American Psychological Association
Division 56 Trauma Psychology American Psychological Association

Psychological Trauma:
Theory, Research, Practice, and Policy

ISSN: 1942-9681

2020, Vol. 12, No. 4, 331–335
http://dx.doi.org/10.1037/tra0000592

COVID-19 RESPONSE

Traumatic Stress in the Age of COVID-19: A Call to Close Critical Gaps and Adapt to New Realities

Danny Horesh
Bar-Ilan University and New York University School of Medicine

Adam D. Brown
New School for Social Research and New York University School of Medicine

The Issue: Coronavirus-19 (COVID-19) is transforming every aspect of our lives. Identified in late 2019, COVID-19 quickly became characterized as a *global pandemic* by March of 2020. Given the rapid acceleration of transmission, and the lack of preparedness to prevent and treat this virus, the negative impacts of COVID-19 are rippling through every facet of society. Although large numbers of people throughout the world will show resilience to the profound loss, stress, and fear associated with COVID-19, the virus will likely exacerbate existing mental health disorders and contribute to the onset of new stress-related disorders for many. ***Recommendations:*** The field of traumatic stress should address the serious needs that will emerge now and well into the future. However, we propose that these efforts may be limited, in part, by ongoing gaps that exist within our research and clinical care. In particular, we suggest that COVID-19 requires us to prioritize and mobilize as a research and clinical community around several key areas: (a) diagnostics, (b) prevention, (c) public outreach and communication, (d) working with medical staff and mainstreaming into nonmental health services, and (e) COVID-19-specific trauma research. As members of our community begin to rapidly develop and test interventions for COVID-19-related distress, we hope that those in positions of leadership in the field of traumatic stress consider limits of our current approaches, and invest the intellectual and financial resources urgently needed in order to innovate, forge partnerships, and develop the technologies to support those in greatest need.

Clinical Impact Statement
The novel coronavirus-19 (COVID-19) has rapidly emerged as a global pandemic placing unpresented stress on all aspects of society. The virus is likely to exacerbate and increase stress-related disorders for many throughout the world. Although those in the field of traumatic stress can play an important role in the immediate and long-term response to COVID-19, existing gaps in research and clinical care may limit our efficacy. We propose that there is an urgent need to reduce critical gaps in several key areas as we confront this unprecedented challenge and develop novel methods for empowering communities and supporting those in greatest need.

Keywords: COVID-19, virus, pandemic, trauma, PTSD

Coronavirus-19 (COVID-19) began as a viral pneumonia in China in late 2019. By March 2020, it has reached pandemic proportions as it is being transmitted rapidly throughout most of the world. The ease of transmission, lack of population immunity, as well as delayed responses in testing, lack of equipment, and the challenges in implementing community-based measures to limit contact, are all taking an unprecedented toll on our collective health care, political, economic, and social-welfare systems (Centers for Disease Control and Prevention, 2020). COVID-19 has already led to the sickening and loss of life for thousands of

Editor's Note. Edited by Kathleen Kendall-Tackett for expedited review.

Danny Horesh, Department of Psychology, Bar-Ilan University, and Department of Psychiatry, New York University School of Medicine; Adam D. Brown, Department of Psychology, New School for Social Research, and Department of Psychiatry, New York University School of Medicine.

Both authors of this paper share first authorship (co-first authors).

Correspondence concerning this article should be addressed to Danny Horesh, Department of Psychology, Bar-Ilan University, Building 902, Room 313, Ramat Gan 5290002, Israel. E-mail: danny.horesh@biu.ac.il

people. As initial evidence already indicates (Qiu et al., 2020), it has the potential of leaving deep psychological scars on many. With its unpredictability, and the need for distance and isolation, COVID-19 is tearing at the fabric of our most basic methods of coping, and calls for new ways of adapting to and thinking about crisis. To borrow from the words of Janoff-Bulman (1989), it seems like many facing the threat of COVID-19 around the world feel that "the data don't fit" what they know from previous coping efforts.

