

Effect of COVID-19 vaccine information on beliefs and hesitancy (#55763)

Created: 01/13/2021 06:40 AM (PT)

Public: 04/12/2021 04:51 AM (PT)

Author(s)

John Kerr (University of Cambridge) - jk802@cam.ac.uk

Alexandra Freeman (University of Cambridge) - af621@cam.ac.uk

1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?

Our proposed study addresses the following research question. Do communications relating factual information about COVID-19 vaccines have an impact on vaccine beliefs (concern over side effects, perceived efficacy, concern over speed of development) and hesitancy (willingness to be vaccinated against COVID-19), and to what extent do beliefs mediate the effect of information on hesitancy.

3) Describe the key dependent variable(s) specifying how they will be measured.

Key dependent variables will be the Oxford Vaccine Hesitancy scale and three subscales of the Oxford Vaccine Beliefs scale (concern over side effects, perceived efficacy, concern over speed of approval). Item wording has been adapted (reflecting the current availability of COVID-19 vaccines), and several face-valid items added aiming to reduce potential error in the measurement of constructs.

4) How many and which conditions will participants be assigned to?

Participants will be randomly assigned to one of the following conditions:

- Control (no information presented)
- Risk and benefits - factbox (tables adapted from FDA clinical trial evaluation)
- Risk and benefits - text (extracts of a EMA Q&A outlining side effect frequency and, more prominently, efficacy)
- Explanation of accelerated regulatory approval (extracts from EMA webpage on review process)
- A brief explanation of how mRNA vaccines work and how they were developed (extracts from CDC and BSI websites)

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

For each of the four key dependent variables, means will be compared between groups by one-way ANOVA with Tukey's post hoc comparisons.

To examine mediation, we will construct a SEM model in which experimental condition (information vs control) is treated as an exogenous variable, predicting vaccine hesitancy and three mediator variables (side effect concern, perceived efficacy and concern over approval). All variables, other than experimental assignment, will be modelled as latent variables and all mediator variables correlated.

We will report model results (all direct and indirect effects) for four contrasts: each information condition compared to control. Significance of an indirect effect will be determined by 95% bootstrapped confidence interval (5000 samples).

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

Only participants who complete the survey will be included in analyses. We will exclude participants who: report having already received a COVID-19 vaccine, fail an instructional attention check (e.g. please select agree), report being younger than 18 years, provide or an unrealistically high age (> 100).

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

A total of 2,500 participants will be recruited through two online panel providers (Respondi and Prolific).

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

The following secondary outcomes will also be collected.

- Estimates of the frequency of mild to moderate side effects (per 10,000 vaccinated individuals)
- Estimates of the frequency of severe side effects (per 10,000 vaccinated individuals)
- Estimates of the efficacy of 'best' COVID vaccine ('percent of cases prevented')
- Self-rated informedness regarding decision to vaccinate (adapted from the decisional conflict scale).
- Vaccine intention (binary)
- Behavioural item: request for more vaccine information (binary)

For information conditions: Time spent on information page, perceived trustworthiness (3 item scale), self-rated effort required to read information, self-rated understanding of information.