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Commentary

Extremes in Context: A Life-Course Approach to Disaster Mental Health

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Exposure to disasters has a range of adverse mental-health consequences. This Commentary argues that to understand variation in post-disaster mental health, we must look beyond the disaster itself to other sources of vulnerability throughout the life course, as well as the developmental stage at which the disaster was experienced.

Disasters affect a significant proportion of the population worldwide and are associated with a range of adverse impacts. In 2019 alone, nearly 400 natural disasters affected more than 95 million persons globally and led to over 11,000 fatalities and \$130 billion USD in damages.¹ Exposure to disasters has been linked to unfavorable mental-health outcomes, including posttraumatic stress, depression, and generalized psychological distress, for which symptom elevations are apparent even a decade or more after the fact.^{2,3} The harmful psychological effects of disasters are not fixed, however, and vary dramatically across individuals, space, and time.²

In this Commentary, we examine heterogeneity in post-disaster mental-health outcomes by placing disasters' effects in the context of the life course. We describe systematic differences in exposure due to pre-disaster characteristics and situations across population subgroups, how the post-disaster period funnels people into disparate trajectories, and how the timing of these experiences in one's life structures their effects. We end by discussing applications to future disasters, whether natural, human-made, or pandemic in nature.

Unnatural Disasters

One of the most consistent and robust predictors of adverse post-disaster mental-health outcomes is exposure.² Those who face more disaster-related trauma and stressors—physical injuries, fear for one's safety or the safety of loved ones, bereavement, limited access to life-

sustaining resources, property damage, and so on—are at a heightened risk for psychiatric symptomatology in both the short- and long-term aftermath of disasters. Exposure is far from equally distributed across the population, and those who are already struggling with socioeconomic disadvantage or preexisting mental and physical health conditions tend to be at a greater risk.

Hurricane Katrina, which struck the US Gulf Coast in 2005, brought to light the issue of unequal exposure to disasters. In the New Orleans area, the map of destruction wrought by Katrina was drawn long before landfall.⁴ When the storm surge produced by Katrina caused the levees to break, large swaths of the below-sea-level city were flooded and structures were destroyed, particularly in low-income neighborhoods such as the Lower Ninth Ward. Residents who had not evacuated were stranded for days and sometimes sought refuge on rooftops while awaiting rescue. Evacuees in the Superdome faced overcrowding and shortages of food, water, and other necessities. Many were frustrated by the government's clumsy planning for and reaction to the disaster, which were often viewed as stemming from the fact that the most affected neighborhoods' residents were largely Black and poor.

Disasters such as Katrina lay bare environmental injustices and the concentration of disadvantaged people in places that are susceptible to floods, pollution, and other harmful events and conditions.⁵ Moreover, homes in disinvested areas can be particularly vulnerable to destruc-

tion as a result of age and quality of construction. Minorities and those with low incomes therefore typically bear the brunt of the physical damage wrought by disasters, increasing their risk for adverse mental-health outcomes. Disadvantaged persons are also at a higher risk of psychosocial trauma during disasters, partly because they reside in disaster-prone areas and partly because they face barriers to evacuation.⁶ Remaining in a disaster zone enhances risk for greater exposure and, in turn, post-disaster mental-health problems.

In addition to minority race and low socioeconomic status, preexisting physical and mental-health conditions, prior trauma exposure, and low pre-disaster social support are associated with poor mental-health outcomes after the disaster.² These factors can structure not only exposure to (or perceptions of) physical damage and trauma but also experiences with recovery. In this way, a given individual's past is critical to understanding their experience during and after the disaster, as well as their post-disaster mental health.

The End Is Just the Beginning

Disaster-related impacts extend well beyond the disaster itself; rather, the end of a disaster can be merely the beginning of a longer series of stressors.⁷ Some survivors are displaced from their pre-disaster neighborhoods for extended periods of time, and others never return. Temporary or permanent displacement is often accompanied by homesickness, separation from loved ones, and residence in



unstable housing. Families that remain together often find that the stress of the disaster experience leads to tension and discord. Economic difficulties can build as survivors who lost their pre-disaster jobs struggle to find new employment and suffer from financial hardship. Addressing disaster-related damages and losses requires survivors to navigate several bureaucratic systems that, without adequate support, might seem insurmountable. These disaster-related impacts, especially when combined, can heighten the risk for further exposures that adversely affect mental health—neighborhood deprivation, intimate partner violence, and homelessness.

These downstream effects of disasters, like disasters themselves, are not distributed equally across individuals. In what psychologist Stevan Hobfoll in his conservation of resources (COR) theory termed “loss spirals,” subpopulations that lack social, material, and personal resources are prone to further resource loss.⁸ Emergent or worsened mental-health symptoms stemming from initial resource loss can impede survivors’ coping abilities, increasing their risk for additional losses and ultimately leading to entrenched cycles of symptoms and stressors. In this sense, disasters have the potential to heighten preexisting inequalities, thereby exacerbating mental-health risks among those who are already vulnerable.

