

Testimony of
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and a Global Pandemic”
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Chairwoman Sherrill and Members of the Subcommittee:

Good morning. My name is Roxane Cohen Silver and it is my pleasure to have the opportunity to appear before you today to testify on coping and surviving the trauma of 2020, a year of grave stress, loss, and disruption for the United States. I am a researcher and professor of psychological science, public health, and medicine at the University of California, Irvine. For over three decades, I have studied how individuals adjust to stressful life experiences and specifically the impact of community disasters – both natural and man-made -- on individuals' and communities' psychological responses over time. Almost all of my research over these years – including investigations of the impact of firestorms, school shootings, mass violence, terror attacks, hurricanes, and infectious disease outbreaks, including COVID-19 – has been funded by the National Science Foundation.

The year 2020 has been marked by unprecedented cascading traumas, including the COVID-19 pandemic, an economic recession, race-driven social unrest, and weather-related disasters. As I will briefly discuss, but have described in more detail in a paper that will be published next week in the journal *Nature Human Behaviour* (**Attachment A**), these catastrophes have cascaded one to the next, and individuals across the U.S. have concurrently grappled with direct exposure to these events and watched them unfold, in real time, in the media. Research I have conducted over the past several decades strongly suggests that the mental health consequences of direct and media-based exposure to these compounding stressors may be profound. This extraordinary stressful year has taxed our capacity to cope, with the most vulnerable groups in our society at greatest risk. Policymakers must act to ease the burden of trauma to protect the public's mental, as well as physical, health.

Last week took us past a sad milestone -- over 200,000 people have now died of COVID-19 in the United States. The severe restrictions implemented in the spring to limit the spread of infection left thousands of businesses closed and over 40,000,000 Americans unemployed. These crises hit low socioeconomic status and minority communities especially hard, highlighting economic and racial inequities in healthcare and the provision of essential services in our country. With the pandemic and pandemic-triggered economic recession as a backdrop, months of stay-at-home orders, absence of distractions, economic anxiety, and easy access to graphic videos of the deaths of unarmed Black Americans led to multi-racial protests and ongoing social unrest. And if that was not bad enough, over the past few months the U.S. has faced extreme weather events, including devastating hurricanes, record heatwaves, and disastrous wildfires that require evacuations that have been made more complicated during an unrelenting pandemic that requires physical distancing. Together, the combination of medical, economic, racial, and climate-based catastrophes highlights the need for serious attention to be paid by public health officials and policymakers of the implications of cumulative, compounding trauma exposure.

In March, my colleagues and I published a paper in the journal *Health Psychology* (**Attachment B**) in which we used the research we have conducted on collective traumas over the past 20 years to make the prediction that widespread media exposure to a collective crisis like the COVID pandemic could amplify the distress people felt in response to this public health emergency. We reviewed research suggesting that repeated media exposure to community crises can lead to increased anxiety, and these heightened stress responses can lead to negative health consequences downstream, as well as misplaced help-seeking behaviors that can overburden health care facilities and tax available resources. For example, following the Boston Marathon bombings, we found a strong positive association between the number of hours people were exposed to bombing-related media coverage and the number of acute stress symptoms they reported experiencing. In fact, people who had the greatest level of media exposure reported substantially *higher* levels of acute stress than did people who were actually at the Boston Marathon bombing themselves. These associations also appear to accumulate over time: As threats continue to emerge, repeated high levels of media exposure to collective traumas may create a cycle of distress such that those with the greatest concerns may seek out more media coverage of the crisis, further increasing their stress. In fact, in a study of a representative sample of over 1600 residents of Florida who were surveyed in the hours before Hurricane Irma made landfall in 2017, we found that individuals who forecast they would be experiencing posttraumatic stress after the storm were more likely to consume media in advance of the storm -- and had more negative post-storm mental health outcomes.

While we predicted negative effects of the media to the events of 2020 based on our earlier research, it was critical to conduct research on the pandemic specifically – as well as the tragic events that have followed. However, to design and implement research on collective traumas requires overcoming formidable scientific and logistical challenges resulting from the fundamental unpredictability of these events. As a result, most studies are “post-only” designs, often with retrospective assessments made long after the event. However, without information on pre-event mental and physical health, it is difficult to disambiguate the effects of the trauma on subsequent responses to it. Moreover, because of difficulties receiving rapid Ethics Board approval, researchers can rarely get into the field quickly, yet without baseline assessments of psychological responses collected in the acute period, it is impossible to accurately evaluate trajectories of response and adjustment over time. Finally, surprisingly few studies have considered how cumulative exposure to collective and individual stressors – in this case the combined stress of personal illness, loss, economic strain, social unrest and climate-based disasters -- may contribute to mental health outcomes.

