to reduce children’s exposure to weapon-involved violence is warranted to reduce this problem.

FREE

WHAT’S KNOWN ON THIS SUBJECT: Firearms are among the 10 leading causes of injury-related death for youth and continues throughout the life span. Annually youth homicides and assault-related injuries result in an estimated \$16 million in combined medical and work loss costs.

WHAT THIS STUDY ADDS: Findings add to the field’s broadening conceptualization of youth victimization highlighting the potentially highly consequential risk factor of firearm and other weapon exposure as a component of victimization experiences on the mental health of youth.

^aCrimes Against Children Research Center, ^bDepartment of Sociology, University of New Hampshire, Durham, New Hampshire; and ^cAppalachian Center for Resilience Research, Sewanee, Tennessee

Dr Mitchell conceptualized the article, drafted the initial manuscript, and carried out the final analysis; Drs Hamby and Turner assisted in the design of the larger study, assisted in the conceptualization of the manuscript, and reviewed and revised the manuscript; Ms Shattuck managed the data set, designed the constructs used in the manuscript, and reviewed and revised the manuscript; Dr Jones critically reviewed the manuscript; and all authors approved the final manuscript as submitted.

Points of view or opinions in this document are those of the authors and do not necessarily represent the official position or policies of the US Department of Justice.

www.pediatrics.org/cgi/doi/10.1542/peds.2014-3966

DOI: 10.1542/peds.2014-3966

Accepted for publication Apr 28, 2015

Address correspondence to Kimberly J. Mitchell, PhD, Crimes Against Children Research Center, University of New Hampshire, 10 West Edge Dr, Suite 106, Durham, NH 03824. E-mail: kimberly.mitchell@unh.edu

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2015 by the American Academy of Pediatrics

Firearm violence is a prominent public health concern with homicide by firearm among the top 10 leading causes of injury death for youth as young as age 1 and continues throughout the life span.^{1,2} Each year, youth homicides and assault-related injuries result in an estimated \$16 million in combined medical and work loss costs. Despite its relevance to public health, extant research on youth firearm exposure has focused on weapon carrying as the primary focus of exposure.³⁻¹⁰ However, youth are also exposed to firearms and other weapons through direct victimization and witnessing violence; understanding how often and in what ways this occurs is critical to the field's broadening conceptualization of youth victimization.

Previous research reveals that cumulative exposures to victimization and other adversities lead to problematic developmental outcomes. In our research, a key concept that has emerged is that of the "poly-victim," youth who suffer a disproportionate quantity of serious victimization and a much greater array and intensity of negative effects¹¹⁻¹⁴ with a linear relationship between the accumulation of victimization types and the level of adverse outcomes.¹⁵ Victimization involving a weapon may make particularly salient or traumatizing contributions to the pattern; there is a need to better understand how weapon involvement may be linked to poly-victimization.

Using data from a national sample of youth, ages 2 to 17 in the United States, we examine the prevalence of weapons involved in the victimization of youth with particular emphasis on weapons with a "high lethality risk" and how such exposure may exacerbate the broader victimization and life experiences of children and adolescents. We use the term "lethality" to separate out weapons that have a higher likelihood of

lethality (ie, guns, knives) from those with less likelihood of lethality (eg, sticks).

METHODS

Participants

The Second National Survey of Children's Exposure to Violence (NatSCEV II) consists of a national sample of 4503 children and youth ages 1 month to 17 years of age in 2011. The current study focuses on the subsample of youth ages 2 to 17 years ($N = 4114$).

Procedure

A short interview was conducted over the telephone with an adult caregiver to obtain family demographic information. One child was then randomly selected from all eligible children living in a household by selecting the child with the most recent birthday. If the selected child was 10 to 17 years old, the main telephone interview was conducted with the child. If the selected child was younger than age 10, the interview was conducted with the caregiver who "is most familiar with the child's daily routine and experiences." Interviewers obtained verbal consent from the caregiver for the child as well as verbal assent from the child before beginning the interview. A number of steps were taken to make sure that respondents' confidentiality was maintained.

Respondents were paid \$20 for their participation. The interviews, averaging 55 minutes in length, were conducted in either English or Spanish. The cooperation and response rates averaged across collection modalities were 60% and 40%, respectively. All procedures were authorized by the Institutional Review Board of the University of New Hampshire. Further details about aspects of the methodology are available from the authors or detailed elsewhere.¹⁶

Measurement

Demographics

Demographic information was obtained in the initial caretaker interview, including the child's gender, age, race/ethnicity, and socioeconomic status (SES). SES is a composite based on the sum of the standardized household income and standardized parental education (for the parent with the highest education) scores, which was then restandardized. Family structure, defined by the composition of the household, was categorized into 4 groups: children living with (a) 2 biological or adoptive parents, (b) 1 biological parent plus partner (spouse or nonspouse), (c) single biological parent, and (d) other nonparent caregiver.

