THE MENTAL HEALTH IMPACT OF MASS SHOOTINGS



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EXECUTIVE SUMMARY

For survivors of mass shootings, the mental and physical toll does not end when the shooting stops. Recently, these complex and long-term effects have been highlighted by the tragic and premature deaths of several survivors. These deaths have once again crystallized the nation's deep sorrow and shared trauma associated with mass shootings. The immense harm and loss of life caused by these tragedies make it abundantly clear that we cannot discuss mass shootings without acknowledging the repercussions they have on the mental health of survivors, their families and friends, their communities, and the psyche of the country as a whole.

This report is an overview of the broad, varied, and long-lasting effects of mass shootings, which extend well past the lives lost the day the tragedy occurs. The psychological impact of mass shootings can result in PTSD, substance misuse, self-harm, major depressive disorders, and panic attacks, among others. Up to 95 percent of people exposed to mass shootings experience symptoms of PTSD in the early days after the incident, and most of those individuals feel the psychological effects of the trauma months later.

DEFINITION OF MASS SHOOTING

Brady defines a mass shooting as a shooting incident in which four or more people, other than the shooter, are shot.¹ Brady uses this definition so as not to "exclude, set apart, caveat, or differentiate victims based upon the circumstances in which they were shot."² However, Brady acknowledges that this definition can vary, and much of the research in this report uses alternate definitions that rely on a certain number of fatalities, rather than number of people shot.

Statistics show that children are too often victims of mass shootings and have a greater risk of experiencing emotional trauma following the event. Studies of children exposed to sudden, unexpected acts of mass violence have reported PTSD rates of up to 100 percent. The greater impact of mass shootings also extends to families, friends, and affected communities as a whole. When the 24-hour news cycle of the media covers these tragic events in a round-the-clock fashion,

THE PSYCHOLOGICAL IMPACT OF MASS SHOOTINGS CAN RESULT IN PTSD, SUBSTANCE MISUSE, SELF-HARM, MAJOR DEPRESSIVE DISORDERS, AND PANIC ATTACKS, AMONG OTHERS.

it leads to heightened levels of fear and decreased perceptions of safety across the country, regardless of proximity to the event.

The traumatic effects of mass shootings do not end when the bullets stop firing. For months and years after, survivors, loved ones, communities, and the country as a whole struggle to cope with the psychological and pervasive effects of these tragic events.

SURVIVOR NARDYNE JEFFRIES

"Being the parent of a child killed in a mass shooting has made my PTSD and anxiety disorder non-stop because every shooting — be it mass, domestic, suicide, bullying or daily shooting — keeps me on edge every single day, and it's exhausting. I hurt constantly because shootings happen every single day in this First World country and that is shameful as we know they are preventable if only those in power choose to do right and safe thing." — Nardyne Jeffries, whose 16-year-old daughter, Brishell Jones, was killed in a 2013 mass shooting in Washington, D.C.

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— NARDYNE JEFFRIES, WHOSE 16-YEAR-OLD DAUGHTER, BRISHELL JONES, WAS KILLED IN A 2013 MASS SHOOTING IN WASHINGTON, D.C.

INTRODUCTION

On May 18, 2019, the 1999 Columbine school shooting claimed another life. Austin Eubanks, who was shot twice in the library at Columbine High School, died 20 years later.3 His family explained that Eubanks "lost the battle with the very disease he fought so hard to help others face."4 As an activist fighting the country's opioid crisis, Eubanks had explained that "as a result of my injuries, I was pretty significantly medicated about 45 minutes after being shot. I remember immediately being drawn to that feeling, because it took the emotion away."5 Two decades later, survivors of the Columbine shooting still face its effects. In response to the STEM school shooting just two weeks after the 20th anniversary of the Columbine shooting last month, Eubanks's former classmate, Zachary Cartaya, who has struggled with suicidal thoughts since the incident, explained: "you drop a rock in a pond and it all just ripples out."6

Gun violence in the United States takes on many forms, including domestic violence, family fire, community violence, self-harm, and hate crimes — all of which have unique and negative effects. But Eubanks's death is a sobering reminder that while mass shootings account for just a sliver of shooting victims in the U.S. every year,7 the ripple effects of these events are broad, varied, long-lasting, and under-studied. This is why we cannot simply use the number of lives lost as a measure of the consequences of mass shootings. Media coverage of mass shootings often ignores the personal impact these tragic events have for months and years afterwards. This report covers the mental health impacts of mass shootings, which begin with direct victims but also permeate to loved ones, communities, and the country as a whole. Highlighting the mental health effects of mass shootings allows us to better understand the scope of the trauma, felt at both a personal and a communal level each time there is a mass shooting event in the United States.