Nor do disasters have equivalent impacts across communities. COR theory further posits that environmental conditions influence the extent to which a person can accrue or maintain resources that bolster their mental health.⁸ In the initial aftermath of disasters, support from governmental agencies and neighboring communities can mitigate and prevent further resource loss and buffer against disaster-related mental-health impacts in vulnerable areas. However, these outside supports often dissipate before initial and downstream impacts (not to mention preexisting health disparities) are adequately addressed. As such, the disparate mental-health impacts across communities might not be initially apparent and instead emerge over the course of time.⁹

Timing Matters

It also matters *when* in the life course a person experiences a disaster. Evidence from the broader trauma literature, for example,

suggests that adverse events experienced in early childhood, relative to other life stages, are associated with especially severe mental-health symptoms in adulthood, potentially because they alter the development of neurobiological systems involved in regulating emotions, stress responses, and other relevant systems.¹⁰ Theoretically, the emotional impact of disasters is also likely to vary across children at different cognitive stages—younger children might be especially fearful of an event that is beyond their understanding, whereas older children’s and adolescents’ enhanced ability to forecast the effects of a disaster could heighten their anxiety. The social impacts of disasters, such as separation from teachers and peers, also vary across child and adolescent development, as do the implications of prolonged absences from school for educational trajectories—both of which could have downstream effects on mental health.

The mental-health impact of disasters is also likely to vary across adulthood. Within early and middle adulthood, parent status is a key factor that shapes the disaster experience. The disaster stressors faced by a parent of an infant or toddler differ substantially from those faced by a parent of an adolescent or young adult, and each could have distinctive effects on emotional well-being. And, although older adults have generally shown high levels of resilience in the aftermath of disasters, subgroups with age-related physical health conditions and limited mobility have a heightened vulnerability to disaster-related stressors and their adverse effects on mental health.¹¹

Together, variability in the resources available across one’s lifespan and the extent to which one is dependent upon—and depended on by—others shape disaster exposure and recovery. Developmental timing also relates to the number of prior trauma exposures a disaster survivor has accumulated, as well as age-related risks for further trauma events, both of which influence post-disaster mental-health trajectories.

Looking to the Future

Climate change will exacerbate the severity of natural disasters, including tropical cyclones and heat waves.¹² And still, population growth continues in vulnerable areas along the coast, near fault lines, in flood plains, and in heat

islands—both in the US and globally. Additionally, new research suggests that climate change could be shifting where disasters are occurring, meaning that previously unaffected—and therefore most likely underprepared—locations could face a greater risk of devastation,¹² altogether forecasting a harrowing future for disasters and their mental-health consequences.

Moreover, the novel coronavirus disease 2019 (COVID-19) pandemic has brought to the forefront the intersection between climate events and other extremes, including infectious diseases. For example, the transmissibility of infectious diseases varies across climate characteristics, such as humidity and seasonality, potentially affecting the scale and scope of pandemics.¹³ Extreme climate events that induce large population displacement and crowding could also generate conditions in which infectious diseases spread more rapidly. These interacting elements might lead vulnerable populations to accumulate exposures common to natural disasters and other extremes, such as fear and anxiety, bereavement, and disrupted access to health services. As we published recently, these stressors have more consistent and enduring effects on both mental and physical health than property and home damage.¹⁴

Our findings suggest a need for public-health messaging to help individuals manage disaster-related emotional reactions, specialized services for those who are bereaved or who have clinically significant distress, and large-scale efforts to prevent lapses in medications and medical care. At the same time, mental-health promotion must span beyond the period of the disaster and its immediate aftermath. Ongoing efforts to dismantle health disparities could reduce immediate and secondary exposure and foster resilience within and across communities.

Conclusion

Disasters are often seen as great equalizers—fateful events with impacts that cut across race, ethnicity, social class, and other statuses—but conceptualizing disaster mental health within a life-course perspective shows that they are anything but. Disasters typically have the gravest effects on those who are already vulnerable, and preexisting disparities are often enhanced in their wake. Furthermore, the

variation in the mental-health effects of disasters across development is most likely due in some part to the resources afforded to, and barriers faced by, survivors at different stages of life.

As we emerge from the COVID-19 pandemic and enter the 2020 hurricane season, we must tilt the scales so that disasters do not merely elucidate and exacerbate inequalities but instead serve as “turning points” wherein survivors gain sustained access to resources fundamental to their psychological well-being. Such efforts will help foster the resilience needed for weathering the increasing frequency and severity of disasters that will most likely accompany climate change.

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