


Beyond the Pathogen: Social and Behavioral Aspects of COVID-19

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COVID-19 presents an existential challenge for millions of people and a generational challenge for the globe. Scientific research is the primary vehicle in humanity's attempts to understand the virus and mitigate its effects. Research on the pathogen is critically important. At the same time, COVID-19's consequences are due to more than the pathogen. Social and behavioral science research is essential in understanding how to achieve the highest possible health and safety levels, and how to preserve and improve quality of life, within complex and interdependent societies. This article describes the social sciences' role in this challenge and offers examples of its insights.

KEY WORDS: behavioral science, COVID-19, social science

Introduction

COVID-19 has disrupted life for nearly every person on the planet. At the time of this writing, researchers around the world seek to mitigate the pathogen's threats to life and livelihood. Many work to uncover the virus's biological foundations. Among the potential benefits of these studies are effective treatments and vaccines.

COVID-19's effect on people is more than biological. The manner in which the virus spreads has led governments around the world to restrict social interaction in unprecedented ways. Millions of schools are shuttered. While some students and families have access to online education, others do not. These differences have great potential to fuel subsequent inequality in educational preparedness, which can have long-term consequences for life choices.

Government restrictions have combined with changing consumer behaviors to close millions of businesses. While governments are supplementing lost income and diverse social organizations are offering related kinds of support, longer-term impacts are becoming apparent. Jobs once held by numerous furloughed or fired workers will never return. These changes to employment prospects not only affect daily existence for millions of families, they will also pose new challenges for those whose skills were better suited for a pre-pandemic economy.

Our current challenge requires difficult choices. Individuals and societies must now reconcile our aspirations for freedom of movement, close social ties, meaningful work, and thriving communities with decisions about what to touch, who to get near, and what previous work and leisure activities to forego. Our quality of life

in the days, months, and years to come will depend on correspondences between individual decisions made today and the complex dynamics of massive social networks. Helping one another limit, and recover from, COVID-19's consequences requires more than better knowledge of the pathogen. It also requires drawing from, and further developing, deep and important insights from the social and behavioral sciences.

The social and behavioral sciences study what people understand about themselves, others, and the world in which they live. They study how groups of people see one another, and how these visions influence their actions. These scientists study what makes governments, economic markets, and cultural norms resilient in the face of crisis—or vulnerable to collapse. Moreover, they study how these factors intersect to produce very different COVID-19 related outcomes for differently situated people and communities. Among the potential benefits of these studies are more effective strategies for interacting in ways that keep people safe at the same time that they help communities thrive.

In this essay, I will review several new and recent social and behavioral science research that reflect some of the efforts to mitigate the pathogen's threats.

Research Informing Reactions

The social and behavioral sciences entail millions of people exchanging information in a shared attempt to understand and improve the human condition. These sciences feature diverse forms of rigor and insight. Attention to measurement and causality is increasingly paramount. These trends increase the precision of insight and offer greater understanding of the conditions under which feasible interventions can improve quality of life (Imbens & Rubin, 2015). Increasing commitments to sharing publications, data, and code enhance the reproducibility and reliability of many social and behavioral research claims (Nosek et al., 2015). These commitments and others like them increase the availability of contextual information that helps potential users of this science use findings in the most effective and efficient ways.

This research comes from core disciplines such as psychology, economics, sociology, and political science as well as an increasing range of interdisciplinary ventures. Traditional barriers between the social and behavioral sciences and other sciences have fallen with positive effects that span many scientific communities. Collectively, this work informs governments, individuals, and many social organizations in between. This work reveals whether and how COVID created or accentuated existing inequities and establishes focal points for responses that can help people and communities in various states of need.

For example, Chiou and Tucker (2020) used data from 20 million mobile devices in the United States to track movements across physical locations. They integrated that data with the stay-at-home orders issued by many U.S. states. They found that “devices in regions with either high income or high-speed Internet are less likely to leave their homes after such a directive.” They also found that “the combination of having both high income and high-speed Internet appears to be the

biggest driver of propensity to stay at home.” These types of results reflect the different trade-offs that people had to make in the early days of the pandemic. Some people had options about how to live and work. Others did not. People who were on the wrong side of the “digital divide” had fewer options and were more exposed to danger. Research like this reveals the importance of broad access to technology. Broader access can not only limit the risks to already vulnerable populations, it can also mitigate the prospect of increased inequity.

