

## The collective trauma and chronic stress of COVID-19: risk and resilience

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### Abstract

Direct exposure (e.g., loss of life, personal illness), media-based exposure, secondary stressors (e.g., job loss, reduced wages), and mitigation efforts (e.g., social distancing) associated with COVID-19 have led to a public mental health crisis. A number of types of losses (e.g., self, purpose, experiences, and normalcy) have contributed to negative outcomes for many people. Common risk factors include younger age, type of exposure, gender, minority status, and pre-COVID-19 physical and mental health problems. Yet individual factors and emerging resources (e.g., telehealth online self-care apps) have the potential to increase resilience and recovery for individuals grappling with the psychological effects of COVID-19-related distress (collective resilience will be discussed in another chapter). Because long-term effects of COVID-19 are likely, longitudinal, rigorous, population-based research is necessary to understand responses over time. Lessons learned for health officials and future research ideas are offered.

Keywords: chronic stress, trauma, collective trauma, COVID-19, secondary stressor, mental health, depression, anxiety, health disparities, health equity

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Collective traumas are large-scale negative life events that impact the populace broadly, both by proximal exposure and media coverage. No prior collective trauma has impacted so many for such a long duration than the COVID-19 pandemic. The pandemic shares many characteristics with other collective traumas (e.g., terrorism, hurricanes, shootings) in that it was a catastrophic event that shattered assumptions of safety and security, occurred without warning, and involved a crisis of meaning with respect to our experience of continuity, community, and self (Hirschberger, 2018). Yet unlike many other collective traumas, there was not clear demarcation of the “end” of the pandemic, when the crisis ended, and healing began. Thus, the pandemic shared many features of chronic stressors – ongoing events that influence a person’s physical and mental health through disruption of daily life. COVID-19 and the associated dramatic social disruption, staggering loss of life, and cascade of stressful events created a mental health crisis for many. Yet resilience was also common. Type of exposure (e.g., direct exposure, media-based exposure, secondary stressors) as well as demographic indicators explained variability in responses.

In sum, people’s experiences of the COVID-19 pandemic varied greatly, due to differential exposures, individual-level indicators (e.g., demographics, prior mental health), and contextual factors associated with resilience compared to distress. Opportunities for capitalizing on individual and social resilience can inform strategies to facilitate coping during the recovery process and beyond. This chapter will review the current state of COVID-19 mental health research and provide an overview of methodological and empirical limitations to inspire rigorous research moving forward.

### **Conceptualizing Exposure to COVID-19**

Exposure to the COVID-19 pandemic, like many other collective traumas, occurred from multiple imputes. Yet the COVID-19 pandemic was distinct from most other events, in that many people experienced so many different types of exposures concurrently. The following section will review key types of exposures associated with the COVID-19 pandemic: direct exposure (e.g., proximal exposure), secondary stressors (e.g., events that stem from direct exposure to the trauma), media-based exposure, cascading traumas (e.g., associated collective trauma that occur as part of the disaster cascade), and chronic stress. The confluence of these exposures portended increased distress in many individuals. However, understanding the interrelationships between these exposures and psychological outcomes could yield information for targeted intervention efforts that guide recovery efforts and healing.

### **Direct Exposure**

Traumatic events involve direct threat to life of the individual or their loved one, or by hearing of a trauma through professional work (American Psychiatric Association, 2013). In the collective trauma literature, direct exposure is being geographically at or near the physical location of the traumatic event or having someone close to you (i.e., friend or family) at or near the event (Holman et al., 2014). During COVID-19, direct exposure included personal illness (i.e., self or close friend or family member diagnosed with COVID-19) and loss of life (i.e., death of a close friend or family member due to COVID-19), with such exposures linked with increased psychological maladies in the general populace (Holman et al., 2020). Witnessing patient death was a particularly potent predictor of posttraumatic stress (PTS) in healthcare workers treating patients with COVID-19, highlighting the relationship between direct exposure and mental-health outcomes, especially for those at high risk of such exposures (Mosheva et al., 2021; see Chapter # for more on posttraumatic stress disorder associated with COVID-19).

