
The Role of Social Capital in Preventing Mass Public Shootings

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EXECUTIVE SUMMARY

The United States is unique in our Second Amendment right to keep and bear arms. This right and the resulting hundreds of millions of guns already in circulation in the U.S. necessitate a more nuanced dialog that appreciates the role of social capital in mass public shootings—particularly the effects of community, family, and work. A mass public shooting—four or more victims, not the result of an underlying crime—is an attack on the public places where Americans gather for worship, education, and work.

Key Points

- Mass public shootings are relatively rare, accounting for approximately 1 in 200 homicides in 2017, the deadliest year on record for mass public shootings. In 2020, they accounted for 1 in 2,500 homicides.
- Individuals who commit mass public shootings tend to be disconnected from their communities, not employed, and suffer from trauma during difficult childhoods, which each make coping with stressful situations more challenging.
- Violence Project data show that 72 percent of mass shooters are suicidal either immediately before the attack or intended to die as part of the attack.
- Almost all the increase in mass public shootings since 1990 can be attributed to increased suicidality among shooters, a trend that is also present in the general population.

INTRODUCTION

The United States is unique in our Second Amendment right to keep and bear arms. This right and the resulting hundreds of millions of guns already in circulation in the U.S., necessitates a more nuanced dialog about what can be done to address mass public shootings. After several horrific mass shootings this year, Congress passed a series of reforms that will make it more difficult for some individuals to legally obtain a firearm and expands funding for related mental health services. The focus on restricting access to guns risks losing sight of the underlying causes of these acts of mass violence. Towards this aim, this report investigates the underappreciated role of social capital in mass public shootings—particularly the effects of community, family, and work.

Mass public shootings (and instances of mass public violence more broadly) are attacks on America’s centers of social capital, public places where Americans gather for worship, education, work, and other shared activities. These shootings are also perpetrated by people who lack their own connections to community and social support. Using the Violence Project Mass Shooting Database, we find that 71 percent of mass public shooters are disconnected from community, 35 percent have childhood trauma, and 72 percent are suicidal, suggesting that some of the same forces driving increased suicides are also driving mass shootings.¹

In light of these results, any discussion of mass public shootings that does not seriously contend with the underlying social causes of these horrific events will fall short of meaningfully reducing instances of mass public violence. A renewed focus on cultivating vibrant, inclusive communities and healthy, loving families could help lower the probability any given individual will choose mass violence and increase the probability someone close to the would-be shooter could successfully intervene.

This report specifically investigates mass public shootings—defined as a public shooting of four or more people that is not a result of other underlying crime. Mass public shootings have increased over time, rising from an average of 2 per year from 1966 through 1990, to an average of 6 shootings per year in the last decade (2012-2021). In their deadliest year

¹ Jillian Peterson and James Densley, “Mass Shooting Database Version 5,” The Violence Project, 2022, <https://www.theviolenceproject.org/mass-shooter-database/>; JEC Calculations.

(2017), mass public shootings still comprised a small, 0.54 percent of all homicides.²

This report proceeds by discussing evidence on individual-level characteristics of mass public shooters, covering community involvement, connection to work, childhood trauma, and suicidality. It then discusses how mass public shootings fit into the fuller context of violence overall, and finally, concludes.

INDIVIDUAL-LEVEL SOCIAL CAPITAL AND MASS PUBLIC SHOOTERS

An individual's personal relationships, community connections, and upbringing can have a direct effect on the probability he will engage in mass violence. James Alan Fox and Jack Levin, criminal behavior researchers, find that virtually all mass murderers lack emotional support from family and friends.³ Declining prevalence of shared communities and the related rise in suicidal tendencies can help explain part of the rise in mass public shootings.

Using Version 5 of the Violence Project's Mass Shooter Database, this section uses detailed information on the perpetrators of mass public shootings to investigate their family structure, childhood experiences, community involvement, employment status, and suicidality. The data include 181 mass shooters in the U.S. from 1966-2022 (last updated May 2022), an average of 3 shootings each year. The counted shootings include those that are associated with a public location, have four or more victims, and are not the result of criminal activity or other commonplace circumstances.⁴

² Peterson and Densley, "Mass Shooting Database Version 5," Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System, Underlying Cause of Death 1999-2020 on CDC WONDER Online Database, released in 2021, Multiple Cause of Death Files, 1999-2020, <http://wonder.cdc.gov/ucd-icd10.html>; JEC Calculations.

