Author's response to reviews

Title: Do personalised e-mail invitations increase the response rates of breast cancer survivors invited to participate in a web-based behaviour change intervention?

Authors:

Camille E Short (camille.short@adelaide.edu.au)
Amanda L Rebar (a.rebar@cqu.edu.au)
Corneel Vandelanotte (c.vandelanotte@cqu.edu.au)

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Author's response to reviews: see over
Dear Dr Edwards,

Thank you for your email dated the 1st of June 2015 and the opportunity to revise and resubmit our manuscript (MS: 9852896291587269) entitled “Do personalised e-mail invitations improve recruitment of breast cancer survivors into a web-based behaviour change intervention.” Please find below our detailed responses to the comments we received from the reviewers. We have made all changes suggested where appropriate and provide explanations where we felt a change was not appropriate or possible. We thank the reviewers for their valuable feedback and hope the editors find these modifications and explanations satisfactory. Please be assured that we are happy to make further changes to the manuscript if suggested by the editor.

Reviewer 1

Reviewer 1, comment 1.
This report provides the evidence that an email invitation that addresses participants by first and last name will more likely result in a positive recruitment rate compared to a generic email. The manuscript is well-written. Although the findings are very straight-forward, they re-affirm the importance of doing that "extra" step when attempting to recruit participants using online means.

Thank you for your supportive comments.

Reviewer 1, comment 2.
For clarification, authors should consider providing in Appendix the actual email template that was used in both groups.

Thank you for this suggestion; we have included the email templates as an additional file.

Reviewer 1, comment 3.
They should also consider providing a simple flowchart diagram of how participants were contacted for recruitment, and the way personalised email were generated according to their surname order.

Thank you for prompting us to provide this information. We have revised the manuscript to provide a study flow chart using the CONSORT template. Further, we have revised the method section to provide more clarity around the allocation method. This section (page 5, par 2-3) now reads (changes are in blue):

‘The breast cancer organisation provided the research team with the contact information of members who had agreed to be contacted in relation to the randomised controlled
trial. This information was provided once a week over an eight week period, as not all members responded equally fast to the request. Upon receiving the contact information each week the research team sent one group a personalised email (i.e., addressing them with first and last name) and the other half a generic email (i.e., addressing them as ‘dear member’). The email detailed the study aims, the study eligibility criteria and directed participants to the study website where they could view more information about the study and consent to participate by completing the eligibility questionnaire. The greeting line (personalised or generic) was the only difference between the e-mails sent to each group (see Appendix 1). All participants were sent a reminder email 2-3 weeks after the initial e-mail was sent, which was personalised in the same way as the original e-mail.

Group allocation
Group allocation was based on last name. Each week the contact information of potential participants was provided to the research team in an excel spreadsheet. This was sorted based on last name and split into two groups (personalised email versus generic email). To reduce any potential bias associated with this, the group receiving the personalised e-mail was switched each week (i.e., in the first week the personalised email was sent to the first half of participants in the excel sheet and in the second week the personalised email was sent to the second half of participants in the excel sheet, and so on for proceeding weeks). All participants were blinded to this process. The project team was not blinded.

Reviewer 1, comment 4.
For future research, authors could consider investigating the question of whether sending participants such personalised email during the study will result in lower study attrition rate compared to using generic email.

Thank you for this suggestion. We agree this would be an interesting question for further exploration. Exploration of this in the current RCT won’t be possible as all participants are sent personalised intervention content once enrolled.

Reviewer 2
Reviewer 2, comment 1.
Given this is a RCT, I would strongly recommend that the authors access the CONSORT statement and use this as a guide to report key elements of their trial. Many elements are currently missing in relation to the methods, reporting of results and discussion. Examples include – the fact this is an RCT is not in title, details of the specific population, details of randomization (allocation concealment), who implemented randomization, sample size calculation, participant flow diagram and limitations.

Thank you for your constructive feedback. We have revised the manuscript to be in line with CONSORT guidelines where possible. For example, we have now included information regarding eligibility criteria, trial design and registration details, study settings, the group allocation procedure and included a participant flow chart. Some examples of these changes are below for your convenience.

