Review of: "Evolution of Perceived Vulnerability to Infection in Japan During the COVID-19 Pandemic"

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Potential competing interests: No potential competing interests to declare.

This is a potentially interesting study examining the progression of perceived vulnerability to infection in Japan throughout the COVID-19 pandemic. I believe it is valuable to have longitudinal and repeated cross-sectional studies on this topic to better understand long-lasting changes in attitudes and risk perceptions caused by the pandemic.

That said, this work does not appear to provide entirely novel information. Prior work has longitudinally examined risk perceptions and related constructs (e.g., fear of COVID) throughout the pandemic (e.g., Mertens et al., 2023; Schneider et al., 2021). The authors do not really address prior work nor clarify how their study adds to this prior work. It would be good to add this to properly contextualize this work and emphasize its added value (e.g., higher number of time points, more time elapsed since the pandemic, focus on a unique construct, etc.).

My most important concern is about the methods. It appears that the authors used a repeated cross-sectional design in which they administered the PVD scale to multiple different samples at different time points (i.e., in 2018, 2020, 2021, 2022, and 2023). Then the authors compared the PVD scores of these different samples with a one-way ANOVA. A problem with this approach is that it is unclear whether these different samples are comparable. It seems that at least two different ways to recruit participants were used (i.e., data collection in an ongoing study for 2018, 2020, and 2021, and recruiting participants through Yahoo! for the 2022 and 2023 time points). This may have introduced differences between the samples, and this may explain differences in the mean PVD scores as well. How sure are the authors that the observed differences in PVD scores are due to the progression of the pandemic and not due to differences between the samples?

In my view, at least two things should be done:

1. The authors should clearly describe the different samples in terms of demographic information such as gender, age, education level, and socio-economic status (if this information is available - if not, this is problematic). This allows readers to assess the extent to which the different samples are comparable.

2. The authors should try to match participants from the different samples on the basis of different demographic information such as gender, age, education level, and socio-economic status and compare their PVD scores. This is important in order to verify whether the pattern of results holds when the samples consist of more or less the same population.

These additional checks are necessary to ensure that the pattern of results is due to genuine changes in PVD throughout

the pandemic, and not due to differences between the different samples.

References

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