³ James Alan Fox and Jack Levin, *Extreme Killing: Understanding Serial and Mass Murder* (Los Angeles, Thousand Oaks, California: Sage Publications, 2015).

⁴ The technical definition comes from the Congressional Research Service and defines mass public shootings as, "a multiple homicide incident in which four or more victims are murdered with firearms—not including the offender(s)—within one event, and at least some of the murders occurred in a public location or locations in close geographical proximity (e.g., a workplace, school, restaurant, or other public settings), and the murders are not attributable to any other underlying criminal activity or commonplace circumstance (armed robbery, criminal competition, insurance fraud, argument, or romantic triangle)." William J. Krouse and Daniel Richardson, "Mass Murder with Firearms: Incidents and Victims, 1999-2013," Congressional Research Service, 2015, <https://sgp.fas.org/crs/misc/R44126.pdf>; Peterson and Densley, "Mass Shooting Database Version 5," JEC Calculations.

Our analysis of the data from the Mass Shooter Database confirms findings from criminology, sociology, and psychology literature that unhealthy childhoods, significant trauma, lack of community, and disconnection from employment are common among mass shooters. Each of these factors together increase the likelihood of suicidal tendencies, and in extreme cases, engagement in mass public shootings.

Family, Childhood, and Mental Health

Family and modeled behavior during childhood are important determinants of an individual's mental health and can shape how someone reacts in periods of high emotional distress.⁵ Trauma from inter-family violence, general instability, or neglect can leave children to develop unhealthy coping mechanisms or push them into a cycle of isolation later in life. Psychiatric research, including work done by the Department of Health and Human Services and the Secret Service, suggests a strong link between mass violent acts and the environment in which individuals grow up, especially through the channel of developmental brain chemistry.⁶

The literature largely focuses on adverse childhood experiences (ACEs) including, domestic violence, sexual abuse, neglect, parental death or suicide, bullying and other experiences that can result in trauma. Among mass public shooters, 35 percent experienced significant childhood trauma and 48 percent have experienced significant trauma at any point, as an adult or a child. A comparable rate of significant childhood trauma (four or more ACEs) in the general population is 16 percent, about half the rate among mass shooters.⁷

Nationally, the most common ACE is divorce which is reflected in the perpetrator data with 14 percent of shooters (since 2000) growing up in

⁵ Michael J. Meaney and Moshe Szyf, "Environmental Programming of Stress Responses through DNA Methylation: Life at the Interface Between a Dynamic Environment and a Fixed Genome," *Dialogues Clin Neurosci*, 7(2) 2005:103-23, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3181727/>.

⁶ Tania Josiane Bosqui, Ciarán Shannon, Bridget Tiernan, Nicola Beattie, John Ferguson, and Ciaran Mulholland, "Childhood Trauma and the Risk of Violence in Adulthood in a Population with a Psychotic Illness," *Journal of Psychiatric Research*, 54, 2014, 121-125, <https://pubmed.ncbi.nlm.nih.gov/24694670/>; Bryan Vossekuil, Robert A. Fein, Marisa Reddy, Randy Borum, and William Modzeleski, "The Final Report and Findings of the Safe School Initiative: Implications for the Prevention of School Attacks in the United States," U.S. Secret Service, 2002, <https://www.ojp.gov/ncjrs/virtual-library/abstracts/final-report-and-findings-safe-school-initiative-implications>.

