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Firearm Violence Exposure and Suicidal Ideation among Young Adults Experiencing Homelessness

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Abstract

Purpose—This study aims to explore the association between direct exposure, indirect exposure, and perpetration of gun violence and suicidal ideation among young adults experiencing homelessness (YAEH).

Methods—YAEH (n=1,426) in 7 cities across the U.S. were surveyed. Logistic regression analyses were conducted to examine the association between lifetime gun violence exposure and suicidal ideation in the past 12 months.

Results—Forty-five percent (n=641) of YAEH had experienced direct or indirect gun violence, while 17 percent (n=247) had engaged in gun violence perpetration. Gun violence perpetration is associated with elevated suicidal ideation risk (*OR*=1.46; *95% CI*=1.02, 2.01) among YAEH.

Conclusions—A high percentage of YAEH were exposed to firearm violence. Cross-sector, multi-agency collaborations are warranted to reduce firearm violence exposure among this

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vulnerable population. Homeless service providers should screen for gun violence exposure and suicide risk and target prevention efforts on YAEH with a history of gun violence perpetration.

Keywords

Homelessness; Youth; Young Adults; Gun Violence; Suicidal Ideation; Victimization; Perpetration

Approximately 3.5 million youth and young adults experience homelessness in the United States.[1] Young adults experiencing homelessness (YAEH) are vulnerable to adverse health outcomes, including suicidal ideation.[2] Indeed, roughly 35% of YAEH acknowledge thinking about suicide in the past year alone.[3]

Exposure to gun violence, including direct victimization, indirect victimization (i.e., witness gun violence), and perpetration, may be associated with an elevated risk of suicidal ideation due to the associated trauma.[4] Given that YAEH in inner cities are living in environments with high rates of victimization and crime,[5,6] they are likely to be exposed to gun violence. Although prior research shows that violence exposure is associated with suicidal ideation among YAEH,[2] the impact of *gun* violence exposure on suicide risk remains unclear. Furthermore, YAEH literature has predominantly focused on violence victimization and largely overlooked the potential role of violence perpetration in suicide risk. This is an important consideration because different types of gun violence exposure may have different effects on suicide risk, which can inform YAEH suicide prevention programming.

Using data collected from YAEH in 7 cities (i.e., Los Angeles, Denver, Houston, Phoenix, New York City, San Jose, and St. Louis) across the U.S., this study aims to explore the association between different types of gun violence exposure (i.e., direct victim of gun violence, witness of gun violence, and perpetration of gun violence) and suicidal ideation.

Method

A computer-assisted self-administered survey of a purposive sample of 1,426 YAEH recruited from homeless service agencies was used to assess sociodemographic information, traumatic experiences, and health outcomes. YAEH independently completed the surveys using the tablets or laptops provided by the study team. We adopted such a data collection method due to the high rate of mobile device ownership among YAEH[7], and the sensitivity of the questions included in the study. The study eligibility criteria included (a) between the ages of 18 and 24 and (b) experiencing homelessness/unstable housing. Participants received $10-$20 gift cards to local YAEH preferred vendors (i.e., Walmart, Kroger, Target, Subway, and Walgreens). IRB approvals were received from each study site. Detailed methodology can be found elsewhere (*blinded for review*).

Measurements

Outcome.—Suicidal ideation is a dichotomous variable based on YAEH's response to the question "At any time in the past 12 months, did you seriously think about trying to kill yourself?", with 1 coded as respondents had thought about suicide in the past 12 months. This question was adapted from an item included in the Youth Risk Behavior Survey[8] developed for population-based assessments.

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Independent Variables.—The three focal independent variables assess different kinds of gun violence exposure, including being a direct victim of gun violence (i.e., been shot at someone with a gun on purpose, which may include experiences of being shot at, and shot by), witnessing gun violence (i.e., seen someone being injured or killed by a gun), and perpetrating gun violence (i.e., shot a gun at another individual). All gun violence exposure variables are dichotomized, with 1=exposed to the corresponding type of violence in lifetime. Informed by YAEH suicide literature,[3,5,6] this study also included other variables such as duration of homelessness, system involvement (i.e., foster care and justice system involvement), trauma exposure (i.e., childhood abuse, neglect, family dysfunction experiences, and street victimization), gang affiliation, and mental health status. Refer to Table 1 for coding.

Control Variables.—Control variables focused on sociodemographic characteristics, including study city, age, gender identity, sexual orientation, race/ethnicity, and education attainment. Refer to Table 1 for coding.

Analysis

Logistic regression analysis was conducted to examine the association between gun violence exposure and suicidal ideation. The final multivariable model included independent variables found to be significant in univariate logistic regression analysis (i.e., $p<0.05$) and all control variables to adjust for demographics. A post hoc descriptive analysis was also conducted to explore the overlap between gun violence perpetration and victimization among YAEH.

