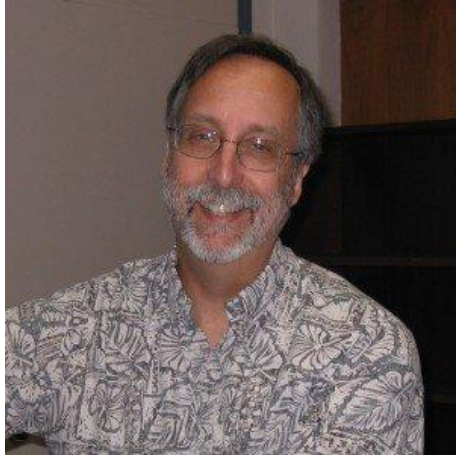


[COVID Information Commons \(CIC\) Research Lightning Talk](#)

Transcript of a Presentation by Branden Johnson (Decision Science Research Institute), June 2022



[Branden Johnson CIC Database Profile](#)

Title: *Media exposure, objective Knowledge, risk perceptions, and risk management preferences of Americans regarding the Novel Coronavirus outbreak*

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Transcript Editor: Lauren Close

Transcript

Branden Johnson:

Slide 1

Ok, thank you.

Slide 2

In my first talk in this series, I presented some results on how threat - stakeholder and protective behavior attributes affected behavioral intentions out of this protective action decision model I cite here. As well, some initial work on the interaction of political ideology, conspiracists' thinking, and prejudice on intentions to avoid Asians as a so-called protective behavior. What I'm going to be doing today is focusing on risk perception variation across time.

Slide 3

So we had three research questions of interest for today's talk. One is just how do different kinds of risk perception measures of COVID cluster and vary over time. Secondly, we were focusing on relations between risk perceptions and self-protective behaviors. One hypothesis is that high risk perception at one time predicts high protective behavior at a future time. High protective behavior at one time predicts lower risk perceptions at a future time. And then this accuracy hypothesis: that they're correlated cross-sectionally. And unfortunately, since most studies are cross-sectional, sometimes they're assuming, for example, that their accuracy measurements are assessing the behavioral motivation hypothesis. And then finally, I wanted to look at temporal dynamics of predictors of risk perception over

time. Previous research I'd done suggested that there were some commonalities across infectious disease incidents so I wanted to see what might happen here.

Slide 4

So first, with regard to the clustering of risk perception measures, as you can see here we had a quite a heterogeneous set of measures, so one would assume that they probably are not going to all cluster together. But we did have some surprises. For example, affect, which is sort of a general good-bad feeling measure did not cluster with other affective measures we had. Also, duration. How long do you think this outbreak is going to last in the U.S. That did not cluster with other what we referred to as national severity measures such as how many infections or deaths do you expect to happen? And again, I want to emphasize that we ask these questions at each one of the six waves so we could look at variation across time.

Slide 5

So here is a plot of how those measures varied. The severity and duration measures were only collected starting at wave two, which is the late April - early May 2020 survey. And what you can see here is that the first wave, which was very early in the U.S. experience, February 28th, when, depending on which database you use, either 17 or 45 cases of infection had been officially confirmed, that this is an outlier. And I won't go into details, but measures of association between risk perceptions and behavioral intentions and policy support and so forth also appear to be different at this very early stage of the experience. Then later, once we get out of wave one we see that, well, in general, there's a similar pattern. But we do see some differences across these different risk perception measures in the slope of these measures across time.

Slide 6

With regard to the risk perception behavior associations from the Brewer et al paper, we found that behavioral motivation was strongly supported across waves. That people who saw stronger risk at one point were reporting higher protective behavior at a later point. This is somewhat in contrast with the prior literature. Out of some 540 or so citations to Brewer et al we found 17 that had actually done some empirical work and they had mixed results overall on this hypothesis. There is a wider debate in the field about this risk perception paradox of people who sometimes seem not to act even though they see high risk. And I'm throwing out here the possibility that this partly reflects cross-sectional surveys, which as I said before, cannot test the behavioral motivation hypothesis. The risk appraisal hypothesis by contrast we saw no evidence of that here. In contrast we found that if people were reporting relatively high protective behavior at one point, then their risk perceptions were going up at future points, which is consistent with prior studies - I mean, is not consistent with prior studies that did find that risk reappraisal occurred. We suspect this is possibly because we were dealing with an infectious disease which is quite dynamic as opposed to previous studies that were mostly focusing on chronic diseases, or cancer, or things like that. But obviously we can't test that speculation here. Then finally with the accuracy hypothesis we generally found results consistent with that and it was consistent with prior literature, but we did find a few positive associations and that high risk perception and high protective behavior were associated at a single time. Now, Brewer et al, in fact, said that you could find negative, positive, or non-associations in accuracy tests and so we're not inconsistent with their work but they didn't explain in sufficient detail, in my mind, why this variation might occur, except that, for example, protective actions might not be seen as effective by people. So I think we need more work there.

Slide 7

Now, for the last one, I was - we're looking at temporal changes in risk perception over time. And for brevity, I'm just going to focus on personal risk. We found somewhat different patterns for other risk perception measures and so on the left I'm showing personal risk perception patterns for trust in the World Health Organization on the top and temporal distance at the bottom. And we find for both of these that over time with the solid line indicating the first wave at zero weeks and the regular dotted line indicating the last wave at 56 weeks that we find that the difference increases over time between people who are high versus low in either trust in WHO or the perception that COVID will be local or is local now as opposed to sometime later. By contrast, we see with the upper right that the difference decreases over time between people - high versus low in social distance, that is, whether COVID affected people that seem to be like me or unlike me. And then finally, although the effect is not strong here or in any of our other measures to this pattern - we found that the difference between high and low people in this case on the trend in risk, so this is an objective measure of the number of infectious cases in the county of the respondent. We find that the difference shifts from a positive to a slightly negative association over time. And I won't go into more detail here except to say this is one of our current challenges - to try to find a theoretical foundation for understanding why these particular patterns occur.

Slide 8

This was the the model that was in our original RAPID proposal. It didn't entirely reflect our thinking at the time because we didn't have enough space on the page to put it down and we've thrown in a few extra measures as we progressed. I'm just putting it here first to show that on the right hand side of the page is the protective action decision model based approach and to show that we've got a number of other things we're doing. For example, we're engaged now in doing some content analyses of legacy and social media to see how they might affect downstream results. So we've got plenty more work to do.

Slide 9

And finally acknowledging [colleagues] and [providing] contact [information]. Thank you.