

Self-Assessment Data May Be Significantly Skewed During Global Health Crises

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In the field of social science, a significant portion of psychological research is based on participant perceptions, not only of situations, but also of themselves. Understanding how people view themselves, rate their abilities, and feel about themselves is a valuable part of the body of science. Data collections in these fields help produce a better understanding of human performance, help authors build theoretical models, and can even be used in predictive studies to help understand decision making. The significance of this form of data is not disputed. However, both subjective and objective measures of one's self, are likely to be significantly skewed when there is a global crisis occurring. This poses a problematic situation for researchers. The purpose of this paper is to discuss the issues associated with this potential shift, and to discuss options for researchers endeavoring to perform studies during times of global crisis, such as the global Coronavirus Pandemic of 2020.

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The Problem

During times of crisis, peoples' viewpoints and priorities tend to change. The way we look at ourselves, our environment, and even the way we make decisions are different. Different types of crises too will likely impact the public in different ways. Financial crises affect fiscal risk tolerance and can even affect purchasing decisions. During national or global health scares, peoples' decisions and actions are significantly more deliberate, and pros and cons of even the smallest decisions are weighed more analytically. This leads to the basis of this paper, which is the analysis of the global health crisis of 2020, and whether data collected during this time would be reliable or generalizable.

Due to the 2020 pandemic spread of the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), daily life in a majority of countries around the world has been impacted in some form or the other. Not only has it changed the way people live and interact, but it has also had wide reaching economic impacts. Several million people have lost jobs and are in a precarious financial situation. Along with the finances playing a role in decision making, people's fears of contracting the virus are also likely impacting their decisions on their movements and their spending. While significant analysis has and will be done on how this situation will impact the global and national economies, a topic that is not receiving significant attention is how this will affect peoples' psychology. Specifically, how this impacts their perception of themselves, their self-worth, their self-efficacy, self-esteem, etc. This poses a problem for researchers that are collecting, or plan to collect, psychological data during these times. If self-assessment data is skewed significantly during a crisis, is that data valuable? Is it reliable? While data collected during these times may be of value to understanding the impacts of a crisis on perceptions, caution must be taken to any study that utilizes data from this time to make generalizations of behavior and perceptions during normal times.

Background Support

There have been prior research studies to substantiate the idea that significant world events may change perceptions and even behavior. The idea is rooted in the understanding of a crisis. O'Neill and Xiao (2012) present the idea that a crisis is an event where the problem outweighs the immediately available capabilities to address it. During a crisis, an individual may become overwhelmed, and have difficulty coping with the situation.

Roszkowski, and Dadvey (2010) researched whether there would be changes in financial risk perception and risk tolerance following the 2008 financial crisis. Their findings showed that people's risk tolerance was slightly reduced after the crisis as compared to before. What is of note to this discussion, however, is that the risk tolerance decrease was not as drastic as the change in risk perception towards financial investments. Showing that major global events had a large-scale impact on the public's viewpoint. These findings were echoed by other studies as well, showing that behaviors and perceptions were significantly different after the financial crisis (Bricker et al., 2011; O'Neill & Xiao, 2012). The 2008 financial crisis is the most recent major, large scale, national event to the 2020 Coronavirus Pandemic. Even though it was centered

around the United States, its impact was felt world over. For this reason, it is a useful benchmark to understand how views and perceptions may change at the current time. Additionally, the 2020 global health crisis has also created a sharp economic downturn similar to that of the 2008 downturn (Fernandes, 2020). This once again serves as a corollary for comparison, with the caveat that the 2008 downturn was due to deep-rooted issues with the financial system, whereas the economy was in a strong position during the onset of the 2020 Coronavirus Pandemic. The unique nature of the current events makes accurate comparisons a challenging task.

Lane, Jones, and Stevens (2002) showed findings that are relevant to the current discussion as well. They showed that there was a connection between self-esteem, coping strategies and self-efficacy. This research study showed that effective coping strategies were key to reducing the decreases in self-efficacy when faced with negative outcomes. This shows the importance of coping strategies. Earlier research pointed to the fact that coping strategies are negatively affected during times of crises. Therefore, the connection can be made that during these difficult times, people's own perception and assessment of their abilities may be negatively impacted to a large extent.

Self-efficacy is an individual's measurement or assessment of the probability of them completing a particular task successfully and efficiently. Bandura (2010), who has extensively researched the concept of self-efficacy, discusses that people are not motivated or incentivized to take on challenges or tasks when faced with obstacles. Unemployment, which is often times a major outcome of many crises, has a role to play in the reduction of self-efficacy. People's confidence reduces significantly during unemployment, and so does their perception of their abilities to meet their goal, which is in fact, their self-efficacy (Mortimer, Kim, Staff, & Vuolo, 2016). Several research studies additionally show the relationship between self-efficacy, self-esteem, and unemployment (Creed, Bloxsome, & Johnston, 2001; Laguna, 2013). Unemployment can also cause flare ups in psychological depression which makes efficient functioning that much more difficult (McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Payne, Warr, & Hartley, 1984). Unemployment in the United States has spiked dramatically during the Pandemic of 2020. The Bureau of Labor Statistics in the United States reported that, in April, the national unemployment was approximately 14.7% with over 23 million people unemployed, while data from May showed that number dropped to 13.3% (United States Department of Labor, Bureau of Labor Statistics, 2020). Sobieralski (2020) suggests that the aviation workforce could see a reduction from anywhere between 7% to 13%.