GUN VIOLENCE IN THE UNITED STATES TAKES ON MANY FORMS, INCLUDING DOMESTIC VIOLENCE, FAMILY FIRE, COMMUNITY VIOLENCE, SELF-HARM, AND HATE CRIMES — ALL OF WHICH HAVE UNIQUE AND NEGATIVE EFFECTS.

MASS SHOOTINGS ARE UNDERSTUDIED

The psychological impact of mass shootings, and of gun violence generally, is understudied. This is due, in large part, to a lack of federal funding for gun violence research through the Centers for Disease Control (CDC) and the National Institutes of Health (NIH).8 The Dickey Amendment has been interpreted by many to prevent federal funding for firearm research, thus having a chilling effect and a lack of dedicated appropriations to publicly funded entities, including the CDC and NIH.9 In turn, these government agencies have shied away from researching the effects of gun violence for more than two decades. 10 More recently, Congress clarified in the 2018 omnibus spending bill that the CDC is permitted to conduct research on the causes of gun violence, but research in this area is still limited as the fight to obtain federal funding continues.11

WE NEED ANSWERS THAT WILL SAVE LIVES

Congress last funded research into gun violence prevention in 1996. The federal government spends only about 1.6 percent as much on research into gun violence as it does on research into traffic crashes and other leading causes of death. We need evidence-based research in order to identify and invest in solutions to reduce gun violence in America.

Despite the lack of public research on gun violence specifically, epidemiologists and psychologists "have long known that violent and life-threatening events can have psychological consequences,"12 and mass shootings are no exception. What we do know from the available literature and data is that there is a direct correlation between gun violence and negative mental health outcomes. Mass shootings "accompanied by a large death toll generally result in higher prevalence of psychopathology in the population because a large proportion of survivors has likely witnessed and personally experienced life-threatening and other traumatic events and may have lost loved ones."13 With more robust research and data, doctors would be better equipped to comprehensively treat gun violence survivors and their mental and physical injuries in the aftermath of shootings. 14 Lack of research funding has a very real impact on the everyday treatment of survivors. Medical professionals frequently don't have access to the same type of comprehensive research, training, and tools to treat victims of gun violence in the same way that they do for other traumatic injuries.

THE PSYCHOLOGICAL IMPACT OF MASS SHOOTINGS ON SURVIVORS

Survivors of trauma, including survivors of mass shootings, face numerous potential mental health consequences. These include post-traumatic stress symptoms, post-traumatic stress disorder (PTSD), major depressive disorder (MDD), generalized anxiety disorder, death anxiety, panic disorder, phobias, prolonged grief disorder, and substance abuse. 15 Symptoms of PTSD include nightmares, flashbacks, avoidance of stimuli that trigger thoughts about the traumatic event, numbing of emotional responses, hyperarousal, feelings of detachment or irritability, and concentration problems. 16 Symptoms of MDD include sadness, loss of interest in things once enjoyed, changes in sleep and weight, difficulty concentrating, and irritability. Mental disorders among trauma survivors typically overlap — a concept known as "comorbidity."17 Those experiencing comorbidity generally struggle with greater impairment than those diagnosed with one disorder alone, and they are at a greater risk of developing a chronic disorder.18

For example, Sherrie Lawson was at the Washington Navy Yard when a gunman killed 12 people and injured three others in 2013. Lawson knew some of the victims personally. In a 2019 interview with NPR, Lawson described that about a month after the shooting, she was unable to sleep: she was having constant nightmares and panic attacks. She was often unable to focus, instead finding herself searching surroundings for escape exits and experiencing suicidal ideation. She explained: "After probably the third month of experiencing this, I realized that I was not OK and that I needed some help. So I did seek out a doctor." She was diagnosed with PTSD, MDD, and severe anxiety. A year after the shooting, she suffered a mini-stroke, which was attributed to her stress levels. Lawson eventually entered an intensive PTSD trauma program and now no longer has daily panic attacks. As of 2018, she was still going to therapy and described being triggered by news of shootings.¹⁹

What Lawson experienced is not an anomaly—survivors of mass shootings experience mental health consequences at significantly higher rates than those exposed to other types of trauma, such as natural disasters.²⁰ While post-disaster PTSD

WHILE POST-DISASTER PTSD RATES IN GENERAL REACH 30-40
PERCENT FOR "DIRECT VICTIMS,"²¹ ONE STUDY FOUND THAT UP TO
95 PERCENT OF MASS SHOOTING SURVIVORS EXPERIENCE PTSD IN
THE IMMEDIATE AFTERMATH, AND UP TO 80 PERCENT EXPERIENCE
IT EIGHT MONTHS AFTER THE SHOOTING.²²

rates in general reach 30-40 percent for "direct victims,"²¹ one study found that up to 95 percent of mass shooting survivors experience PTSD in the immediate aftermath, and up to 80 percent experience it eight months after the shooting.²²

And like Lawson, survivors also often experience physical symptoms tied to psychological distress. Up to 78 percent of disaster survivors experience sleep disruption, headaches, fatigue, abdominal pain, and shortness of breath after the traumatic event.²³ These symptoms may continue for years.²⁴ In an interview with *the Washington Post*, Ra'Shauna

SURVIVOR COLIN GODDARD

"Coming face-to-face with a brutally violent death from gunfire has permanently damaged my physical and emotional wellbeing. Living in a country where I know too many other Americans needlessly live through that same trauma every day, while the majority of our elected officials continue to decide to limit their responses to hollow tweets of sympathy, I'm forced to survive a lot more than just the mass-shooting. Understanding the lasting damage that shootings cause to all of us after the headlines fade is critical to creating the better, safer country that we all so badly need and deserve." — Colin Goddard, a survivor of the 2007 Virginia Tech shooting.

Brown, a survivor of the 2010 South Capitol Street shooting, noted that eight years later she continued to be haunted by nightmares, depression, and anxiety attacks that forced her to drop out of college.²⁵

Although there isn't extensive research on the direct connection between mass shootings and substance use disorders, studies have found a causal relationship between traumatic events and this disorder.²⁶ Studies show a 20 percent increase in alcohol use following exposure to terrorism and a 16.3 percent increase in drug use.²⁷ Furthermore, anecdotal evidence shows that many survivors of mass shooting events, like Columbine survivor Austin Eubanks, experience addictive disorders.²⁸ Addictive disorders can cause difficulties at school, work, and home, and can lead to legal issues, trouble maintaining social relationships, involvement in dangerous situations, increased physical tolerance, withdrawal symptoms, and unsuccessful efforts to quit.29

The available literature unequivocally shows that a significant proportion of mass shooting survivors face long-term mental disorders.³⁰ One study analyzed coping strategies among college women with varied exposure to the 2007 Virginia Tech shooting and found that "the high percentage of individuals experiencing clinically elevated PTSD symptoms supports that even individuals indirectly exposed to a mass trauma are potentially vulnerable to experiencing significant and persistent symptomatology."³¹

DESPITE THEIR DEEP TRAUMA, MANY SURVIVORS FEEL SHAME OR GUILT IN SEEKING HELP. STUDIES HAVE FOUND THAT ONLY A SMALL PORTION OF SURVIVORS SEEK TREATMENT, AND MANY WAIT SEVERAL YEARS BEFORE SEEKING SUCH HELP.

