Reviewer's report

Title: Promoting Action Control and Coping Planning to Improve Hand Hygiene

Version: 4 Date: 20 May 2015

Reviewer: Alexandra Nicholson

Reviewer's report:

Thank you for your responses to my comments, they were very helpful to understand the research better. I agree that your title better reflects the article content, and I have made some other suggestions as follows:

- Minor Essential Revisions

1. Apologies I didn't pick this up last time but I think the sentence on lines 55-57, starting with ‘Thus…’ does not read well and could be omitted.

2. The reference on line 80 was different in the last version. I think if there are now two references in the paper that have shown interventions taking into account psychological variables to be effective these should all be listed rather than one as an e.g. In addition line 294/295 needs to have the same references as line 80. I also think you mean ‘effective’ rather than ‘efficient’.

3. Line 108 replace ‘This…’ with ‘A’

4. Line 112 replace ‘will be..’ with ‘were’

5. Thank you for adding information about the baseline sample in the methods, and reasons for drop out (lines 125-130). I think line 126 could read better, something like ‘non-completers cited academic duties (field work, meetings) as reasons for drop out.’ I think this information is better placed at the beginning of the results section under Drop-out analysis and randomization checks as you refer to drop outs in this section. You also refer to T2 which is not explained until the measures section makes sense in this respect also.

6. Line 131 could read better, something like ‘To avoid contamination between conditions, classroom groups were randomized to determine whether students received the experimental condition or the control condition. Class lists, provided by the university, were used by researchers to randomise classroom groups (clusters). Participants remained blind to their allocation during the study.’

7. Lines 135-137: ‘Given that…group’. I think these should be deleted. This issue is more about contamination across groups: if students from groups mix and share information about the intervention after T1 and prior to completion of T2 measures. This sounds possible based on the timeframes of data collection. I disagree that those in the experimental group would fail to notice a difference between their condition and that of the control. I think receiving a pamphlet and
completing a planning task, although brief, could be noticed as distinctive.

8. Lines 140-141, not needed as this is information provided in the next section.

9. Lines 164-165 are duplicates and need deleting.

10. I think the abstract needs some information about the intervention: i.e. that it was an educational pamphlet and a planning task.

11. Line 240. I think ‘those variables’ should be replaced with ‘social-cognitive variables’.

12. Line 271. ‘in behaviour’ not ‘on behaviour’

13. Line 296. I think this read better in the previous draft… ‘There are some limitations in this study’ to focus the reader back to your research. It could also read ‘There were some limitations with our study’ or something similar.

14. Line 297-301, this is a very long sentence and hard to follow. It could be simplified to something like ‘This could be overcome by using concurrent direct observation, where observers were trained to assess the quality and quantity of health care associated hand hygiene behaviours.’ It would read better without ‘health care associated’ but this may be needed for the associated reference.

15. Line 309: you need to note that the limitation is ‘cluster randomisation at the classroom level’. I think cluster randomisation is a valid design to use and more appropriate in the circumstances. The issue with cluster randomisation at the classroom level, rather than University level, is contamination across groups between T1 and T2 which could have affected the questionnaire responses at T2. In addition I think that line 310 – 311, starting ‘Future…’ is not appropriate and should be deleted. I think the individual level would be far too resource intensive, and blinding would remain an issue.

16. I think the sentence on line 315-317, starting ‘This can…’ needs rewording. The understanding is not fully clear to me. I think you are saying that the failure of the intervention to result in visible changes to hand hygiene behaviour may be due to the brief nature of the intervention, or the student population tested who were not all health care professionals. I agree that the brief nature of the intervention may have affected results, as may the student population due to the baseline differences in hand hygiene behaviour. But is the understanding then that health care professionals will be more likely to act on the messages of the intervention? I’m not sure that this is the case.

17. Line 318. I think the use of the word ‘then’ is too strong, as you have not shown an effect on behaviour.

- Discretionary Revisions

1. Suggestion that the background in the abstract may read better as: ‘We examined a brief educational intervention addressing hand hygiene self-regulatory mechanisms, and evaluated which psychological mechanisms
may lead to hand hygiene behaviours’.

2. End of sentence line 71 ‘..or when travelling.’ could benefit from a reference.

3. Line 116/117. I’m not sure why you have changed the wording in your third hypothesis.

4. Line 290. Suggest change to ‘…behaviour, confirming hypothesis 3.’

5. Line 313, I think you need to consider the use of ‘supposed’. This may be a translation issue. I think the word ‘thought’ may be more appropriate.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests.