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### Title

Moving Forward on Understanding the Public Health Implications of Mass Violence Incidents

### Permalink

<https://escholarship.org/uc/item/7mk1d0ms>

### Journal

JAMA Network Open, 7(7)

### ISSN

2574-3805

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### Publication Date

2024-07-01

### DOI

10.1001/jamanetworkopen.2024.23528

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Peer reviewed

**Moving Forward on Understanding the Public Health Implications of Mass Violence**

**Incidents**

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**Word Count:** 1194

The prevalence of mass violence incidents (MVIs) in the United States, such as mass shootings, necessitates documentation of the public health burden in order to direct resources appropriately to help communities recover and heal. The research by Moreland et al. on “Posttraumatic Stress Disorder among Adults in Communities with Mass Violence Incidents” extends the extant research documenting the mental health consequences of MVIs by examining rates of Posttraumatic Stress Disorder (PTSD) in six different communities affected by an MVI, using address-based sampling of randomly-selected households in each community. They were able to demonstrate the ripple effects of MVI on PTSD beyond those directly exposed to the MVI to those indirectly exposed through having the MVI in their community. Their research found higher rates of past-year and lifetime PTSD in these communities compared to existing national estimates. They also explored how demographic, exposure, and risk factors unrelated to the MVI affected risk for PTSD. Results are of interest to health professionals as well as policy and legal professionals interested in documenting the wider impacts of MVIs on people indirectly exposed, in order to advance policies that may reduce MVIs.

This study is novel in that it moves beyond studying a single MVI to documenting the impact on PTSD across six different communities. However, the outcome of PTSD and the demographic, exposure, and risk factors assessed are the same ones that the majority of studies on MVIs have examined<sup>1,2</sup>, thus not expanding our understanding of the range of potential impacts of MVIs on communities. Given the potential public health burden of PTSD, it is understandable why researchers assess PTSD in the aftermath of a MVI, but we also need to expand our empirical attention to other mental and behavioral health consequences. Following PTSD, the next most common mental health outcomes studied following MVIs are anxiety, depression, or general distress. We need more empirical attention on the potential associations of

MVIs to substance use disorders, anger and aggression, sleep problems, functional impairment, educational and vocational outcomes, and somatic complaints, to name a few.

Likewise, the authors examined low social support, exposure to the MVI, and prior exposure to other potentially-traumatic events as risk factors, which are among the most well-studied. Therefore, our knowledge of what to screen for in the aftermath of an MVI and who is potentially at greater risk for long term mental health consequences has not changed based on these results. We need to know what other potentially-modifiable factors affect mental health beyond social support. Belief in one's ability to cope, optimism about the future, and a pattern of coping flexibly with the challenges engendered by a potentially traumatic event are associated with greater likelihood of resilience,<sup>3</sup> therefore understanding how MVIs may affect these characteristics can be helpful.

We also need more research that will directly support communities, survivors, and the work of public health and emergency management professionals in the aftermath of MVIs. Although it is good to document the potential public health burden of higher rates of PTSD in communities affected by MVI, we need more research incorporating the perspectives of practitioners and others on the frontlines that can delineate exactly what public health or emergency management practices should change, continue, or be added based on the results of our scientific research. This includes research evaluating public health interventions post-MVI. Most importantly, our research needs to ask members of affected communities what services they actually accessed and what they found helpful in supporting their mental and physical health. We did that following the MVI that affected my university community and found that the survivor- or community-initiated events were among the most commonly attended events and were rated as most helpful in the weeks that followed.<sup>4</sup> What was rated as most helpful included student-

organized candle light vigils and remembrance events, religious or spiritual memorial events, creation of a chalk memorial, and organized supportive and relaxing activities. We need to extend this research beyond the initial aftermath to study what is helpful in the months and years to come.

Finally, when researchers study the demographic characteristics of those most at risk for any given consequence post-MVI, they should always interpret their findings within the context of what is known about the MVI. This is because at best, demographics like sex, race, ethnicity, and so on, are proxies for more complex factors that may be affecting rates for a disorder, such as gender role expectations, cultural factors, marginalization, and disproportionate victimization. Within the context of MVIs in particular, certain demographic groups may be targeted specifically, and therefore, the targeted group may understandably show higher rates of distress in the aftermath. We saw identity-based targeting in the mass murder tragedy that affected my university community, where the perpetrator had a widely disseminated misogynistic manifesto; therefore, it would be understandable that women may report more distress. We can see that with race and ethnicity following the MVIs in Buffalo and Charleston that targeted African Americans, and in El Paso targeting the Latino/a/x population. There are too many other examples to name all. Not all MVIs specifically-target a group based on an identity characteristic, but placing the demographic findings into the context of the event can help us interpret if event-related factors may be influencing any differences we find.

The study by Moreland et al. did find that female sex increased risk for PTSD in the total sample, and this result held when they did specificity analyses by each MVI. They note this is consistent with decades of research and give several reasons for this, including higher rates of physical and sexual assault, greater willingness to disclose symptoms, or perhaps greater

vulnerability to the impact of stressors for biopsychosocial reasons. A research review on gender, psychopathology, and emotion regulation<sup>5</sup> suggests that across studies and samples, women tend to focus on and analyze their emotions when in sad moods more than men, and that women were more likely to report engaging in most types of emotion regulation strategies than men. Most notable is the gender difference in rumination, with women employing this strategy more than men, and is one explanation for the gender differences in depression.<sup>5</sup> Rumination has also been associated with increased risk for PTSD in cross-sectional and longitudinal studies.<sup>6</sup> To the extent that gender influences use of rumination, this can explain the higher risk for PTSD among females. The propensity to engage in rumination can be targeted with mental health interventions; therefore, it is arguably more important to examine the potential factors explaining demographic differences than the demographics themselves.

In conclusion, the research by Moreland et al. is important and timely as it joins a body of research documenting the ways MVIs reverberate through the community and can be used by public health and policy professionals to advance efforts to reduce MVIs and their impact. Future research can help advance the field by looking at a range of health outcomes, studying more novel risk and protective factors, evaluating actual public health and emergency management practices in the aftermath of the MVI, incorporating the perspectives of survivors on what services they accessed and what was helpful post-MVI, and exploring the potential explanatory mechanisms behind any demographic differences.

## References

1. Lowe S, Galea S. The Mental Health Consequences of Mass Shootings. *Trauma Violence Abuse*. 2017;18(1):62-82. doi:10.1177/1524838015591572
2. Shultz JM, Thoresen S, Flynn BW, et al. Multiple vantage points on the mental health effects of mass shootings. *Curr Psychiatry Rep*. Sep 2014;16(9):469. doi:10.1007/s11920-014-0469-5
3. Bonanno, GA. The End of Trauma. *Basic Books*, New York. 2021.
4. Felix, ED, Dowdy, E, & Green, JG. University student voices on healing and recovery following tragedy. *Psychol Trauma: Theory, Research, Practice, & Policy*. 2018; doi: 10.1037/tra0000172
5. Nolen-Hoeksema, S. Emotion regulation and psychopathology: The role of gender. *Annu Rev Clin Psychol*. 2012; 161-87. doi: 10.1146/annurev-clinpsy-032511-143109.
6. Moulds, ML, Bisby, MA, Wild, J, Bryant RA. Rumination in posttraumatic stress disorder: A systematic review. *Clin Psychol Rev*. Dec. 2020; 82. doi: 10.1016/j.cpr.2020.101910