Anecdotal experiences of trauma survivors reinforce these findings. A letter to the editor published in the New York Times details the writer's experience surviving a mass shooting in 1945 — only to have those past fears resurface in 2017: "[W]hen I was 7 years old, my mother and I were on the Dam Square in Amsterdam celebrating the liberation of our city when German soldiers opened fire and more than 30 people were shot to death. I was able to heal from the trauma, in part, because the Allies arrived and took charge. But in 2017, television images showing torch-bearing neo-Nazis with swastikas in Charlottesville, Va., triggered old fears. Memories resurfaced of gunshots, of running for safety as people screamed and fell bleeding to the ground..."32

Despite their deep trauma, many survivors feel shame or guilt in seeking help. Studies have found that only a small portion of survivors seek treatment, and many wait several years before seeking such help.33 One woman was a junior at Virginia Tech in 2007 when a mass shooting left 32 people dead and more than a dozen injured. In the aftermath of the shooting, she walked past the bodies of her dead classmates. Still, she "felt that she did not need to take up mental health counselors' time. She built a hierarchy in her mind of those who deserved help: People who had lost loved ones were at the top, followed by the wounded." She lived with severe anxiety and developed an eating disorder, both of which stemmed from the trauma she faced that day. Some victims who walk away from shootings without physical bullet wounds feel less deserving of care and treatment in the immediate aftermath, which ultimately result in years-long struggle with trauma and mental health. All survivors of mass shootings deserve comprehensive treatment and support to effectively heal the wounds of what and who was lost that day.34

THE IMPACT OF MASS SHOOTINGS ON CHILDREN

The mental health consequences of mass shootings for survivors are horrific, but the consequences are especially troubling for children. In America, children's lives are too frequently cut short by gun violence: between 2009 and 2017, children accounted for 20 percent of mass shooting fatalities.³⁵ Evidence also shows that children who survive a mass shooting face a greater risk of developing a mental illness or suffering adverse effects in its aftermath.

In some ways, the negative impact of mass shootings on children mirrors the impact on children living in Black and Hispanic communities where gun violence occurs daily. According to Dr. Meg van Achterberg, a child psychiatrist who works with children exposed to community violence in Washington, D.C., "It's like they're living in a war zone, and things do not feel safe. It does not feel safe to walk around in the neighborhood. It feels like bad situations, danger, or violence can happen." The effects of daily exposure to this level of violence are catastrophic for the healthy development of children and adolescents in these environments. The Studies have found that exposure to community

violence often leads to PTSD in children, and the symptoms worsen with increased exposure.³⁸ In fact, a 2017 study found that witnessing community violence at a young age actually alters an individual's brain structure and function.³⁹

Young survivors of mass shootings are another group that often suffers from gun violence-related PTSD. Two studies estimated PTSD in elementary school children after a school shooting in Winnetka, IL, at rates of up to 91 percent. 40 The child's age at the time of the shooting statistically predicts post-disaster mental illness, and studies of children exposed to sudden, unexpected acts of mass violence have reported PTSD rates of up to 100 percent.41 This means that every single child who is in a school where a mass shooting occurs may suffer from PTSD for months and years following the event. A young survivor from the Sandy Hook shooting spoke about her ongoing struggles, saying: "I tried to forget it all. People wanted to help me forget, because a loud noise would go off and I'd get so upset that I couldn't breathe, or even think. I also struggled to learn, make friends, or trust my own sense of reality."42

IN SOME WAYS, THE NEGATIVE IMPACT OF MASS SHOOTINGS ON CHILDREN MIRRORS THE IMPACT ON CHILDREN LIVING IN BLACK AND HISPANIC COMMUNITIES WHERE GUN VIOLENCE OCCURS DAILY. Mass shootings do not just affect the psyche of children based on the events of that day alone. These events frequently impact the functioning of schools for months after, most commonly through school closures and construction of alternative facilities to insulate students from the actual scene of the shooting.⁴³ The reminders of that day are constantly present, and the trauma of simply attending class in the aftermath of a shooting is linked with school absences.44 There is no right answer: while attending school may trigger PTSD symptoms for the child, absenteeism and isolation may promote "avoidant coping," which increases the risk of negative mental health outcomes.⁴⁵ Children who do go to class find it hard to focus because of the mental health challenges resulting from trauma, including mass shooting events, which only perpetuates and intensifies the negative experiences stemming from that day.46