⁷ "Adverse Childhood Experiences (ACEs)," Centers for Disease Control and Prevention, November 5, 2019, <https://www.cdc.gov/vitalsigns/aces/index.html>.

a single-parent home and 26 percent being a child of divorce. In the general population, 23 percent of U.S. children were raised by a single parent in 2021 and 25 percent of children will experience a divorce by their parents.⁸ While mass public shooters are no more likely to grow up in broken homes, higher rates of criminal involvement in general, including violent crime, are closely associated with growing up in a single-parent home. This result is confirmed by a wide range of studies but measuring the causal effect of family structure with certainty is difficult in the absence of compelling counterfactuals.⁹

It seems that experiencing trauma-inducing events—of which family stability and structure is one component—is an important factor in mass public shooter’s histories. The presence of domestic violence, drug use, and physical or emotional abuse can all contribute to the development of an individual without the proper mechanisms to deal with intense emotions and isolation. In 65 percent of cases of mass public shootings (for which data are available), the perpetrator experienced a social stressor that they were unable to handle—trouble with a romantic partner or employment, perceived failure at school, or loss of a loved one.¹⁰ Individuals who do not experience significant trauma and grow up in a loving, two-parent home tend to be better equipped to manage life’s challenges.¹¹

⁸ Due to changing rates of single-parent families and divorce, we restrict the population to after 2000 for a more comparable sample. Stephanie Kramer, “U.S. Has World’s Highest Rate of Children Living in Single-Parent Households,” Pew Research Center, December 12, 2019, <https://www.pewresearch.org/fact-tank/2019/12/12/u-s-children-more-likely-than-children-in-other-countries-to-live-with-just-one-parent/>; Vanessa Sacks and David Murphey, “The Prevalence of Adverse Childhood Experiences, Nationally, by State, and by Race or Ethnicity,” Child Trends (Table 2. Prevalence of Individual ACEs, Nationally and by State, February 12, 2018), <https://www.childtrends.org/publications/prevalence-adverse-childhood-experiences-nationally-state-race-ethnicity>.

⁹ Janique Kroese, Wim Bernasco, Aart C. Liefbroer, and Jan Rouwendal, “Growing Up in Single-Parent Families and the Criminal Involvement of Adolescents: A Systematic Review,” *Psychology, Crime & Law* 27, no. 1, June 11, 2020:1-15, <https://doi.org/10.1080/1068316x.2020.1774589>; Cynthia Harper and Sara McInahan, “Father Absence and Youth Incarceration” *Journal of Research on Adolescence*, 14(3), 2004, 369-397, <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1532-7795.2004.00079.x>; Timothy Carney, “Of Course Fatherlessness Contributes to Violent Crime, Including Mass Shootings,” Restoring America, May 26, 2022, <https://www.washingtonexaminer.com/restoring-america/community-family/of-course-fatherlessness-contributes-to-violent-crime-including-mass-shootings>.

¹⁰ Peterson and Densley, “Mass Shooting Database Version 5;” JEC Calculations.

¹¹ Ian Rowe, “The Power of the Two-Parent Home Is Not a Myth,” The Thomas B. Fordham Institute, January 8, 2020, <https://fordhaminstitute.org/national/commentary/power-two-parent-home-not-myth>.

Isolation and Community

Strong communities can help produce happy, well-adjusted people, support individuals who are struggling, and serve as a substitute for those who may lack a stable family environment. Conversely, a lack of strong social ties, familial or otherwise, can have detrimental effects on an individual's mental, financial, and physical health.¹² Among mass public shooters, 71 percent of perpetrators either have no evidence of community involvement or recently withdrew from their community. Without a supportive community, social stressors and past traumas can become more challenging to process. Feelings of alienation from their surroundings may explain why 43 percent of shooters attack a community, place, or people with whom they are familiar.¹³

Fewer social connections and less community involvement may also explain a portion of the rise in mass public shootings over time. Robert Putnam, among many others, has documented the decline in Americans' associational life, beginning around the 1970s.¹⁴ During this peak of social capital in the 1970s, an annual average of less than one mass public shooting was perpetrated by someone who was recently withdrawn from or had no community involvement. The number of these shooters with no community rises to an annual average of 3.8 over the last decade (2012-2021). Shootings by individuals with no community involvement have increased more than twice as much as shootings by individuals with some community involvement.¹⁵

The most common source of regular, non-family social connection is work, which can provide an important social network and sense of purpose, in addition to economic stability. Like disconnection from community, unemployment or nonemployment is common among mass public shooters; 57 percent of prime working-age shooters (25 to 54 years old) are not employed at the time of the incident.¹⁶ The

¹² "What We Do Together: The State of Associational Life in America," Joint Economic Committee, May 2017, https://www.jec.senate.gov/public/_cache/files/6f670ee8-74de-497a-85f6-4cf6502d52d4/1-17-what-we-do-together.pdf; Anna S. Wong, Jillian C. Kohler, "Social Capital and Public Health: Responding to the COVID-19 Pandemic," *Global Health* 16, 2020, <https://doi.org/10.1186/s12992-020-00615-x>.

¹³ Peterson and Densley, "Mass Shooting Database Version 5;" JEC Calculations.

¹⁴ Robert D. Putnam, *Bowling Alone: The Collapse and Revival of American Community*, New York, Simon & Schuster, 2000; Robert D. Putnam and Shaylyn Romney Garrett, *The Upswing: How America Came Together a Century Ago and How We Can Do It Again*, New York, Simon & Schuster, 2020.

¹⁵ Peterson and Densley, "Mass Shooting Database Version 5;" JEC Calculations.

¹⁶ Peterson and Densley, "Mass Shooting Database Version 5;" JEC Calculations.

nonemployment rate among shooters is nearly 5 times higher than the 12.1 percent average rate for all prime age men from 1966 to 2021.¹⁷ Employment is also the most commonly listed shooting motive (22 percent of cases) in the Violence Project survey. A lack of steady employment or recent loss of a job can have a destabilizing effect on individuals. These results confirm what other survey data show, that men disconnected from work are less satisfied, less happy, more stressed, and more depressed than their employed counterparts.¹⁸

Vibrant communities and workplaces may also have benefits beyond those imparted on the individual. Close communities could be naturally more aware of troubled individuals in their midst and more likely to intervene. In 44 percent of mass public shootings, the shooter communicated to a third-party his intent to do harm. Called “leakage,” the tendency of attackers to intentionally or unintentionally inform others of their plans may be even higher in certain circumstances than the Violence Project data suggest. Adam Lankford, Krista Grace Adkins, and Eric Madfis find that 80 percent of perpetrators of the deadliest mass public shootings (from 1998 to 2018) leaked their intent to commit mass violence.¹⁹ The U.S. Secret Service finds that leakage is highest (81 percent) among school shooters, who tend to be the youngest perpetrators of mass public shootings.²⁰

Due to high rates of leakage, under the right circumstances, an active community can prevent a tragedy from ever occurring. Madfis shows that between 2000 and 2009 at least 195 instances of school-related mass violence were prevented, compared to 46 successful active shooter incidents.²¹ Such a high number of interrupted attacks could be due to the combined effect of leakage and the regular interaction in schools. In

¹⁷ Organization for Economic Co-operation and Development, Employment Rate: Aged 25-54: Males for the United States [LREM25MAUSA156S], retrieved from Federal Reserve Bank of St. Louis, <https://fred.stlouisfed.org/series/LREM25MAUSA156S>.

¹⁸ “Reconnecting Americans to the Benefits of Work,” Joint Economic Committee, October 27, 2021, <https://www.jec.senate.gov/public/index.cfm/republicans/2021/10/reconnecting-americans-to-the-benefits-of-work>.

¹⁹ Adam Lankford, Krista Grace Adkins, and Eric Madfis, “Are the Deadliest Mass Shootings Preventable? An Assessment of Leakage, Information Reported to Law Enforcement, and Firearms Acquisition Prior to Attacks in the United States,” *Journal of Contemporary Criminal Justice*, 35(3), 2019, 315-341, <https://doi.org/10.1177/1043986219840231>.

²⁰ Bryan Vossekuil, Robert A. Fein, Marisa Reddy, Randy Borum, and William Modzeleski, “The Final Report and Findings of the Safe School Initiative: Implications for the Prevention of School Attacks in the United States,” U.S. Secret Service, 2002, <https://www2.ed.gov/admins/lead/safety/preventingattacksreport.pdf>.

²¹ Eric Madfis, *How to Stop School Rampage Killing: Lessons from Averted Mass Shootings and Bombings*, Cham, Springer International Publishing, 2020.

addition to other benefits of community, leakage in an environment with regular association and high social trust can lead to a higher rate of attack prevention and provide one possible path for preventing acts of mass violence.

Suicide

Closely related to trauma, isolation, and lack of community involvement is suicidality, which can also help explain mass public shootings and their increase over time. Traumatic events, especially early in life, make coping with other challenges in life more difficult. Without adequate community support, these individuals can become isolated, and lose meaning and belonging, which all compound to increase suicidality.²²

The rate of suicidality in the general population is just a fraction of that among mass public shooters. Seventy two percent of shooters were suicidal before the attack or intended to die as part of the attack. In 2020, reported suicidality for U.S. individuals was highest between the ages of 14 to 15 years old at 13.9 percent. Among U.S. adults (18+) only 4.9 percent of individuals have thought seriously about suicide.²³ In line with rates of community involvement, 41 percent of mass public shooters showed a marked sign of increased isolation before the shooting. This is nearly double the 22 percent of all U.S. adults who report often or always feeling lonely.²⁴

For the past two decades, general population suicide rates have been rising, a shift that could be a contributing factor to the recent increases in mass shootings. Figure 1 shows a five-year moving average of shootings by suicidal individuals and those not reported to be suicidal.

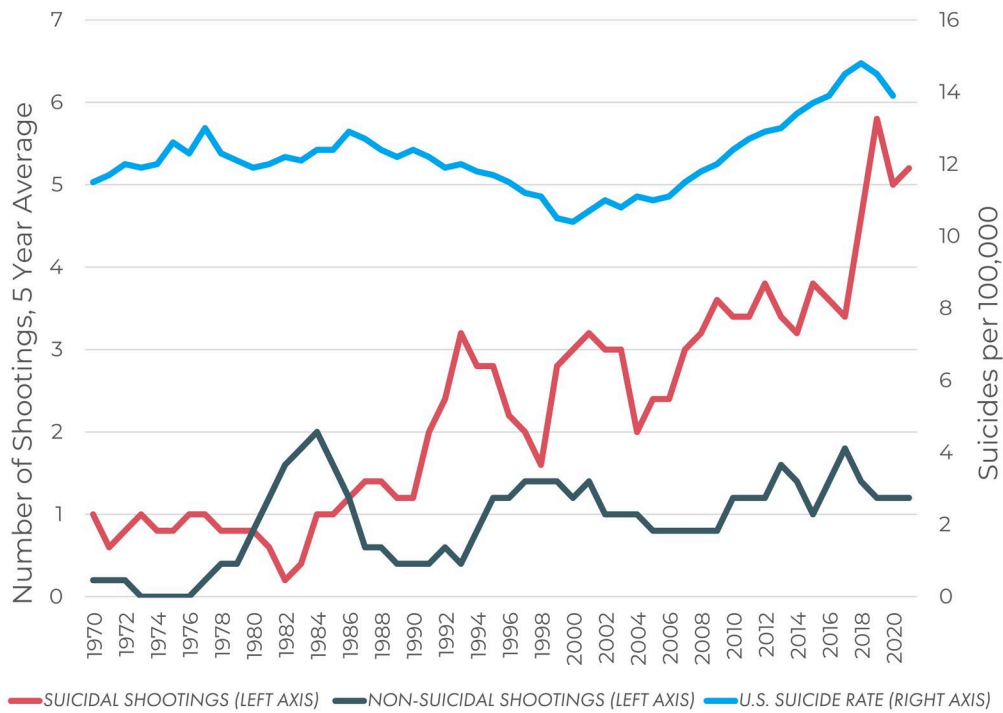
²² Shatel Francis, "Exposure to Violence Linked to Suicidal Behavior," Partnership Against Domestic Violence, 2021, <https://padv.org/exposure-to-violence-linked-to-suicidal-behavior>; Raffaella Calati, Chiara Ferrari, Marie Brittner, Osmano Oasi, Emilie Olié, André F Carvalho, and Philippe Courtet, "Suicidal Thoughts and Behaviors and Social Isolation: A Narrative Review of the Literature," 245, 653-667, February 15, 2019, doi:10.1016/j.jad.2018.11.022; Lauren B. Fisher, James Overholser, Josephine Ridley, Abby Braden, and Cari Rosoff, "From the Outside Looking In: Sense of Belonging, Depression, and Suicide Risk," *Psychiatry*, 78(1), 29-41, 2015, <https://www.tandfonline.com/doi/full/10.1080/00332747.2015.1015867>.

²³ Substance Abuse and Mental Health Services Administration, "Key Substance Use and Mental Health Indicators in the United States: Results from the 2020 National Survey on Drug Use and Health," HHS Publication No. PEP21-07-01-003, NSDUH Series H-56, 2021, <https://www.samhsa.gov/data/sites/default/files/reports/rpt35325/NSDUHFFRPDFWHTMLFiles2020/2020NSDUHFFRIPDFW102121.pdf>.

²⁴ Bianca DiJulio, Liz Hamel, Cailley Muñana, and Mollyann Brodie, "Loneliness and Social Isolation in the United States, the United Kingdom, and Japan: An International Survey," Kaiser Family Foundation, August 30, 2018, <https://www.kff.org/report-section/loneliness-and-social-isolation-in-the-united-states-the-united-kingdom-and-japan-an-international-survey-section-1/>.

The Figure shows that almost all the increase in mass shootings can be attributed to increased suicidality in the population—suicide-related shootings increase from an annual average of less than 1 in the 1970s to an annual average of about 4 in the last decade. Non-suicide-related shootings have remained relatively constant over time.

Figure 1: Suicide- and Non-Suicide-Related Mass Public Shootings, and Suicide Rate, 1970-2021



Source: Mass Shooting Database Version 5; CDC WONDER, Injury Intent and Mechanism; JEC Calculations.

Like the demographics of mass public shooters, the rate of general suicide is highest among non-Hispanic white men (making up 62 percent of all suicides in the U.S).²⁵ Figure 1 also shows that suicide-related mass public shootings began rising a decade before general rates of suicide began picking up, so one should not over-interpret the relationship with general trends in suicide. However, since 2000, the rise of general suicide has tracked the rise in suicide-related shootings and highlights the importance of addressing loneliness, community

²⁵ Sally Curtin, "Vital Statistics Rapid Release," November 2021, <https://www.cdc.gov/nchs/data/vsrr/VSRR016.pdf>; JEC Calculations.

involvement, and suicidal thoughts as part of addressing the rise in mass shootings.

INFREQUENCY OF MASS SHOOTINGS

Although weak social capital appears to play an important role in mass shootings, the motives and environment that could lead a person to take another life, let alone multiple lives, are inherently multifactor and hard to quantify—especially since such events have historically happened infrequently.

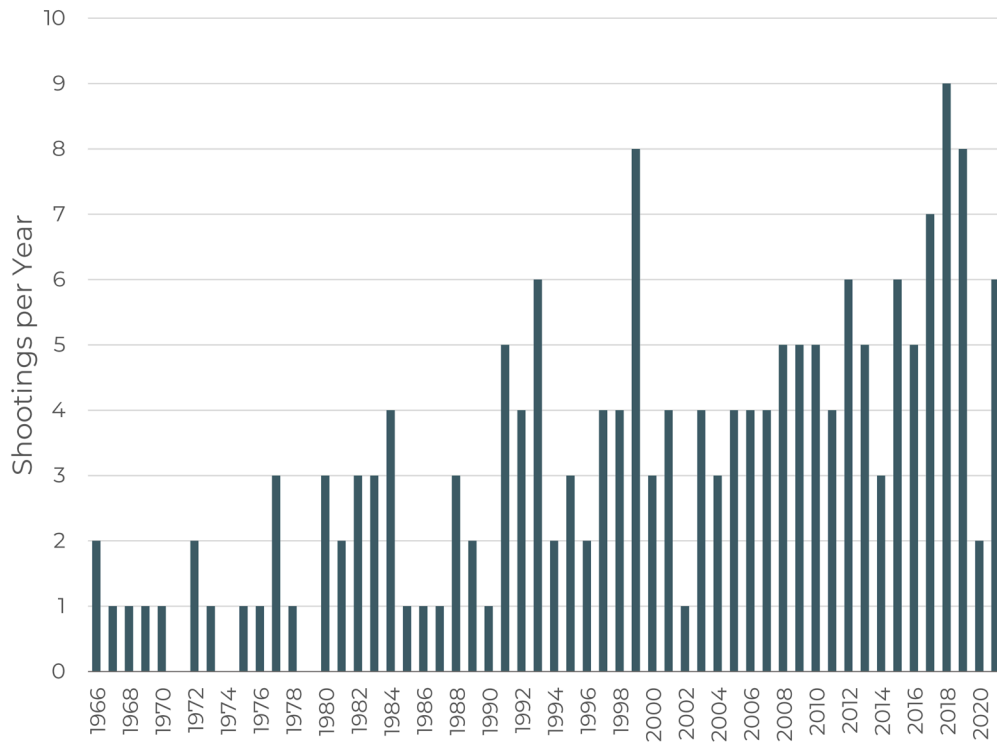
From 1966 through 2021 there were an average of 3 mass public shootings that killed an average of 23 people per year. Figure 2 shows the number of shootings in the Mass Shooter Database has increased over time; rising from an average of 2 per year from 1966 through 1990, to an average of 6 shootings per year in the last decade (2012-2021).

