

# When Time Falls Apart: The Public Health Implications of Distorted Time Perception in the Age of COVID-19

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Collective trauma, like the COVID-19 pandemic, can dramatically alter how we perceive time and view our futures. Indeed, the pandemic has challenged us to cope with an ambiguous, invisible threat that has changed our way of life and made our futures, both near and far, less certain. In this commentary, we review existing literature on time perception in the context of stress and trauma and discuss its implications for mental health and well-being.

**Keywords:** time perspective, mental health, public health, collective trauma, COVID-19

“Time has slowed to a crawl. The days are a blur. Two weeks ago feels like two years ago.”

“The COVID-19 time warp: Why it feels like time has slowed during this pandemic.” Douglas Quan, Vancouver Bureau of The Star

“I just want us to have a future.” (Julian Bruell, Tavernise, Burch, Mervosh, & Robertson, 2020)

On March 13, 2020, President Trump issued a proclamation declaring the coronavirus outbreak a national emergency—since then, schools and businesses have closed, states have issued stay-at-home orders, tens of millions of Americans have become unemployed, and the stock market has bounded between record drops and surges, leaving many Americans feeling unsure about what the future brings. Indeed, the coronavirus pandemic has become an unfolding, chronic, collective trauma that has ushered in an era of profound uncertainty and fear about the future. Anecdotal reports like those above illustrate how the COVID-19 pandemic has distorted our flow of time. As an ambiguous, invisible threat, it has laid bare our illusory assumptions that the future is knowable, controllable, and guaranteed (cf. Taylor & Armor, 1996) and replaced them with a future that feels unsafe and uncertain, a combination sure to trigger stress and anxiety (Brosschot, Verkuil,

& Thayer, 2016). These changes in perceptions of time and our views of the future may have significant implications for our health and well-being.

For more than 25 years, our research has examined time perceptions in the context of trauma exposure. At the heart of this work is the assumption that time is the window through which we see our lives unfold, build our identities, identify future ambitions, and maintain our sense of morale (Lewin, 1942). These studies demonstrate that disrupting the flow of time can have serious psychological consequences. Altered perceptions of time and its passing are common experiences of people facing trauma (Holman & Silver, 1998; Terr, 1983) because trauma can peel away the façade of the future, urgently force people to live in the present moment, and expand the current traumatic experience so that it fills conscious awareness (Holman, 2015; Holman & Zimbardo, 2009). Interrupting the flow of time creates perceptual distortions such as feeling like time has stopped or that everything is in slow motion, experiencing a sense of timelessness, confusing the order of time and days, and perceiving a foreshortened future. These altered time perceptions have been coined “temporal disintegration or discontinuity”—a process in which sequential thinking is impaired and “the here-and-now appears to have nothing before or after it . . . and may seem isolated from the continuity of time . . .” (Melges, 1982, p. 135). Losing the continuity of one’s own personal timeline following trauma can be quite serious because altered time perceptions have been associated with subsequent psychological distress and mental health ailments in community and clinical samples (see Holman et al., 1998; Melges, 1982).

Undermining people’s positive illusions about the future can similarly wreak havoc on mental health. Philosophers and psychologists have long viewed having a future orientation as essential for well-being and morale (see Heidegger, 1962; Nuttin, 1985), especially in the context of coping with adversity (Lewin, 1942; Melges, 1982). Indeed, a growing body of research indicates that maintaining a hopeful, goal-oriented future orientation is beneficial for mental health among youth coping with political violence and war (Lavi & Solomon, 2005; Seginer, 2008), orphans whose parents died of AIDS (Zhang et al., 2009), and people coping with community wildfires and the September 11 terrorist attacks (Hol-

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man, 2015; Holman & Silver, 2005). Maintaining a balanced time perspective that incorporates awareness of the past, present, and future has also been tied to better mental health (Bonwell, Osin, Linley, & Ivanchenko, 2010). However, with few exceptions (Holman, 2015; Holman et al., 2005), this research has used nonrepresentative, convenience samples (e.g., college students; Lavi et al., 2005; Zhang et al., 2009; Zimbardo & Boyd, 1999) and disparate conceptualizations and measures of future orientation (Holman et al., 2009; Seginer, 2009; Zhang et al., 2009), making it difficult to draw firm conclusions about the specific role future orientation plays in coping with significant collective trauma like the coronavirus pandemic.

Research on time perspective and future orientation is critical to understand how people are coping with this pandemic, especially among populations for which future aspirations are most salient. That is, for young people, individuals from low socioeconomic backgrounds, minorities, and immigrants, the pandemic and its myriad secondary stressors may powerfully shape their psychological responses and have an immediate, acute impact on their futures. Researchers should address these issues using representative samples to both examine patterns of time perception and emotional responses among the population at large as well as assess how experiences of time may differ across segments of the population as they cope with the pandemic.

We also need to examine whether the mental health correlates of altered time perception have implications for physical health. We know that worry and perseverative cognition, both of which are often future focused, are associated with potentially detrimental changes in cardiovascular physiology (Kubzansky et al., 1997; Ottaviani et al., 2016). We also know that depression, anxiety, and posttraumatic stress disorder are risk factors for cardiovascular disease (e.g., Kubzansky, Koenen, Spiro, Vokonas, & Sparrow, 2007; Towfighi et al., 2017). It remains an open question whether altered time perception in the wake of collective trauma has implications for physical health, but the evidence suggests we should examine both direct and indirect (through mental health) associations between them (see Bourdon et al., 2020). Toward this end, we have begun a study in which we plan to address these questions among a probability-based nationally representative sample from the NORC AmeriSpeak panel.

The coronavirus 2019 pandemic has challenged us to cope with an ambiguous, invisible threat that has severely changed our way of life, calling into question what the future, both near and far, will bring. To understand how best to protect public mental and physical well-being, we need to study how shifts in time perceptions are affecting people and use that information to develop interventions designed to restore a safe, more certain future.

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