RESEARCH LETTER

Assessment of Reported Time to Access a Loaded Gun Among Colorado Adolescents

Firearms are the leading cause of death for US youths.[1] Suicide rates among Black and American Indian/Alaska Native youths aged 10 to 18 years are rising, with the highest rates among American Indian/Alaska Native youths.[2] Time to access a firearm matters; nearly half of individuals who attempted suicide reported time between ideation and action of under 10 minutes.[3] Understanding firearm access is critical for reducing access to guns when an adolescent is in crisis; however, national studies of adolescent firearm access are limited.[4,5] We examined perceived time to access a loaded gun within a state-representative sample of youths.

Supplemental content

Methods | This cross-sectional study used data from the Healthy Kids Colorado Survey, a biennial cross-sectional survey administered online during school that uses a 2-stage stratified cluster design with random sampling of public middle and high schools and classrooms (or census of students). Participation was voluntary and anonymous (informed consent waived); the study was approved by the Colorado Multiple Institutional Review Board. This study followed the STROBE reporting guideline.

The fall 2021 survey included the question, "How long would it take you to get and be ready to fire a loaded gun without a parent or other adult's permission? The gun could be yours or someone else's and it could be located in your home or car or someone else's home or car." Response options included "I could not get a loaded gun"; "less than 10 minutes"; "10 or more minutes, but less than 1 hour" or "1 or more hours, but less than 4 hours" (collapsed: 10 minutes to <4 hours); "4 or more hours, but less than 24 hours"; and "24 or more hours."

Design and poststratification weights were applied to represent Colorado public middle and high school enrollment. Weighted prevalence estimates and 95% CIs were calculated using SAS, version 9.4.

Table. Individual and School-Level Characteristics

Characteristic	Participants, No.	Participants, % (95% CI)[a]					
				Time to access			
		No access (n = 26 886)	Any access (n = 14 204)	<10 min (n = 5311)	10 min to <4 h (n = 4584)	4 to 24 h (n = 1283)	>24 h (n = 3026)
Total	41 090	67.7 (65.8-69.5)	32.3 (30.5-34.2)	12.1 (11.2-13.1)	10.4 (9.5-11.3)	2.8 (2.5-3.1)	7.0 (6.5-7.6)
Individual characteristics							
Level of school							
Middle school	6271	67.3 (64.8-69.8)	31.9 (29.2-34.7)	12.2 (11.2-13.3)	10.4 (9.2-11.6)	2.9 (2.5-3.2)	7.2 (6.8-7.7)
High school	34 819	68.1 (65.3-70.8)	32.7 (30.2-35.2)	12.0 (10.2-13.8)	10.4 (9.1-11.7)	2.7 (2.1-3.37)	6.8 (5.7-7.9)
Gender							
Female	18 647	73.7 (71.7-75.6)	26.4 (24.4-28.3)	8.5 (7.6-9.5)	10.1 (9.1-11.0)	2.3 (1.8-2.8)	5.5 (4.9-6.1)
Male	19 603	62.1 (59.9-64.3)	37.9 (35.7-40.1)	15.8 (14.4-17.1)	10.5 (9.4-11.6)	3.3 (2.8-3.9)	8.3 (7.6-9.1)
Other[b]	2730	66.6 (63.5-69.8)	33.4 (30.2-36.5)	11.1 (8.7-13.4)	11.6 (9.5-13.7)	2.5 (1.8-3.2)	8.3 (6.0-10.5)
Race and ethnicity[c]							
American Indian/Alaska Native	1281	61.1 (56.9-65.4)	38.9 (34.6-43.1)	17.5 (14.1-20.9)	11.4 (8.6-14.2)	2.2 (0.9-3.5)	7.8 (3.4-12.2)
Black	1183	74.7 (71.1-78.4)	25.3 (21.6-28.9)	10.5 (8.8-12.2)	6.0 (4.2-7.9)	1.4 (0.5-2.4)	7.3 (5.6-9.1)
Hispanic White	2588	70.4 (66.8-74)	29.6 (26.0-33.2)	9.9 (8.01-11.6)	11.3 (9.1-13.6)	2.7 (1.7-3.7)	5.7 (4.5-6.9)
Latinx	7276	73.7 (71.6-75.8)	26.3 (24.2-28.4)	10.4 (8.9-11.8)	8.6 (7.7-9.6)	2.1 (1.6-2.6)	5.2 (4.6-5.9)
Non-Hispanic White	22 232	63.1 (61.1-65.1)	36.9 (34.9-38.9)	13.5 (12.3-14.7)	11.9 (10.9-12.9)	3.4 (3.0-3.9)	8.1 (7.3-8.8)
Multiracial or multiethnic[d]	3673	63.9 (57.9-69.8)	36.1 (30.2-42.1)	14.2 (12.3-16.2)	11.1 (7.8-14.4)	2.9 (1.8-3.9)	8.0 (5.8-10.1)
Other[e]	2348	76.4 (73.2-79.6)	23.6 (20.4-26.8)	8.3 (6.3-10.2)	6.8 (5.1-8.6)	2.0 (1.2-2.8)	6.5 (4.2-8.9)
Sexual orientation							
Heterosexual	28 918	66.8 (64.8-68.8)	33.2 (31.2-35.2)	13.2 (12.2-14.2)	10.0 (9.1-11.0)	2.9 (2.5-3.3)	7.1 (6.5-7.6)
LGBTQ[f]	7926	68.6 (66.2-71.1)	31.4 (28.9-33.9)	9.3 (7.8-10.8)	12.1 (10.6-13.7)	2.8 (2.1-3.5)	7.1 (6.0-8.3)
Other	2351	70.9 (67.3-74.5)	29.1 (25.5-32.7)	8.1 (5.9-10.4)	11.0 (8.8-13.2)	2.6 (1.2-3.9)	7.4 (5.5-9.4)

