

CONVERGE COVID-19 Working Groups for Public Health and Social Sciences Research

Research Agenda-Setting Paper

This paper was written to help advance convergence-oriented research in the hazards and disaster field. It highlights areas where additional research could contribute new knowledge to the response to and recovery from the pandemic and other disasters yet to come. Questions about the research topics and ethical and methodological issues highlighted here should be directed to the authors who contributed to this paper.

Working Group Name:

COVID-19 and Enduring Attitudinal, Behavioral, and Social Change

Working Group Description:

The COVID-19 pandemic has forced rapid, large changes in the areas of remote working, distance learning, online shopping, online socializing, day-to-day travel patterns, and long-distance travel. Many of these changes were happening already, but COVID-19 has pressed the fast-forward button. Which behavioral changes will be long-lasting, and for whom? How, if at all, are attitudes shifting in this crisis, and will these shifts be long-term? This Working Group will use a national survey to answer such questions and develop insights into what American life may look like in the aftermath of COVID-19.

Working Group Background: A Panel Data Analysis of the Impacts of COVID-19 and the “Stickiness” of Attitudinal and Behavioral Changes in the U.S.

Motivation

COVID-19 has disrupted the lives of virtually every human on earth. For the less fortunate, the pandemic has caused the loss of livelihoods, illness, and even death. For the more fortunate, the disruption has been largely changes in routine. They have transitioned from a reality of long commutes to telecommuting, from in-person to online classes and business meetings, and from in-store to online shopping. Many of these changes were happening already, but COVID-19 has pressed the fast-forward button.

Attitudes and habits are extremely resistant to change (Owens and Drifill, 2008; Barnes et al., 2004; Polites and Karahanna, 2012), but a disruption of this magnitude has the potential to bring long-term, massive societal changes. During the pandemic, people are being compelled to experience new ways of interacting, working, learning, shopping, traveling, and eating meals. Going forward, a critical question is how these experiences have actually changed attitudes, preferences, and key behaviors in ways that will persist far longer than we hope that the virus will.

This research team is working to develop, deploy, and share a multi-wave nationwide survey over the course of one year to capture attitudinal and behavioral changes in U.S. households before, during, and after the COVID-19 pandemic. The goal is to provide real-world data to substantiate or refute predictions about future

demand; the survey, initial analysis results, and the data can be accessed at <https://covidfuture.org/>. Using these data, we aim to answer four critical **research questions** to investigate the impact of the COVID-19 pandemic on U.S. households:

1. How are different socio-economic segments of the U.S. population changing their attitudes and behaviors during the COVID-19 pandemic?
2. How will the prevalence of working from home change in the future, for whom, and how might working from home affect worker productivity?
3. To what extent will long-term demand for local transportation and services such as restaurants, air travel, and online shopping change as a result of the COVID-19 pandemic?
4. Which features of their COVID-19 lifestyles do people want to “keep”?

We ask these questions with a focus on attitude, preference, and behavior change in the areas of teleworking, distance learning, online shopping, restaurant patronage, day-to-day travel patterns, and long distance travel.

Data

The research team is currently deploying a nationwide multi-wave survey focused on social dynamics, attitudes, and behavior of American households before, during, and after the COVID-19 pandemic. The initial survey was developed in early April 2020 with input from researchers at many institutions, in order to quickly arrive at a high-quality survey. Respondents will be re-surveyed after 4 and 8 months, providing valuable longitudinal information during the pandemic. Furthermore, most questions in the survey ask about behavior *before* the pandemic, *now*, and *after* the pandemic. This last time period is crucial, as it allows us to begin to understand how behaviors might change once the pandemic has passed. We instruct respondents to describe their expected behaviors once they perceive that the virus is no longer a threat—hypothesizing that risk perception is what will ultimately drive behavior.

To date, we have received over 2,000 responses (see <https://covidfuture.org/> for ongoing updates). We are continuing to collect data, recruiting via direct email as well as using a quota sampling for the Qualtrics Online Panel. We aim to obtain a first-round sample of approximately 10,000 U.S. residents; we expect attrition in subsequent survey waves. We will use iterative proportional fitting to weight our final sample to be representative.