Victimization

Victimization was measured by using the Juvenile Victimization Questionnaire a comprehensive inventory of childhood victimization described in detail elsewhere.¹⁷ Children who had been exposed to particularly large numbers of different kinds of victimizations were designated as poly-victims, comprising the 10% of children who had experienced the highest number of victimizations. Past year poly-victims were defined as having experienced 7 or more types of victimization in the past year.

Weapon Involvement

Using information from the Juvenile Victimization Questionnaire follow-up questions, victimization types were further classified by whether the incident involved a weapon (gun, knife, stick, rock, bottle, tool, or other item that could cause injury such as a piece of broken glass, piece of metal or brass knuckles).

Experience

Past year adversity due to nonviolent traumatic events and chronic stressors were measured by using 15

items, 13 of which were taken from a scale developed by Turner et al^{18,19} and 2 of which were constructed for this study. Nonviolent traumatic events included serious illnesses, accidents, and parental imprisonment, and chronic stressors included substance abuse by family members and homelessness. Mental health status was measured through the use of trauma symptom scores for the anger, depression, and anxiety scales of 2 closely related measures: the Trauma Symptoms Checklist for Children,²⁰ which was used with the 10- to 17-year-old self-report interviews, and the Trauma Symptom Checklist for Young Children,²¹ used in the caregiver interviews for the 2- to 9-year-olds.

Weaponized Environment

Exposure to gangs and peer weapon carrying were measured by using 3 of 10 items from the Community Disorder Questionnaire,²² which is intended to capture signs of elevated risk for crime and violence, such as drug deals and obvious signs of gang presence, or the aftereffects of crime, such as arrests and police raids. Respondents were asked if each community disorder indicator had happened in the past year. Exposure to gangs was indicated if the respondent indicated they had either lived in a neighborhood where there were gangs or ever seen graffiti in their neighborhood that had gang signs or warnings. Peer weapon carrying was indicated if the respondent responded positively to the following question: "Have you ever gone to a school where a kid brought a gun or knife to school?" Past year personal weapon carrying was measured by using an adapted item developed by Loeber and Dishion.²³

Incident-Level Characteristics

Information from other follow-up questions was used to construct variables that capture additional incident characteristics. Specifically

we queried about: injury ("Were you [your child] physically hurt when this happened?" Hurt means you could still feel pain in your body the next day); location of the victimization (coded as home [1 = yes, 0 = no] or school [1, 0]); relationship to the perpetrator (coded as juvenile peer [1, 0], juvenile sibling [1, 0], or parent [1, 0]); and impact: respondents were asked whether they missed school because of the incident or whether they felt afraid (not at all/a little afraid versus very afraid) when the incident occurred.

Sample Weighting

NatSCEV II used a multiframe design consisting of 4 overlapping frames: a landline random digit dial frame, a cell phone random digit dial frame, an address-based sample frame, and a list-assisted sample of prescreened households known to have children. To ensure that the estimates derived from the combined frames were representative of the target population of children in the United States aged 17 and younger, a 4-step process, detailed elsewhere,¹⁶ was used to construct the analysis weights.

Data Analysis

Most analyses in this study were conducted by using the child as the unit of analysis and examine the characteristics and associated outcomes of children's victimization experience based on (a) any weapon versus none and (b) high lethality (gun or knife) versus low lethality (eg, sticks, rocks). Specifically, a series of cross-tabulations were conducted comparing youth demographic characteristics (eg, gender, age) and youth experience (eg, past year poly-victim, high life adversity, trauma) by report of any lifetime victimization with a weapon with design-based *F* statistics reported for dichotomous and categorical variables and unadjusted odds ratios and 95% confidence intervals for continuous variables. Then, among all youth who

reported victimization with a weapon, we conducted the same cross-tabulations by whether the weapon involved was low versus high lethality risk.

We next examined the relationship between victimization with a weapon on mental health symptomatology; we did this separately for younger (ages 2–9) and older (ages 10–17) youth given critical developmental differences and the different informants for the 2 age groups. Specifically, we conducted a series of 6 linear regression analyses (3 mental health outcomes \times 2 age groups); standardized regression coefficients are presented. The models take into account poly-victim status and child demographic characteristics.

To assess the impact of weapon involvement on outcomes, an incident level file was also created where victimized children had separate records for each reported incident of lifetime victimization. Analyses conducted on the incident level file were adjusted for nonindependence of incidents experienced by the same child by calculating robust standard errors. A series of cross-tabulations compared various incident characteristics (eg, location of incident, relationship to perpetrator) by (a) any weapon involvement or not and (b) low versus high lethality risk weapon involvement.

