

Gun violence as a global public health, sociological, and criminal justice crisis: A multi-level research analysis

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Abstract: Gun violence is a global public health, sociological and criminal justice challenge, with individual, community, structural, cultural and policy-level factors interacting in complex ways that contribute to this problem. A multi-level research analysis is given here of gun violence, specifically psychological processes involved in gun related aggression, factors that increase engagement in gun violence, warning signs, consequences, international differences, and strategies for gun violence prevention. Based on empirical research, theoretical analysis, and policy research, the paper reviews the roles of firearms availability, perceived threat, aggression, masculinity and power, mental health vulnerabilities, substance use, social networks and poverty, social disorganization, and cultural acceptance of firearms. There is evidence that firearm availability may make fights more lethal and suicidal behavior and social networks and structural disadvantage may lead to the focus and spread of violence. This relationship, however, is not consistent across studies and is dependent on context and causality, however, so it is important to conduct studies that are both causal and context-sensitive. There also is significant variation in firearm violence across the countries, with the United States having the most civilian firearm ownership and the highest rate of mass shooting and other episodes of firearm violence and countries like the United Kingdom and Canada having much lower rates of civilian firearm ownership and firearm homicides. Key elements of prevention identified in the analysis include threat assessment, safe storage of firearms, child access prevention, domestic-violence firearm restrictions, background checks, improved enforcement, violence-interruption programmers, and enhanced public-health research. Gun violence demands a comprehensive approach, not a single intervention, and should involve a broader framework of public health, criminal justice, community engagement, social policy and sensible firearm laws. Future studies should focus on longitudinal designs, impact assessment of firearm policies, more accurate measurement of rare events, cross-national comparisons of the effectiveness of firearm prevention programs and evidence-based firearm prevention frameworks, the paper concludes.

Keywords: gun violence, firearm availability, gun control, gun culture, mass shootings, school safety, threat assessment

1. INTRODUCTION

Stroebe (2016) presents the data of about 32,000-gun deaths per year in the United States, with a homicide rate of 4.7 per 100,000 in 2012, which is compared to 1.03 per 100,000 in the United Kingdom and 0.8 per 100,000 in Germany, in addition to 19,766 suicides and 11,109 homicides among which guns have played a role in 2011. In 1983 to 2013, the United States had 78 mass shootings, twice as many as the other 24 countries in his sample combined. Those who support tougher gun control measures say that guns are available, and that's why these deaths occur; gun rights advocates say that guns detain crime and provide self-defense opportunities. Guns are more often used to threaten and intimidate than to defend, and most users who reported using guns in self-defense were judged by criminal court judges to be probably illegally using them for self-defense (Hemenway, Azrael, & Miller, 2000).

Threat assessment is suggested as a response and most mass shooters provide some warning beforehand (Eadens et al.). Among Stroebe's (2016) and Lemieux's (2014) analyses, gun ownership has been linked to an increase in firearm death rates in more than half of the studies, and to no net increase in most types of violence in Kleck and Patterson's (1993) analysis. Lower firearm death rates are correlated with restrictive gun laws in Lemieux's (2014) state and country models, and Kleck and Patterson (1993) find that most individual gun laws have no net effect after controlling for other factors. This paper synthesizes these findings through the lens of the original research questions: the psychology of gun violence, why individuals engage in gun violence, warning signs, the impact of gun violence, cross-country comparison, and what society, government, and scholars can do.

2. PSYCHOLOGY BEHIND GUN VIOLENCE

2.1. Cognitive Priming and Aggression

Stroebe (2016) notes that the appearance of a gun is associated with aggression in the minds of most people, and can lead to a greater perception of hostility in an altercation, which is known as the weapons effect. He says in the angry participants, when they saw a gun more easily accessible, more aggressive words were selected, and when a gun was held for 15 minutes, it increased the testosterone level in the male participants and later aggression was increased. This priming, he adds, is likely to be most important in situations where there is

anger or conflict, and perhaps also alcohol — because murder is a far more serious act than aggression measured in such experiments.

