Author's response to reviews

Title: Characteristics associated with willingness to participate in a randomized controlled behavioral clinical trial using home-based personal computers and a webcam

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Author's response to reviews: see over
Response to reviewers:

We appreciate the reviewers’ constructive comments. Upon Reviewer 1’s suggestion, we now only report the results of the survey which examined characteristics associated with willingness to volunteer into the behavioral randomized controlled trial. The trial protocol and its results are currently in press in another journal. Our responses are inserted in italics after each comment by reviewers. The paragraphs which are directly relevant to reviewers’ comments are highlighted yellow in the manuscript.

Reviewer 1.

1. The manuscript describes the design of a trial of social interaction for older people with no or mild cognitive impairment living in retirement villages or in contact with community centres. How well does this sampling frame represent the population of older adults living in the community? How could this affect the generalisability/external validity of future findings of the study?

As this reviewer pointed out, we distributed surveys to those living in retirement communities or in contact with community centers. In the United States, it is a challenge to obtain names and addresses of a representative sample living in the community because county government offices are not allowed to share this information with researchers, and using a commercial data bank is expensive and not necessarily free from selection bias (e.g., only those who purchased certain merchandise, or those in a certain socioeconomic status are registered). Therefore, for this pilot randomized controlled study, we used retirement communities and centers for cost-effective distribution of surveys and recruitment. We now provide the following paragraph in Limitations:

“We distributed surveys to those living in retirement communities or in contact with community centers. Although over 60% of non-institutionalized adults aged 80 years and older were living in retirement communities in 2010 (unpublished data, obtained directly from the local Multnomah county office of Area Agency on Aging (AAA)), those living in retirement communities could be different from those living in free-standing single family homes in many aspects and this may limit the generalizability of our study results.”

2. Description of the control intervention lacks detail. What type of stimuli are used to trigger conversations? How are the calls scheduled, structured, recorded, coded? What variables have the investigators sought to control compared with the web-based intervention?

Briefly, the control group was contacted by phone once per week to be asked about the frequency and duration of their weekly contact with their friends, neighbors, families and relatives. This weekly telephone call was the only contact the control group had through this trial and no PC was provided to them. If participants in the control group were already using a PC before the trial, they were allowed to continue. The protocol of our RCT is now presented in detail elsewhere (Alzheimer’s & Dementia: Translations Research and Clinical Outcomes, in press) and not discussed in this manuscript.

3. Commitment/interest cannot be easily measured by a single question? Do the investigators have any data to support the validity of this assessment? Are they suggesting that non-participants are characterised predominantly by low commitment and low interest? Is there any evidence that this is indeed the case?

In the survey, after an introduction (i.e., “In the near future, we are going to conduct a study where we will talk with seniors daily for about 30 minutes using the Internet and a computer video camera. The purpose of this study will be to see how communications and frequent social interactions affect our thinking abilities,”) we asked respondents: (A) “Does this type of study interest you? We will not contact you unless you indicate that you want to be contacted below”, (B) “Would you like to be contacted by our study coordinator as a potential
participant in a future study as above?” And if yes, then (C) “Could you provide your contact information?” (name and telephone number, and address (optional)). Four outcomes were created operationally using the combination of the answers to the above questions: (1) Showed interest in the type of study (i.e., selected “yes” to question (A), and also provided their contact information (henceforth called “committed with interest”); (2) did not show interest in the study itself (i.e., selected “no” to question (A), but provided contact information in any case (i.e., not interested in the study topic, but if needed, does not mind helping the study by participating, henceforth called “committed without interest”); (3) showed interest but did not provide contact information (henceforth called “interest without commitment”); and (4) did not show interest nor provide contact information (“no interest”).

As this reviewer commented, a single question does not necessarily elucidate the true nature of subjects’ interest in the study. However, we used the contact information provided by the respondents for contacting and recruiting subjects into our subsequent RCT. Therefore, we believe that the above categorization is well-suited for identifying the selection bias of our potential pool of participants.

4. I have the impression that the authors of this manuscript were trying to do two things at the same time: describe their intervention protocol and report the results of the 'interest/commitment' analyses. I wonder whether the structure of the paper needs to be revised to clearly outline these two aims: (1) describe the protocol of an intervention designed to investigate how face-to-face conversations compare with telephone conversations in relation to cognitive function and well being after 12 weeks, (2) report basic sociodemographic and clinical characteristics of participants who consent to screening and answer the questions about interest and contact details (please include information about cognitive outcomes, if available). If the authors do not wish to report these data, please consider focusing on aim (1) only.

We completely agree with this reviewer’s concern. We now report only the results of the survey analysis where we examined the characteristics associated with willingness to participate in the study and its potential selection bias. This arrangement was made because we did not receive reviewers’ comments for over 6 months after our submission of the initial paper to Trials. Meanwhile the data from our main RCT was cleaned and analyzed and the results were submitted (the manuscript currently in press). We believe that focusing on only the survey results here has clarified this manuscript significantly.
Reviewer 2

1. Was there any protocol to ensure that the contents of the survey would be understood by the participants, especially those recruited from the Oregon Alzheimer’s Disease Center (OADC) volunteer list?

_We only used the OADC volunteer list for normal control volunteers, although some might have developed cognitive impairment since the time they originally signed up. We now include a following sentence in Text._

“In addition to this community-specific recruitment, we also sent a small number of mail-in survey questionnaires (n=126) using the Oregon Alzheimer’s Disease Center (OADC) volunteer list where names, telephone numbers and addresses of those interested in participating in the studies offered by OADC are retained. The majority of this list consists of participants who signed up to be enrolled as normal controls in past studies.”

