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Preparing for the Aftermath of COVID-19: Shifting Risk and Downstream Health Consequences

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Due to the COVID-19 pandemic, the public is currently living through a collective continuous traumatic stressor. Objective risk levels shift with each new piece of data regarding the coronavirus. These data points are communicated through public health officials and the media, easily accessible through modern advanced technology including online news and push notifications. When objective risk changes, individuals must reappraise their subject risk levels. Updating subjective risk levels several times per week is linked to ambiguity of the situation and uncertainty in daily life. The uncertainty and potential feelings of uncontrollability is linked to heightened anxiety. The continuous stress, anxiety, and uncertainty may have several negative downstream mental and physical health effects nationwide. The health care sector must begin preparing for the long-term consequences of the pandemic.

Keywords: risk perception, mental health, physical health, uncertainty

On February 25, 2020, the U.S. Centers for Disease Control and Prevention (CDC) announced that a COVID-19 outbreak in America was an inevitability (Belluck & Weiland, 2020). By the time the World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020 (WHO, 2020), public health officials had started working to effectively communicate critical information to the public so that individuals could engage in self-protective behaviors. Only 8 days later, California Governor Gavin Newsom issued the first statewide stay-at-home order, with a majority of other states' governments issuing similar orders in the following weeks (Office of Governor Gavin Newsom, 2020).

For most individuals, it has become nearly impossible to avoid the discussions surrounding the pandemic. Every day, people are flooded with bad news. In the current technological age, not only can users search for newsworthy events at any time due to the availability of online news, but smartphones can also update users about breaking news with push notifications throughout the day. The information being relayed about the current health crisis in the media likely contains a high proportion of risk-elevating messaging, as was found in media coverage of the 2014 Ebola outbreak (Sell et al., 2017). Screens are now filled with news about increasing numbers of confirmed cases of COVID-19, unprecedented unemployment statistics, frightful economic downturn projections, growing social tension, and a steadily rising death toll.

Daily life and public safety have become uncertain due to a largely invisible threat that can infect people indiscriminately. As a result, individuals may increase their dependence on the news and social media for information during these times of uncertainty (Ball-Rokeach & DeFleur, 1976; Gui, Kou, Pine, & Chen, 2017). People incorporate risk information from trusted sources (e.g., the media, scientists, public health officials) to either amplify or weaken their perceptions of risk (Kasperson et al., 1988). Therefore, it is vital that trustworthy sources that provide accurate risk assessments and recommendations for the public are readily available and easily accessible (Lachlan, Spence, Lin, Najarian, & Del Greco, 2016). However, information surrounding COVID-19 has been inconsistent, with some leaders and sources suggesting that risk for otherwise healthy individuals is low and others advising an excess of caution to prevent the spread of infection. Ambiguity, such as conflicting reports regarding the severity of the threat from authority figures, can lead to heightened judgments of risk (Renn, Klinke, & van Asselt, 2011), which can lead to increased anxiety among community members (Taha, Matheson, & Anisman, 2014).

Furthermore, the pandemic is a rapidly evolving crisis, meaning that, as the science continues to advance, the public's objective risk level shifts. For example, in mid-March, public health officials communicated new facts about how long the virus could live on different surfaces (National Institutes of Health, 2020; van Doremalen et al., 2020). Suddenly, everyday objects like packages delivered to the home became a threat to safety and something to approach with extreme caution. Additionally, with the news that the virus is able to spread asymptomatically and reports of an overburdened health care system (Centers for Disease Control and Prevention, n.d.), suddenly every person in public became a potential threat to life. Still, there is much to be discovered. With every new scientific data point communicated through the media,

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individuals have to reassess their risk level, either amplifying or minimizing the subjective risk with the inclusion of the new data (Kasperson et al., 1988). The shifting of objective risk level and reevaluation of subjective risk several times per week can contribute to the high levels of uncertainty and distress in daily life. Given the ambiguity of the crisis, the real threat to life, and uncertainty of the future, the outbreak should be considered a continuous traumatic stressor (Eagle & Kaminer, 2013). It is not a single event that is distressing but rather the culmination of shifting risk, continuous discussions about the pandemic both in the news and on social media, and the uncertainty of when the crisis and threat to life will end that is contributing to a prolonged period of stress.

Experiencing a sustained, heightened stress response also has implications for long-term well-being. Acute stress responses to trauma have been linked to several long-term health outcomes, including cardiovascular disease, lower self-reported general health, global distress, depression, and anxiety disorders (Garfin, Thompson, & Holman, 2018). We should expect similar mental and physical health consequences of the current crisis over time, which will be observed on a national scale with long-term implications for the currently overtaxed health care system. For example, a prolonged social isolation period could lead to increased incidence of depression, which is itself an important risk factor for cardiovascular disease (Van der Kooy, et al., 2007). Once the crisis is resolved, many businesses will not be able to survive the economic fallout, leaving many people without jobs or health insurance. Compounding the possible long-term health consequences and economic hardships with large numbers of health care providers likely experiencing burnout and PTSD from serving on the front lines of the pandemic (Lai et al., 2020), the health care system must begin preparing now for the aftermath of the crisis. It is the responsibility of policymakers and researchers alike to advocate for the allocation of resources toward physical and mental health programs to support both the frontline medical staff and other essential workers as well as the general population.

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