2.2. Perceived Threat and Hypervigilance

Stroebe (2016) reports that more than half of American gun owners cite self-defense as their reason for owning a gun. He examines case-control studies and finds none that suggest guns reduce homicide victimization and finds tentative evidence that guns increase homicide victimization; a meta-analysis he mentions found an odds ratio of around 2 for homicide victimization among those who could access a gun. He also says that in one study done as a case-control study, people who had guns when an assault occurred were a few times more likely to get shot than people who didn't have a gun during the assault (but cautions that this study had an “imperfect” control group).

2.3. Masculinity, Power, and Identity

In a state-level regression across the 50 U.S. states, Lemieux (2014) determined that the Southern "gun culture" region was the best predictor of the firearm murder rate ($B = 1.52$, $p < .01$) than poverty and urbanization, and a weaker but non-significant predictor of total firearm deaths. He thinks that gun control laws have a wider impact in reducing suicides and accidents, and killings using guns are more likely to happen in a culture that allows people to use guns or deadly force for protection or settling quarrels. From the studies that he has studied, Lemieux also finds that American men tend to see handguns as tools of power, while females tend to see handguns as a cause of fear, and that young Americans' opinions of the right to bear arms and their views on liberty are associated with owning a handgun.

2.4. Mental Health Vulnerabilities

A study by Lemieux (2014) of 73 mass shootings revealed that 56 percent of the victims were mentally ill prior to the shooting. He noted, however, that there was no correlation between the number of victims, number of weapons used and outcome for the shooter and that no evidence was found in a report of any of the shooters studied having legal barriers to gun ownership based on mental health issues. He also says that most mass shooters did it alone and were socially isolated, and that there were less cases where signs of this were present like domestic violence history or severe divorce/custody issues. Nearly all post-Columbine school attackers and thwarted plotters were retaliating against being bullied, humiliated or treated as

an outcast by higher status peers, suggesting a stronger connection between grievance and isolation and school violence than mental illness alone, report Eadens et al.

2.5. Social Network Influence

Green, Horel, and Papachristos (2017) used data from an 8-year period (2006-2014) of arrests and gunshots in Chicago, a social network of 138,163 individuals, to show that 63 percent of all gunshots could be statistically explained by social contagion: A victim was likely to be shot approximately 125 days after being exposed to gunshots by their “infector,” another individual in the network. In a previous report, the same lead author found that 41 percent of homicide victims in one neighborhood in Chicago were caught in a small part of the neighborhood social network and that the likelihood of being killed increased sharply with the social proximity of other homicide victims. The fact that these findings are consistent with gun violence being contagious and not occurring randomly, case by case, in high-violence urban networks validates the idea of targeting gun violence as a social problem.

2.6. Structural Stressors

According to Stroebe (2016), the structural factors that are found in the criminological literature that lead to homicide are resource deprivation, racial heterogeneity, social disintegration, and the percentage of young people in a population. In addition to urbanization, Lemieux (2014) determined that poverty was a significant predictor of firearm murder in his 50-state model, and a significant predictor of total firearm deaths. In a study of 120 counties in the United States, reviewed by Wendt (2014), population density, income inequality, unemployment, and alcoholism were found to be related to higher rates of homicide, while fewer whites, lower rates of unemployment, and higher rates of alcoholism were related to higher rates of aggravated assaults.

3. WHY PEOPLE GET INVOLVED IN GUN VIOLENCE

A. Individual-Level Factors

- **Substance use:** According to Stroebe (2016), those who own guns tend to be heavy drinkers, and heavy drinkers tend to want a concealed-carry license. He also claims that the gun-carriers were more likely to exhibit road-rage behavior like obscene gestures.
- **Anger and impulsivity:** Stroebe (2016) makes the distinction between premeditated murder versus killing in the "heat of passion" and suggests that it is this ready access to a gun during a heated, often boisterous and alcohol-fueled, argument that makes the argument deadly.
- **Fear of victimization:** Stroebe (2016) found that over half of gun owners in the United States report owning a gun for self-defense; and that for every 10 percent increase in gun ownership, there was a 2.14 percent increase in gun homicide the following year, compared to a 2.14 percent increase in gun ownership for a 10 percent increase in gun homicide the following year.
- **Mental illness:** In 56 percent of 73 mass shooting cases (see Section I.4), signs of mental illness were identified prior to the incident committed by the shooter (Lemieux, 2014).
- **Criminal intent:** In the Polish study of illegal weapon possession reviewed by Wendt (2014), the most common reason why people had illegal guns was to use them in another crime, specifically homicide, robbery or assault, and the most common group of gunmen were large city males between the ages of 21 and 40.