In these dire times, we would like to highlight how COVID-19 is revealing critical areas in which our field can adapt to more effectively contribute to mental health response. What can and should those who study and treat stress-related disorders do now, and how should we plan for the future?

COVID-19 feels like an ongoing "cardiac stress test" on the world's infrastructures and systems, magnifying our every functional and structural vulnerability, including that of the field of traumatic stress. Within this moment, the impact of COVID-19 is requiring our field to rapidly conceptualize and mobilize as a community around several key areas: (a) diagnostics, (b) prevention, (c) public outreach and communication, (d) working with medical staff and mainstreaming into nonmental health services, and (e) COVID-19-specific trauma research.

While some of these issues are not new, and have been discussed at length already (e.g., Bryant, 2019), COVID-19 nonetheless brings them together with an urgent sense of clarity, perhaps more than at any other time in recent history.

Diagnostics

It is now well-documented that for as long as we have historical records, people have psychologically suffered from loss, war, violence, oppression, and disasters. In more recent times, political movements helped to usher in the diagnosis of posttraumatic stress disorder (PTSD) into the nosologies of the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM–5*; American Psychiatric Association, 2013) and *International Classification of Diseases* (11th ed.; ICD-11; World Health Organization, 2018). The emergence of PTSD as a mental health diagnosis has contributed to a rapid rise in research over the past few decades. In addition to the development of numerous psychotherapeutic, pharmacological, and, increasingly, somatic-oriented interventions, modern traumatic-stress research continues to uncover the myriad factors contributing to individual differences in risk for negative mental health issues following trauma exposure (Wade, Hardy, Howell, & Mythen, 2013; Xue et al., 2015).

That said, COVID-19 clearly shows the limitations of our current diagnostics in two ways. First, this is the time to understand the status of this crisis as a traumatic event. While some types of traumas, such as war, sexual assault, and natural disaster have been studied extensively, COVID-19 forces us to acknowledge an arguably new type of mass trauma. This crisis has highly unique characteristics, which call for a novel perspective about "what is trauma," and what are its implications. For one thing, it is not only global in scope, but its impact is rippling into every aspect of society. Furthermore, this crisis has received unprecedented levels of documentation and public exposure. At the time of 9/11, for example, smartphones and social media were only beginning to develop.

COVID-19 also entails a high level of anticipatory anxiety. Given the timeline for the expected course and spread of this virus, people seem to fear mostly about the future, rather than the past. Although the vast majority of the population is not affected, media coverage, and the possible prospect of getting infected, causes great stress and anxiety. Finally, it is unclear whether the larger part of the distress stems from medical reasons (i.e., knowing that there is no cure or vaccine) or from associated phenomena such as closures, discrimination faced by cultural groups, loneliness resulting from home quarantine, as well as financial reasons, which in and of themselves may be seen as highly traumatic (Galea, Tracy, Norris, & Coffey, 2008).

Although there has been extensive coverage from mental health professionals and the media speculating about the potential mental health effects of the COVID-19 crisis, we argue that the trauma and PTSD perspectives are still largely missing from the public discourse. Thus, words like "anxiety," "fear," and "stress" are constantly being mentioned (e.g., Gallagher, 2020), while failing to acknowledge the specific peri- and posttraumatic implications of this crisis. The relative absence of COVID-19-related trauma references from the public discourse so far may be attributed to the ongoing and still somewhat unclear rationale for the events that constitute trauma in the *DSM* (i.e., Criterion A for PTSD; Brewin, Lanius, Novac, Schnyder, & Galea, 2009). For example, systemic forms of injustice, discrimination, and oppression are not recognized as trauma in the *DSM*, as are other potentially traumatic events that seemed to be falling between the diagnostic cracks. Along those lines, it is unclear how and where an event like COVID-19 would fit into this nomenclature, even though it will most certainly lead to stress-related mental health issues.