RESULTS

Characteristics of the Sample

Fifty-one percent of youth were boys (Table 1). For approximately half of the youth, data were collected by proxy from a caregiver (28.5% ages 2–5, 23.5% ages 6–9). One-quarter (24.1%) of respondents were ages 10 to 13 and the remaining were ages 14 to 17. One in 5 youth lived in low SES households; 17.6% lived in high SES households. Slightly more than half (56.7%) of youth were white, non-Latino; 18.8% were Latino (any race); 15.1% were black, non-Latino; and

TABLE 1 Characteristics of NatSCEV II Analytical Sample, Ages 2 to 17 Years (*N* = 4114)

Child Characteristic	No. (%)
Child gender	
Boy	2137 (51.3)
Girl	1977 (48.7)
Child age	
2–5	949 (28.5)
6–9	853 (23.5)
10–13	1035 (24.1)
14–17	1277 (26.6)
SES ^a	
Low	838 (20.6)
Middle	2447 (61.8)
High	829 (17.6)
Race and ethnicity	
White, non-Latino	2769 (56.7)
Black, non-Latino	497 (15.1)
Other race, non-Latino	256 (9.4)
Latino, any race	577 (18.8)
Family structure	
Two biological/adoptive parents	2758 (56.1)
Parent and step-parent	320 (8.1)
Single parent	834 (30.4)
Other adult caregiver	202 (5.5)

Percentages are weighted. *Ns* are unweighted.

^a Low SES is defined as 1 SD below the mean of our composite SES measure; high SES is 1 SD above the mean.

9.4% were of another non-Latino race. Fifty-six percent of youth lived with both biological parents.

Experiencing Victimization With a Weapon: Lifetime Prevalence and Youth Characteristics

More than 1 in 4 youth (26.5%) reported at least 1 victimization that involved a weapon in their lifetime, such as a knife, gun, stick, or rock; 12.5% reported at least 1 direct victimization with a weapon, and 13.1% at least 1 indirect (or witnessed) victimization with a weapon. Any victimization with a weapon was more common among boys (23.9%) than girls (18.4%), increased with age, and was reported more frequently by youth living in low socioeconomic households, black or Latino youth, as well as those who lived in nontraditional families (eg, other adult caregiver, parent, and step-parent; Table 2).

In terms of youth experience, youth reporting a weapon-involved victimization were more likely to be

classified as a poly-victim in the past year, experience high amounts of life adversity in the past year, and high trauma symptoms in the past month (Table 2). They were also more likely to be exposed to a “weaponized environment”: they reported more past year gang exposure, peer weapon carrying, and more personal weapon carrying (for youth ages 10–17).

Victimization With a High Lethality Risk Weapon: Lifetime Prevalence and Youth Characteristics

3.1% of all youth reported a victimization with a highly lethal weapon (ie, gun or knife) in their lifetimes; 0.9% reported at least 1 direct victimization, and 2.4% at least 1 indirect victimization with such a weapon. Report of any victimization involving a high lethality risk weapon did not differ by gender but did increase by age (Table 2). Compared with all other youth, youth living in nontraditional families were more likely to report such victimization, particularly those with some other caregiver besides a parent (eg, other relatives, foster parents). Poly-victims, youth with high trauma symptoms, those who had peers who carried weapons, and who personally carried a weapon were more likely than all other youth to report a victimization involving a high lethality risk weapon.

Does Weapon-Involved Victimization Intensify Harm Beyond Poly-Victim Status?

Past year poly-victim status was a significant contributor to mental health symptomatology for all symptoms except anxiety among the younger children (Table 3). Reports of any lifetime weapon-involved victimization was significantly related to all mental health symptoms over and above the contribution of poly-victimization. This was true for each age group. All findings adjust for the following youth demographic characteristics: age, gender, race and ethnicity, SES, and family structure.

Incident-Level Characteristics and Outcomes

In Table 4, we report incident level characteristics for all youth (analyses were run separately for younger [ages 2–9] and older [ages 10–17] youth with similar findings—not shown in Table): Weapon-involved incidents were more likely to be part of an indirect only victimization or an incident that involved both direct and indirect forms of victimization (rather than direct only). Weapon-involved victimizations were more likely to be perpetrated by a peer, and result in injury. A few differences were noted when comparing low versus high lethality weapon involvement: More indirect only weapon-involved victimizations involved a high lethality weapon. Fewer of the incidents perpetrated by siblings involved guns or knives; more of those victimizations perpetrated by a caregiver involved such weapons.