B. Community-Level Factors

- **Gun availability:** Stroebe (2016) finds that more guns are linked to higher homicide rates, and he does not find any evidence of a protective effect related to gun ownership. Lemieux (2014) reported the almost perfect correlation of gun ownership with firearm death rates in 25 countries ($r = .90$). Kleck and Patterson (1993), however, did not see the general net positive impact of gun prevalence on overall rates of violence in 170 U.S. cities (except for suicide).

- **Guns are accepted in the culture.** Lemieux (2014) found the Southern U.S. region to be the strongest predictor of firearm murder rates in his state model.
- **Social disorganization.** Structural-determinants literature indicates that the social disintegration-inequality association and population density-inequality association were found to be associated with increased homicide rates by Stroebe (2016) and Wendt (2014), respectively.

C. Structural-Level Factors

- **Economic deprivation.** Across the U.S. states, poverty was a strong predictor of firearm murder ($B = 0.31, p < .01$), and total firearm deaths ($B = 0.36, p = .03$) found by Lemieux (2014).
- **Demographic composition.** The state with the highest violent crime rate in the three states studied, Arizona, had a higher density and diversity of residents than the other two studied states (56.3 persons per square mile vs. 19 in Idaho; 30.2 percent Hispanic or **Latino** vs. 11.6 percent in Idaho), and, based on the pattern of states, Wendt (2014) suggests, without undertaking an explicit test, that these factors may help account for Arizona's higher violent crime rate.

D. Global Patterns

Lemieux (2014) analyzed patterns of cross-nationality for 25 developed countries. When gun ownership level is included, his proxy measures of "gun culture" (military spending and spending on gun-themed films) were statistically significant predictors of gun ownership level, but not of firearm death rates, in the regression explaining 77 percent of the variance in firearm death rates. There was a correlation between mass shootings and gun ownership across these countries ($r = .75, p < .01$; excluding the United States the correlation dropped to $r = .39, p < .05$).

4. WARNING SIGNS OF POTENTIAL GUN VIOLENCE

Behavioral Indicators

- **Social withdrawal / isolation:** Lemieux (2014) reports that most mass shooters acted alone and were socially isolated. Obsession with previous shooters. Some attackers

revere the previous shooter, talk about them by name and, in some instances, make their attacks on the anniversary of Columbine and/or to out-do the number of casualties at that event.

- **Domestic violence history:** Smaller than the percentage of those who had a history of mental illness, but also a factor, was a history of domestic violence or an intense divorce or custody dispute among a share of the 73 mass shooters Lemieux (2014) studied.
- **Grievance from bullying:** According to Eadens et al., the majority of the post-Columbine school shooters were responding to “bullies, humiliating treatment, or outcast status.”

Digital Indicators

Eadens et al. report that prospective attackers occasionally post grievances or plans on social media, and suggest that schools use social media as part of a threat assessment.

Situational Indicators

- **Access to firearms:** Two or more weapons (present in 59% of 73 cases) correlated with more total victims ($r = .30, p < .01$), more deaths ($r = .28, p < .05$), and more injuries ($r = .23, p < .05$); 76% of the weapons were legal.

- **Recent humiliation:** Eadens et al. note that most school attacks are correlated with a recent (within the past few days or weeks) incident of bullying or humiliation (see Behavioral Indicators above). Threat Assessment is the process of identifying, evaluating and intervening, describes Eadens et al. (2002); someone notices that a student seems troubling; a team reviews background, circumstances and access to weapons; professionals intervene with counselling or more restrictive action, if violence seems imminent. Researchers found that a "leakage" where a would-be attacker reveals a plan of attack to others in advance of the attack, and grievance stories against specific schoolmates or the school itself, were recurring themes in school attacks, they report.

