Author's response to reviews

Title: The use of social networking sites for sexual health promotion: identifying key strategies for successful user engagement

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Author's response to reviews: see over
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Natalie Pafitis
Executive Editor
BMC Public Health

Dear Ms Pafitis,

Thank you for considering our manuscript, (MS: 1915 837660118060) entitled ‘The use of social networking sites for sexual health promotion: identifying key strategies for successful user engagement’ for publication in BMC Public Health.

Please find below our response to the reviewers’ comments in italics. Line references refer to the final version manuscript. Please note that a version of the manuscript with all changes tracked has also been uploaded as an additional file, for reference for the reviewers.

Reviewer One

MAJOR COMMENTS

1) SNS term. The authors use the term “social networking sites” to describe Facebook and Twitter, but both of these are seeing their business move away from simple website use and towards mobile apps. Consider using the term “platform” or another term that is more accurate.

The term “social networking site” has been replaced with “social networking platform” (including in the title of the paper).

2) Outcomes unclear. The authors use many different terms (engagement, reach, success), but the metrics used are very simple ones. There are many ways to measure twitter influence using computer science tools. Suggest looking at the recent literature on this topic (PMID 24395983 and the co-edited volume called “Social Media Mining” from CUP) and making a note in the limitations section, possibly introducing more rigorous twitter metrics. In addition, suggest not using the general term “success” and instead using a term like online engagement.

We have deliberately used simple metrics that can easily be adopted by health promotion practitioners, and that are in line with traditional health promotion frameworks and intervention objectives (i.e. achieving campaign ‘reach’ and ‘engagement’). The social media metrics we selected of Friends/Followers, Facebook comments, Twitter mentions and Retweets etc. are used in more sophisticated and complex analyses of social media influence by others (including above-referenced book, Social Media Mining), and these other methods and tools have now been acknowledged in the limitations section. The referenced book (‘Social Media Mining’) looks at similar metrics when examining Twitter ‘influence’, with different levels of influence corresponding to our reach and interaction metrics. However, the discipline of social media mining combines techniques from computer science, data mining, social network analysis, sociology, ethnography, statistics, mathematics and more which is beyond the scope of our
research project. We also feel they move well beyond what health promotion practitioners or organisations might feasibly be able to adopt to measure their online engagement.

We defined successful profiles as those with high levels of reach and interaction. We have now replaced ‘success’ with ‘online engagement’ as per the reviewer’s recommendation. Thus profiles that achieve high levels of online engagement have high levels of both reach and user interactions.

3) Evaluation framework unclear. Why were the top ten profiles compared to the bottom two?

Clarification has been added in lines 178 to 185 for the qualitative analysis methodology. The top ten profiles were compared with the bottom five (not two) profiles for both Facebook and Twitter. This was done to identify specific strategies used by top-ranked and low-ranked Twitter and Facebook profiles. Sixty Facebook and 40 Twitter profiles were included in the analysis, therefore, selecting the top ten and bottom ten for Twitter would mean that observable differences between successful and unsuccessful profiles would be reduced. Furthermore, the premise of this paper is to understand successful online engagement, therefore, we deliberately examined more profiles at the top of the list and fewer at the bottom.

4) Introduction weak. The introduction is too long and could be more concise. The social marketing sentences are not clearly related to the overall aim.

The introduction has been made more concise (see tracked changes).

The connection with social marketing has been clarified and the relevance made more explicit to readers (see lines 90 to 97). We acknowledge that social marketing (which shares similar objectives to health promotion: user engagement to influence behavior change) has been successfully using Facebook and Twitter to engage audiences. However there is no consensus on methods to measure engagement, and identifying key strategies for successful user engagement has not been scientifically investigated.

5) Survey data weak. The authors report sending out a survey to 12 organizations and receiving data on only three Twitter accounts and two Facebook profiles. There would be the potential for substantial selection bias, making it difficult to interpret this data. Suggest removing all survey data.

Survey content has been removed from the paper.

6) Sexual health specificity unclear. It would seem that all of the metrics proposed are social media general and not specific to sexual health. This should be clarified in the methods.

Our study sample was taken from an original search that focused on sites involved in sexual health promotion (stated in lines 125 to 126). However the social media metrics selected are general and our methods of identifying profiles that successfully engage users can be applied to all Twitter and Facebook platforms. This has been stated in the limitations section, lines 415 to 417: “Although our sample of SNP are taken from an original search that focused on sites involved in sexual health, the selected metrics apply to social media in general”.
MINOR COMMENTS

1) Figure 1 not needed. This could be supplementary material, but is not essential and is described in the text.

*Figure 1 provides information on the original search strategy that is not currently described in the manuscript; instead, we only referenced our previous systematic search (Gold et al 2011). We therefore suggest keeping the figure in the main body of the manuscript since it provides extra information on the search strategy.*

2) Pg 10, line lines 245 and 251 and elsewhere. This is an interpretation of results and should properly be in the conclusion section, not the results. Suggest removing discussion parts from the results.

*These lines have been removed.*

3) Pg 11, line 272. Definitions of short and long term?

*Clarification has been made, and lines 261-2 now state: “all top ten profiles were part of ongoing social networking profiles, rather than short-term campaigns”.*

4) Conclusion weak. Section 6 (lines 467-479) should relate more directly to the data presented in the paper.

*Some more specific findings have been added into the conclusion (lines 435 to 438). The conclusion also retains a focus on implications for future research given that our study simply established a method for identifying and measuring successful online engagement, and what broad types of host activity are associated with greater reach and interaction; we posit a method for others to consider.*

**Quality of written English:** Needs some language corrections before being published

*The manuscript has been read and modified by a professional academic editor (see manuscript with tracked changes).*

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

COMMENT

There are existing case studies from the corporate sector of using social media such as Facebook and Twitter to have highly successful marketing campaigns. I suggest that the authors review these case studies and if possible add them as existing body of work to this article.

*Several case studies and reports from the grey literature were considered throughout this research project, and more case studies were reviewed following this reviewer’s comments. We have included comment on this in the introduction (lines 92 to 97). Indeed, the use of social media for successful marketing is well-developed and the field of health promotion could borrow from this sector. The aim of our study was to establish a definition of successful user engagement and a method of measurement, and then to assess scientifically, the kinds of strategies associated with successful user engagement.*

Thank you for considering our reviewed manuscript.

We believe our findings will be of interest to the broad readership of *BMC Public Health*. Our results offer practical guidance for those wanting to use social media such as Facebook and Twitter successfully for sexual health promotion, as well offering an adaptive platform from which successful online engagement can be further measured and explored. We believe our results will help guide the development of health promotion activities in this emerging field.

Yours sincerely,

Hilary Veale