Author's response to reviews

Title: Behavioral intentions in response to an influenza pandemic

Authors:

Gerjo Kok (g.kok@psychology.unimaas.nl)
Ruud Jonkers (r.jonkers@rescon.nl)
Roger Gelissen (r.gelissen@rescon.nl)
Ree Meertens (r.meertens@maastrichtuniversity.nl)
Herman P. Schaalma (herman.schaalma@maastrichtuniversity.nl)
Onno de Zwart (dezwarto@ggd.rotterdam.nl)

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Author's response to reviews: see over
Cover letter MS 8272778212853776 Behavioral intentions in response to an influenza epidemic

Reviewer’s report: Tapanan Prateepko

2. The method is appropriate to answer that question. In the method section, the authors described well about each measure that they used. However, the authors did not mention some points in this one.

We agree. However, the difficulty with reporting a survey like the one reported in this paper is that, in order to understand the results, most questions and some scenarios need to be repeated. This can result in excessive text in which the same information is repeated (methods and results section). We hoped that this compromise whereby the shorter presentations are in the method section and the full presentation in the results section would be more practical and acceptable. We still hope it is.

For the sample size (participants), it is not much clear how to choose them and why there are 1,099 participants.

We have added to the text that the panel (N=1779) is representative of the Dutch population…. From the panel, 1099 agreed to participate (response rate = 62%). We also have added the response rate to the text.

The methods of the data collection, statistical and data analyses are not described in this section, but they are somewhat described in the result section.

See earlier response to first comment under point 2.

The basic information of the participants (e.g., sex, age, educational level, etc.) should be considerably moved to the first paragraph of the result.

We agree and consequently moved those data.

For behavioral responses: about the scenario presented “There is a worldwide pandemic of a new influenza ……. Within five weeks 400,000 Dutch people get sick and 4,000 people die.” For this situation, the numbers of cases and deaths were presented based on what estimation (e.g., model study there or what? Why are such numbers? (because this one can lead to the responses of the participants).
This is a hypothetical but possible situation as suggested by representatives of the Dutch Ministry of Health and the RIVM (the National Institute for Public Health and the Environment) in the project team. We have added: “Adaptive behavioural responses were measured by first presenting the following hypothetical scenario.”

5. The discussions are supported by the data. However, the authors did not discuss the relevance of this study to current literatures. In the background, the authors mentioned about available empirical evidence, but did not show the relevance between this study and those studies. 

We have added eight recent publications and discussed them in a new subsection in the discussion, namely ‘Results in the context of the current literature’.

6. The limitations of the work are well stated. However, the authors should mention about the participants whether this group of participants can be represented the Dutch population or not. The respondents seemed to be adults, this one would be skewed the results of the study or not?

We added a new table with the characteristics of the sample compared to the Dutch population, as suggested by reviewer Kristiansen.

Also, as the results based on a cross-sectional survey, so temporal relationship is not well established: when the influenza pandemic is wide spread, the behavioural responses may change based on the real situation.

We agree and this is now mentioned in the discussion: “The results of this study are derived from a cross-sectional analysis. In reality, changes in the development of the pandemic and the reactions of others may influence people's behavioural responses.”

Minor essential revisions:

In p.7 (Crimando developed…..), what is pp.xxx, it would be somewhat like a reference, but it is not yet completely corrected.

Our apologies. This should have been: p.1

In the results, page 15 (about factor analysis), eigenwarrde is eigenvalues?

Indeed, it should have been eigenvalues and has now been adjusted

Figure 2: maladaptive responses: Nothing we can do is Nothing we can do??

Typing error; corrected
Reviewer's report: Ivar Sonbo Kristiansen

Rather than concluding about their own findings, the authors conclude with normative statements about policy responses to a pandemic threat.

• The authors conclude about policy issues (which they have not explored directly) rather than concluding about their own findings

This section is now headed ‘Conclusions and Implications’. We assume that here the reviewer is especially referring to our remark regarding messages from authorities. We agree with the reviewer and have now formulated this remark as: “During a pandemic, messages from the authorities should anticipate this balance between overreacting and underreacting.” We think this statement and the other conclusions presented in this paper are based on our own findings.

• The research question is fairly broadly described without any hypotheses

This was an exploratory study. Its primary focus was on gathering information. The secondary focus was a possible confirmation of a number of relevant theoretical ideas. There were no specific hypotheses. We have now reformulated the research question and added: “The results provide relevant information that furthers our theoretical understanding of risk behaviour intentions and enables us to develop better and more effective policy responses to future pandemics.”

• The manuscript could be better structured. Example: In the “Research question” section, the authors describe methods and implications rather than research questions and hypotheses.

We agree and have moved that part of the text to the procedure section.

• The study population is not described (e.g. people aged 20-79 in the Netherlands). If the target age group was not decided, this should be stated explicitly. The authors state that the sample had slightly more females, elderly, etc. than the Dutch population. Did this include all age groups? Is it surprising that the sample has less education than the general population if children were included in the target
group? A table describing the Dutch target population and the sample in terms of distribution of age, sex, education, etc. would be good.

We agree and have added a new table (Table) in which we compare the sample to the general Dutch population ≥ 18. As mentioned earlier, we also added the response rate.

• A full verbatim version of the questionnaire (preferably in English translation) is missing.

We do not think that this is really necessary. We find it impractical as the questionnaire is tailored and complex. Nonetheless, readers may be interested and can contact us for it. In our experience, no one ever asks for the whole questionnaire, only for specific details.