5. POST-INCIDENT PSYCHOLOGICAL IMPACT ON PERPETRATORS

A. Immediate Effects

According to Lemieux (2014) all 73 mass shootings had perpetrator outcomes: 52% jumped off the bridge and killed themselves, 17% were killed by police, 30% were arrested, and in one case an unarmed bystander physically stopped the shooter. He found that most of the time the severity of the punishment doesn't matter to shooters who are willing to die in the attack.

B. Long-Term Effects (for surviving perpetrators)

They were able to establish that published studies focus on victims and communities, not survivors of the perpetrators. A review of 49 peer-reviewed studies of 15 mass shootings by Lowe and Galea revealed that survivors and community members often experience higher levels of post-traumatic stress, depression, and anxiety due to their exposure to the shootings as well as the social environment. Abba-Aji et al. (2024) surveyed 177 adults who were both witnesses and survivors of the 2017 Las Vegas shooting, and identified low social support (reported by 49.7 percent of the sample) as a risk factor for depression and PTSD amongst the adults. The results presented are for victims and bystanders, not perpetrators. There was no peer-reviewed study identified that examined outcomes of PTSD, depression, remorse or prison adjustment specifically for mass-shooting/gun-violence perpetrators who survived their attack, so this is a real gap in the published literature.

C. Community Impact

Eadens et al. say that school shootings disrupt learning and frighten other kids in schools of other places that the same may happen to them.

Following Sandy Hook, according to Stroebe (2016), three states enacted tougher gun laws, many other states made their laws loosen, and both bills on universal background checks and an assault weapons ban were voted down in Congress.

Eadens et al. report that the Columbine shooting prompted dozens of other plots or attacks in many states, most of which were thwarted by law enforcement officers before anyone was injured, and cites a "copycat" or "Columbine effect" when it comes to school shootings.

6. WHY GUN VIOLENCE IS SO HIGH IN THE U.S., INDIA, PAKISTAN, BANGLADESH, MEXICO, UK and CANADA

United States

According to Stroebe (2016), America has an estimated 270-310 million privately owned guns, and 33.1-42% of households own a gun—making Americans by far the most armed civilian population in the world, with nearly twice the rate of Yemen whose rate is 54.8. According to Lemieux (2014), the United States experienced 78 mass shootings in its 32 years compared to 41 in all the other 24 developed countries combined between 1983 and 2013, and he noted that the United States and Mexico are the only two countries with a constitution that guarantees right to bear a weapon. Stroebe (2016) also states that in the United States, there is no comprehensive federal gun registry, private sales are not required to have background checks, and federal funding for research on gun-injury was limited between 1996.

India

India has the second highest rate of homicides in the world, criminal violence causes at least ten times the deaths and injuries as terrorism and armed conflict, and the issue is focused in the rapidly growing mid-size cities with under-resourced police forces and increasing youth unemployment, says Muggah and Gupte (2024) in a briefing to the Institute of Development Studies. According to Acharya and Karp, in a Small Arms Survey brief, India's national homicide rate is not significantly higher than the international average, but that average masks significant differences, with the north, the northeast and areas affected by a Maoist movement

having a higher rate of armed violence than the rest of the country. The Wire reported on a related Homicide Monitor analysis, which showed that Manipur, Nagaland, Bihar, Jharkhand, Jammu and Kashmir and Uttar Pradesh combined registered over 60 percent of the cases of firearm homicides in India.

Pakistan

According to Pakistan Observer, Small Arms Survey estimates that Pakistan has approximately 44 million privately owned guns, with roughly 6 million of those registered, resulting in approximately 22.3 guns per every 100 inhabitants and Pakistan is the fourth country with the highest civilian gun ownership in the world. A forensic study of gunshot deaths in District Barkhan, Balochistan, from 2007 to 2010 (Munawar et al., 2014) reported 268 cases, 98.5 percent of which involved male victims, aged 31–40, and which were most commonly due to old hostilities or feuds (97.1 percent), but also included 97.1 percent of accidental deaths and 0.75 percent suicides. The authors cite tribal custom and lax enforcement of firearm licensing as a reason for this trend.