Results

As illustrated in Table 1, close to 45 percent (n=641) of YAEH had experienced direct or indirect gun violence, while over 17 percent (n=247) had intentionally fired a gun at another individual. In our post hoc analysis, 196 out of the 247 YAEH (79%) who reported had perpetrated gun violence also experienced gun victimization. The final multivariate analysis results (see Table 2) suggest that when controlling for all other variables, lifetime gun violence perpetration is associated with increased odds of suicidal ideation in the past 12 months (OR=1.46; 95% CI=1.02–2.01). In the study, direct and indirect victimization were not associated with suicidal ideation.

Discussion

Rates of gun victimization and perpetration were alarmingly high among YAEH. It is well-known that victimization is common among YAEH and that YAEH are more likely than their housed peers to experience victimization.[6] However, it is still alarming that 27% of the YAEH in our study reported that someone intentionally fired a gun at them. Additionally, 17% of them had intentionally fired a gun at someone else. This can be contrasted with samples of adults in the general population and young adults in college where rates of *general* violence perpetration were only 5.7% and 1.7%, respectively.[9] From a violence prevention perspective, future research should investigate individual and contextual correlates of firearm perpetration and victimization among this vulnerable population (e.g., how and where to gain gun access) to further guide gun violence prevention efforts.

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Although incidents of discrete gun violence in schools have rightly captured the nation's attention, our results highlight that disenfranchised young people face a more insidious threat. Reducing firearm violence on the streets is a complicated challenge that calls for multi-pronged strategies, which have been effectively implemented in cross-sector, multi-agency collaborations.[10] For example, *Safe Streets* and *Save Our Streets* are violence prevention initiatives that include street outreach workers, media campaigns, and coalition building with diverse community stakeholders (e.g., clergy, law enforcement, community members, etc.).[10]

The other central takeaway from this study was that firearm perpetration but *not* victimization was associated with an elevated risk of suicidal ideation. A robust body of work has linked both violence victimization and perpetration to suicidal risk.[11,12] However, this is the first known work to examine the link between *firearm-specific* violence and suicidal ideation among YAEH. Although prior research has found that engaging in *repetitive* acts of violence can increase risk for suicide-related outcomes,[11] our results highlight that the *type* of violence may be relevant as well. Although we did not gather information about the frequency of firearm perpetration, firing a gun at someone is a particularly violent act that is far more likely to cause serious bodily injury and death. As with bullying and sexual victimization, the initial public and policing reaction is often to punish and ignore the needs of the perpetrator. Doing so does not resolve the issue of gun violence and safety on the streets for YAEH. Moreover, perpetrators of violence can also be victims of violence. In fact, our post hoc analysis suggested that close to 80 percent of YAEH in our study who perpetrated gun violence also had experienced gun violence victimization. Our results suggest that firearm perpetration is a marker for suicide risk and thus should be screened for by providers working with YAEH, including in correctional systems where suicide is a problem.[13] It is difficult to know exactly why we did not observe an effect for firearm victimization, but it may be that many YAEH already endure severe trauma and additional trauma (even related firearm violence) may have a diminished impact on them (e.g., via habituation; resiliency). It is also possible that firearm victimization—to the extent that it elevates acquired capability for suicide—is simply more strongly associated with suicide attempts than suicidal ideation.

Although this is the first study focused on gun violence exposure and suicidal thoughts among YAEH, there are still limitations that deserve attention. Because of the cross-sectional study design, casual inferences cannot be ascertained in the study. Furthermore, all information collected in the study is self-reported by YAEH, which may be subject to recall bias. However, considering gun violence exposure and suicidal thoughts are significant life events, we do not expect such a bias to be prominent. Another limitation is that not all potentially relevant variables were included in the analysis (e.g., non-firearm violence exposure; firearm access, etc.), which carries the risk of omitted variable bias. Despite these limitations, our findings may help inform directions for future research and service provision.

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Abbreviations:

YAEH	young adults experiencing homelessness
GED	graduate education development

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Implications and Contribution

This study examines firearm violence exposure and its link to suicide risk among YAEH. A high rate of firearm violence exposure among YAEH calls for cross-sector, multi-agency collaborations. Firearm perpetration may be a marker for suicide risk among YAEH and should be assessed in this population.

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Table 1.