The following has been included under the heading ‘design’ in the methods section (page 4, par 3):
This study is a nationally-based quasi-randomised 2-arm controlled trial. Ethical approval was obtained from the Human Research Ethics Committee at Central Queensland University, Australia (H13/07-126). The trial is registered with the Australian and New Zealand Clinical Trials Registry (registration number: ACTRN12613001220752).

The following has been added to the ‘participants and procedure’ section of the method (page 4, par 4):

The study was conducted between June and August 2014 at Central Queensland University. English proficient female breast cancer survivors who were over 18 years of age, who had finished active cancer treatment, had no contraindications to exercise and were not already participating in 150 minutes of moderate-vigorous aerobic activity accumulated across at least 5 days a week were eligible to participate.

The description of how participants were allocated has been expanded and moved to its own section. It now reads as follows (page 5, par 3):

Group allocation was based on last name. Each week the contact information of potential participants was provided to the research team in an excel spreadsheet. This was sorted based on last name and split into two groups (personalised email versus generic email). To reduce any potential bias associated with this, the group receiving the personalised e-mail was switched each week (i.e., in the first week the personalised email was sent to the first half of participants in the excel sheet and in the second week the personalised email was sent to the second half of participants in the excel sheet, and so on for proceeding weeks). All participants were blinded to this process. The project team was not blinded.

Please note that we have not changed the study title since this study is best described as a quasi-randomised trial (as per reviewer 3’s comments).

Reviewer 2, comment 2.

Methods - Within the methods, data that is more suited to the results are presented (e.g. number of participants, etc). Please can the authors re-edit the manuscript accordingly?

Thank you for noting this. We have removed all count data from the methods section and included it in the results section of the manuscript. The results section now reads (page 6, par 3):

A diagram illustrating participant flow through the trial is displayed in Figure 1. Of the 43,150 members emailed on behalf of the research team, 18,554 (43%) opened the email, and 344 (1.85% of 18,554) completed the ‘permission to pass on contact details form’. Out of the 344 potential participants contacted by the research team, 199 (58%) responded to the invitation request, and 181 were deemed eligible and went on to participate in the RCT. A significant association between personalisation and response status was found, with a greater proportion of participants sent the personalised e-mail responding than those sent the generic email (116 (69%) vs 83 (50%); $\chi^2 = 12.58, p = 0.01$). Overall, the likelihood of responding for those that received a personalised email was 1.5 times greater than for those that received a generic email (risk ratio = 1.51, 95% CI = 1.18 - 1.93).
Reviewer 2, comment 3.

Results - More details of those who responded n=199 compared to those who did not should be provided.

Unfortunately we cannot access information about those who did not respond due to privacy restrictions. We have revised the discussion section to include this as a limitation of the study. The relevant section reads (page 7, par 2):

‘Finally, due to privacy restrictions we do not have participant characteristic data for non-responders or those deemed ineligible to participate, and as a result, we are unable to determine the number of potentially eligible non-responders or explore differences in response rates based on participant characteristics. This data would be useful for examining the generalizability of our findings, especially given that very few (1.8%) of the potential participants contacted by the breast cancer organisation agreed to be contacted by the research team. While this low participation rate was likely partially due to ineligibility (since organisation list members included both men and women and people with and without a history of cancer) there may have been significant differences between responders and non-responders that were eligible and this would have implications for the generalizability of our findings.’

Reviewer 2, comment 3.

Results - Were there any other demographic or clinical characteristics associated with participants responding?

While this would make an interesting addition to the paper, we do not have the data necessary to conduct these analyses. We have noted this in the limitations section of the manuscript (see response to previous comment).

Reviewer 2, comment 4.

Results - A study flow diagram, a table summarizing the sample and results would be helpful.

As requested, we have included a study flow diagram (see Figure 1). We have not included a table summarising results however, since the text-based summary provides a succinct & clear overview of findings (as per comments by reviewer 1 and 3) and no additional analyses have been conducted.

Reviewer 2, comment 5.

Results - The authors have found that a personalized invitation to their RCT resulted in a higher response rate. How many of these participants then went on consent and participate in the RCT. I feel this information would be useful for other planning similar RCTs.