This to us seems troubling, as COVID-19 involves numerous characteristics that are specific to mass traumatic events. People today seem to be gradually moving into a hyper-vigilant stance; they constantly manifest avoidance, which is encouraged (perhaps rightfully so) by the authorities; negative mood and cognitions are abundant, as there is clear fear that the world as we know it is about to change, and that the near future may be quite dark. Finally, at least for those infected or placed in home quarantine, intrusive thoughts related to health, and even death, are a probable consequence.

The second point is methodological. We are still relying heavily on self-report data to classify and diagnose negative mental health outcomes to traumatic stress. We need to rapidly develop ways to better detect and classify those at greatest risk. Machine learning techniques, for example, are beginning to shed light on how routinely collected data in emergency rooms (e.g., Galatzer-Levy, Ma, Statnikov, Yehuda, & Shalev, 2017) may yield a rather robust profile of individuals more prone to mental health issues and PTSD following trauma.

In addition, in a time of crisis such as the current COVID-19 one, ecological momentary assessment methods (EMAs) may be of particular use in order to gain a better understanding of mental health difficulties in real time, as was done in other emergency situations across the world (Gelkopf, Lapid Pickman, Carlson, & Greene, 2019). Finally, advances in psychobiological trauma research may be of particular relevance to today's crisis, as the COVID-19 pandemic inherently involves crucial biological aspects, some of which may predict increased vulnerability to PTSD.

For example, the routine collection of inflammatory blood markers may increasingly help to identify individuals at higher risk for posttraumatic symptoms (e.g., Sumner, Nishimi, Koenen, Roberts, & Kubzansky, 2019).

Prevention

The COVID-19 crisis is throwing down the gauntlet for better prevention programs. Both empirical data from previous mass-trauma studies and theoretical models of PTSD have pointed out the need to let the "dust settle," as most people will be resilient in the long term (Bonanno, 2004; Santiago et al., 2013). We do not dispute this point. However, when we are faced with mass trauma, such as COVID-19, even a significant minority of traumatized individuals will mean that the mental health burden will be enormous. However, the trauma field still continues to lack agreement on effective tools for preventing PTSD and other stress-related disorders.

While there has been significant progress in treating trauma-related disorders among both military and civilian populations (e.g., Watkins, Sprang, & Rothbaum, 2018), many of the studies on trauma-focused therapy show moderate benefits and high drop-out rates, and their applicability to new contexts (e.g., a health pandemic) is clearly in question. Mental health researchers, practitioners, and those working in professions in which trauma exposure is routine must find ways to work more closely together to test novel interventions to protect and reduce the incidence of COVID-19-related traumatic stress.

One promising way of achieving this may be through advancements made in the field of psychological first aid and early trauma intervention (e.g., Farchi et al., 2018). Since the peritraumatic phase of the COVID-19 crisis is likely to be rather long, treating people for acute stress disorder and/or initial posttraumatic symptoms, which have not yet crystalized into full-blown PTSD, may be of particular importance (e.g., Hobfoll et al., 2007).

Finally, special consideration should be given not only to patients and their families, but also to physicians and medical system workers at large (Roden-Foreman et al., 2017). Well-established models of secondary traumatization, compassion fatigue, moral injury, and burnout should be applied and used to assist these workers in their daily effort to cope with massive amounts of work and stress (Van Mol, Kompanje, Benoit, Bakker, & Nijkamp, 2015).

Public Outreach and Communication

At this early point in the crisis' timeline, there is relative lack of discourse around self-care and well-being in light of the COVID-19 threat. Also, what is being discussed throughout the media is highly varied, and does not seem to be based on a particular set of best practices. In articles and TV reports, in which experts were asked what they recommend, well-known mental health professionals have mentioned everything from distraction, deep breathing, and stretching, to mindfulness. This is not to say that these modes of therapy/coping, either by themselves or in conjunction with other methods, are not effective. What is missing, however, is a set of clear guidelines and talking points for the media and government officials to use when speaking to a very anxious, and potentially traumatized, public.