DISCUSSION

NatSCEV II estimates indicate that >17.5 million youth in the United States have been exposed to violence involving a weapon in their lifetimes as witnesses or direct victims, or >1 in 4 children. More than 2 million youth in the United States have been directly assaulted in incidents where the high lethality risk weapons of guns or knives were used. Weapons-based violence is 1 of the largest public health crises affecting children in the United States, far exceeding the numbers of children with illnesses such as diabetes or cancer. Despite its relevance to public health, however, there is still much we do not know about youth weapon exposure and firearm exposure in particular. For example, firearm factors may play into the victimization accumulation cycle in various, yet undetermined, ways. Negative firearm exposures, for example, may make particularly salient or traumatizing

TABLE 2 Victimization With Any Weapon Involvement and High Lethality Risk Weapons Among All Youth, Ages 2 to 17

Youth Characteristic	No. Youth, <i>N</i> = 4114	Any Victimization With Weapon, ^a <i>n</i> = 859, no. (%)	Design-based <i>F</i> or OR (95% CI) ^b	High Lethality Risk Weapon, <i>n</i> = 137, no. (%)	Design-based <i>F</i> or OR (95% CI) ^b
Demographic characteristic					
Child gender					
Boy	2137	516 (23.9)	8.5**	85 (3.4)	0.06
Girl	1977	343 (18.4)		52 (2.8)	
Child age					
2–5	949	79 (8.7)	34.9***	7 (0.5)	12.5***
6–9	853	131 (15.9)		15 (2.0)	
10–13	1035	237 (25.0)		32 (3.4)	
14–17	1277	412 (34.7)		83 (6.3)	
SES					
Low	838	202 (26.4)	4.3*	32 (3.5)	0.5
Middle	2447	495 (20.1)		77 (2.8)	
High	829	162 (19.2)		28 (3.7)	
Race and ethnicity					
White, non-Latino	2769	537 (19.3)	5.4***	85 (3.0)	0.4
Black, non-Latino	497	128 (26.5)		20 (3.3)	
Other race, non-Latino	256	48 (14.5)		8 (2.1)	
Latino, any race	577	143 (26.4)		24 (3.7)	
Family structure					
Two biological/adoptive parents	2758	487 (16.3)	11.4***	73 (2.3)	4.7**
Parent and step-parent	320	88 (26.2)		19 (3.4)	
Single parent	834	226 (27.1)		33 (3.6)	
Other adult caregiver	202	58 (31.7)		12 (7.9)	
Experience					
Past year poly-victim status					
Yes (7+ PY screeners)	441	271 (61.7)	6.2 (4.4–8.7)***	42 (8.4)	2.7 (1.6–4.6)***
No	3673	588 (16.1)		95 (2.4)	
High adversity (PY)					
Yes	885	298 (35.4)	2.0 (1.5–2.8)***	49 (4.6)	1.4 (0.9–2.3)
No	3229	561 (17.0)		88 (2.6)	
High trauma symptoms (PM)					
Yes	579	250 (42.0)	3.1 (2.2–4.2)***	35 (5.3)	1.8 (1.0–3.1)*
No	3528	609 (17.8)		102 (2.7)	
Weaponized environment					
Gang exposure (PY) ^c					
Yes	530	198 (39.4)	2.0 (1.3–2.9)***	31 (4.4)	1.3 (0.07–2.4)
No	3584	661 (18.0)		106 (2.9)	
Peer weapon carrying (PY) ^c					
Yes	389	193 (52.1)	2.6 (1.7–3.7)***	48 (12.3)	3.6 (2.1–6.2)***
No	3725	666 (18.3)		89 (2.2)	
Personal weapon carrying ^d					
Yes	108	63 (66.2)	4.9 (2.7–8.7)***	16 (13.2)	2.8 (1.4–5.7)**
No	2204	586 (28.5)		99 (4.5)	

Percentages are weighted. *N*s are unweighted. Numbers and percentages reflect row totals. Comparison group is all other youth for all analyses. CI, confidence interval; OR, odds ratio; PM, past month. PY, past year. *** $P \leq .001$; ** $P \leq .01$; * $P \leq .05$.

^a The weapon follow-up question was asked about both direct victimizations (eg, assault), as well as indirect victimizations (eg, witnessing domestic violence). The weapon question was asked only once per incident even when more than 1 victimization type was part of a single incident, and it was always asked about the first item reported for that incident. In the survey order, direct victimization questions were asked before indirect ones. Thus, if an incident involved both direct and indirect victimization types, the weapon follow-up would refer to the direct victimization involved. Only a very small proportion of incidents (3%) involved both direct and indirect victimization types. Among direct victimizations, assault questions with the weapon follow-up mostly preceded nonassault ones for which the weapon question was not asked. However, it is possible that weapon use could be slightly understated in rare combinations of victimization types. For example, if a nonassault victimization such as vandalism was the first 1 reported in an incident during which an assault also occurred, the weapon victimization question would not have been asked about the assault victimization because it is not asked after the vandalism question.

