Author's response to reviews

Title: Which outcome expectancies are important in determining young adults' intentions to use condoms with casual sexual partners?: A cross-sectional study

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Author's response to reviews: see over
Dear Ms Pafitis,

Re: Re-submission of manuscript to BMC Public Health (MS: 370052101720145)

I wish to re-submit the paper ‘Which outcome expectancies are important in determining young adults’ intentions to use condoms with casual sexual partners?: A cross-sectional study’ for consideration of publication within BMC Public Health.

I have addressed each of the reviewers’ comments below with reference to position in the manuscript (line numbers) where appropriate.

**Reviewer One**
Minor essential revisions:

1. Clarify in the 3rd paragraph of the Analysis section the variable upon which the group splits were based. It looks as if this variable was one of the items used to assess intention, although this is currently unclear.

   *This has now been clarified (see line 259 onwards).*

2. There were several typos or missing words in the manuscript (e.g., ‘outcome expectancies that that…’ in the 6th paragraph of the Introduction; ‘enables outcome expectancies to target through health promotion’ in the last paragraph of the Introduction; ‘may vary depending on the nature of partner’ in the last paragraph of the Introduction; ‘showing that a caring person’ in the 7th paragraph of the Discussion).
Corrections have been made. The whole article has also been carefully re-read for further typos.

3. Provide a rationale/supporting evidence for why males and females are expected to be “differentially motivated by the outcomes of unprotected sex” (last paragraph of the Introduction). This is important given the centrality of the gender splits to the reported logistic regression analyses.

Done. See line 165 onwards.

Discretionary revisions
1. Consider providing the attitude = #be formula in the introduction – this may help readers to further understand: (i) the expectancy-value framework; and (ii) the various expectancy-value computations reported in the Analysis section (2nd paragraph) and in the Results section (under the heading ‘predicting attitude and intention’)

Done. See line 76.

2. Consider describing in greater detail the expectancy-value muddle and its implications for the interpretation of previous expectancy-value findings. One of the substantiative contributions of this paper is that it provides unbiased findings regarding the beliefs that are thought to influence attitudes towards condom use. However, this contribution may be missed if readers are not fully aware of the implications arising from the expectancy-value muddle and the effect that this has on previous findings.

This section now has greater detail. See lines 82-90.

3. Consider reordering the 2nd paragraph in the Introduction to improve the conceptual flow. Specifically, the sentence beginning “The measure of attitude derived using…” could be placed beneath the sentence beginning “The TPB further proposes that an individual’s…” This way, the reader is introduced to the notion of direct and indirect measures of attitude immediately after the different measurement techniques (i.e., semantic differential, expectancy-value framework) are introduced.

I decided not to make this change as I do not feel the suggestion improves the conceptual flow.

4. Consider re-ordering the beliefs presented in Table 2 in order from most salient to least salient.

Done, see tables document.

Reviewer 2

Minor essential revisions
1. Spelling mistakes:
Abstract, background: action(s)
Abstract, background: hea(l)th
Abstract, results: showing that (I am) a caring person
Background sixth paragraph: that that
Background seventh paragraph: known about known

*All corrected expect for ‘action’ which is used to refer to ‘behaviour’ and as such is correctly stated.*

2. Use consistent terminology: young people, young adults, students, pupils, Participants

*I have amended the document so that I am now only use the terms ‘young adults’ or ‘participants’ (the latter used when making reference to young adults who took part in the study).*

3. References: [1-3] instead of [1,2,3]

*Done*

4. Abstract: the conclusion paragraph should be more specific. Which outcome expectancies are the most important (as mentioned in the title)? And what would the authors propose for health promotion campaigns?

*The conclusion paragraph now contains more detail. See abstract.*

5. Background: the background section is to be elaborated. Paragraph 8 and 9 are examples (i.e. condom use and organ donation) and could be discussed and mentioned in the discussion section.

*More detail on these studies has now been provided. See paragraphs beginning with lines 116 and 132. Reference to these studies is now also made in the discussion section (see lines 327 and 383).*

6. Second paragraph: very long sentences of 4 or more lines, which make it hard to read.

*Sentences shortened. See lines 45-50.*

7. Tenth paragraph, last line: “The study population……… long term partners” should be written in the method section.

*I would prefer to leave this section where it is as I’m justifying the focus of my study in relation to the aims rather than describing my participants.*

8. Procedure paragraph lines “Eligible participants……… aged 16-24 years”.
These lines should be written in the participant’s paragraph.