Moreover, school safety and prevention measures implemented after mass shootings often force children to relive traumatic events. Active shooter trainings, other emergency drills, and even the sound of an emergency alarm can be triggering.⁴⁷ While schools that experience mass shootings often implement heightened levels of security, this type of security has been a long-standing reality for schools in communities of color. Studies have shown that these types of security measures can have a negative impact on the students where there

is a direct correlation between excessive security measures and increased incarceration rates.⁴⁸

Even students who have not witnessed mass murder are affected. For example, a New Jersey teenager writing to the *New York Times* described how "the armed guard who patrols the entrance to my school doesn't bring our students comfort or relief; he only serves as a stark reminder of the constant threat of a mass murder. Every fire alarm gives me pause, and every lockdown makes my heart race with uncertainty."

Parents also struggle with the risk of exposing their children to school shootings. Twenty years after the 1999 Columbine shooting, many survivors now have school-age kids of their own. One Columbine survivor described being "terrified to send my son to high school next year." Another described how she "hadn't had anxiety for many, many years," but now begins shaking when she thinks about sending her 11-month-old daughter to school: "It's the fear of not being able to protect her."50 In April 2019, thousands of children had to stay home from school after a young woman who was infatuated with the Columbine shooting traveled to Colorado and purchased a firearm, forcing school closures and terrifying entire communities that had already been exposed to deep trauma from the shooting two decades earlier.⁵¹

THE LINK BETWEEN SELF-HARM AND MASS SHOOTINGS

The congressionally-mandated National Center for PTSD has acknowledged a "heightened risk of suicide in trauma survivors." PTSD, the most common mental health consequence of mass shootings, is "significantly associated with suicidal ideation or attempts." Survivors of mass shootings can experience feelings of "survivor's guilt" by questioning why they survived while others were killed in the traumatic event, which can also lead to suicidal ideation. For the loved ones of those killed in mass shootings, the combination of PTSD and traumatic grief can become more unbearable as it persists. 53

Within a few months of the Columbine mass shooting, a mother of a student paralyzed in the shooting ended her own life.⁵⁴ The next year, a student who witnessed the attacks took his own life.⁵⁵ Several recent incidents demonstrate the grave impact of mass shootings on survivors and their families. In March 2019, Jeremy Richmond, the father of Sandy Hook victim Avielle Richmond, ended his own life.⁵⁶ That same month, 19-year-old

Sydney Aiello and 16-year-old Calvin Desi — both of whom survived the Parkland shooting just a year earlier and one of whom was diagnosed with PTSD — took their own lives within one week of each other.⁵⁷ Reminders of tragedies at yearly anniversaries and reliving the pain of the losses they incurred can create scenarios in which survivors may feel overwhelmed by living with the memories.⁵⁸

SURVIVOR RYANE NICKENS

"Children are the forgotten voices of gun violence. If we adults don't listen and can't hear their pain, that suicide rate will keep going up and it could quickly become our child." — Ryane Nickens, founder and president of the TraRon Center, an after-school program in Washington, D.C., that uses art therapy to help children work through their experiences with gun violence.

HOW AFFECTED COMMUNITIES ARE PSYCHOLOGICALLY IMPACTED

Though extensive research has not been conducted due to fear of inflicting further trauma, 59 research to date suggests that the occurrence of a mass shooting is likely to result in mental health consequences that can span beyond just those who witnessed the tragedy. 60 Studies show that the community at large can experience a psychological toll, including a decreased perception of safety and increased levels of fear. 61 According to a researcher at the University of California, Santa Barbara, "multiple levels of people [are] affected. It's not just the people who directly saw something or were directly injured or lost someone that they loved. . . It ripples through a community, it shatters a lot of people's belief about the safety of your community, of the world."62 One study found PTSD rates of 5–10 percent in communities after mass violence. 63 Community-wide impacts of mass shootings include avoidance coping; "anger, vigilance, and other forms of increased arousal" and "symptoms of fear, anxiety, depression, drug use, and psychosomatic symptoms."64

These psychological conditions can even spread beyond a town's borders, partly due to constant and intrusive media coverage that invokes a greater sense of danger. Residents may even begin to perceive their hometown with a negative connotation following a mass shooting. Studies have found a 5.8 percent drop in freshman enrollment at high schools impacted directly by shootings compared to other high schools in the same district. When a town becomes infamous due to a horrific event, it can taint the identity of the affected area, sometimes leading to a decline in "community solidarity," especially once the media coverage and attention from surrounding areas dissipates.