If the trauma community has something to offer at these times, moments like this should not turn out to be missed opportunities for us to translate years of science to contribute to the public good. Once again, trauma professionals may play a crucial role in communicating high quality psychoeducation (e.g., what are common trauma responses?; normalize reactions; explain about symptoms in an empathic, clear way), as well as general advice (e.g., encourage seeking of therapy if symptoms occur; provide names of local trauma centers) to the public. We believe many in the professional trauma community have this expertise, both from their training, but even more importantly, from previous mass traumas, including 9/11, mass shootings in the community, and terrorist attacks (Marshall & Galea, 2004).

Working With Medical Staff and Mainstreaming Into Non-Mental Health Services

In a crisis of COVID-19's magnitude, trauma-related mental health care cannot be separated from other forms of care. Thus, there is an urgent need to create highly flexible models of training and resource sharing, which would enable trauma specialists to quickly collaborate with other health professionals, perhaps in a way never seen before. Support for those traumatized must be integrated into other forms of support. We need to find ways (e.g., low-intensity CBT; Dawson & Rahman, 2018) to more effectively train those providing nonmental health care, security services, welfare, education, childcare, and occupational support, and delegate mental health responsibilities in order to provide care for the largest number of people possible. By training individuals outside of the mental health field, we have a unique opportunity to increase our reach, normalize and reduce stigma, and increase agency and empowerment so that communities would be less reliant on "experts." This, in turn, may reduce barriers to care.

In line with the above, we need to think about stress-related research and mass trauma in the context of global mental health (Hanna et al., 2018). The COVID-19 crisis is already of global proportions. The field of global mental health has been pushing hard in advances in treatment. Experts in this field are rapidly carrying out studies that focus on task sharing, that is, the idea that lay individuals can be trained to carry out therapy with supervision and guidance of experts (e.g., Chibanda et al., 2011). Facing a pandemic of this magnitude, the mental health response will surely need to go beyond that of trained experts. Thus, trauma professionals need to rapidly improve their ability of disseminating their skills. They are encouraged to invest in partnerships with community leaders and agencies to integrate findings from research with local traditions and practices. We also need to think about ways to scale up and support research in ways that provide nonexperts with the tools to collect their own data. Some of these efforts are starting to take place (e.g., Breuer et al., 2019). In summary, COVID-19 calls for further efforts to scale up treatments and move away from the idea that only certain people can provide support for those experiencing traumatic stress.

COVID-19-Specific Trauma Research

The academic world, just as any other domain of daily life, is currently struggling with great difficulties and uncertainty. Nonetheless, one cannot overestimate the importance of conducting

real-time trauma research at these times, despite the obvious difficulty in operating study teams, recruiting participants, and collecting data. In times of uncertainty, science is one of the only ways to achieve clarity. In order to gain a better understanding of the peri- and posttraumatic implications of the COVID-19 crisis, large-scale prospective, longitudinal trauma studies are much needed. They have the potential of shedding crucial light on risk and resilience factors, as well as on the scope and severity of traumatic distress among the world's population.

In addition, we believe this is the time for PTSD researchers to employ all "heavy guns" of scientific practice, including novel statistical analysis, unique study designs, and creative collaborations and combinations of trauma disciplines (biology and psychology, psychiatry and social policy, and qualitative and quantitate methods) in order to deepen our understanding of the mental health implications of the current crisis. Importantly, trauma science in these times is not only timely, but also time sensitive. Thus, researchers should move quickly, and exert the maximum amount of effort in order to collect valuable data, which will inform high quality practice and policy as soon as possible.