*I have simply deleted this as it's already clear.*

9. Procedure paragraph, lines “Data was collected………desired age range”.
These lines should be written in the participant’s paragraph or deleted.

*I would prefer to leave this where it is in order to introduce the two proceeding paragraphs. I am not describing my participants here but justifying the decision to recruit from two sites.*

10. Procedure paragraph. The information is too detailed.
For example delete:

- Seating was arranged to provide individual privacy.  
  Deleted
- A written quiz was provided………finished early.  
  I would like to keep this in as it’s important for the reader to understand that those who didn’t wish to participate (e.g. if they didn’t consider themselves to be heterosexual) were provided with an alternative activity. In addition, providing an alternative activity reduces the likelihood that pupils (as a captive audience) will participate out of boredom rather than because actively wish to.
- Students were offered entry into a prize draw to win …….vouchers as.  
  I have left this in as being transparent about the use of incentives is important.
- At the end of the consent form participants had to select…….. in order.  
  Deleted

11. Discussion: The content of paragraph one is repeated in the other paragraphs of the discussion. Please shorten the discussion by deleting these repeated lines

*I would prefer to leave it as it is. It is good practice to provide a paragraph at the start of the discussion that provides a summary of principal findings before later discussing in more detail.*

*See Docherty, M and Smith, R. The case for structuring the discussion of scientific papers. BMJ 1999;318;1224-1225*

**Major compulsory revisions**

1. Fourth and tenth paragraph: What is(are) the exact aim(s) of the article? And, please compare the lines below with the stated aim in the abstract (background).
   a) The present study examined the relative contribution of different outcome expectancies in determining young adults’ intentions to use condoms with casual sexual partners.
   b) And enables outcome expectancies to target through health promotion to be drawn out.
c) It examines whether a measure of indirect attitude based on a subset of selected salient outcome expectancies has better utility compared to the full set.

d) Also examines whether hedonic outcome expectancies associated with unprotected sex are more likely to be selected by those with less safe than more safe sex intentions to use condoms,

e) and also whether health-related outcome expectancies are equally likely to be selected as important.

f) by further examining the effect of gender on outcome expectancy selection.

I have removed section on aims from fourth paragraph as this was unnecessary. Aims are now more clearly stated (at end of discussion section) and are a repeat of the aims stated in the abstract (with the addition of c and f above which are secondary aims that I was unable to report on in the abstract due to limitations of word count).

2. Participant’s paragraph: the information (i.e. age, gender and ethnic background) of the included 1051 students should be described in the method section instead off the information of the 1414 students.

Done.

3. Participant’s paragraph: How are the 363 (26%) excluded participants distributed across age, gender and ethnic background? Were some groups (males, females, ethnic minorities) overrepresented in this excluded group? And did the authors adjust for this in the analyses?

A responders versus non-responders check has now been performed to determine if participants lost from the analysis differ across demographic characteristics (gender and ethnicity) compared to the included sample. Chi-squared analysis shows that both gender and ethnicity are associated with inclusion (reported on lines 179-181). This was not adjusted for in the analysis and accordingly the authors have discussed this as a limitation of the study (see lines 350-354).

4. Participant’s paragraph “Ethnic minorities were more greatly represented”: Does this (i.e. cultural differences in condom use) influence the conclusion of the study? Please elaborate in discussion section. And did the authors adjust for this in the analyses?

This has now been discussed. See lines 345-350.

5. Discussion: A paragraph about the limitations of the study is missing. For instance the excluded 26% of participants and the 40% of ethnic minorities. When not adjusted for, these percentages influence the analyses and results of the study.

The limitations section is now fuller and includes the above points. See lines 333-354.

Reviewer 3
1. The abstract is hard to understand without having knowledge about the subject. For example; What is meant by outcome expectancies? How does direct attitude (as mentioned in the methods) differ from outcome expectancies (as mentioned in the background)? Is important influences (as mentioned in the methods) the same as outcome expectancies? Is there a difference between ‘safer sex intentions’ and ‘intention to use condoms’? What exactly are beliefs and how are they related to attitude?

Inconsistencies have been addressed and use of theoretical terms more carefully defined. See abstract.

2. Page 5: Please add numbers about the explained variance or standardized regression coefficient resulting from the two previous meta-analyses examining the predictive power of the TpB.

Now provided. See line 65.

3. Page 5/6: “This has important implications for the interpretation of results…”; Please elaborate on what these implications are.

This section now has greater detail. See lines 81-89.