## **Secondary Stressors**

Secondary stressors are individual-level events associated with the disaster cascade (Garfin et al., 2014). Prior disaster research demonstrated that number of secondary stressors experienced in the aftermath of earthquakes (Garfin et al., 2014) and hurricanes (Kessler et al., 2012) was positively associated with mental-health maladies. During the early phase of the COVID-19 outbreak, secondary stressors included job loss, decreased wages, canceled travel plans, waiting in long lines, and inability to obtain necessary supplies; these experiences were in turn associated with incremental increases in acute stress and depressive symptoms (Holman et al., 2020). As the pandemic continued, stressors shifted to include missed events such as graduations, inability to attend religious services, school closures, and separation from friends and family (see Chapter # for more on how COVID-19 affected daily life). Indeed, between March 11, 2020 and February 2, 2021, schools averaged 95 closure days globally (UNICEF, 2021), highlighting the severe and ongoing duration of secondary stressors globally.

## **Cascading Traumas**

Collective traumas rarely occur in isolation; rather, the occurrence of one event frequently triggers a series of interconnected disasters that create a compounding crisis (Silver et al., 2021). The COVID-19 outbreak was associated with restrictions leading to business closures and an economic crisis. The first few months of lockdowns resulted in the highest United States unemployment rate on record (since 1948), peaking at 14.8% in April 2020 (Falk et al., 2021). A year later, the unemployment rate was still 6.1%, which was 2.6% higher than February 2020, the month preceding widespread lockdown measures. As the economy reopened, inflation spiked, with rising costs in nearly all sectors of consumer goods including food, transportation, and housing (Bureau of Labor Statistics, 2021). The COVID-19 pandemic also begot increased

political polarization and a social justice reckoning in the United States and elsewhere, occurring concurrently with seasonal natural hazards (e.g., hurricanes, wildfires, tornados). These events created the “perfect storm” of compounding crises, the mental health effects of which are still largely unknown (Silver et al., 2021). Prior research regarding responses to terrorist attacks (Garfin et al., 2015) and natural disasters (Garfin et al., 2014) suggests that exposure to COVID-19-related compounding crises that occurred in both rapid succession and over time will likely be linked with increased distress; longitudinal research with nuanced assessments of event exposure is necessary to confirm.

### **Media-based Exposure to COVID-19**

Early in the crisis, the likely deleterious mental health effects of COVID-19-related media exposure were evident (Garfin et al., 2020). A robust body of prospective research on prior collective trauma including terrorist attacks, shootings, natural disasters, and previous viral epidemics (e.g., Ebola and H1N1 outbreaks) demonstrated the striking association between increased event-related-media exposure and mental-health maladies. During COVID-19, the problem was exacerbated by the increased time people spent engaging with media. Stay-at-home orders eliminated commute times and socialization opportunities for many, with global online content consumption substantially increasing (Garfin, 2020). Indeed, average daily hours spent consuming media content on the internet increased in 2020 from just over three hours to six hours and 59 minutes (Koetsier, 2020). This was compounded by people’s reliance on the media for critical updates. As COVID-19 emerged, scientific information was rapidly evolving, risks were amplifying, and government mandates changing by the months, weeks, and even days (Garfin et al., 2021), necessitating people stay informed as information emerged. Because media exposure and distress can form a reciprocal, amplification relationship and a cycle of distress

over time; that is, those who are distressed seek out more media, and in turn become more distressed (Thompson et al., 2019). Longitudinal research should explore this in the COVID-19 context.

As expected, early findings from nationally representative samples documented the association between COVID-19 media exposure and psychological distress. Data from a representative sample of U.S. adults (N=6,329) assessed in March 2020 found time spent on social media and number of traditional media sources consulted were independently associated with increased mental distress (Riehm et al., 2020). However, differential conceptualization of media exposure (e.g., type vs. number of sources) makes cross-medium comparisons tenuous. A distinct nationally representative sample of U.S. adults assessed between March 18, 2020 – April 18, 2020 found hours of COVID-19-related media exposure (including both traditional and new media) were positively associated with acute stress and depressive symptoms (Holman et al., 2020). Importantly, during the COVID-19 pandemic, there was also an “infodemic” of misinformation and contradictory communications (see Chapter # for more in misinformation related to COVID-19). Exposure to this conflicting news coverage was independently associated with increased psychological distress, even after accounting for total amount of media exposure, demographic indicators, and pre-pandemic mental health ailments (Holman et al., 2020). Taken together, these early findings suggest future research should account for content, amount, type, and source of media consumption during COVID-19 and future crises.