^b Adjusted for youth age, gender, race and ethnicity, SES, and family structure.

^c Only asked for youth ages 5–17 ($n = 3391$).

^d Only asked for youth ages 10–17 ($n = 2312$).

contributions to the cycle. Firearm fascination, acquisition, and carrying may be a response among highly exposed children and youth, which may in turn aggravate the cycle.

Positive firearm experiences, on the other hand, for some youth may moderate or buffer the effects of victimization exposure. Findings from the current study suggest the

need for a more comprehensive understanding of the range of firearm exposures for youth and the contexts that increase risk of harm and victimization.

TABLE 3 Effects of Victimization With Weapon (Lifetime) and Poly-victim Status on Depression, Anxiety and Anger/Aggression by Age: Standardized Regression Coefficients

Characteristic	2–9 y olds (n = 1790)			10–17 y olds (n = 2302)		
	Depression	Anxiety	Anger/Aggression	Depression	Anxiety	Anger/Aggression
Victimization details						
Victimization with weapon	0.4**	0.4***	0.4**	0.2***	0.3***	0.3***
Past year poly-victim	0.7***	0.2	0.9***	0.8***	0.9***	0.9***
Child demographics						
Age	0.1***	0.01	−0.03*	0.03**	0.01	0.02
Boy	−0.1	−0.03	0.2**	−0.3***	−0.2***	−0.5
SES	−0.1	0.02	−0.04	0.01	0.1	−0.3
Black race	−0.2**	−0.2**	−0.1	−0.1	−0.2*	−0.01
Other race	0.04	−0.01	−0.1	0.1	0.03	0.2
Latino ethnicity	0.04	−0.01	−0.05	−0.2**	−0.1	−0.1
Step-parent household	0.05	0.1	−0.1	0.1	0.1	0.3**
Single parent household	0.2*	0.1	0.1	−0.02	0.1	0.05
Other adult household	0.1	0.3	0.2	−0.1	0.1	−0.03

*** $P \leq .001$. ** $P \leq .01$. * $P \leq .05$.

Differences were noted between victimizations involving higher lethality risk weapons but also whether any type of weapon was involved (versus none). Indeed, elevated rates of poly-victimization, trauma symptoms, peer weapon carrying, and personal weapon carrying are noted with weapon-involved victimization regardless of the type of weapon. It could be that the use or threat of a weapon is such a startling and troubling event that the specific type does not matter as much. More information is needed about the contexts within which the victimization occurs before we can fully understand any nuances associated with specific weapon types at the incident level.

Although more weapon-involved victimization, both generally and those with high lethality risk are indirect in nature, fear data reveal that witnessing is often more frightening to children²⁴ and previous analyses on poly-victims reveal direct and indirect forms of victimization carry the same weight in terms of harm.²⁵ Clearly all types of victimization that involve a weapon should not be taken lightly, due to both their enhanced risk for physical injury and elevated trauma symptoms. Even when a weapon is not used,

their mere presence greatly increases the risk of injury and threat and may exacerbate trauma symptoms.

The classification of poly-victim proved to be strongly associated with the risk of weapon violence exposure, providing further indication of the need to do more to identify those youth who experience the greatest burden of victimization; poly-victims were particularly likely to experience victimization with any weapon, as well as victimization with a highly lethal weapon compared with nonpoly-victims. Further, weapon involvement increases trauma over and above poly-victimization. Findings add to the field's broadening conceptualization of youth victimization highlighting the potentially highly consequential risk factor of weapon exposure as a component of victimization experiences on the mental health of youth.

Beyond victimization, youth living in what we are calling weaponized environments are more likely to report victimization with a weapon: Youth exposed to gangs are twice as likely as those who are not to report weapon-involved victimization. Peer weapon carrying was a salient factor related to any weapon and high lethality risk weapon-involved

victimizations. The same was true for personal weapon carrying. Findings suggest some direction for promoting youth safety. Youth who stay away from gangs and peers who carry weapons are less likely to experience a weapon-involved victimization. Yet, at the individual level, youth in some high-crime communities may have difficulty avoiding such individuals pointing to the importance of a public health approach to this problem and looking for community-level and policy solutions to reduce exposure to weapons and highly weaponized environments.