In the current study, participants were instructed that by completing the eligibility survey they were providing their informed consent to participate and that they understood the terms of their participation. As such, all responders in the current study gave consent to participate and all those that were deemed eligible (n = 181, 91%) went on to participate in the RCT. Eligibility and the type of invitation sent were not related. This is not surprising given that
Participants were sent the eligibility criteria and instructed to express interest only if they thought they might be eligible.

To improve clarity, we have revised the method section regarding consent and eligibility to now read (page 5, par 2):

‘The email detailed the study aims, the study eligibility criteria and directed participants to the study website where they could view more information about the study and consent to participate by completing the eligibility questionnaire.’

In addition, we have included information regarding the number of responders deemed eligible to participate in the results section. This now reads (page 6, par 3):

Out of the 344 potential participants contacted by the research team, 199 (58%) responded to the invitation request, and 181 were deemed eligible and went on to participate in the RCT. A significant association between personalisation and response status was found, with a greater proportion of participants sent the personalised e-mail responding than those sent the generic email (116 (69%) vs 83 (50%); $X^2 = 12.58, p = 0.01$). Overall, the likelihood of responding for those that received a personalised email was 1.5 times greater than for those that received a generic email (risk ratio = 1.51, 95% CI = 1.18 - 1.93).

**Reviewer 2, comment 6.**

Discretionary Revisions

*Introduction* - The use of personalized invitations has been shown in other studies to improve response and recruitment rates, the current study is not the first to do this. Could the authors perhaps frame why their specific population (breast cancer survivors) would be harder to reach than other groups previously studied in this same context?

We would argue that the key innovative distinction between our study and previous studies is the type of study the participants were being invited to participate in (i.e., survey research versus an intervention study), rather than that breast cancer survivors are particularly hard to reach. As previous research has been limited to survey research, we wanted to investigate if personalisation would still have an effect when the type of research participants were being invited to required a substantially larger time commitment (page 3, line 52-61).

It was not anticipated that breast cancer survivors would be harder to reach than other population groups. On the contrary, we suggest that chronic disease groups might be easier to reach – or at least easier to deliver personalised invites to, given the existents of national registries containing their contact information; page 3, line 52-61). As such, we have not made the suggested (discretionary) revision.
Reviewer 3
Reviewer 3, comment 1.
This is an interesting paper that asks a straightforward question and gets a result that we can all understand, which is great. I have a few comments and these are listed below under the headings used by Biomed Central.

Thank you.

Reviewer 3, comment 2.
I have a concern about the method of randomisation used. I don’t think this is a fatal flaw but it is a weakness if I understand it correctly. I think I’m right in saying that participants were randomised in groups and whether they got the personalised email or the generic one depended on the first letter of their last names. This is not true randomisation, it’s quasi-randomisation. There are two problems with this. Firstly, potential participants don’t have an equal chance of being allocated to one group or the other: depending on the week and the letter in the alphabet cut-off, a participant’s chance of being in the intervention group is not 50% but 100% or 0%. Secondly, it is possible to predict which group a person will be allocated to and that knowledge could, in principle at least, allow manipulation so that certain people end up in one group or another. I’m not suggesting this happened, just that the method used allows it whereas, say, a coin toss does not.

Given the above, if I have misunderstood something it would be good if the authors can reword their text. If I haven’t it would be good to explain in Methods why this method was chosen because I’m not sure why it was done like this. The authors should also add it as a limitation in their Discussion if I am indeed correct in my understanding of the authors’ method.

As I said, I don’t think this is a fatal flaw but it is a shame if my understanding of the randomisation method is correct because it is a methodological weakness.

Thank you for your constructive feedback. We agree that the method of allocation into groups was not ideal and that quasi-randomisation is a more appropriate term. In line with this, we have reworded the text in our manuscript to say ‘allocation’ rather than ‘randomisation’ and have also added this as a limitation in the discussion section. We have also placed the description of group allocation in its own section in the methods to improve clarity.