### **Chronic Stress**

Stress theorists have long struggled to precisely define the concept of stress, in part because it is contingent upon one’s perception of the event and their resources (including support, ability, prior experiences) to meet its demands (Baum, 1990). A classic definition of

chronic stress is “demands, threats, perceived harm or loss, or responses that persist for long periods of time (p. 662).” By that definition, the COVID-19 pandemic would clearly be considered a chronic stressor in addition to an acute and compounding trauma. A classic example of the effect of chronic stressors is the Three Mile Island (TMI) disaster in the late 1970s, when a nuclear reactor accident caused radiation exposure to nearby communities. Like COVID-19, the radiation was an invisible threat and covered widely by the media, with conflicting and confusing information and a high degree of uncertainty. Longitudinal research found those living near TMI experienced elevated psychological distress and physiological stress responses that persisted years post-event (Baum, 1990). Given this and the likely prolonged social and economic recovery of the COVID-19 pandemic, longitudinal research is essential to document the long-term effects of COVID-19 and the persistence of the stress response – using multiple metrics - over time.

### **COVID-19 and Mental Health Outcomes**

Research on the mental health effects of the COVID-19 pandemic has exploded since the crisis began. Early research suggested that, as COVID-19 spread in the United States, psychological distress increased (Holingue et al., 2020; Holman et al., 2020). Hundreds of articles were published on mental health and COVID-19, in conjunction with a national conversation about the potential rise in mental health ailments as a result of the virus, lockdowns, and other public health mitigation efforts (e.g., social distancing policies). Key ailments of concern included depression, anxiety, post-traumatic stress disorder (PTSD), general distress, and suicide (Pfefferbaum & North, 2020). Research on prior epidemics requiring substantial quarantines noted irritability, insomnia, emotional exhaustion, substance abuse, and long-term avoidance behavior could also be problematic (Brooks et al., 2020).

A few key studies utilized pre-pandemic mental health data to examine change associated with the emergence of COVID-19. Early research from an ongoing nationally representative sample (N=1,470) compared prevalence rates of depression from 2017-2018 to those collected during March-April 2020, demonstrating a 3-fold increase in depression (Ettman et al., 2020). Similarly, a longitudinal, nationally representative sample in the United Kingdom found a significant increase in mental health ailments during the beginning of the pandemic (April, May, and June) compared to assessments taken in 2017-2019 (Daly et al., 2021), yet a large attrition rate cautions strong inferences. Using a sequential cohort design, epidemiological findings from a nationally representative sample of 6,514 Americans found that both acute stress and depressive symptoms increased between March 18-April 18, 2020 (Holman et al., 2020). That study found that psychological distress increased along with case counts, deaths, and restrictions. Importantly, that research accounted for pre-pandemic mental and physical health ailments, potent predictors of COVID-19-related mental-health maladies. Such data facilitate inferences regarding increases in symptoms attributable to the pandemic and its associated morbidities, mortalities, and social disruptions.

Relatedly, data from the Centers for Disease Control and Prevention (CDC) found changes in several types of emergency department visits including mental health conditions and suicide attempts; results illustrated both increased during mid-March to October 2020 compared to March-October 2019 (Holland et al., 2021). In contrast, other research indicated suicide rates did not uniformly increase during 2020, and sometimes decreased (John et al., 2020). Such findings may have been due to less access to self-harm modalities during the lockdowns, an early “pulling together” period, or differential presentation by age or other sociodemographic factors. Indeed, national data on deaths in Japan during the later months in 2020 found suicides increased



(Sakamoto et al., 2021). Such findings demonstrate the value of longitudinal, population-based research to track the pandemic's impact on mental health over time and for interventions that target those with prior mental-health ailments, who are particularly vulnerable.

### **Grief**

Uniquely, this public-health crisis involved protracted quarantines and lockdowns at regional and national levels. Resultingly, pandemic-associated grief likely occurred from a variety of losses: the loss of loved ones from the virus itself and the loss of life cycle events (e.g., graduations, weddings) and daily routines resulting from social distancing and other mitigation efforts (Bertuccio et al., 2020). Experiencing multiple losses in a constricted timeframe can lead to bereavement overload, with negative consequences for physical and mental health (Zhai & Du, 2020). Other concerns included unexpected death circumstances (e.g., for people who believed the virus was not deadly) or perceiving the death as preventable. Moreover, travel restrictions and limited ability to gather in groups hindered common rituals surrounding death (e.g., funerals) funerals; lack of formal social and cultural recognition of grief may reduce availability and/or perception of resources (e.g., social support) that typically aid the grieving process (Zhai & Du, 2020).