Conclusion

To conclude, we argue that the COVID-19 crisis can and should be viewed from the perspective of trauma. Trauma experts, from both academia and practice, should play a significant role in this crisis, as they potentially have a knowledge base to provide critical support and care during this time and into the future. However, COVID-19 is also forcing us to reckon with many of the persistent gaps that remain in this field. If we are to be resilient as a field, we must adapt, coordinate, and mobilize our efforts to close these gaps.

The difficulties we are facing globally are unprecedented, and we know from countless studies that threat and fear often lead to flight or freeze. We will have to fight, together, in a way to bring our decades of hard work to this challenge, while at the same time leveraging the urgency of this issue to innovate and grow in ways that would allow us to most effectively protect and care for those who are in most need.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM–5)*. Washington, DC: American Psychiatric Publishing.

Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59,* 20–28. http://dx.doi.org/10.1037/0003-066X.59.1.20

Breuer, E., Hanlon, C., Bhana, A., Chisholm, D., De Silva, M., Fekadu, A., . . . Lund, C. (2019). Partnerships in a global mental health research programme—The example of prime. *Global Social Welfare: Research, Policy & Practice, 6,* 159–175. http://dx.doi.org/10.1007/s40609-018-0128-6

Brewin, C. R., Lanius, R. A., Novac, A., Schnyder, U., & Galea, S. (2009). Reformulating PTSD for *DSM–5*: Life after Criterion A. *Journal of Traumatic Stress, 22,* 366–373. http://dx.doi.org/10.1002/jts.20443

Bryant, R. A. (2019). Post-traumatic stress disorder: A state-of-the-art review of evidence and challenges. *World Psychiatry, 18,* 259–269. http://dx.doi.org/10.1002/wps.20656

Centers for Disease Control and Prevention. (2020). *How coronavirus spreads*. Retrieved from https://www.cdc.gov/coronavirus/2019-ncov/prepare/transmission.html

Chibanda, D., Mesu, P., Kajawu, L., Cowan, F., Araya, R., & Abas, M. A. (2011). Problem-solving therapy for depression and common mental disorders in Zimbabwe: Piloting a task-shifting primary mental health care intervention in a population with a high prevalence of people living with HIV. *BMC Public Health, 11,* 828. http://dx.doi.org/10.1186/1471-2458-11-828

Dawson, K. S., & Rahman, A. (2018). Low-intensity interventions for psychological symptoms following mass trauma. In N. Morina & A. Nickerson (Eds.), *Mental health of refugee and conflict-affected populations* (pp. 341–356). Cham, Switzerland: Springer. http://dx.doi.org/10.1007/978-3-319-97046-2_17

Farchi, M., Levy, T. B., Gershon, B. B., Hirsch-Gornemann, M. B., Whiteson, A., & Gidron, Y. (2018). The SIX Cs model for immediate cognitive psychological first aid: From helplessness to active efficient coping. *International Journal of Emergency Mental Health, 20,* 1–12. http://dx.doi.org/10.4172/1522-4821.1000395

Galatzer-Levy, I. R., Ma, S., Statnikov, A., Yehuda, R., & Shalev, A. Y. (2017). Utilization of machine learning for prediction of post-traumatic stress: A re-examination of cortisol in the prediction and pathways to non-remitting PTSD. *Translational Psychiatry, 7,* e1070. http://dx.doi.org/10.1038/tp.2017.38

Galea, S., Tracy, M., Norris, F., & Coffey, S. F. (2008). Financial and social circumstances and the incidence and course of PTSD in Mississippi during the first two years after Hurricane Katrina. *Journal of Traumatic Stress, 21,* 357–368. http://dx.doi.org/10.1002/jts.20355

Gallagher, S. (2020, March 23). Coronavirus: How to curb your anxiety about COVID-19 virus according to psychologists. *The Independent*. Retrieved from https://www.independent.co.uk/life-style/health-and-families/coronavirus-anxiety-how-to-tackle-a9370106.html

