PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	An analytical cross-sectional analysis of science, health care system, and government effectiveness perception and COVID-19 vaccination acceptance and hesitancy in a global sample
AUTHORS	Dye, Timothy; Barbosu, Monica; Siddiqi, Shazia; Perez Ramos, Jose; Murphy, Hannah; Alcantara, Lisette; Pressman, Eva

VERSION 1 – REVIEW

REVIEWER	Wiblishauser, Michael University of Houston Victoria
REVIEW RETURNED	24-Mar-2021

GENERAL COMMENTS	Very well done. This is a needed study, in particular looking at vaccine hesitancy between different areas of the world. It was very thorough.

REVIEWER	Al-Qerem, Walid A Al-Zaytoonah University of Jordan
REVIEW RETURNED	06-May-2021

GENERAL COMMENTS	Thank you for the study that evaluated the vaccine acceptance and different variables associated with it. However, the acceptance rate found in this study should be compared with studies from different regions not included in this study including the middle east, more references can be added for example: Al-Qerem WA, Jarab AS. COVID-19 Vaccination Acceptance and Its Associated Factors Among a Middle Eastern Population. Front Public Health. 2021;9:632914. Published 2021 Feb 10. doi:10.3389/fpubh.2021.632914 This will enrich the discussion

REVIEWER	Wang, Wei. Food and Drug Administration, Division of Biostatistics, Center for Devices and Radiological Health
REVIEW RETURNED	28-Jun-2021

GENERAL COMMENTS	In this manuscript, the authors proposed an analytical cross-sectional analysis of science, health care system, and government effectiveness perception and COVID-19 vaccination acceptance and hesitancy in a global sample. The data analysis methods used

in this manuscript are generally acceptable. I have three minor comments for the authors' consideration,

(1) Table 1 results presentation is somehow overwhelming and too much information was included in such a busy table. The authors may consider more appropriate way to present related data analysis results included in this Table.

(2) For Table 4 results presentation, the authors claimed that "while smaller proportions of rationales for science effectiveness were classified as positive (9.3%) or negative (17.2%) when compared with other domains (Table 4), many participants were still polarized in their rationales." However, the first part of this conclusion was not supported by appropriate comparison results. The authors may provide appropriate data analysis results to compare the positive/negative sentiment proportions between science vs. healthcare, government domains (9.3 vs. 13.4 and 12.4 or 17.2 vs. 23.2 and 26.9) in order to justify the first part of the conclusion. For example, the authors may consider GEE model to handle this correlated binary outcome or using other appropriate methods for the comparison.

(3) The authors also mentioned that records missing data for model variables were excluded from the bivariate and multivariate analyses. The authors may need to provide justification and information to demonstrate the missingness is somehow random, therefore, exclusion of those records with missingness will not bias the study conclusion.

VERSION 1 – AUTHOR RESPONSE

Reviewer Comment	Author Response
R1: Very well done. This is a needed study, in particular looking at vaccine hesitancy between different areas of the world. It was very thorough.	Thank you so much for the validation of our work! We are so pleased to see this comment.
R2: Thank you for the study that evaluated the vaccine acceptance and different variables associated with it. However, the acceptance rate found in this study should be compared with studies from different regions not included in this study including the middle east, more references can be added for example: Al-Qerem WA, Jarab AS. COVID-19 Vaccination Acceptance and Its Associated Factors Among a Middle Eastern Population. Front Public Health. 2021;9:632914. Published 2021 Feb 10. doi:10.3389/fpubh.2021.632914	Thank you for this comment. We've made sure to reference other studies' findings regarding vaccine acceptance and have added the reference as suggested.
R3: Table 1 results presentation is somehow overwhelming and too much information was included in such a busy table. The authors may consider more appropriate way to present related data analysis results included in this Table.	We have restructured the table, deleting chi-square, p-value, and Odds Ratios, denoting significance as categories with superscripts instead. Hopefully these changes increase the readability of this table

R3: For Table 4 results presentation, the authors claimed that "while smaller proportions of rationales for science effectiveness were classified as positive (9.3%) or negative (17.2%) when compared with other domains (Table 4), many participants were still polarized in their rationales." However, the first part of this conclusion was not supported by appropriate comparison results. The authors may provide appropriate data analysis results to compare the positive/negative sentiment proportions between science vs. healthcare, government domains (9.3 vs. 13.4 and 12.4 or 17.2 vs. 23.2 and 26.9) in order to justify the first part of the conclusion. For example, the authors may consider GEE model to handle this correlated binary outcome or using other appropriate methods for the comparison.	Thank you for this comment. In hindsight, we do not believe this analysis presented in Table 4 added to the findings and have delete it.
R3: The authors also mentioned that records missing data for model variables were excluded from the bivariate and multivariate analyses. The authors may need to provide justification and information to demonstrate the missingness is somehow random, therefore, exclusion of those records with missingness will not bias the study conclusion.	Thank you for this suggestion. We used the pooled results from multiple imputation of missing data in this version of the paper to accommodate missing data. We give more detail in the revised Methods section.

VERSION 2 – REVIEW

REVIEWER	Wang, Wei Food and Drug Administration, Division of Biostatistics, Center for Devices and Radiological Health
REVIEW RETURNED	08-Aug-2021

GENERAL COMMENTS	For my third comment regarding the missing data, the authors used the pooled results from multiple imputation of missing data in this version of the paper to accommodate missing data. The results are consistent with those analyzed with observed record only (results presented in original version). Therefore, my concerns regarding the missingness of the data were addressed. However, regarding the results presentation, I do not recommend presenting analysis results including imputation data as the main analysis results. In stead, I suggest presenting the results with observed record only in the final table (results from original version) and also discussed in the text that the results were comparable with those after including imputing missing records. Please correct the manuscripts results presentation accordingly.

VERSION 2 – AUTHOR RESPONSE

Reviewer Comment	Author Response
R3: For my third comment regarding the missing data, the authors used the pooled results from multiple imputation of missing data in this version of the paper to accommodate missing data. The results are consistent with those analyzed with observed record only (results presented in original version). Therefore, my concerns regarding the missingness of the data were addressed. However, regarding the results presentation, I do not recommend presenting analysis results including imputation data as the main analysis results. In stead, I suggest presenting the results with observed record only in the final table (results from original version) and also discussed in the text that the results were comparable with those after including imputing missing records. Please correct the manuscripts results presentation accordingly.	Thank you for your comment. We have added detail to the Methods section indicating that we are displaying observed rather than imputed results since the imputation showed no significant bias. We have made corrections in the tables where appropriate to revert to the observed values.

VERSION 3 – REVIEW

REVIEWER	Wang, Wei Food and Drug Administration, Division of Biostatistics, Center for Devices and Radiological Health
REVIEW RETURNED	12-Oct-2021

GENERAL COMMENTS	The authors addressed my comments and the revised manuscript is acceptable.