4. Page 6: “One of the most promising approaches lies in eliciting from participants those outcome expectancies which they consider to be personally salient”; it might be unclear to the readers why this approach is promising. Please try to convince the reader about this.

This has now been clarified. See lines 87-90.

5. Page 7: “…given what is known about the known limits of human information processing”; Please explain why this is a reason to assume that a small set of outcome expectancies is also more likely to reflect the actual decision making process.

The constraints are now spelt out. See lines 112-115.

6. Page 8: Please explain to the reader why it is important to identify “outcome expectancies that a greater proportion of undecided than willing consenters held as salient.”

This has now been addressed. See lines 149-150.

7. Page 8: Please substantiate and elaborate on the idea that “there is potential for males and females to be differentially motivated by the outcomes of unprotected sex.”

Done. See lines 165-168.
8. Page 8: “…unambiguous definition of the behaviour under examination.”; Please try to convince the reader that the behaviour chosen can be unambiguously defined (e.g., how unambiguous is “on a more regular basis, but are not serious about”).

*The reviewers point is acknowledged. ‘Unambiguous’ has been replaced with ‘explicit’ (see line 172).*

9. Methods section: A stronger case should be made on why the study is limited to intention and does not take actual behaviour into account.

*This case has now been made under study limitations. See from line 335. I would prefer to make it here rather than in the method section.*

10. Page 9: Please elaborate on why the number of school students is limited in comparison with university students. Why did you decide to include their data, given the small portion of participants? How are the results affected if their data is excluded from the analyses?

*This has now been explained. See lines 187-192.*

11. Page 9: Please add the mean and standard deviation regarding age.

*I am unable to provide this as I only collected data on the proportion of participants who were in the 16-19 and 20-24 year old age groups.*

12. Page 9: Please add whether there was selective dropout regarding those that were excluded from the analyses.

*A responders versus non-responders check has now been performed to determine if participants lost from the analysis differ across demographic characteristics (gender and ethnicity) compared to the included sample. Chi-squared analysis shows that both gender and ethnicity are associated with inclusion (reported on lines 179-181). This was not adjusted for in the analysis and accordingly the authors have discussed this as a limitation of the study (see lines 350-354).*

13. Page 9: Given that the questionnaire stated clearly that ‘sex’ referred to heterosexual sex, this raises the (ethical) issue how homosexuals participated in the study (or refused to participate).

*Given that we were clear that the behaviour of interest was heterosexual sex, we anticipate that homosexuals recruited via the university would simply not have participated. Within the school setting, the questionnaire was administered during a tutor group period. We provided an alternative activity (a quiz) for those who did not wish to participate.*
14. Page 11: “These items were generated following a review of the literature”; Please add these items (e.g., in an appendix) and explain how they were derived from the literature.

This has now been explained (see line 228 onwards). The items are displayed in table 2 so the reader has been referred here.

15. Page 12: “…was included along with the other independent variables”; Please specify these variables.

This detail has now been provided (see line 268 onwards). Please note an error as noticed during this process in terms of the DV listed. This has now been amended accordingly.

16. Page 13: “…had a negative correlation with attitude / …with intention”; Please elaborate in the discussion section on what this implies.

This implies that a measure of attitude based on selected outcome expectancies is superior to that based on non-selected outcome expectancies. This is already included in the discussion section (see paragraph beginning with line 355).

17. Page 13: “…may be differentially salient for young men and women”; Please add table (e.g., in an appendix) including test values and raw scores for all items.

The text states ‘differentially salient for those with more safe and less safe condom use intentions’ (line 267). Frequencies and test values are provided in table 2 as stated. I wonder if the reviewer is referring to the multi-way frequency tables reported further on? There are no relevant test values here though. I’m not sure what the value of including these is but happy to do so if on clarification this is required.

18. Page 16: “They propose that interventions should target beliefs for which a substantial proportion of the population have an unfavourable position…”; An alternative way worth discussing is to use computer-tailoring in which only those beliefs for which a specific person has an unfavourable position receive attention in the tailored messages that the participant receives.

I really like this idea and I have now mentioned it as an alternative approach in the discussion. See line 417 onwards.

19. Discussion section: A clearly identified limitations paragraph should be added to the manuscript, e.g., discussing the cross-sectional nature of the study and the possible selection bias given the self-selection of participants.

The limitations section is now fuller and includes the above points. See lines 333-354.
I would like to thank the reviewers for their helpful comments on this paper. I trust that you find our responses satisfactory. If however you wish to see further revisions or you have any queries regarding the most recent changes then please do not hesitate to contact me.

Yours sincerely

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