We recognize that some findings may be influenced by unmeasured dimensions, such as a greater willingness among some respondents to disclose personal experiences. We take multiple steps to reduce these issues through survey design and through interviewer training to make sure youth are in a private, safe place while answering questions. Concern is also often expressed about the degree to which caregivers know about or are willing to disclose victimizations concerning their children, especially child maltreatment. But comparison of the caregiver and youth reports in a similar survey using the same measures did not suggest

TABLE 4 Incident Characteristics by Any Weapon Involvement and by Degree of Weapon Lethality Risk Among Youth, Ages 2 to 17, Experiencing at Least 1 Victimization in Their Lifetime (*n* = 16 677 Incidents; 3347 Children)

Incident Characteristic	Lifetime Victimization Incidents			Lifetime Incidents With a Weapon		
	No. Incidents, <i>n</i> = 16 677	Incidents With Weapon, no. (%), <i>n</i> = 990	Design- based <i>F</i>	No. Incidents, <i>n</i> = 990	Incidents With High Lethality Risk Weapon, no. (%), <i>n</i> = 143	Design- based <i>F</i>
Type of victimization						
Indirect only	4377	517 (11.0)	77.41***	517	102 (19.2)	9.00***
Direct only	11 747	423 (3.6)		423	32 (7.0)	
Both	553	50 (9.6)		50	9 (12.2)	
Incident occurred at home						
Yes	6922	416 (5.7)	0.13	416	60 (13.0)	0.11
No	9755	574 (5.9)		574	83 (14.0)	
Incident occurred at school						
Yes	6125	368 (6.1)	0.70	358	48 (12.4)	0.40
No	10 552	622 (5.7)		622	95 (14.3)	
Perpetrator was juvenile peer						
Yes	8483	549 (6.4)	6.26**	549	81 (13.2)	0.09
No	8194	441 (5.2)		441	62 (14.1)	
Perpetrator was juvenile sibling						
Yes	2960	159 (5.2)	1.18	159	15 (8.2)	3.83*
No	13 717	831 (5.9)		831	128 (14.6)	
Perpetrator was parent/caregiver						
Yes	1307	62 (3.9)	4.93*	62	12 (27.5)	5.29*
No	15 370	928 (6.0)		928	131 (12.8)	
Injury resulted						
Yes	1335	143 (10.5)	29.87***	143	14 (11.2)	0.49
No	15 342	847 (5.4)		847	129 (14.0)	
Youth was very afraid from incident						
Yes	14 834	130 (6.9)	2.30	130	28 (17.5)	1.08
No	1843	860 (5.7)		860	115 (13.0)	
Youth missed school from incident						
Yes	938	71 (6.1)	0.07	71	15 (16.3)	0.27
No	15 739	919 (5.8)		919	128 (13.4)	

Percentages are weighted. *N*s are unweighted. Numbers and percentages reflect row totals. Run separately by age (2–9 vs 10–17) with similar findings. *** *P* ≤ .001, ** *P* ≤ .01, * *P* ≤ .05.

a differential underreporting by caregivers, even maltreatment.¹⁷

CONCLUSIONS

These data indicate that children are exposed to weapon-involved victimization at disturbingly high rates, affecting 1 in 4 children when a full range of weapons is included. In comparison with some other serious concerns in our data, the rates of exposure to weapon violence is higher than the rates of suicidal ideation, sexual victimization, and caregiver maltreatment, for example.

Further, high lethality risk weapon violence has a unique contribution to current trauma symptoms over that of poly-victim status, indicating that it should be a focus of particular concern. This is all the more noteworthy because our past research with this and 2 previous national samples indicates that many other victimization characteristics do not make a unique contribution to trauma symptoms above and beyond the very large effect for poly-victimization. Any child who is known to have experienced victimization should be screened for

exposure to weapon violence. Further work on improving gun safety practices and taking steps to reduce children's exposure to weapon-involved violence is warranted to reduce this prevalent problem.

ABBREVIATIONS

NatSCEV II: Second National Survey of Children's Exposure to Violence
SES: socioeconomic status

FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: Supported by the Office of Juvenile Justice and Delinquency Prevention and the Centers for Disease Control and Prevention (2010-JF-FX-0001).

