SOCIAL SCIENCE JOURNAL FOR TEENS

JUNE 2024

What is even more important than being right?

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Abstract

During the COVID-19 pandemic, public health experts asked people to take steps to help stop the spread of the virus. These included wearing face masks, limiting contact with other people, and getting vaccinated. We wondered why some people followed recommendations while others did not. We thought what people believed about COVID-19 mattered. We also thought the way they think about their beliefs may be important.

We asked people about their COVID-19 beliefs. Some beliefs were true, and some were not. Then we asked these people how confident they were that their beliefs were correct.

We found that people who evaluated their beliefs more correctly were more likely to follow public health advice. Our results show that it's important to be right, but it's also important to know you might be wrong.

Introduction

As the COVID-19 virus spread across the world, so did information about the disease. Some was true, and some was not. This **infodemic** made it hard for people to tell true information from **misinformation**. With so much information, how could people tell what they should believe?

Metacognition is another way to say thinking about how you think. People use metacognition when they reflect upon their beliefs. Studies show that people may use metacognition to help make decisions when they are uncertain. In other words, confidence in your beliefs can help you know what to do.

We wondered if good metacognition about COVID-19 beliefs made a difference. Did people with more insight into their beliefs follow **public health** advice? Did they wear masks? Did they get vaccinated? And did it matter to their behavior if people's beliefs were correct or not?

The study participants were adults living in Germany, a country in Europe.

Methods

We ran two studies with groups of German adults. In both studies, we asked participants about:

- Their **demographic** characteristics. This included their age, gender, and amount of education.
- The **accuracy** of their beliefs about COVID-19. They looked at a list of statements about COVID-19 and picked the ones they believed were true.
- The accuracy of their metacognition. Participants rated how much they thought each of their beliefs was correct.
- Their behavior related to COVID-19. In the first study, we asked about whether they followed public health advice. Did they wear face masks? Did they practice social distancing? In the second study, we asked about their willingness to get the COVID-19 vaccine.

Finally, we studied the data to see if people's metacognition affected their behavior. We used **statistical control** methods to see the impact of metacognition separate from other factors.

Results

We found a few factors that influenced people's COVID-19 behaviors:

1. The accuracy of their beliefs. People who believed more correct information about COVID-19 were more likely to follow public health advice and get vaccinated.
2. The accuracy of their metacognition. People who accurately judged whether their beliefs were likely correct or incorrect were more likely to follow public health advice. They were also more likely to get vaccinated.
3. Demographic factors. In Study 1, older people were more likely to follow public health advice. In Study 2, people's gender affected their willingness to get the COVID-19 vaccine.

Which factors affected people's COVID-19 behavior in both studies?