Political factors also correspond to inequalities. One study combined GPS location data from a large sample of smartphones with survey data to examine partisan differences in early responses to COVID-19 in the United States (Allcott et al., 2020). They found that members of the Democratic Party were more likely to believe in the pandemic's severity and to reduce contacts with other people. It is worth noting that Democrats in the United States are more likely than Republicans to live in the dense urban areas where COVID-19 was initially most widespread. Still, even after taking this factor into account, the researchers found significant behavioral gaps that corresponded to additional complications in American efforts to limit COVID-19's spread. This type of work points to the importance of understanding enough about the types of information that people are willing to believe so that they see critical information as both credible and usable.

Researchers have also shown how COVID-19-fueled uncertainty caused significant problems that went well above and beyond its direct biological effects. To estimate one aspect of the scale of these problems, Baker, Bloom, Davis, and Terry (2020) integrated COVID-19 data from multiple sources into an advanced model of disaster effects. Not only did they estimate that COVID-19 would reduce U.S. gross domestic product by 11 percent by the end of 2020, they also estimated that about 60 percent of this decline would be a product of uncertainty, rather than a direct consequence of the pathogen on economic activity. In other words, while the pathogen caused people to reduce social activities that, in turn, reduced economic activity, uncertainty about future economic consequences caused substantial additional damage of its own. Work like this shows why it is important for relief and recovery policies to deal not only with real-time consequences, but also to reduce uncertainty where possible. Policies that credibly and truthfully reassure citizens about important aspects of their social lives can prevent direct consequences of COVID-19 from having much larger indirect effects.

A theme in all of the results cited above is a need for reliable information. Credible information is critical to limit the spread of the pathogen while allowing for individually and socially productive endeavors. For example, if practices like social distancing reduce health risks in theory, human beliefs about the effects of social distancing will influence the extent to which the theoretical gains are realized. If enough individuals come to believe that theoretically beneficial practices are ineffective or not worth the sacrifice, potential benefits of life-saving practices will never be realized. To examine such effects, it is not sufficient to examine people in calm conditions, as people tend to process information differently when they are anxious or frightened (see, e.g., Coman & Barry, 2015).

To this end, a number of researchers have worked to understand the consequences of misinformation, a phenomenon that hampered efforts to mitigate many COVID-19 era problems. For example, Carey, Chi, Flynn, Nyhan, and Zeitzoff (2020) used data from previous public health crises to examine the effects of misinformation and evaluated strategies to help people counter its effects. They initially documented the extent to which diseases generated conspiracy theories about their origins and impacts. The researchers found that many false beliefs were widely held. They then used an experimental design to offer countervailing information in different ways. They found that warnings about false information tended to reduce trust in all information, including corrective information. A better approach is to work within communities to build trust in institutions and with leaders who are likely to be seen as reliable sources of information. This work extends previous findings that credibility can be best built by helping prospective information-seeking recipients see that they share core values with expert information providers (Druckman, 2015; Lupia, 2016).

Conclusion

COVID-19 presents an existential challenge for many people, particularly people who were vulnerable prior to the pandemic. Offering aid to these people and the communities in which they live has become the challenge of a generation. While the current situation reveals many places where human societies could have been better prepared, the situation also reveals the resilience and creativity of people everywhere.

Moving forward, time is of the essence. To save as many lives as possible and improve quality of life for the greatest number of people, we will need to have the clearest possible understanding of the relationships between the outcomes we want and the actions that are available to us. We are fortunate to live in an era where the social and behavioral sciences are so well-suited to this task. Their combination of diverse perspective-taking and rigorous analysis are more important now than ever before. Their interactions with the entire community of scientists can help humanity develop the best possible strategies and actions. We need everyone's best effort and I am grateful to all who are contributing their skills to this endeavor.

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Notes

Conflicts of interest: None declared.

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