

Up-and-Coming Voices: Informing Public Health Through Psychological Science

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During APS's 2023 International Convention of Psychological Science (ICPS) in Brussels, students and researchers networked with other psychological scientists from around the world and shared their research through poster sessions. For this edition of the *Observer*, we've asked three early-career researchers to share their research and findings concerning public health.

[Learn more about the 2023 APS Annual Convention in Washington, D.C., May 25–28.](#)

Discounting of Delayed Rewards Predicts Engaging in Public Health Measures (PHMs) During COVID-19

Julia G. Halilova (York University), Samuel Fynes-Clinton and Donna Rose Addis (Rotman Research Institute), and R. Shayna Rosenbaum (York University and Rotman Research Institute)

What did the research reveal that you didn't already know?

Our research identifies delay discounting, or one's tendency to choose smaller immediate rewards over larger later rewards, as an important predictor of compliance with COVID-19 protective public health measures (PHMs), including vaccination, cleaning and handwashing, and physical distancing. In approximately 7,000 participants, we found delay discounting to be a negative predictor of vaccination but a positive predictor of cleaning, handwashing, and physical distancing behaviors. Our research indicates that individuals who tend to choose larger later rewards over more immediate smaller ones are more likely to be vaccinated, but less likely to engage in cleaning, handwashing, and physical distancing, than individuals who tend to choose more immediate smaller rewards over larger later rewards. We also found that delay discounting did not significantly predict mask-wearing.

What is the relevance of your findings for the future of public health and psychological science?

Delay discounting is a promising behavioral economic measure for public health purposes that has previously been associated with other health-related behaviors. Importantly, delay discounting is a modifiable characteristic through cognitive interventions (e.g., cueing people to think about the future). In terms of implications for public policies aimed at increasing PHM compliance, the results suggest the need to emphasize the immediate benefits of handwashing and physical distancing when encouraging people to engage in these behaviors. On the other hand, it may be important to emphasize the delayed rewards and cue future thinking when encouraging people to get vaccinated.

The findings have broader implications for understanding decision-making, suggesting that underlying cognitive mechanisms, such as delay discounting, may depend on the type of health-related behavior. It is possible that when deciding whether to engage in PHMs, individuals consider these behaviors' short- and long-term costs and benefits (e.g., the immediate side effects of a vaccine vs. long-term immunity). Indeed, the benefits of vaccination, unlike other PHMs (e.g., physical distancing), are more temporally delayed, which may explain the divergent effects of delay discounting on different PHMs.

What are your next steps with regard to this research?

Future research will focus on investigating the effectiveness of cognitive interventions to increase compliance with PHMs. We expect that cueing people to think about the present will increase compliance with physical distancing and cleaning and handwashing PHMs, whereas cueing people to think about the future will increase willingness to get vaccinated.

[See all Up-and-Coming Voices columns](#)

Better Safe Than Sorry? Tracking the Association between Safety Behaviors and Anxious Symptoms During the COVID-19 Pandemic

Jane K. Stallman, Kirsten N. Bains Williams, and Gerald J. Haeffel (University of Notre Dame)

What did the research reveal that you didn't already know?

Safety behaviors are actions and cognitive processes aimed at preventing or minimizing a feared consequence. They have been associated with negative outcomes, such as increased anxiety. However, the COVID-19 pandemic created a unique situation in which many safety behaviors, such as checking physical symptoms, avoiding crowds, and frequent handwashing, became encouraged. Given this change, we investigated the degree to which the pandemic changed the status of health-related safety behaviors as a risk factor for anxiety symptoms. Despite possible changes in the perception of safety behaviors, we found that they still predicted increased anxiety symptoms throughout the first year of the pandemic. Additionally, we found that anxious and depressive symptoms remained relatively stable throughout the pandemic, countering the narrative that the pandemic caused a mental health crisis.

What is the relevance of your findings for the future of public health and psychological science?

First, our results are consistent with prior literature demonstrating the resiliency of individuals. Many mental health professionals predicted that the public would panic in response to the pandemic. People were initially distressed, but most recovered quickly. Future research should aim to understand which subgroups had greater difficulties with recovery and why.

Second, we found that baseline safety behavior use was the only predictor of vaccine readiness 1 year into the pandemic. Those with high levels of safety behaviors in March 2020 were more likely to endorse vaccination in March 2021. This finding was true above and beyond other potential predictors such as age, depression, and anxiety about COVID-19. This result indicates that seemingly negative phenomena, like safety behaviors, can have positive effects. Conducting cost-benefit analyses could determine if the positive aspects of safety behaviors outweigh the known negative effects.

What are your next steps with regard to this research?

Given that safety behaviors confer a risk for future anxiety, it is important to examine factors that may increase or decrease their usage. Therefore, our lab plans to investigate possible contagion effects. In other words, we want to know if one's social environment (e.g., moving to college and having a new roommate) can lead to changes in safety behavior use. In doing so, we may understand the social milieu influencing safety-behavior use, which has implications for both theories of etiology and potential

treatments.

Check out this related feature on [The COVID-19 Pandemic: A Psychological Science Timeline](#)

Motivated Reasoning in the Context of Climate Change: The Moderating Role of Numeracy, Need for Cognition, and the Dark Factor of Personality

Fabian Hutmacher and Markus Appel (Julius-Maximilians University of Würzburg), and Regina Reichardt (University of Regensburg)

What did the research reveal that you didn't already know?

Let us begin with something that we did know: Climate change poses a global challenge—not only because it may bring about radical changes to human living conditions, but also because individuals need to understand the existing scientific evidence in order to adjust their behavior and to demand political action. Unfortunately, human information processing is not always rational and objective; it is instead influenced by the individuals' motives, goals, and attitudes—a phenomenon commonly known as motivated reasoning.

We wanted to investigate which factors influence the degree of motivated reasoning in the context of climate change. In our studies, participants were confronted with attitude-consistent and attitude-inconsistent numerical information. We found that higher numeracy (i.e., a better ability to understand and to reason with numbers) was associated with reduced motivated reasoning. Interestingly, however, neither need for cognition, which describes the tendency for an individual to engage in and enjoy thinking, nor the dark factor of personality, which mirrors the general tendency to maximize one's individual utility, influenced the degree of motivated reasoning.

What is the relevance of your findings for the future of public health and psychological science?

Our research offers good and bad news. The bad news is that motivated reasoning poses a challenge to modern societies facing climate change, as not all individuals are willing to follow the better argument. The good news is that the degree to which individuals engage in motivated reasoning mainly depends on their abilities (i.e., numeracy), which, in principle, can be improved through education, and not so much on relatively stable personality characteristics or thinking styles, which are arguably harder to change.

What are your next steps with regard to this research?

On the one hand, we were able to investigate only a limited number of factors potentially influencing the degree of motivated reasoning, so there is still ample room for extending the body of knowledge in this area of research. On the other hand, one could take the insight that numeracy reduces the degree of motivated reasoning as a starting point for developing interventions, hoping that this will ultimately

contribute to creating more rational discussions about climate change—a topic that will certainly accompany us throughout the next years and decades.

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