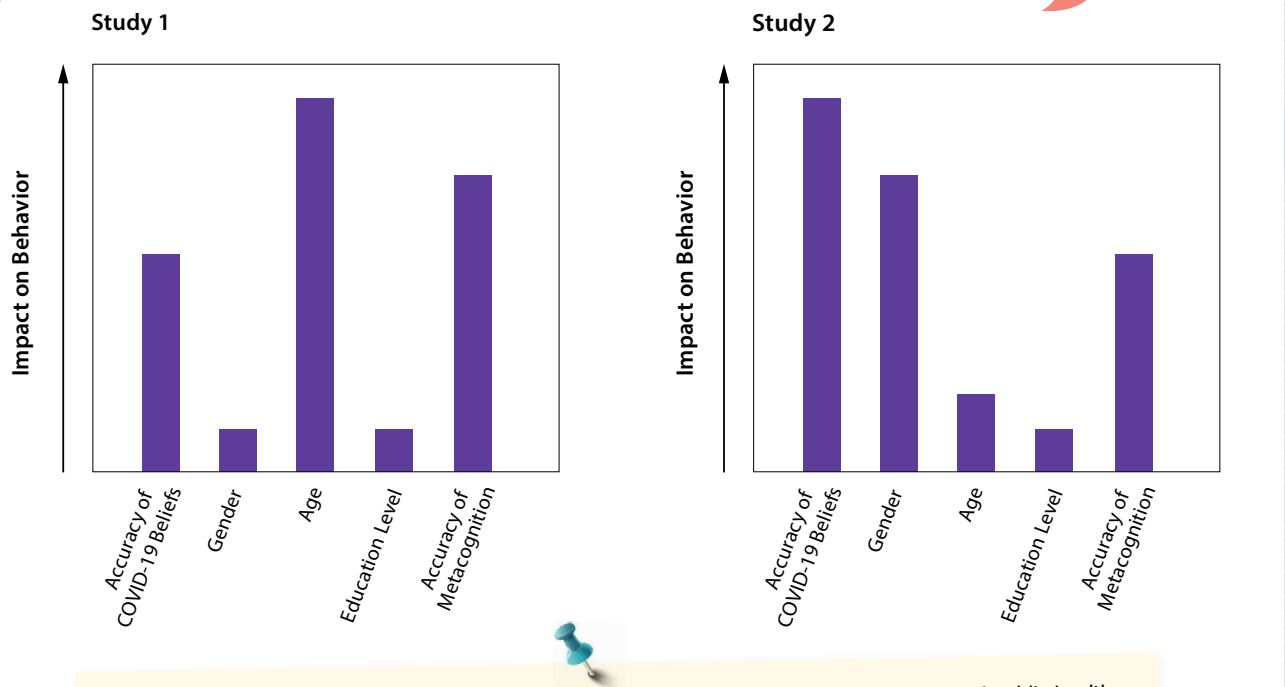

Figure 1: Factors that predicted COVID-19 behavior. In Study 1, we asked if people followed public health advice like wearing a face mask. In Study 2, we asked about their willingness to get the COVID-19 vaccine.

Discussion

People had to deal with a lot of new information during the COVID-19 pandemic. Some of it was correct and some was incorrect. This made it hard for people to know what to believe. It also hurt public health efforts to slow the spread of the virus.

We found that people with more accurate beliefs about COVID-19 were more likely to follow public health advice. But their metacognition also affected their behavior. People with more accurate metacognition were more likely to wear masks and receive the COVID-19 vaccine. This means that people who were confident in their correct beliefs tended to follow health recommendations. So did people who had incorrect beliefs but knew they might be incorrect.

Our results show that being right is important. But it's also important to know when you could be wrong!

Conclusion

So much information is available at our fingertips. But not all of it is correct or trustworthy. How can you develop your ability to recognize misinformation? Here are a few ideas that can help:

- Check the source of the information. If it's posted by a friend, compare it to other trustworthy sources. For example, you can check health information on public health resources like the CDC or WHO.
- Look carefully at photos and graphs. Does the story match the data? You can use Google's reverse image search to see if a photo is being reused to tell a different story.
- Pay attention to how information makes you feel. If it creates a very strong emotion, that might be because that's the point. Misinformation often uses our emotions against us.

Glossary of Key Terms

Accuracy – how correct something is.

Demographics – the social and economic characteristics of a group, such as age, gender, and income. Demographic data tell scientists about where their participants come from and who they are.

Infodemic – an overabundance of information, some accurate and some not, accompanying a disease outbreak. The COVID-19 infodemic made it hard for people to find trustworthy information regarding the virus.

Metacognition – awareness of one's own thought processes. Humans engage in metacognition when they think about or evaluate their own thoughts.

Misinformation – false or misleading information, either unintentionally presented as fact or deliberately meant to deceive. The spread of COVID-19 misinformation hurt the public health response to the pandemic.

Public health – the science of protecting and improving the health of populations of people. For example, public health experts recommend wearing masks to decrease the spread of disease.

Statistical control – methods to remove the influence of a particular factor to better analyze the relationship between other factors. Scientists use statistical control methods to account for the effects of demographic characteristics.

Check your understanding

1. Why do infodemics make it harder for people to find accurate information?

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2. How can metacognition help people decide what to do?

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3. In this study, what factors influenced people's COVID-19-related behaviors?

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4. Metacognition involves knowing what you know and what you don't know. In groups, brainstorm examples of when you could use metacognition in your daily life.

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Acknowledgment: This article's adaptation was supported by the Goggio Family Foundation.