Mass shootings that occur in minority communities receive significantly less media coverage, despite the equal devastation to those living in and around the community.⁶⁹ Almost a decade after one of Washington, D.C.'s deadliest mass shootings, in which three people under the age of 22 were killed

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and six others were seriously injured at a funeral for a teenage victim of gun violence, the community is still struggling to cope. Norman Williams, the father of the teen mourned at the funeral, pleaded for action when speaking with *The Washington Post*: "This isn't the first mass shooting. This isn't the first school shooting. We've been calling for gun change for years, and no one has listened to us." Mass shootings in communities of color are often treated differently by media and subsequently perceived unlike nearly identical shootings in other communities. This bias is, in part, perpetuated by the stereotyping of communities of color and minorities as non-victims.

Though incidents of gun violence in Black and Hispanic communities are not typically mass shooting events, gun violence is so persistent and pervasive that the impact is not dissimilar to the effects felt in other communities affected by mass shootings. At the same time, Black and Hispanic communities facing daily gun violence experience distinct effects. Although effects are not explored deeply in this report, this is due in part to the ongoing and omnipresent nature of violence, high incarceration rates, distrust of police and low clearance rates, the absence of economic opportunities, and a lack of accessible health care — all which have trans-generational consequences. ⁷⁴

MASS SHOOTINGS AFFECT THE PSYCHE OF ALL PEOPLE LIVING IN AMERICA

The regularity of mass shootings has resulted in a culture of fear across the country. A 2018 survey by researchers at Chapman University showed marked increases in Americans' fear of being a victim of a mass shooting. Each year since 2015, the survey has asked "How afraid are you of being the victim [of a random/mass shooting]?" In 2015, 16 percent of respondents said they were "afraid" or "very afraid." In 2018, this skyrocketed to 42 percent. A recent poll by the Associated Press/NORC Center for Public Affairs Research found that a majority of Americans believe that schools, colleges, and places of worship have become less safe than they were 20 years ago.

The mere experience of hearing about one mass shooting after another impacts the everyday lives of Americans, even those who do not live in the communities where these shootings have occurred. After the 2015 San Bernardino shooting, a *New York Times* article asked readers how often they think about the threat of mass shootings on a daily basis. It received over 5,000 responses detailing fears of gun violence in schools, subways, movie theaters,

places of worship, and other public spaces.⁷⁷ After the Las Vegas mass shooting that claimed 58 lives and wounded over 850 more,⁷⁸ a Gallup poll found that four in ten Americans reported being "very" or "somewhat" worried that they or their loved ones would become victims of a mass shooting.⁷⁹

Americans' fear of gun violence increasingly pervades daily life, from everyday tasks to recreational activities. Since the 2012 Aurora shooting in Colorado, more Americans experience anxiety when attending movies. In an August 2015 survey of 500 moviegoers, 9 percent said they "planned to limit their trips to the movies" in the wake of two violent incidents in movie theaters.80 A 2019 performance of the musical *Hamilton* in San Francisco ended in chaos after audience members mistakenly believed that a woman suffering a heart attack had been shot.81 While there is no scientific literature on whether public attitudes and reactions to mass shootings have changed,82 both polling and anecdotal experiences of Americans show that large portions of the public live in fear of mass shooting events.

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CONCLUSION

Austin Eubanks survived an unimaginably violent incident, and like many of the survivors across this country, he carried the trauma with him for the rest of his life. His death is a tragic reminder that the implications of mass shootings go well beyond the news reports and body counts. Eubanks was not the first and will likely not be the last survivor to succumb in the days, months, and years after a mass shooting. While the primary goal should be to prevent these mass shootings from occurring, more must be done to support the survivors in their aftermath. This mandates additional and continued research on the effects of mass shootings on these survivors, their families, and our communities, and a commitment to ensuring the physical and psychological health of all of those affected by these shootings.

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