It is important to also note that these changes during uncertain or even difficult times, are not necessarily always negative. The easy inference to make would be that these changes would be negative, and of course, that does represent a large possibility. However, there may also be positive changes that come from these events. Tedeschi, Park, and Calhoun (1998) put forth a concept called "Post Traumatic Growth (PTG)" which states that certain individuals who experience a traumatic event or crisis may recover from the trauma quickly, and in some cases may even experience significant personal growth, development, as self-view. A key feature again brought up by the authors is that these improvements are attributed to efficient means of coping with the events. These changes in psychology, and positive improvements in perception have been reiterated by several other researchers examining the effects of stressful and traumatic situations (Carver, 1998; Taylor & Brown, 1988; Yalom & Lieberman, 1991).

Opinions

When an individual feels this form of inability to cope, their perceptions of their capabilities and their assessment of themselves is likely to be affected as well. While this reduction or change rather (as they are not always negative changes), in self-assessment is well documented, as shown above, my main opinion centers around what researchers should do with data that is being collected or research that was planned for collection during times of global crises.

Research relies on the validity, reliability, and generalizability of data. If during these times of global crisis, like the global health crisis of the 2020 Coronavirus Pandemic, a person's self-assessment is skewed, then the data collected during these times may not be reliable or generalizable. Additionally, this may have different impacts on different research designs. These skews may have different influences on longitudinal studies as compared cross-sectional studies. While cross-sectional studies may provide an adequate snapshot of these times and help understand the current state, longitudinal studies can show the fluidity of these changes and even portray the length of time of these impacts. As mentioned before though, validity is a major concern, especially during longitudinal studies, as the occurrence of specific events during an experiment can be considered a threat to internal validity (Campbell & Stanley, 1963, pp 5). This therefore beckons some questions of should research data collected during these times be used or even referenced when generalizing or creating models of understanding human perceptions of one's self. My opinion is that data collection that is ongoing, should probably continue. While I maintain that this data may be skewed, it must be remembered that it is valuable and important to see how self-assessment changes during difficult times. This, however, will likely change the course of the research plan significantly. As long as researchers are willing to be flexible and answer new questions that they had not originally planned on answering, there can still be valuable scientific findings brought to light. The word of caution, however, lies in the use of that data to make predictions of people or professions during normal times. There is admittedly a difficulty in defining "normal times" as well.

On the other hand, researchers that plan to create prediction models, and that have not yet started data collection before the emergence of a large-scale crisis, would best be served by postponing data collection. This, I believe, is especially true for data that is self-assessment based like self-worth, self-efficacy, self-esteem, etc. I personally found my research in one such situation in early 2020. My aim was to survey pilots from across the United States with the aim of understanding several psychological characteristics centered around self-efficacy, and a pilot's perception of their abilities. The ultimate decision was to postpone data collection. The main reason was the desire to still answer the original research question, therefore flexibility in changing research approaches, as mentioned above, was not a viable option. With the state of the aviation industry being so significantly impacted, and with the fear of massive unemployment on the horizon for pilots, the fear was that self-assessment measures like self-efficacy would be significantly impacted. As some previous research has indicated, unemployment is also linked with depression, and so we can see the possibility of the confounding variables impacting cognitive assessments as well, further substantiating the need to act cautiously with data collection.

When considering the definition of self-efficacy, a person's perception of their ability to meet goals, we can see that this would be quite crucial in a profession such as aviation. With potential significant long-term impacts on the aviation industry due to the Pandemic of 2020, self-assessment data from pilots may take several months, if not more, to recover to Pre-Pandemic levels. Reports suggest that during the crisis, airline service has reduced more than 90% (Bachman & Schlangenstein, 2020), with some claiming that it could take up to six years to recover completely (Sobieralski, 2020). While the recovery to Pre-Pandemic levels may take some time, the growth is likely to be non-linear, with spikes of increase coming with more positive information, and reductions in infection levels. Nevertheless, this paints a bleak picture for some psychological research endeavors. With delays in research a real possibility, another factor of consideration and worry for academics is the impact these delays could have on promotion and tenure applications. While this not the main focus of this paper, it is conversation that academics and institutions need to have. At a minimum, these times will force researchers to switch gears to understanding other psychological impacts, but on the other end of the spectrum, could delay valuable research findings by many months if not years.

Conclusion

During a major crisis, it is hard to be worried about the state of a research project, but one of the ways to deal with difficult situations is to throw oneself into work. For academics, that can likely be research. It is with this in mind that we must be mindful of validity, reliability and, mainly, generalizability of the data we are collecting. I must re-iterate: I am in no way advocating for a reduction in research or data collection, but rather that we must amend our research goals to line up with the situation around us. In some cases, where changing the research plan may not be viable, these crises may cause delays in the data collection process. This could also have impacts on the career advancements of academics as well. The main focus of this paper is the impacts of these times on the state of research. Data collected regarding self-assessment measures such as self-efficacy, self-worth, and even self-esteem may be significantly skewed during times like those experienced during the Coronavirus Pandemic of 2020. These data may not represent how people typically feel or view themselves, which makes generalizing findings to normal times that much more difficult.

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