Preliminary empirical evidence supports these initial concerns. Greater functional impairment from COVID-19 losses was associated with risk factors including not being present when the death occurred, distress about the memorial service, and post-loss loneliness (Neimeyer & Lee, 2021). Dysfunctional grief symptoms were associated with several of those same risk factors (e.g., distress about the deceased dying alone, distress about the memorial service, loneliness from isolation policies) and a unique risk factor (e.g., worry about losing others to COVID-19). A cross-sectional survey of 1600 bereaved adults found COVID-19 related deaths

were a potent predictor of grief when compared to natural causes, perhaps due to COVID-19 deaths operating like an unexpected and shocking loss (Eisma et al., 2021). Given that acute grief severity is a strong predictor of persistent complex grief disorder, these phenomena suggest COVID-19 related losses could be associated with more long-term problems. Longitudinal research is critical to examine if the intensity of this acute grief translates into protracted problems.

### **Demographic Risk Factors for Mental Health Ailments**

Most research suggests that key demographic factors help predicts who is at risk for mental health problems following exposure to collective trauma (see Silver & Garfin, 2016). During the COVID-19 pandemic, social and contextual factors exacerbated some common risk factors (e.g., low socioeconomic status) for poor outcomes. Of critical importance to the recovery efforts, COVID-19 deepened some health disparities, calling to action research, services, and policies, that can help address these inequities.

#### **Age**

Although everyone was susceptible to contracting COVID-19, older adults, especially those above 65 years old, were at higher risk of severe illness. Yet COVID-19-related psychological distress has not followed the same pattern as the risk for illness severity. In a nationally representative sample, age was negatively associated with acute stress symptoms in the first month of the lockdown (Holman et al., 2020). Several plausible explanations exist. Younger workers were more susceptible to COVID-19-related unemployment compared to older workers (Dua et al., 2021). The daily life of older adults might have been less affected, and they might have felt it easier to avoid infections and crowds through greater availability of social support (e.g., younger friends or neighbors willing to grocery shop or cook). Younger adults in

the United Kingdom reported more mental health symptoms including depression and anxiety symptoms; retired individuals reported the least mental health symptoms (Pieh et al., 2021). This bolsters the theory that older adults might not have had to suddenly shift to working-from-home situations, continue working in a high-risk in-person environment as an essential worker, or balance the demands of work with childcare and homeschooling (see chapters # and # for more on these experiences).

### **Ethnicity/Race**

Generally, being an underrepresented minority is associated with physical and mental health disparities; during COVID-19 this relationship was especially pronounced (Hooper et al., 2020). Mental health disparities are common after collective trauma; early in the pandemic it became clear that risk factors for mental health problems were not equitably distributed (Hooper et al., 2020; Purtle, 2020). There were disparities in the risks of COVID-19 susceptibility and severity, which in turn could lead to increased trauma exposure, experiences of secondary stressors, and associated grief. Pre-existing financial inequities were likely exacerbated: indeed, the ability to isolate in a safe home, work from home with stable internet access, and maintain income during the pandemic was not equitable across ethnic and racial populations (see chapters # and # for more on racial disparities during the pandemic) (Yancy, 2020). Moreover, perceptions of COVID-19-related discrimination increased over time during the early phase of the pandemic, which was in turn associated with increased psychological distress (Liu et al., 2020). However, most literature on such health disparities was conducted early on in the pandemic, with neither longitudinal follow-ups nor an incorporation of the history effects of the Black Lives Matter protests, the international reckoning on racism, and the highly publicized murder of George Floyd by a Minneapolis police officer.

## **Sex/Gender**

Generally, women report greater distress following collective trauma exposure. During COVID-19, although women tended to die from COVID-19 at a lower rate than men, they may have endured higher social, psychological, and economic costs associated with the pandemic (see chapters # and # for more on gender differences) (Gausman & Langer, 2020). They were more likely to be frontline workers and to be the primary caregiver for children and other family members. Consequently, during COVID-19, women reported more anxiety, depression, and loneliness compared to men (McQuaid et al., 2021). There was early speculation that women might suffer more economically, which bore out in economic projections regarding the pandemic's impact on women (see Chapter # for more on the experiences of women and families). Indeed, estimates suggested that 56% of workforce departures were women, despite the fact women make up 48% of the workforce (Dua et al., 2021). As estimates suggest these trends will persist in the short- and medium-term, it is critical that future research account for these phenomena in longitudinal inquiry.