Also, the challenges of obtaining funding quickly in the aftermath of collective traumas often lead to a lack of studies of large representative samples that preclude comparisons of responses across demographic groups or generalizability to the population as a whole. However, to understand how individuals have coped -- and will to cope -- with this slow-moving disaster before a vaccine enables individuals to re-activate their pre-pandemic activities, data collection on representative samples is critical. Understanding who will successfully adjust to this chronic stressor requires longitudinal research that follows a representative, probability-based sample of individuals over time. Data collection conducted during early stages of the crisis can help identify individuals who are most likely to engage in self-protective and socially responsible behaviors, can classify early patterns of response, can help isolate risk factors eventually associated with long-term psychological maladjustment, and can identify correlates of resilience. Critical variables to study include emotional (fear, worry, distress), cognitive (perceived risk), social (loneliness, sense of social cohesion) and behavioral (media use, health protective behaviors) responses to the COVID-19 outbreak to explore how they help shape mental and physical health outcomes over time. Exploring social benefits in the aftermath of a collective disaster and examining how individuals and communities make sense of this crisis also requires longitudinal research using large samples that can isolate religious, political and

cultural differences in responses. Additional important research questions include understanding the impact on stress responses of direct exposures to the pandemic versus indirect exposure through widespread traditional and social media coverage of the outbreak, articulating how ambiguous or conflicting communication may amplify perceived risk and stress, and examining how cognitive and affective processes shape risk assessments, behavioral responses, and mental health outcomes. Finally, limited research has examined how prior life events may affect perceptions of risk of future hazards – especially ones with uncertain outcomes – but having such information may help identify those at risk of poor adjustment following subsequent crises.

Thus, results from longitudinal research on probability samples during and after the pandemic would enable an opportunity not only to document predictors of variability in response to the COVID-19 crisis, but also to examine several significant questions relevant to community resilience to a national crisis more generally. Information collected via such research can advance future conceptual work on coping with highly stressful national threats and provide information to facilitate early identification of individuals at risk for subsequent difficulties. Finally, findings from such research efforts can add to the foundation of knowledge for helping policymakers, service providers, and educators design educational materials and intervention efforts that are evidence-based and responsive to the needs of the community at large.

Fortunately, because the National Science Foundation offered many hundreds of RAPID grants – which enabled research funding for high quality science in the Spring of 2020, my colleagues and I were able to conduct a methodologically rigorous study of a national sample of adults in the U.S. that began March 18th. The first report from our national study of over 6500 individuals was published last week in the American Association for the Advancement of Science online journal *Science Advances* (**Attachment C**). We started a longitudinal study of thousands of people as the pandemic unfolded in the U.S., beginning from a time when there were 190 reported COVID-19 deaths in the U.S. to over 13,000 deaths less than 30 days later. We found that as the weeks went on, and the cases across the U.S. grew, so did rates of acute stress and depressive symptoms. Our findings offer insights into priorities for building community resilience in the face of this pandemic. First, those with pre-existing mental and physical health conditions were more likely to show both acute stress and depressive symptoms. Secondary stressors, such as job and wage loss and a shortage of necessities, were also strong predictors in the development of stress and depressive symptoms. Finally, we found that as predicted, extensive exposure to pandemic-related news, as well as exposure to conflicting information in the news media, were among the strongest predictors of acute stress in the early weeks of the pandemic. As of 5 days ago, we began to re-survey our sample of 6500 people to understand how they have coped with the past several months, as more people have been exposed to the illness and death associated with COVID-19, the stress of social unrest, and the ongoing climate-related disasters – both personally and via the media.

Will we survive the trauma of COVID-19 and the cascading tragedies that have followed it? As I argued in an Editorial in *Science* in July (**Attachment D**), I believe that we will. But this is not to minimize the seriousness of the tragedy in any way. Hundreds of thousands of individuals across the U.S. have experienced the loss of a loved one, often without the opportunity to say goodbye in person, and without the opportunity for a ritual funeral. There have also been millions of symbolic losses – of senior years in high school, weddings, and milestone events without the presence of loved ones to celebrate in person. We may expect grief for many and unresolved grief for some. Isolation may exacerbate loneliness for many and trigger suicidal ideation for some. We do not know how long this pandemic will last, nor do we really know how bad it will get. The ambiguity is stressful and the outcomes are painful.

