

Stimulus Generalization Using Statements About COVID-19: A Pilot Study



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Introduction

Stimulus generalization occurs when a person responds to different but similar stimuli than the stimulus they were trained to respond to. The stimuli used for studies on stimulus generalization are usually concrete, such as line length or color of light. This series of studies was designed to determine whether stimulus generalization can occur with abstract stimuli. In this case, the stimuli are statements about COVID-19. Specifically, believability and importance of the statements. Before stimulus generalization could be examined using statements, it was necessary to first determine if they would produce consistent ratings between participants. The statements were rated on believability and importance.

Methods

Participants were students in the Introduction to Psychology course. They took a survey that included items about COVID-19 (see Figure 1). The statements included information on a variety of aspects of COVID-19 (i.e., symptoms, vaccines). They also varied in types of source. Some statements were pulled from Twitter and Facebook, while others were from news outlets and scientific articles. Items that involved unsubstantiated claims and exaggerated language were categorized as "junk" statements. Participants were asked to rate each item on believability and importance with a Likert-type scale, from quite believable/important to quite unbelievable/unimportant. Responses were then analyzed to determine which statements produced consistent ratings.

"A recent CDC study found that people who were not fully vaccinated had about 10 times the risk of being hospitalized with or dying from COVID-19 compared with people who were fully vaccinated."

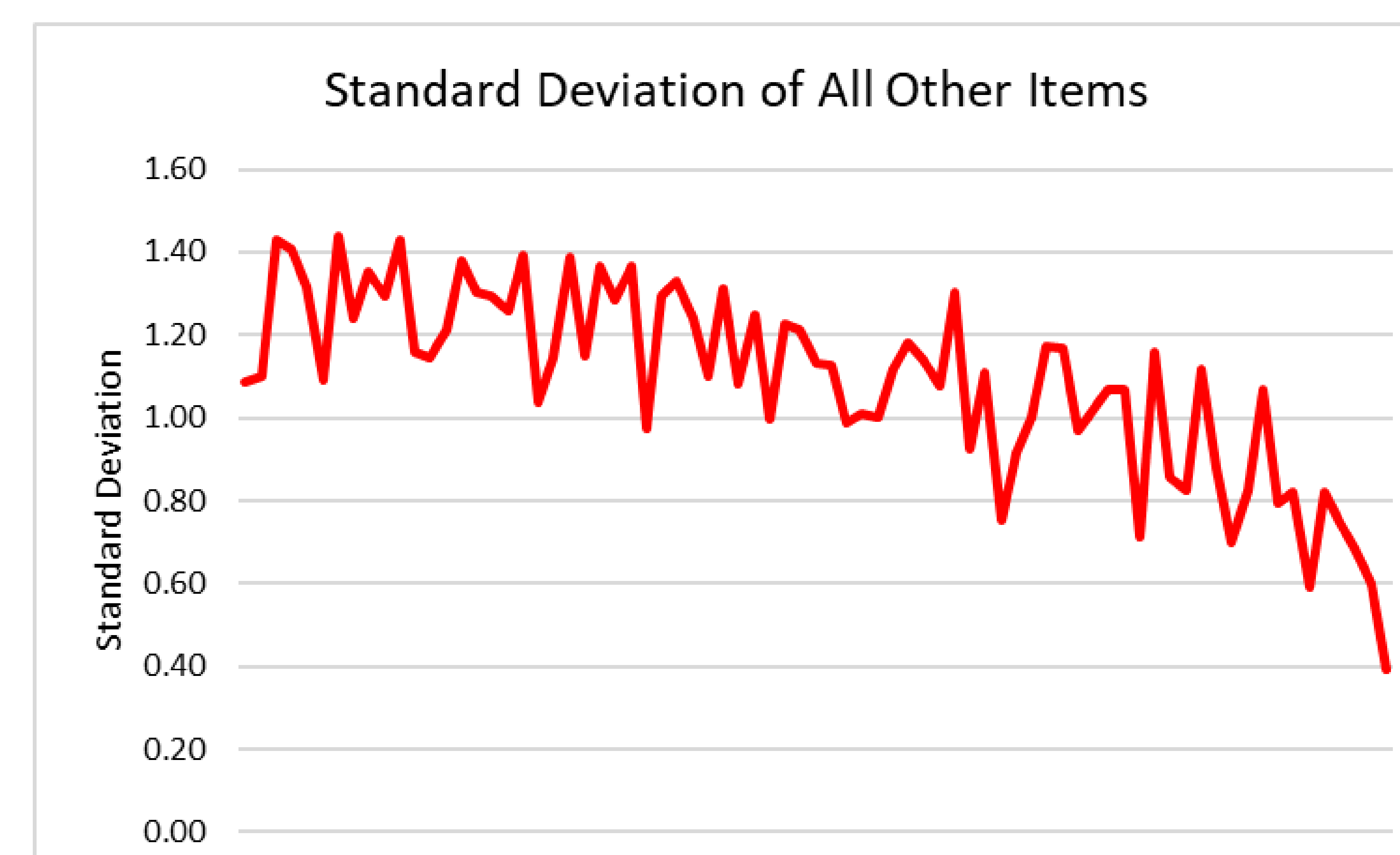
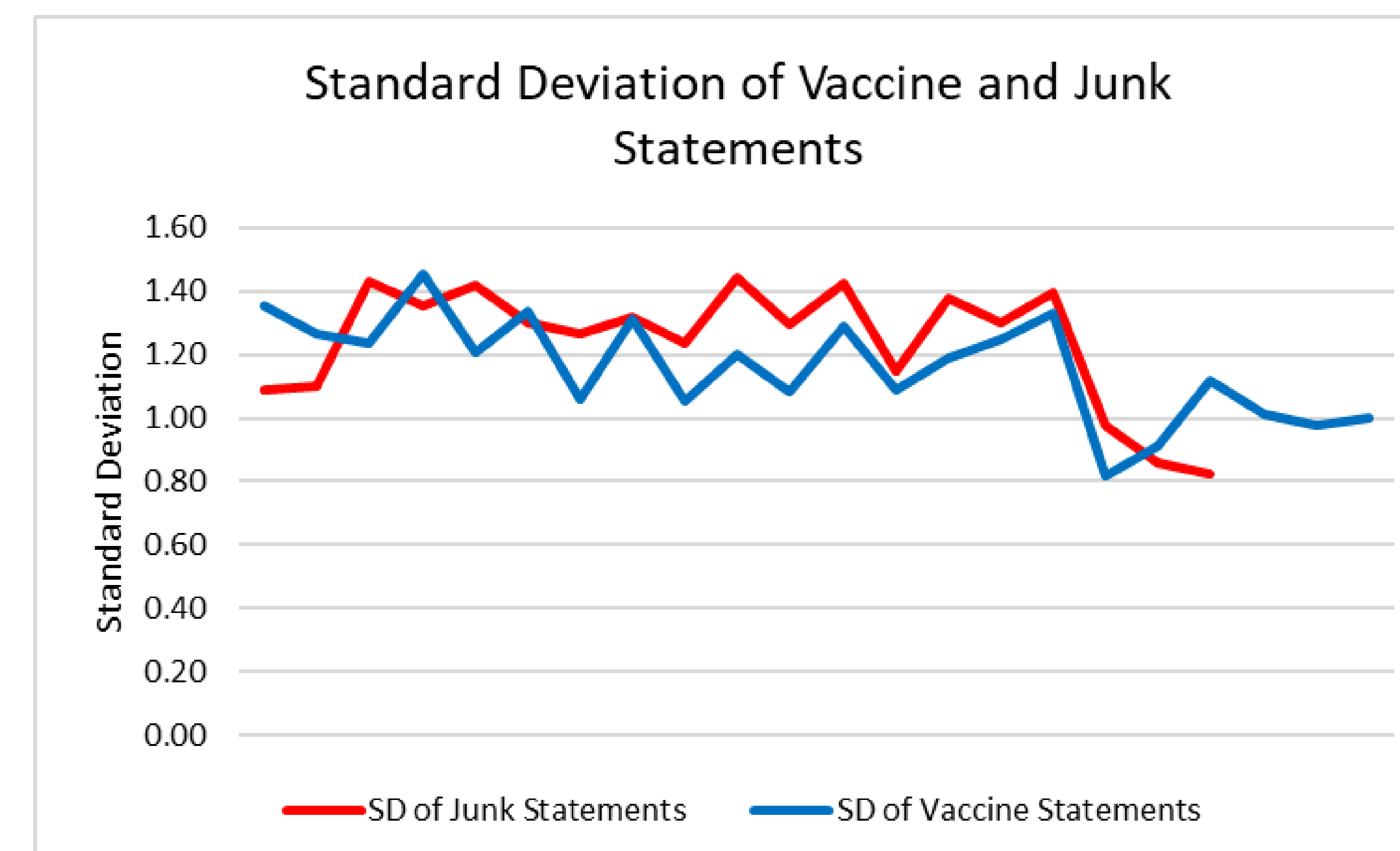
How **believable** is this statement compared to other public statements about COVID-19?
 Quite believable Somewhat believable Average believable
 Somewhat unbelievable Quite unbelievable