2. It would be helpful if more information was provided about the retirement communities and senior centers that were targeted for the survey distribution. For example, were these communities ethnically diverse?

_We now provide more information about the retirement communities and senior centers as follows:_

“Sixteen communities and centers that cover a wide range of socioeconomic status (including low income household retirement communities designated by the municipal government) and that had agreed to collaborate for research studies with OHSU were included. To increase response rates, we conducted information sessions at each community and center explaining the upcoming trials. The survey was distributed at the conclusion of the information session and also distributed by mail through the retirement communities and senior center administrative offices.”

_As we explained to the Reviewer 1, we are aware of the limitation that we distributed the survey to retirement communities and senior centers. We now provide the following paragraph in our Limitations:_

“We distributed surveys to those living in retirement communities or in contact with community centers. Although over 60% of non-institutionalized adults aged 80 years and older were living in retirement communities in 2010 (unpublished data, obtained directly from the local Multnomah county office of Area Agency on Aging (AAA)), those living in retirement communities could be different from those living in free-standing single family homes in many aspects and this may limit the generalizability of our study results.”

3. How many respondents were from the OADC and how were these respondents distributed across the four groups? Why was this chosen as a source of recruitment? Did this sample include participants with MCI?

_Please see our response to #1 above._

4. Was any information gathered on why individuals were not interested in participating in the study such as time commitment; lack of interest in using computers, etc. It would seem that understanding this issue would provide important information for future trials.

_We appreciate this reviewer’s thoughtful comment. We now add the description of reasons of not being interested in the study as follows. We believe this strengthened the manuscript._

“Finally as a post-hoc analysis, we examined the reasons for not being interested in participating in the study. Out of 534 subjects in the “no interest” group, 524 subjects selected one or more reasons provided in the survey or wrote the reason as an open-ended response. The response categories provided in the survey and frequencies are: (1) I am too busy to participate (n=161, 30.1% of the “no interest” group), (2) I do not like using technologies such as webcam and internet (n=158, 29.5%), (3) I do not participate in any studies (n=99, 18.5%), (4) I do not like to talk with someone daily (n=81, 16.1%). Additionally 11 respondents (2%) reported in an open-ended response that they have not used a PC, the internet or a webcam, and 16 respondents (3%) wrote simply “not interested”.”
Discussion now also includes the following paragraph:
“Two dominant reasons reported for not being interested in study participation were being too busy and not liking to use these technologies. According to a US census bureau report in 2010, 55% of adults 65 years and older are living in a household with internet access, and 42% of these individuals access internet at home [8]. It can be anticipated following the ongoing trends in information communication technology use among the older population that the prevalence of internet and PC users will further increase as baby boomers move into the retirement age group. Nevertheless, there is still high anxiety and lack of confidence about computer usage among the current generation of older adults [9]. In our randomized controlled trial, we provided PC’s, internet services and monitors to the participants (i.e., participants did not need to have these items). For daily conversational sessions, we created a user-friendly system such that participants did not need to know how to use a computer, other than to touch a touch screen preconfigured to receive calls and automatically begin the conversational session. Clarification in the survey description that previous PC and internet experience was not required for participation in our study could have increased the number of those who showed interest”.

5. The discussion of the statistical model is a bit confusing the authors state that they used multinomial logit models with the last group as a reference group and the other two groups as outcomes – there were four groups – unless I misunderstand this – the statement in the manuscript implies that they used three groups in the analysis.

We informed incorrectly in our previous version. We meant to say “the other 3 groups”. The text is now corrected.

6. Were any interactions among the variables analyzed? Generally the discussion of the analysis is a bit simplistic.

We now expand the explanation of variables used in the model in footnote. Upon this reviewer’s request, we examined the interaction of PC usage and other variables (such as PC users and indicating higher loneliness scale), but model fitness became worse after these inclusions. Therefore, we report the original model without any interactions.

7. Was there any differential response rate according to geographic area, community or senior center? Were there any differences in response according to living arrangement or ethnicity of the participant?

Unfortunately we had a relatively large number of missing values in the ethnicity questions and living arrangement questions. Therefore we decided not to include these variables in the model.

8. The authors need to do a better job of discussing the significance/implications of their findings. 9. The discussion of the limitations of the study need to be expanded – e.g., the limitations of the survey with respect to information gathered?

We now extend the discussion largely and focus only on the results of survey questionnaire (omitting the RCT protocol). We believe this clarified and strengthened the manuscript. We now acknowledge more limitations including that although our overall response rate of 55% is relatively high for mail-in surveys, we only know the characteristics of those who responded to our survey.

Minor Revisions:
1. In terms of the actual study – were the participants trained to use the technology?

We did not need to provide any specific training sessions. As briefly explained in this paper, for daily conversational sessions, we created a user-friendly system such that participants did not need to know how to use a computer, other than to touch a touch screen preconfigured to receive calls and automatically begin the conversational session. When we delivered the monitor and PC to participant’s home, we explained how to
receive the call by showing the process to participants. This was sufficient for the participants to conduct the trial sessions. The protocol of our RCT is now presented in detail elsewhere (Alzheimer's & Dementia: Translations Research and Clinical Outcomes, in press) and not discussed in this manuscript.