Descriptive Statistics of Young Adults Experiencing Homelessness Participants (*N*=1,426)

	Mean (*SD*)	*n* (%)
Outcome of Interest		
Past 12 Months Suicidal Ideation		380 (26.7)
Independent and Control Variables		
Demographics		
Study City		
Los Angeles		215 (15.1)
Denver		208 (14.6)
Houston		202 (14.2)
Phoenix		198 (13.9)
New York		208 (14.6)
St. Jose		197 (13.8)
St. Louis		198 (13.9)
Age (in years)	20.9 (2.1)	
Gender Identity		
Male		833 (58.8)
Female		482 (34.0)
Gender Minority		101 (7.1)
Sexual Orientation		
Heterosexual		1018 (71.59)
Sexual Minority		404 (28.41)
Race/Ethnicity		
White		270 (19.0)
Black		531 (37.3)
Latinx		247 (17.4)
Multiracial or Others		376 (26.4)
Education		
High School or GED		986 (69.2)
System Engagement		
Lifetime Foster Care System Engagement		553 (38.9)
Lifetime Correctional System Engagement		846 (59.5)
Lifetime Gang Affiliation		274 (19.2)
Trauma Exposure		
Childhood Abuse Experiences		979 (68.7)
Childhood Neglect Experiences		522 (36.6)
Family Dysfunction Experiences		265 (18.6)
Street Victimization Experiences		1072 (75.2)
Duration of Homelessness		
Lifetime Homelessness At Least 2 Years		436 (30.7)
Mental Health Status		

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	Mean (*SD*)	*n* (%)
Lifetime Mental Illness Diagnosis		848 (59.5)
Gun Violence Exposure		
Lifetime Gun Violence Victimization		388 (27.2)
Lifetime Witness Gun Violence		560 (39.3)
Lifetime Gun Violence Perpetration		247 (17.3)

Note. Independent variables and control variables are coded as follows. Independent variables focused on system engagement, lifetime gang affiliation, trauma exposure, duration of homelessness, mental health status, and gun violence exposure. System involvement variables included lifetime engagement with the justice system (dichotomous; 1=history of arrest/ incarceration) and foster care system (dichotomous; 1=history in foster care). Gang affiliation is a dichotomous variable with 1=history of gang affiliation. Trauma exposure included childhood abuse experiences (dichotomous; 1=history of childhood abuse), childhood neglect experiences (dichotomous; 1=history of childhood neglect), family dysfunction experiences (dichotomous; 1=history of family dysfunction), and street victimization experiences (dichotomous; 1=robbed, threatened, assaulted, or witnessed victimization during homeless). Duration of homelessness is a dichotomous variable, with 1=lifetime homeless duration of at least 2 years. Mental health status is a dichotomous variable with 1=self-reported mental illness diagnosis. Refer to the measurement section for the coding of gun violence exposure. Control variables focused on sociodemographic characteristics, including study cities, age (continuous), race/ethnicity (categorical; 1=White, 2=Black, 3=Latinx, and 4=other or multiracial), gender identity (categorical; 1=male, 2=female, and 3=gender minority, including people who identify as transgender or gender nonconforming), sexual orientation (dichotomous; 1=heterosexual), and education (dichotomous; 1=at least had high school or graduate education development [GED] degree). Independent variables found to be significantly associated with the outcome in univariate logistic regression models ($p<.05$) are childhood abuse experiences, childhood neglect experiences, family dysfunction experiences, street victimization experiences, any mental health diagnosis, and gun violence perpetration. These independent variables, along with all control variables, are thus entered into the final multivariate logistic regression model.

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Table 2.

Multivariable Logistic Regression Analyses of Suicidal Ideation

	OR	95% CI
Independent and Control Variables		
Demographics		
Study Sites (Ref= Los Angeles)		
Denver	1.04	0.65, 1.67
Houston	1.34	0.83, 2.17
Phoenix	0.88	0.53, 1.47
New York	1.39	0.88, 2.21
St. Jose	0.76	0.45, 1.27
St. Louis	0.86	0.50, 1.48
Age	0.98	0.91, 1.04
Gender (Ref =Male)		
Female	1.45*	1.07, 1.96
Gender Minority	2.21**	1.34, 3.62
Sexual Orientation		
Heterosexual	0.66	0.49, 0.88
Race/Ethnicity (ref= White)		
Black	0.55**	0.37, 0.80
Latino	0.76	0.49, 1.18
Mixed/Other	0.86	0.50, 1.05
High School (or Greater) Education	0.86	0.65, 1.15
Trauma Exposure		
Childhood Abuse Experiences	1.31	0.88, 1.94
Childhood Neglect Experiences	1.80**	1.27, 2.56
Family Dysfunction Experiences	1.50	0.94, 2.37
Street Victimization Experiences	1.27	0.87, 1.85
Mental Health Status		
Any Mental Illness Diagnosis	2.00***	1.47, 2.71
Gun Violence Engagement		
Gun Violence Perpetration	1.46*	1.02, 2.01

* p<.05,

** p<.01,

*** p<.001