Research Plan

The research will investigate the factors and forces (motivations) that contribute to lasting change in lifestyle and travel choices resulting from the COVID-19 pandemic experience. Armed with data that we are collecting, we will seek to understand how and why people adapt, and predict the degree to which new behaviors, mobility patterns, and lifestyle choices may be adopted.

The data being collected includes a battery of attitudinal questions on virus risk, environmentalism, neighborhood preferences, mode of working and shopping, shared mobility, and mode of communication and social/professional interaction. Using these variables, we will identify underlying attitudinal segments in the population, and use them to help explain behavior. For example, those who are technology-savvy, do not crave in-person interaction, and prefer working and learning in quiet environments may be inclined to adopt new modes of working and learning. On the other hand, those who are not as comfortable with technology, crave face-to-face interaction, or prefer working in an environment with others may choose to go back to pre-COVID-19 behaviors and lifestyles. In addition, these data include direct questions about motivations for behavior change, which can help predict whether the reported expected behavior changes are likely to be truly permanent.

Research Question 1: Differing Effects of the COVID-19 Pandemic on Different Groups. The COVID-19 pandemic is having different effects on different demographic groups. While high-income individuals may have easily transitioned to working from home, lower-income groups may still be traveling to work at essential jobs, or may be laid off completely. In addition to attitudes and behavior, our survey collects data on income, race and ethnicity, geography, and ability to weather unexpected expenses. We will evaluate how attitudes, behaviors, and financial resilience differ among income and racial groups—and across geographies—over the course of the pandemic. Inspecting the survey data and developing fixed effects models will enable us to answer several important questions, including: Are lower-income individuals more concerned about the virus because they may be more likely to be exposed to it through their work? Are people who are out of work more likely to feel that the pandemic response is an overreaction? How has the experience of online college education differed for low- and high-income students? How do expectations for life after the pandemic differ between low- and high-income groups?

Research Question 2: Measuring and Explaining the Change in Demand for Working from Home. The pandemic may have a significant impact on the future of work. As people transition to working from home during the pandemic, they may choose to continue to do so afterwards. Of the people in our preliminary survey who have transitioned to working from home during the pandemic, nearly half expect to continue to work from home at least a few times a month once the pandemic has passed. Such a shift could have significant impacts on the demand for peak-hour travel, office space, and business district services such as restaurants.

The expansion of the option to work from home will likely be greater for higher income households. This exacerbates social inequalities by allowing these households to reap the benefits of working from home, such as commute savings, flexible residential location choice, and flexible childcare. At the same time, a major concern with working from home is changes in worker productivity. Increases and decreases in productivity since beginning to work from home were each reported by a significant proportion of our preliminary survey respondents. The most commonly-cited reason for a decrease in productivity was that respondents had too many concerns on their minds, a temporary situation. Conversely, the most commonly-cited reason for an increase in productivity is the elimination of the commute, which is a persistent change.

We will use our survey data to further investigate the expected “stickiness” of pandemic-induced telecommuting. Based on our preliminary results, we expect that there will be a long-term discontinuity in the fraction of U.S. workers who work from home. Further data collection and analysis will allow us to predict the size of this discontinuity, as well as analyze the heterogeneity in this change across industries, geographies, and sociodemographic groups.

Research Question 3: Investigating Short- and Long-Term Changes in Travel and Consumer Demand. Our survey asks respondents about their shopping in-store and online; dining in restaurants and via take-out or delivery services; and traveling by transit, car, bike, walking and air. Importantly, we ask people not only about their current and pre-pandemic demand, but also about their expected future demand once COVID-19 is no longer a threat. This will allow us to forecast what our society will look like when COVID-19 is history.

The economic impacts of these changes are likely to be large. We see a large expected drop in air travel, a sector that directly employed more than half a million people in the U.S. before the pandemic (BLS, 2020a). Of our initial respondents who formerly flew for business, nearly half expect to fly less, and more than half of these cited meetings moving online as a key reason for the change. Our initial survey results suggest a significant decrease in transit usage as well, with 23% of respondents planning to decrease their transit usage after the pandemic has passed. 23% of respondents planning to decrease their transit usage plan to increase

their driving alone, while 44% and 42% plan to increase their walking and biking, respectively. This is critical for transit agencies and municipalities in terms of planning for investments in transit, walking and biking infrastructure, and traffic management.

The restaurant sector has been hit particularly hard by the pandemic, with people ordering delivery or staying at home. Before the pandemic, this industry employed over 12 million people in the US, whereas the most recent numbers indicate that the industry now employs only 6 million people (BLS, 2020b). Our preliminary data also suggest a drop in restaurant demand. Before the pandemic, more than 90% of our initial survey respondents ate out or got takeout/delivery at least a few times a month, whereas during the pandemic, only two-thirds of respondents have done so in the last week. An important question regarding the future of work is how much this industry will bounce back, particularly given its employment of lower-income workers.

These preliminary results are the best estimates we can provide as of this writing, but they do not incorporate weighting or multivariate analysis. Going forward, we will dig deeper into our data to uncover how expected demand changes are affected by job type, geography, travel modes, attitudes, and demographics, as well as to use statistical inference to make robust predictions of future demand. We will investigate the determinants of expected changes in commuting, transport mode split for all purposes, business air travel, leisure air travel, restaurant patronage, and shopping for both groceries and durable goods.

Research Question 4: Which Features of COVID-19 Lifestyle Change Do People Want to “Keep”? Our survey asks respondents if they would like to continue any of the lifestyle shifts that have been induced by the pandemic. In our preliminary sample, 85% of respondents indicated that they would definitely or maybe like to continue some aspect of their lifestyle change, and most of these responded to an open-ended question describing what changes they would like to continue. Because we are conducting a panel survey, we will be able to see how these responses change over time for individual people— perhaps they become weary of working from home, or eventually find that they enjoy a slower pace of life.

Priority Research Topics and Specific Research Questions:

Priority Research Topics	Potential Research Questions
1. Differential Effects of the COVID-19 Pandemic by Socioeconomic Group	<ul style="list-style-type: none"> How are different socio-economic segments of the U.S. population changing their attitudes and behaviors during the COVID-19 pandemic?
2. Effect of the COVID-19 Pandemic on the Future of Work	<ul style="list-style-type: none"> How will the prevalence of working from home change in the future, for whom, and how might working from home affect worker productivity?
3. Effect of COVID-19 Pandemic on Air Travel, Daily Travel, Online Shopping, and Restaurant Patronage	<ul style="list-style-type: none"> To what extent will long-term demand for local transportation and services such as restaurants, air travel, and online shopping change as a result of the COVID-19 pandemic?
4. Positive/Negative Experiences During COVID-19 Pandemic	<ul style="list-style-type: none"> Which features of their COVID-19 lifestyles do people want to “keep”?

Ethical / Methodological Considerations:

In this project, we are creating a survey dataset that we plan to share openly (after deleting any personally-identifying information). Creating an open dataset is exciting, but also carries the responsibility of making sure that accompanying documentation is complete and that users are properly instructed in the use of these data—particularly that survey weights absolutely must be used to report basic tabulations. We are working to do this but have some concern that once the data are open, people may misuse them.

On a more theoretical note, an important component of the data we are collecting is people's expectations about what choices they will make in the future. Some critics have pointed out that our respondents may not be able to accurately tell us what they will do, in part because they simply do not know, and in part because their choices may be constrained by factors beyond their control.

Other Frameworks, Considerations for Collaboration, and/or Resources:

For more information on our partners and project, including blog on findings and links to relevant webinars, please visit www.covidfuture.org.

If you are interested in collaborating with us to use our data and analysis for decision making and/or to help us collect additional survey responses in your area, please contact us. You can use the contact form on our website: www.covidfuture.org/contact.

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