Gelkopf, M., Lapid Pickman, L., Carlson, E. B., & Greene, T. (2019). The dynamic relations among peritraumatic and posttraumatic stress symptoms: An experience sampling study during wartime. *Journal of Traumatic Stress, 32,* 119–129. http://dx.doi.org/10.1002/jts.22374

Hanna, F., Barbui, C., Dua, T., Lora, A., van Regteren Altena, M., & Saxena, S. (2018). Global mental health: How are we doing? *World Psychiatry, 17,* 367–368. http://dx.doi.org/10.1002/wps.20572

Hobfoll, S. E., Watson, P., Bell, C. C., Bryant, R. A., Brymer, M. J., Friedman, M. J., . . . Ursano, R. J. (2007). Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. *Psychiatry: Interpersonal and Biological Processes, 70,* 283–315. http://dx.doi.org/10.1521/psyc.2007.70.4.283

Janoff-Bulman, R. (1989). Assumptive worlds and the stress of traumatic events: Applications of the schema construct. *Social Cognition, 7,* 113–136. http://dx.doi.org/10.1521/soco.1989.7.2.113

Marshall, R. D., & Galea, S. (2004). Science for the community: Assessing mental health after 9/11. *The Journal of Clinical Psychiatry, 65,* 37–43.

Qiu, J., Shen, B., Zhao, M., Wang, Z., Xie, B., & Xu, Y. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: Implications and policy recommendations. *General Psychiatry, 33,* e100213. http://dx.doi.org/10.1136/gpsych-2020-100213

Roden-Foreman, J. W., Bennett, M. M., Rainey, E. E., Garrett, J. S., Powers, M. B., & Warren, A. M. (2017). Secondary traumatic stress in emergency medicine clinicians. *Cognitive Behaviour Therapy, 46,* 522–532. http://dx.doi.org/10.1080/16506073.2017.1315612

Santiago, P. N., Ursano, R. J., Gray, C. L., Pynoos, R. S., Spiegel, D., Lewis-Fernandez, R., . . . Fullerton, C. S. (2013). A systematic review of PTSD prevalence and trajectories in *DSM–5* defined trauma exposed populations: Intentional and non-intentional traumatic events. *PLoS ONE, 8,* e59236. http://dx.doi.org/10.1371/journal.pone.0059236

Sumner, J. A., Nishimi, K. M., Koenen, K. C., Roberts, A. L., & Kubzansky, L. D. (2019). Posttraumatic stress disorder and inflammation: Untangling issues of bidirectionality. *Biological Psychiatry*. Advance online publication. http://dx.doi.org/10.1016/j.biopsych.2019.11.005

van Mol, M. M., Kompanje, E. J., Benoit, D. D., Bakker, J., & Nijkamp, M. D. (2015). The prevalence of compassion fatigue and burnout among healthcare professionals in intensive care units: A systematic review. *PLoS ONE, 10,* e0136955. http://dx.doi.org/10.1371/journal.pone.0136955

Wade, D., Hardy, R., Howell, D., & Mythen, M. (2013). Identifying clinical and acute psychological risk factors for PTSD after critical care: A systematic review. *Minerva Anestesiologica, 79,* 944–963.

Watkins, L. E., Sprang, K. R., & Rothbaum, B. O. (2018). Treating PTSD: A review of evidence-based psychotherapy interventions. *Frontiers in Behavioral Neuroscience, 12,* 258. http://dx.doi.org/10.3389/fnbeh.2018.00258

World Health Organization. (2018). *International classification of diseases for mortality and morbidity statistics* (11th Revision). Retrieved from https://icd.who.int/browse11/l-m/en

Xue, C., Ge, Y., Tang, B., Liu, Y., Kang, P., Wang, M., & Zhang, L. (2015). A meta-analysis of risk factors for combat-related PTSD among military personnel and veterans. *PLoS ONE, 10,* e0120270. http://dx.doi.org/10.1371/journal.pone.0120270

Received March 25, 2020
Accepted March 27, 2020 ■