Bangladesh

According to the information of the Human Rights Support Society (HRSS) reported by The Daily Star, at least 11,229 people were injured and 195 killed in political violence across the country during the 17-month period between September 2024 and January 2026. Of the 5,753 guns seized from police stations, outposts and vehicles during the unrest in August 2024, over 1,300 are yet to be recovered more than a year later, and police sources say that illegal guns were smuggled into the country through over 30 points on the borders with India and Myanmar, and then used in subsequent targeted killings and political clashes.

Mexico

According to Lemieux (2014), the Constitution of the United States and the constitution of Mexico are the only two countries that expressly provide for a right to bear arms. According to LatAm Rob, the Stop US Arms to Mexico organization estimates that the Mexican government had over 214,000-gun homicides in the country from 2010 to 2022, accounting for over two out of every three homicides in Mexico. According to U.S. federal trace data cited in a report released by the Center for American Progress, approximately 70 percent of the roughly 106,001 guns recovered at Mexican crime scenes and submitted for trace between

2011 and 2016 originated from the United States, and that on average, guns traced to the United States were used in a crime in the Americas approximately once every 31 minutes from 2014 to 2016. Even though Mexico's own gun laws are fairly strict, the percentage of Mexican homicides solved by firearms went up from approximately 15 percent in 1997 to around 66 percent in 2017, the same report found.

UK & Canada

In a policy analysis of English gun laws, however, Wendt (2014) finds that handgun crimes rose by more than double in the years immediately following the ban on handguns in 1997, and that the murder rate in England appears to have been converging on the United States' rate during the period analyzed despite the United States' decreasing rate. In other words, the rate of handguns in England, where the rate is extremely low, is rising. Wendt (2014) found that approximately 22 percent of Canadian households were owned by an individual who has a firearm versus 38 percent of U.S. households, and that the homicide rate in the U.S. is approximately three times that of Canada.

7. WHAT SOCIETY CAN DO TO STOP GUN VIOLENCE

A. Community-Level Strategies

Stroebe (2016) suggests that a public-health campaign, similar to those used to reduce cigarette smoking, should be designed to change the attitudes of gun owners who have a gun in their home for self-protection; the arguments include that gun owners will be at a higher risk of being murdered, at a higher risk of committing suicide by gun, a gun in the home will endanger other household members, and the risk of accidental shooting is greater where a gun is located. In a poll conducted in December 2013, he says that an overwhelming 85 percent said they wanted all purchasers to be subject to background checks, and that was the case regardless of political party.

B. School-Level Strategies

Eadens et al. suggest allocating limited school resources to counsellors and threat assessment teams, and to a reporting culture in which students and staff are provided with safe avenues to raise concerns, instead of to armed guards and additional fortification. They also report survey results from Mississippi: Out of 600 principals contacted, 92 responded (15.3 percent) and

94.6 percent of those who did express a sense of safety in their school, 83.7 percent said the school was safe from gun violence, and 60.9 percent opposed allowing licensed teachers to have a gun in school for emergencies.

C. Family-Level Strategies

Based on the data from FBI homicides from 1985 to 2013, Anderson, Sabia and Tekin (2021) reported that state child access prevention (CAP) laws were linked to a 17 to 19 percent decrease in juvenile-fired firearm homicides, but not to any measurable impact on adult-fired or non-firearm homicides, concluding that the data suggest a causal access-restricting effect. A RAND Corporation study of 13 types of gun laws determined that the laws were consistently the most effective of all, and the most stringent package of CAP, no right-to-carry, and no stand-your-ground laws was linked to an 11 percent decrease in firearm deaths over 30 years. According to a study published in the Journal of the American Academy of Child and Adolescent Psychiatry in 2024, CAP laws were correlated with lower rates of youth firearm suicide, unintentional firearm death, and firearm homicide rates among ages 1–17 but no such correlation was found for laws that only came into effect after the children had already had access to firearms. Laws mandating that the domestic abuser under a restraining order surrender their gun were linked to a 9 to 12 percent drop in intimate partner homicide, while laws prohibiting all people who have been convicted of a violent misdemeanor from possessing a gun were associated with a 23 percent reduction, noted Zeoli, McCourt, Buggs, Frattaroli, Lilley, and Webster (2018) in their analysis of data from 45 U.S. states from 1980 to 2013. No other source was identified for parenting support programs as a separate intervention for gun violence.