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

REFERENCES

- National Center for Health Statistics, National Vital Statistics System. 10 Leading causes of injury deaths by age group highlighting violence-related injury deaths, United States—2010. Available at: www.cdc.gov/injury/wisqars/pdf/10LCID_Violence_Related_Injury_Deaths_2010-a.pdf. Accessed November 7, 2013
- Molnar BE, Miller MJ, Azrael D, Buka SL. Neighborhood predictors of concealed firearm carrying among children and adolescents: results from the project on human development in Chicago neighborhoods. *Arch Pediatr Adolesc Med*. 2004;158(7):657–664
- Hayes DN, Sege R. FiGHTS: a preliminary screening tool for adolescent firearms-carrying. *Ann Emerg Med*. 2003;42(6):798–807
- Baxendale S, Cross D, Johnston R. A review of the evidence on the relationship between gender and adolescents' involvement in violent behavior. *Aggress Violent Behav*. 2012;17(4):297–310
- Kingery PM, Coggeshall MB, Alford AA. Violence at school: recent evidence from four national surveys. *Psychol Sch*. 1998;35(3):247–258
- Dahlberg LL. Youth violence in the United States. Major trends, risk factors, and prevention approaches. *Am J Prev Med*. 1998;14(4):259–272
- Vaughn MG, Perron BE, Abdon A, Olate R, Groom R, Wu L-T. Correlates of handgun carrying among adolescents in the United States. *J Interpers Violence*. 2012;27(10):2003–2021
- Hayes DN, Hemenway D. Age-within-school-class and adolescent gun-carrying. *Pediatrics*. 1999;103(5). Available at: www.pediatrics.org/cgi/content/full/103/5/e64
- Cao L, Zhang Y, He N. Carrying weapons to school for protection: an analysis of the 2001 school crime supplement data. *J Crim Justice*. 2008;36(2):154–164
- DuRant RH, Krowchuk DP, Kreiter S, Sinal SH, Woods CR. Weapon carrying on school property among middle school students. *Arch Pediatr Adolesc Med*. 1999;153(1):21–26
- Finkelhor D, Ormrod RK, Turner HA. Polyvictimization: a neglected component in child victimization. *Child Abuse Negl*. 2007;31(1):7–26
- Finkelhor D, Ormrod RK, Turner HA. Polyvictimization and trauma in a national longitudinal cohort. *Dev Psychopathol*. 2007;19(1):149–166
- Turner HA, Finkelhor D, Ormrod R. Polyvictimization in a national sample of children and youth. *Am J Prev Med*. 2010;38(3):323–330
- Finkelhor D, Turner HA, Hamby SL, Ormrod R. *Polyvictimization: Children's Exposure to Multiple Types of Violence, Crime, and Abuse*. Washington, DC: US Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention; 2011
- Appleyard K, Egeland B, van Dulmen MHM, Sroufe LA. When more is not better: the role of cumulative risk in child behavior outcomes. *J Child Psychol Psychiatry*. 2005;46(3):235–245
- Finkelhor D, Turner HA, Shattuck A, Hamby SL. Violence, crime, and abuse exposure in a national sample of children and youth: an update. *JAMA Pediatr*. 2013;167(7):614–621 doi:10.1001/jamapediatrics.2013.42
- Finkelhor D, Hamby SL, Ormrod R, Turner H. The Juvenile Victimization Questionnaire: reliability, validity, and national norms. *Child Abuse Negl*. 2005;29(4):383–412
- Turner HA, Finkelhor D, Ormrod R. The effect of lifetime victimization on the mental health of children and adolescents. *Soc Sci Med*. 2006;62(1):13–27
- Turner HA, Butler MJ. Direct and indirect effects of childhood adversity on depressive symptoms in young adults. *J Youth Adolesc*. 2003;32(2):89–103
- Briere J. *Trauma Symptoms Checklist for Children (TSCC): Professional Manual*. Odessa, FL: Psychological Assessment Resources; 1996
- Briere J, Johnson K, Bissada A, et al. The Trauma Symptom Checklist for Young Children (TSCYC): reliability and association with abuse exposure in a multi-site study. *Child Abuse Negl*. 2001;25(8):1001–1014
- Turner HA, Shattuck A, Hamby S, Finkelhor D. Community disorder, victimization exposure, and mental health in a national sample of youth. *J Health Soc Behav*. 2013;54(2):258–275
- Loeber R, Dishion T. Early predictors of male delinquency: a review. *Psychol Bull*. 1983;94(1):68–99
- Hamby S, Finkelhor D, Turner H. Perpetrator and victim gender patterns for 21 forms of youth victimization in the National Survey of Children's Exposure to Violence. *Violence Vict*. 2013;28(6):915–939
- Finkelhor D, Ormrod RK, Turner HA, Hamby SL. Measuring poly-victimization using the Juvenile Victimization Questionnaire. *Child Abuse Negl*. 2005;29(11):1297–1312

Pediatrics (2015;135(3):469–474; doi:10.1542/peds.2014-2329). On page 473, under Discussion, the decrease in the readmission rate from 18.4 to 15.7 per 1000 among those who had an early well-child visit should be described as a 15% relative risk reduction (2.7/18.4), not a 15% absolute risk reduction. The absolute risk reduction was 18.4 minus 15.7, or 2.7 per 1000 readmissions. The calculation of the number of early well-child visits associated with a reduction of a single readmission should have been calculated based on the absolute risk reduction (1000/2.7) and was 371 rather than 7 as stated in the article. The authors thank medical student Wade Harrison from the Geisel School of Medicine, Hanover, NH, for pointing out these errors. The corrections have been made to the online edition of the published article.