How **important** is the underlined information compared to other information about COVID-19?
 Quite important Somewhat important Average importance
 Somewhat unimportant Quite unimportant

Figure 1: Example item from the survey.

Results

Each item received a score from one to five, one being quite unbelievable/unimportant and five being quite believable/important. The score for each item was the average of all participant responses for that item. The "junk" statements and most statements about the COVID-19 vaccine produced inconsistent ratings. This is represented with standard deviation. A higher standard deviation means more variation in responses. There were also items which produced consistent ratings. These items had a relatively low standard deviation.



Discussion

The inconsistency in ratings for some items could be due to a variety of factors. It is possible that some people are apprehensive to rate anything as one extreme or the other because of the many opposing ideas that exist relating to COVID-19. It is generally safer to be skeptical until more information can be obtained.

This study also gave us a set of items that produced consistent ratings. Many of these were items that included information about symptoms and transmission of COVID-19. It is possible that participants have a good understanding about these aspects of COVID-19 because they are the most widely talked about.

Further Study

Currently, a study is being designed to test whether stimulus generalization occurs when participants respond to statements about COVID-19. This study will focus on the believability aspect of the statements. There will be four categories of statements: High-believability, moderate-believability, low-believability, and junk statements. Participants will be trained to respond to statements that are in the high-believability group. Stimulus generalization would occur if participants respond to the moderate-believability, low-believability and/or junk statements as if they are high-believability statements.

If stimulus generalization occurs in this study, it would also indicate that it can occur with abstract stimuli. This could have implications for how information is processed. We tend to generalize and categorize things automatically because it takes a lot less processing power. If a news article is similar to one that has been previously established as credible and accurate, a person is likely to believe it is also credible and accurate.