Reviewer's report

**Title:** Assessing implementation difficulties among dental providers related to tobacco use prevention and cessation counselling guidelines in Finland

**Version:** 4  **Date:** 1 November 2010

**Reviewer:** Jill Francis

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Review for Implementation Science

Title: 'Assessing implementation difficulties among dental providers related to tobacco use prevention and cessation counselling guidelines in Finland'

Reviewer: Jill Francis, PhD, CPsychol.

Date: 1 November 2010

The authors of this manuscript have addressed an important topic in implementation research using a recently developed theoretical framework and novel methods to assess the domains in the framework. The clinical rationale is well argued and the study is generally well described. This is an interesting study which describes the development of a questionnaire instrument for assessing factors that may influence implementation difficulties. Validation of such an instrument would represent an important step forward in theory-based implementation research.

**Major Compulsory Revisions**

1. It would be helpful to distinguish between assessment of implementation success (ie actual behaviour, which was not measured) and assessment of factors or domains that are likely to lead to implementation success (ie ‘mediators’ as referred to in the Abstract but not elsewhere). The current references to developing the TDQ to assess “current implementation” (page 8) and scores for the theoretical domains as “implementation scores” (page 11) seem a bit misleading.

2. As this study appears to be largely a validation study, I would like to see some evidence of content validity of the questionnaire items. In addition, content coverage is challenging for a measure of theoretical domains as, by definition, the domains are broader than a single construct. Are the authors able to explain how the selected items cover the breadth of each domain?

3. I am not clear on the research question that the factor analysis addresses. How would scores on the three factors be used? It seems to me that scores on the theoretical domains, not factors, would be used to develop an intervention.

4. It would be helpful to present some theoretical arguments to support the selection of factor labels, based on the theoretical content of the domains. There appears to have been quite a lot of implicit theorising to decide the label
“behavioural activation”. Readers of this journal may need an explanation about the way in which five apparently contrasting domains (including social influences and emotion but excluding environment) are all about behavioural activation and why memory, attention and decision processes are about perceived competence.

Minor Essential Revisions

5. Title: the word “guidelines” is far removed from the phrase “related to”. Comprehensibility would be enhanced if wording could be re-ordered so that the words “implementation difficulties related to guidelines” appeared together.

6. The “Six As” approach described on pages 4 and 5 makes it clear that the behaviours under investigation are complex sets of actions. However, only the action “ask”, “advise”, and “assess” (on page 5) commence with A. More importantly, it is not always clear how the questionnaire items relate to these six actions.

7. Please describe the intended factor analysis (FA) in the methods section (page 10), ie before noting that the data met the conditions for exploratory FA.

8. Please describe the units of data that were factor analysed. On reading the text I assumed that items were factor analysed but Figure 1 appears to imply that domains were the unit of analysis in the FA.

9. Factor analysis results should be reported (eg item loadings, rotated factor matrix). Items with diffuse loadings should be noted and discussed (as, probably, an important aspect of validation of the theoretical domains structure would be to note only a small number of ‘impure’ items).

10. It would be preferable to report the study in the past tense rather than a mixture of present and past.

11. It would be helpful to note that it is “internal consistency reliability” that is assessed in this study, not other types of reliability.

12. On Page 7, the subheading “Aims” appears to be missing.

Discretionary Revisions

13. It would be helpful to present a correlation table to show how the domains scores are related to one another.

I enjoyed reading this manuscript. In general, the recommended revisions above suggest that the paper would benefit from being somewhat longer, providing more detail about the methods and more elaboration of the discussion to include the ways in which this measure, and the scores it generates, could be used in implementation research.

Level of interest: An article of importance in its field

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.