doi:10.1542/peds.2015-2067

Rana et al. Hydroxyurea and Growth in Young Children With Sickle Cell Disease. *Pediatrics*. 2014;134(3):465–472

An error occurred in the article by Rana et al, titled “Hydroxyurea and Growth in Young Children With Sickle Cell Disease” published in the September 2014 issue of *Pediatrics* (2014;134[3]:465–472; doi:10.1542/peds.2014-0917). On page 467, under the heading Results, on line 2, this reads: “See Table 1 for demographic information.” This should have read: “See Table 1 in the main BABY HUG paper.”²¹

doi:10.1542/peds.2015-2188

Mitchell, Hamby, Turner, Shattuck, Jones. Weapon Involvement in the Victimization of Children. *Pediatrics*. 2015;136(1):10–17

Errors occurred in the article by Mitchell et al, titled “Weapon Involvement in the Victimization of Children” published in the July 2015 issue of *Pediatrics* (2015;136(1):10–17; doi:10.1542/peds.2014-3966). On page 13, under the heading ‘Experiencing Victimization With a Weapon: Lifetime Prevalence and Youth Characteristics’, this reads: “More than 1 in 4 youth (26.5%) reported at least 1 victimization that involved a weapon in their lifetime, such as a knife, gun, stick, or rock; 12.5% reported at least 1 direct victimization with a weapon, and 13.1% at least 1 indirect (or witnessed) victimization with a weapon.” This should have read: “More than 1 in 4 school-age youth (ages 6–17, 26%) reported at least 1 victimization that involved a weapon in their lifetime; more than 1 in 5 youth when including younger children (ages 2–17 years, 21.2%). Among 2–17 year olds, 12.5% reported at least 1 direct victimization with a weapon, and 13.1% at least 1 indirect (or witnessed) victimization with a weapon.”

This change also impacts the Abstract and Discussion as follows:

On page 10, in the Abstract, it reads: “Results: Estimates from the Second National Survey of Children’s Exposure to Violence indicate that >17.5 million youth in the United States have been exposed to violence involving a weapon in their lifetime as witnesses or victims, or >1 in 4 children.” This should have read: “Results: Estimates from the Second National Survey of Children’s Exposure to Violence indicate that almost 14 million youth, ages 2–17, in the United States have been exposed to violence involving a weapon in their lifetimes as witnesses or victims, or >1 in 5 children in this age group.”

On page 13, in the Discussion section, it reads: “NatSCEV II estimates that >17.5 million youth in the United States have been exposed to violence involving

a weapon in their lifetime as witnesses or victims, or >1 in 4 children.” This should have read: “NatSCEV II estimates indicate that almost 14 million youth, ages 2–17, in the United States have been exposed to violence involving a weapon in their lifetimes, as witnesses or direct victims, or >1 in 5 children in this age group.”

On page 16, in the Conclusions section, it reads: “These data indicate that children are exposed to weapon-involved victimization at disturbingly high rates, affecting 1 in 4 children when a full range of weapons is included.” This should have read: “These data indicate that children are exposed to weapon-involved victimization at disturbingly high rates, affecting 1 in 4 school-age children (ages 6–17) and 1 in 5 children, ages 2–17, when a full range of weapons is included.”

doi:10.1542/peds.2015-2235

PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Weapon Involvement in the Victimization of Children

Kimberly J. Mitchell, Sherry L. Hamby, Heather A. Turner, Anne Shattuck and Lisa M. Jones

Pediatrics 2015;136;10; originally published online June 8, 2015;
DOI: 10.1542/peds.2014-3966

The online version of this article, along with updated information and services, is located on the World Wide Web at:
</content/136/1/10.full.html>

PEDIATRICS is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. PEDIATRICS is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2015 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



Weapon Involvement in the Victimization of Children

Kimberly J. Mitchell, Sherry L. Hamby, Heather A. Turner, Anne Shattuck and Lisa M. Jones

Pediatrics 2015;136;10; originally published online June 8, 2015;

DOI: 10.1542/peds.2014-3966

Updated Information & Services	including high resolution figures, can be found at: /content/136/1/10.full.html
References	This article cites 22 articles, 1 of which can be accessed free at: /content/136/1/10.full.html#ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): Injury, Violence & Poison Prevention /cgi/collection/injury_violence_-_poison_prevention_sub Firearms /cgi/collection/firearms_sub Child Abuse and Neglect /cgi/collection/child_abuse_neglect_sub
Errata	An erratum has been published regarding this article. Please see: /content/136/3/584.2.full.html
Permissions & Licensing	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: /site/misc/Permissions.xhtml
Reprints	Information about ordering reprints can be found online: /site/misc/reprints.xhtml

PEDIATRICS is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. PEDIATRICS is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2015 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