Even at their elevated levels, mass public shootings are comparatively rare. On average, there were 13,460 gun-related homicides per year over the last decade, 37,250 gun-related deaths—suicides make up the majority of gun-related deaths—and 18,413 all-cause homicides. In 2017, the deadliest year for mass public shootings, they made up 0.73 percent of gun-related homicides, 0.27 percent of gun-related deaths, and 0.54 percent of all-cause homicides.²⁶ In 2020 there were 2 mass public shootings, killing 9 people or 0.04 percent of all homicide victims. Using a broader definition of mass murder that includes non-public, gang-related, familicide, and other instances where 4 or more people were shot and killed, the deadliest year in the last two decades (2019) for all-cause mass killings accounted for just 1.2 percent of all homicides.²⁷ While mass public shootings are undeniable tragedies that deserve policymakers' attention, the much larger human toll of all-cause homicides—which increased 29 percent in 2020—is a tragedy on a different scale.

²⁶ Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System, Underlying Cause of Death 1999-2020 on CDC WONDER Online Database, released in 2021, Multiple Cause of Death Files, 1999-2020, <http://wonder.cdc.gov/ucd-icd10.html>; JEC Calculations.

²⁷ James Alan Fox and Jack Levin, *Extreme Killing: Understanding Serial and Mass Murder* (Los Angeles, Thousand Oaks, California: Sage Publications, 2015), 164; AP/USATODAY/Northeastern University Mass Killing Database.

Figure 2: Mass Public Shootings, 1966-2021



Source: Mass Shooting Database Version 5; JEC Calculations.

The relatively small number of mass public shootings also presents a challenge for researchers trying to identify causes and similar challenges for public safety officers trying to stop the next shooting. Drawing any conclusions with certainty is a challenge when so few instances each year are distributed across a vast country with unquantifiable differences. This is especially true when assessing individual and community characteristics, such as mental state, upbringing, or motivations.

There is also not one single factor that can, with any certainty, predict whether someone will commit an act of mass violence. The data we do have show that many perpetrators of mass shootings have certain characteristics in common, such as a higher likelihood of nonemployment, an unstable childhood, or isolation from community. These characteristics also describe millions of Americans who do not commit violent acts. Due to the complexity of identifying potential perpetrators, immediate solutions are also difficult to identify. Addressing underlying social ills, such as increased isolation, declining

social trust, and weak community ties, requires a longer-term agenda, focused further upstream.

CONCLUSION

The Social Capital Project has demonstrated the importance of family, community, the institutions for youth education, and connections to work. Fostering these and other dimensions of Americans' associational life is imperative in its own right, but the evidence presented above suggests there may be another reason. If strong communities and families can help prevent mass public violence, the goal of reinvigorating America's declining social capital is all that much more important. Strong communities and loving families are an important part of the response to mass public shootings.

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