8. WHAT GOVERNMENTS MUST DO

A. Public Health Approach

Since 1996, U.S. law has prohibited using CDC injury prevention funds to "advocate or promote" gun control, which was expanded to the Department of Health and Human Services in 2011 (Lemieux 2014; Stroebe 2016). These restrictions have helped to stifle the development and testing of effective gun-violence prevention strategies, argues Stroebe and suggests that the funding of gun-violence research should be reinstated.

B. Criminal Justice Approach

Table 1. Findings and recommendations on specific legal measures

Measure	What the sources report
Universal background checks	According to Stroebe (2016), 85 percent of the public supports the move in a December 2013 poll. Buyer licensing or permit requirements were one of the measures tested that Kleck and Patterson (1993) discovered to have support.
Licensing and registration	Stroebe (2016) suggests a federally mandated gun registration system where guns are compulsorily registered but not infringed on Second Amendment rights, which would be helpful in getting guns off the hands of prohibited individuals and prevent straw purchases. In the city level models, Kleck and Patterson (1993) did not find registration or waiting periods to have a significant impact on violence rates.
Safe storage laws	A RAND review of 13 law categories studied found all child access prevention laws to be the most effective laws, and Anderson, Sabia, & Tekin (2021) discovered that child access prevention laws were related to a 17-19% reduction in juvenile firearm homicide.
Ban on high-capacity magazines / assault-style weapons	In the 1994-2004 period of the federal assault weapons ban, mass shootings did not decrease significantly from the 2.61 that occurred per year on average between 1993 and 1999, nor did the number of victims significantly drop from the average of 43.42 per year during 1991-1993 and 1994-1998 to the average of 23.50 during 1994-

	2004. He also determined that the number of weapons carried on board was the best predictor of casualties and not the type of weapon.
Enforcement of trafficking laws	Trafficking in firearms across the border from the United States is a relevant gap given that approximately 70% of the weapons recovered in Mexico from 2011 to 2016 used to be in the U.S. (U.S. federal trace data cited by the Center for American Progress).
Domestic-violence firearm prohibitions	Lemieux (2014) does not assess prohibition laws, and only mentions a domestic violence history with some mass shooters. Whereas, Zeoli et al. (2018) showed that any firearm-relinquishment requirement for a domestic violence restraining order was correlated with a 9-12% decrease in intimate partner homicide, and that any prohibition on owning any violent misdemeanor was correlated with a 23% decrease.
Dealer licensing / illegal carrying controls	Kleck and Patterson (1993) identified various measures in their models as having supporting evidence, including stricter local dealer licensing and controls on illegal carrying.

C. Sociological Approach

In his state-level models (Lemieux 2014) poverty was a strong predictor of firearm violence. However, he does not test this directly as a policy intervention; instead, he argues that reducing economic deprivation might be relevant in reducing firearm violence (C).

D. International Cooperation

The trafficking data in Section V (Mexico) — 70 percent of Mexico crime-scene guns traced to U.S. origin and one crime-scene gun used every 31 minutes across the Americas using U.S.-sourced guns (Center for American Progress, using ATF trace data) — suggests the importance of U.S.-Mexico collaboration in arms-trafficking enforcement.

9. WHAT SCHOLARS CAN DO

A. Research

Kleck and Patterson (1993) compared 19 gun-law measures with several types of violence in 170 cities, and found 7 gun-law measures to have good supporting evidence, 11 to have partial supporting evidence, and most to have no net effect. They point to the fact that laws are usually passed when violence has already reached a high point, meaning that it's often not easy to compare them before and after, and to the fact that their model would not explain the degree of adherence to each law.

As mentioned above, by focusing on cross-sectional associations, Stroebe (2016) suggests they leave the possibility of reverse causation, namely that the fear of crime also leads to gun purchases, which is explored in Duggan's lagged analysis in Section II.A, as evidence that the impact of guns on homicide is the stronger of the two impacts.

Hemenway et al. (2000) warn that the results of their own survey should not be translated into absolute national numbers because even a small misclassification rate could cause the results to differ by many orders of magnitude, and indicate that the sample was not representative of poorer families.