Prior research on cumulative exposure suggests the chronicity and compounding nature of collective traumas in 2020 will likely be associated with *stronger* emotional responses with each new exposure, rather than habituation. Therefore, how can we ensure that communities

and their residents prove resilient in the face of cascading collective traumas? It is critical that policy makers strengthen resources distributed at both community and individual levels. Potential options include mental health support, positive coping and resilience-building activities (e.g., outdoor exercise), and virtual programming to reduce loneliness (particularly for those most isolated). As Black, Latinx, and Indigenous communities in the U.S. are suffering disproportionately from COVID-19, compounded by historical trauma, systemic racism, and persistent poverty, allocating additional resources to traditionally underserved and working communities of color is critical. Underlying social inequities must be addressed to avert a mental health disaster, which will likely lead to further physical health impairments and a protracted economic and social recovery. Importantly, greater severity of exposure is likely to occur for the most vulnerable in society, adding to the burden of compounding effects. Our government must intervene to provide financial, social, and emotional support to our residents, particularly those at lower socioeconomic levels. Lost pay for these individuals should be compensated, especially because those with lower incomes will likely suffer the most from the economic burden of the compounding crises. It is critical that we provide resources to communities most in need of support right now – the unemployed, chronically ill, and young people. It is also critical that we encourage the public to limit their exposure to media as an important public health intervention.

Current public health guidance also recommends self-protective behaviors, including frequent hand washing, physical distancing, wearing face coverings, and avoiding crowds. Yet media reports show people congregating with no social distancing at parties, beaches, and at protests in the streets. Research ongoing in my lab aims to explain such contradictory behaviors. We suspect that exposure to conflicting information from government authorities, media sources, and personal social networks plays a role in understanding whether or not individuals will follow scientific recommendations to behave in a way that minimizes risk and maximizes public health. Indeed, in the aftermath of the 2014 Ebola outbreak, my colleagues and I found that the public is able to understand risk information that is clearly, directly, and repeatedly communicated by trusted authorities. This trust is maintained by honesty and competence. Most people will follow the rules. But health-protective behaviors must be encouraged with messaging that conveys clearly and consistently the costs and benefits of actions that can ensure the physical and mental health of oneself and one's community. Research by behavioral scientists can provide a roadmap for public officials to ensure their residents' cooperation, trust in, and implementation of what is learned from biomedical science.

My decades of research on personal and collective traumas make clear that people are extremely resilient. Research after tragedy tells us that people often find meaning in adversity. During the pandemic, we are reaching our friends and loved ones through new means, becoming more capable with technology, and finding new ways to connect with neighbors--all of which can help us make sense of this crisis. Recognizing that all of us working together to practice social distancing is helping us save lives can turn feelings of isolation into a sense of purpose. Although the timing of containment of COVID-19 remains unknown, I believe that most people will get to the other side of the pandemic recognizing strengths and coping skills they did not realize they had. Rigorous research by psychological scientists can offer understanding of human behavior during crises to minimize future waves of infection and death.

This concludes my testimony. Thank you.

ATTACHMENTS

- A:** Silver, R. C., Holman, E. A., & Garfin, D. R. (2020). Coping with cascading collective traumas in the United States. *Nature Human Behaviour*. doi.org/10.1038/s41562-020-00981-x
- B:** Garfin, D. R., Silver, R. C., & Holman, E. A. (2020). The novel Coronavirus (COVID-2019) outbreak: Amplification of public health consequences by media exposure. *Health Psychology*, 39, 355-357. doi.org/10.1037/hea0000875
- C:** Holman, E. A., Thompson, R. R., Garfin, D. R., & Silver, R. C. (2020). The unfolding COVID-19 pandemic: A probability-based, nationally representative study of mental health in the U.S. *Science Advances*, 6, eabd5390. doi.org/10.1126/sciadv.abd5390
- D:** Silver, R. C. (2020). Surviving the trauma of COVID-19. *Science*, 369, 11. DOI: 10.1126/science.abd5396