• The English language needs some polishing. In many places “if” should be replaced by “whether”. On page 17, change “trustful” to “trustworthy”?

The paper has been edited by a native English speaker.

• The definition provided to the respondents of pandemic is incorrect. A pandemic is not necessarily caused by a virus, nor need the virus be unknown. Any analysis of respondents understanding of the term pandemic is useless when the authors do not know the term themselves.

Indeed, it is more an explanation of a pandemic for lay people than a definition. We now use this term (‘explanation’) in the text. Not all people know what a pandemic is. In order for participants to respond to questions about a pandemic, the term has to be defined for them. Our experience is that medical definitions do not enhance lay people’s understanding of concepts. They are difficult to understand. What we attempted to do was to offer information that is comprehensible for the lay person and considered acceptable by experts. Regarding the former, we pretested the material. With respect to the latter, representatives of the Ministry of Health and the RIVM (the National Institute for Public Health and the Environment) participated in the project team, were actively involved in the construction of the questionnaire and approved the final version. We have added to the Procedure (Method): It should be noted that the questions on these concepts are meant to give insight into how respondents perceive the threat, rather than their knowledge of the facts on this issue, as behaviour is determined by how people perceive their environment to be, instead of by the objective facts.
• The term “dangerous” may provoke affect and will likely influence the remaining of the responses. It would be good to cite information from WHO/Dutch Health authorities to learn what an influenza pandemic is, and then base the study on this information.

For the same reason, we decided to use the term ‘dangerous’ to make the difference salient between a common influenza and a pandemic influenza. (It is not so much different from ‘serious’ in the reviewer’s own study).

• The question “Are you in general susceptible to influenza” does not make sense medically. If it is genetically a new virus, everyone is susceptible. For each of other viruses, everyone is susceptible if they have not had the infection or have had vaccination.

The question “Are you in general susceptible to influenza?” is derived from the meta-analysis conducted by Brewer et al., 2007, and reflects the individual’s perceived constitutional vulnerability to a hazard. However, we agree with the reviewer that this concept is confusing and we have decided to ignore this variable in the paper. The term perceived susceptibility is now used in its original meaning: “How probable is it that you will get influenza ... from a pandemic in the next 12 months?”

• The question “How probable is it that you will get influenza ... from a pandemic in the next 12 months?” is less meaningful. Even experts have difficulty judging the probability of an influenza pandemic, and lay people will in general not have information to answer the question. Supposedly, many respondents had an opinion. Is it ethically acceptable to ask people question that they cannot answer in the first place????

The reviewer seems to take the perspective of the medical expert. However, people’s reactions are not determined by what the objective facts about the threat are, as by how they perceive the threat. Therefore, one should try to get insight in the perception of the threat of people, wherever they base this perception upon. We now explicitly explain this in the text, in the introduction as well as in the method section. Furthermore, we have added ‘perceived’ to the definitions of variables: perceived susceptibility and perceived severity . (To be sure, we agree that it is difficult to measure such hypothetical perceptions and reactions, but we already addressed that in the discussion section. We simply have no better solution of finding out how people will react in such a situation, and why).
Are the mentioned precautions recommended by Dutch health authorities? The effectiveness of face masks is debated. They are popular in Asia, but hardly seen in Europe, and not recommended by European health authorities as far as I know. The study should be relevant to Dutch pandemic policies.

No, face masks are currently not advised and recommendations may vary dependent on the specific disease. When the survey was constructed, there was a discussion among European experts on the effectiveness of face masks. Consequently, using a face mask was not included in our list of possible recommendations (see figure 3). In our study, the face mask is used as an example of a possible recommendation in order to measure the effects of information about behavioural costs. This was done as such so that answers to behavioural items further along in the survey would not be influenced. Moreover, wearing a face mask is a recognizable and tangible behaviour that most people can easily imagine doing or being done.

From the items that are presented verbatim in English translation I am concerned about the whole questionnaire. Example: Is it meaningful to ask people how many hours they will work during a pandemic? Can people know?

All these answers are indeed estimates based on hypothetical representations (people were asked to imagine a situation). We think it is possible to have people imagine a hypothetical situation and have them give estimations on what they probably will do, especially when the context of the decision is described (as we did in the scenarios). Anyway, to the best of our knowledge it is the best possible method available to get insight in these important questions.

Is Tamiflu and Relenza really preventing virus from dispersing through the body? What is the medical effect?

Again, this is a popular definition.

The paper describes a very long list of findings. The reader would need to know some determinants of people’s opinion on this and that, and how responses to different items are related.

Determinants of intentions were not the focus of this study. We did a follow-up study focusing on determinants (with more specific measures) and another focusing on changes in determinants and intentions as a result of manipulated information on the developments over time. Manuscripts of these follow-up studies are in preparation.
• The authors do not cite all papers on behaviour intention in case of influenza pandemic. How did they search the literature???

The literature was searched very systematically mid 2007 by using the available search engines, such as PubMed, and by asking experts. We have now added eight recent publications and discussed them in a new section under the discussion: Results in the context of the current literature.

Conclusion

The paper suffers from several important limitations. The design limitations cannot be eliminated, but they should be discussed explicitly. Also, analyses and presentation could be much improved. Because the questionnaire was so extensive, the authors may do well to omit some aspects to make the paper more focused, or to split it in two independent papers.

We agree that there is a lot of information. We have tried to be more selective in the results section, especially with respect to the scenarios.

We hope we have responded adequately to both reviewers’ comments.