(continued)

Table. Individual and School-Level Characteristics (continued)

Characteristic	Participants, No.	Participants, % (95% CI)[a]					
				Time to access			
		No access (n = 26 886)	Any access (n = 14 204)	<10 min (n = 5311)	10 min to <4 h (n = 4584)	4 to 24 h (n = 1283)	>24 h (n = 3026)
School-level characteristics							
Urbanicity[g]							
City	17 481	71.4 (69.2-73.7)	28.6 (26.3-30.8)	10.4 (9.0-11.8)	8.9 (7.8-10.0)	2.4 (2.1-2.8)	6.8 (6.0-7.6)
Suburb	10 072	67.6 (65.0-70.2)	32.4 (29.8-35.0)	10.8 (9.4-12.2)	10.9 (9.8-11.9)	3.3 (2.6-3.9)	7.5 (6.4-8.6)
Town	7092	61.0 (59.2-62.7)	39.0 (37.3-40.8)	17.2 (15.4-19.0)	12.0 (11.1-12.8)	3.0 (2.3-3.7)	6.9 (6.2-7.6)
Rural	5909	60.2 (55.8-64.7)	39.8 (35.3-44.2)	17.3 (14.8-19.9)	12.9 (10.8-14.9)	2.8 (1.7-3.8)	6.8 (4.9-8.7)
Free and reduced lunch enrollment, %							
<25	19 375	64.7 (62.1-67.4)	35.3 (32.6-37.9)	12.4 (10.8-14.0)	11.6 (10.4-12.8)	3.3 (2.8-3.8)	8.0 (7.2-8.8)
25-75	19 440	69.2 (67.1-71.3)	30.8 (28.7-32.9)	11.7 (10.3-13.0)	9.8 (8.8-10.8)	2.7 (2.3-3.0)	6.6 (5.8-7.5)
>75	2275	71.2 (65.4-77.0)	28.8 (23.0-34.6)	13.1 (9.3-16.9)	8.61 (6.6-10.7)	1.6 (1.2-2.0)	5.5 (4.0-7.0)

[a] Prevalence estimates and 95% CIs are weighted to represent Colorado public middle and high school enrollment.

[b] Includes participants who responded "genderqueer/nonbinary," "I do not know my gender identity (questioning)," or "I have a different identity."

[c] Ascertained by self-report.

[d] Includes students who selected more than 1 response for race and ethnicity.

[e] Includes East or Southeast Asian; Middle Eastern, North African, or Arab; Native Hawaiian or Pacific Islander; South Asian; and other (we could not break "other" down further due to small sample sizes in the subgroups, which would lead to less reliable estimates).

[f] Gay or lesbian, bisexual, asexual, or some other identity ("I am not sure about my sexual identity/questioning").

[g] National Center for Education Statistics.

Results | Of 41 090 middle and high school respondents, 32.3% (95% CI, 30.5%-34.2%) reported any access to a firearm. Of those, over 25% reported access in under 24 hours and 12.1% (95% CI, 11.2%-13.1%) in under 10 minutes (**Table**). A higher proportion of males than females reported access. The highest proportion of access was reported by students who identified as American Indian/Alaska Native (17.5% [95% CI, 14.1%-20.9%] reported access in <10 minutes), followed by those identifying as White or multiracial or multiethnic. Nearly 40% of students living in rural and town settings reported access to firearms, with roughly 17% reporting access in under 10 minutes. Access to firearms was higher in schools with higher enrollment in free and reduced lunch, although the difference was not statistically significant. Differences in access by age and sexual orientation were negligible.

Discussion | Understanding youths' perceptions of access to firearms is essential to reduce access and inform suicide prevention efforts. Given the impulsive nature of suicide,[6] reducing adolescent access to firearms during times of crisis or suicidal ideation is critical. American Indian/Alaska Native youths reported the highest rate of firearm access in under 10 minutes (17.5%) and have the highest rates of suicide,[2] reinforcing need for contextual inquiry to reduce overall access; this is also important for White, male, and rural adolescents, who reported greater firearm access and are at increased risk of suicide.[2]

The proportion of youths who reported quick access to a firearm in this sample is consistent with rates reported in prior research limited to access in gun-owning homes.[4,5] While in-home secure storage is important for reducing adolescent access, it does not prevent all access. Among completed firearm suicides, 23% of youths accessed firearms outside the home.[6] Screening for firearm access and secure storage efforts should address all sources of access. Results from this Colorado study may not be generalizable to other states.

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