## **Socioeconomic Status**

Lower income has been associated with greater risk for mental health problems during the COVID-19 pandemic, including depression (Holman et al., 2020) and loneliness, which is associated with a variety of negative downstream effects on physical and mental health (McQuaid et al., 2021). It has been robustly established that those with lower socioeconomic status typically experience worse physical and mental health, with COVID-19 exacerbating these inequities (Purtle, 2020). Not only do those with lower SES typically have less access to high quality healthcare, they often have jobs that require in-person interaction putting them at higher risk for COVID-19 exposure (see Chapter # for more on socioeconomic status inequities).

Moreover, low SES households faced nearly a twofold rate of unemployment compared to higher income households, with projections indicating a much slower economic recovery for such households (Dua et al., 2021).

### **Building Resilience**

Despite the confluence of risk factors and the importance of addressing mental health during the pandemic and throughout the recovery efforts, there is reason for hope. Indeed, as the myriad of research on responses to disasters suggest, resilience is common (see chapters # and # for more on resilience). While many people experience elevated psychological distress during and in the immediate aftermath of a traumatic event, humans have a marked capacity for resilience, even during times of great difficulty. Although early research from COVID-19 suggested somewhat elevated symptoms of acute stress and depression, taken at a population level, distress was relatively low (Holman, 2020) and was associated with identifiable risk factors (e.g., prior mental health ailments) that could facilitate targeted psychological interventions.

Despite the inherent challenges of COVID-19, new opportunities for more equitable distribution of mental health and self-care resources flourished during the pandemic. Telehealth services expanded, providing greater access and affordability to a larger segment of the populace (Garfin, 2020). Online opportunities to explore and develop healthy interests that reduce stress and facilitate healthy coping also increased dramatically (Garfin, 2020). Options included meditation, yoga, exercise, cooking, reading clubs, art classes, dancing and so on. During the COVID-19 pandemic, the availability of these activities increased globally, while barriers to access (e.g., cost, transportation, geographic availability) reduced dramatically. Opportunities for social connection also increased as people turned to technology to engage with others. Findings

regarding loneliness during COVID-19 have therefore been mixed, with sociodemographic groups at-risk for loneliness before the pandemic similarly at-risk during COVID-19, with several caveats (e.g., students were more at-risk during the pandemic than before) (Bu et al., 2020). Such finding could be due to the ingenuity of people transitioning to family functions, coworker happy hours, and other social functions via videoconferencing. As the world transitions to a post-COVID-19 reality, individual people, organizations and providers might reflect on which innovations and opportunities that expanded during COVID-19 might be helpful moving forward.

### **Conclusion and Future Directions**

Resiliency and recovery from COVID-19 will likely be heterogeneous. Many will return to pre-pandemic levels of functioning relatively quickly with few lasting negative mental health consequences. Others will need a period of re-adjustment before fully returning to life and a mental health state that mirrors their pre-COVID-19 world. Yet, based on prior research on disasters and trauma, a substantial minority of the populace will continue to experience the residual mental health effects of this collective trauma in the years to come. As such, people's exposure to trauma and capacity for resilience shape people's experiences of the pandemic and can inform efforts to bolster resilience and recovery in those with protracted distress responses.

Previous longitudinal research on chronic stressors (Baum, 1990) and collective trauma like the September 11, 2001 terrorist attacks indicated measurable impacts on mental health many years after the event (Garfin et al., 2018). Given the global reach and pervasive disruption of COVID-19 on nearly every aspect of daily life, it could be expected that for many, the mental health crisis may continue long after the vaccine rollout.

The research on the mental health effects of COVID-19 provided key insights into the acute response. Longitudinal research that follows participants over time and throughout the recovery process is necessary to clarify the potential long-term effects. While many studies in the early phase of the outbreak used opt-in online surveys and other forms of convenience samples that provided time-sensitive information, such data should be validated using representative, probability-based samples that integrate pre-pandemic metrics and follow participants over time. Future research on COVID-19 should take a nuanced approach to measuring exposure, and take the perspective that for many – and particularly those groups at risk for high health disparities – many secondary stressors (e.g., job loss), will likely turn into chronic stress with resulting long-term psychological strain. Scholars should also assess what positive outcomes people experienced as a result of the pandemic, and what coping strategies and intervention were effective at mitigating and managing this multifaceted collective trauma. With that perspective, researchers, clinicians, and public health officials can glean information that will clarify the experience of COVID-19 on the populace and learn what might be helpful in preparing for future events.

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