The relevant segment of the message section now reads (page 5, par 2-3):

‘The breast cancer organisation provided the research team with the contact information of members who had agreed to be contacted in relation to the randomised controlled trial. This information was provided once a week over an eight week period, as not all members responded equally fast to the request. Upon receiving the contact information each week the research team sent one group a personalised email (i.e., addressing them with first and last name) and the other half a generic email (i.e., addressing them as ‘dear member’). The email detailed the study aims, the study eligibility criteria and directed participants to the study website where they could view more information about the study and consent to participate by completing the eligibility questionnaire.'
The greeting line (personalised or generic) was the only difference between the e-mails sent to each group (see Appendix 1). All participants were sent a reminder email 2-3 weeks after the initial e-mail was sent, which was personalised in the same way as the original e-mail.

Group allocation
Group allocation was based on last name. Each week the contact information of potential participants was provided to the research team in an excel spreadsheet. This was sorted based on last name and split into two groups (personalised email versus generic email). To reduce any potential bias associated with this, the group receiving the personalised e-mail was switched each week (i.e., in the first week the personalised email was sent to the first half of participants in the excel sheet and in the second week the personalised email was sent to the second half of participants in the excel sheet, and so on for proceeding weeks). All participants were blinded to this process. The project team was not blinded.

The relevant segment of the discussion now reads (page 7, par 2):

‘There are some limitations of the study that should be considered when interpreting the results. First, for convenience, the method of allocation used was not truly random and may have introduced unintentional bias. For example, assigning participants based on last name can result in some ethnic groups being disproportionately assigned [15]. We did attempt to reduce the potential of this occurring by switching the block of participants that received the personalised email each week, however some bias may still have been introduced. Second, the research team was not blinded to group allocation. While this introduces another potential source of bias [15], it is proposed that this is unlikely an issue in the current study given that all potential participants were unknown to the research team, there was no face-to-face contact and the outcome measure was objective (i.e., whether the eligibility questionnaire was submitted) and not open to interpretation. Of note, participants were blinded to group allocation and not aware of the study aims, which is a strength of the study.’

Reviewer 3, comment 3
The article title refers to recruitment but the article text refer to response rate and the two things are not necessarily the same thing. Did 100% of those who responded to both types of email go on to be recruited to the trial? In other words, for this study does response equate to recruitment? It's possible given that the trial was web-based but in other types of trial response does not mean recruitment. It would be good to make this point clearer in the article and to be sure that ‘response’ is the right word to use in the text (or ‘recruitment’ in the title).

Thank you for noting this discrepancy. For the purposes of this study, potential participants were classified as a responder if they completed the eligibility questionnaire. As not all participants were eligible, the title should refer to response rates rather than recruitment. We have revised the title accordingly.

The title now reads:
‘Do personalised e-mail invitations increase the response rates of breast cancer survivors invited to participate in a web-based behaviour change intervention?’
Reviewer 3, comment 4
Abstract 1. Last sentence. I’d add the confidence interval around the 1.5 effect.

The confidence interval has been added.

Reviewer 3, comment 5
Findings 2. I’d change ‘Findings’ to ‘Results’ and then add the heading ‘Discussion’ before the second paragraph of the current ‘Findings’ section, i.e. the Discussion would start ‘Previous research has shown..’ since the text that follows is Discussion not Results.

Thank you, we have made this change.

Reviewer 3, comment 6
Discussion 3. It would be good to add a sentence or two about why so few of the 43,150 members of the breast cancer organisation who had agreed to be contacted about research responded. It would be worth raising this in the context of generalisability I think.

Thank you, we have revised the manuscript to discuss this in the limitations section of the discussion. The relevant section reads (page 7, par 2):

‘Finally, we do not have data relating to participant characteristics for non-responders or those deemed ineligible to participate, and as a result are unable to determine the number of potentially eligible non-responders or explore differences in response rates based on participant characteristics. This data would be useful for examining the generalizability of our findings, especially given that very few (1.8%) of the potential participants contacted by the breast cancer organisation agreed to be contacted by the research team. While this was likely at least in part due to ineligibility (since members include both men and women and people with and without a history of cancer) there may have been significant differences between responders and non-responders that were eligible and this would have implications for the generalizability of our findings.’