Lemieux (2014) suggests that a cross-state correlation that finds more mass shootings in states with stronger laws probably results from reverse causation, as legislatures are more likely to enact more stringent laws following mass shootings than enacting laws which trigger more mass shootings; he suggests that this question should be addressed using time-based analysis instead of cross-sectional comparison. Wendt (2014) also suggests monitoring states' results after implementing new policies.

B. Advocacy

Stroebe (2016) points out that U.S. public opinion is more favorable than the legislative record indicates toward certain measures (e.g., background checks) and that this disconnect between public opinion and policy is not a public opinion problem, but rather a political communication and/or organized lobbying problem.

C. Innovation

Eadens et al. suggest a change from a reactive approach to fortifying schools to a proactive threat assessment approach and advocate for the development of a school-based team that includes educators, mental health professionals and, if appropriate, law enforcement. As mentioned in Section 1.5, the social-network model of gun violence in Chicago by Green, Horel and Papachristos (2017) identified high-risk individuals through their arrest and co-offending networks, not by individual risk factors alone; the Cure Violence program referenced in their study has been implemented in numerous cities and has been documented to cause large reductions in local violence through its direct interventions at points of network “contagion” (e.g., immediately after a shooting) in those cities, as cited in the reporting above.

10. A GLOBAL MULTI-LEVEL PREVENTION FRAMEWORK

However, Lemieux (2014) and Stroebe (2016) tie gun availability and permissive laws to an increase in firearm deaths, and Kleck and Patterson (1993) report no overall association between gun prevalence and most types of violence, and no overall association for the majority of individual gun laws.

Structural Level

Address poverty, as it was a key factor in Lemieux's (2014) state-level models in predicting firearm murder and total firearm deaths.

Community Level

The public-health culture-change campaign recommended by Stroebe (2016) to gun owners who keep guns for self-protection is supported by social-network research (Green, Horel, & Papachristos, 2017) that argues that interventions should be directly with those who are most socially exposed to recent shootings. No other source was found specifically explaining the use of trauma-informed care models as a gun-violence intervention.

Individual Level

Minimize access to guns during acute crisis, as Stroebe (2016) concludes that it is during impulsive, alcohol-involved conflict, and when impulsive suicide attempts occur that immediate access to a gun most influences the outcome. Monitor for signs mentioned in Section III, such as leakage and grievance stories (Eadens et al.) and the presence of several firearms (Lemieux, 2014).

Firearm Policy Level

It offers some support for universal background checks, for licensing, and for dealer licensing (Stroebe, 2016; Kleck & Patterson, 1993), and finds some evidence for capacity limits on weapons (Lemieux, 2014). Stroebe (2016) recommends federal registration but Kleck and Patterson (1993) had no measure of its impact on violence. There are sources that support safe storage (child access prevention) laws and domestic-violence firearm-relinquishment laws, as summarized in Table 1 (Anderson, Sabia, & Tekin, 2021; RAND Corporation; Zeoli et al., 2018).

11. CONCLUSION

Gun violence is a multi-dimensional public health, sociological and criminal justice issue with psychological, social, economic, cultural and regulatory components. Firearm availability, interpersonal conflict, social isolation, use of drugs or alcohol, social networks, poverty, and cultural attitudes may interact and all play a role in the potential for firearm-related violence to occur and be severe. Large country-to-country variations also illustrate how gun violence is influenced by local social environments, access to guns, criminal networks and regulatory systems.

The results justify a multi-layered strategy in which responsible firearm regulation and background checks, safe storage, child access prevention, domestic-violence firearm restrictions, threat assessment in schools, community violence intervention, and stricter enforcement of illegal firearm trafficking are all active. The impact of the individual policies, however, is different in different contexts, making it necessary to have evidence-based and locally appropriate interventions.

Longitudinal and causal studies, better measurement of rare events, cross-national comparisons, and long-term impacts of gun violence on communities and surviving perpetrators are worthy of further study. Preventing gun violence needs to be a collective effort, not just public health, but public health, criminal justice, psychology, sociology, education and social policy.

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