Author's response to reviews

Title: The Role of Interpersonal Communication in the Process of Knowledge Mobilization within a Community-Based Organization: A Network Analysis

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Author's response to reviews: see over
Response to Reviewers

We would like to thank the reviewers for their detailed and thoughtful review of our paper. We have addressed each of their comments below.

Reviewer #1

1. **The authors might consider combining the three behavioral items into a scale. This could be done using factor analysis and this would perhaps gain more power in the analysis.**

   Thank you for this suggestion. Consistent with the recommendation, we conducted a Principal Component Analysis and combined the three behavioral items into a scale. A description of the PCA is provided on page 9.

2. **The authors should consider restricting the study only to staff members. Since volunteers were much less likely to complete the survey it might make sense to simply omit them and note this in a footnote. Indeed, given the low response rate of volunteers, there is likely bias in their reports anyway. Restricting the study to staff would then also allow the researchers more confidence in their findings. As it is, one worries that the effects documented in the analysis are a function of staff versus volunteer contrasts rather than core-periphery ones.**

   We thank the reviewer for this analysis recommendation. We have omitted volunteers and re-run our analysis. We believe this new analysis significantly strengthens the design of our paper. We have placed a footnote on page 7 indicating that volunteers have been removed from the analysis.

3. **I am surprised the authors did not conduct a multivariate analysis. The data certainly seem to suggest that staff and volunteers are different and one could regress the outcomes on the independent variables.**

   Consistent with the reviewer’s second recommendation, we chose to remove peers from the analysis and only include staff. Therefore, the suggested multivariate analysis is no longer relevant to paper. However, we did conduct an analyses to determine if demographic difference exist between the core and periphery. “Demographic characteristics were similar across groups (ps > .05)” (Page 10).

4. **The authors need to justify why they don’t fit an exponential random graph model to the data.**

   To address the non-independence of observations, all statistical tests were bootstrapped (see Page 10). Given the amount of missing data and debate in the literature about the adequacy
of the ERGM approach in dealing with non-random missing data, we chose the permutation test approach. We welcome further thoughts and suggestions regarding the analysis strategy.

5. Abstract: “SCI” is introduced before we know what it is.

This error has been corrected.

6. Page 3: “there is inadequate understanding of the how communication networks (e.g., who is in contact with whom) account for the success or failure of knowledge mobilization efforts [7].” Drop “the”.

This error has been corrected.

7. Questionnaire: The authors state that respondents wrote the names of those they communicated with. Can authors clarify if they wrote the names, thus requiring some name-text matching, or were they able to select them from a menu or drop-down list?

We now state, “Except for client names, participants were free to name as many people as they wished by inputting individuals’ names into the online network instrument.”

8. To account for network size, normalized scores of in- and out-degree centrality measures were used. You don’t need to do this because you have only one network.

We now report raw in-degree and out-degree centrality measures. This line has been removed.

9. Author’s contributions: “SP provided input regarding the design; network and statistical analysis; interpretation of results; and editorial feedback” SP is not an author, perhaps this should be SM?

We thank the reviewer for their attention to detail and have corrected this typo.

10. Page 13: “As such, CBOs aiming to mobilize knowledge within the organizations should not only assume that all communication efforts are equal.” Drop “only”.

The ‘only’ has been removed. The line now states, “As such, CBOs aiming to mobilize knowledge within the organizations should not assume that all communication efforts are equal.”

11. Page 14: “The network analysis approach used in the present study is both unique and valuable.” The approach is not unique, valuable yes, but not unique.
This line has been edited and now states, “The network analysis approach used in the present study is valuable”.

Reviewer #2

1. **One of the main conclusions is that being member of the core of the network is associated with knowledge mobilization. On the same time, 97% of these core members are staff member as well. It might be possible that the effect of core membership is just a confounder of the effect of being a staff member. A multivariate analysis could solve this problem and is strongly suggested.**

Consistent with Reviewer #1’s recommendations, we chose to restrict our analysis to staff only. This revision addresses Reviewer #2’s first, second and third concerns. In particular, the revision addresses the issue of role in the network being a confounder; and reduces the amount of missing data.

2. **Missing values: Only 86 out of 71+278=349 network members answered the questionnaire. Moreover, only 34 out of 278 volunteers responded. This is a serious number of missing respondents and can have implications for the analysis and outcomes, especially in SNA. How did the authors deal with this issue and what are the implications for the results? For example, if a volunteer is in a network with other volunteers, but the others are missing in the analysis, you might come to wrong conclusions.**

We have addressed the reviewer’s concern by limiting our network analysis to only staff within the network, thereby limiting the risk of missing data. Please see the new network description on Page 10.

3. **97% Of the individuals in the core is staff member. On the other hand, the authors state that being volunteer or staff is not related to membership of the core or periphery. This looks highly unlikely to me if 97% of the individuals in the core is staff member.**

Our analysis has been revised and a new description of the network is presented.

4. **How is defined whether one is member of the core or periphery?**

The core-periphery structure is determined using the UCINET program. The program simultaneously fits a core/periphery model to the network data, and categorizes which actors are in the periphery and which are in the core. We have added further description of the core-periphery structure in our network description, “The pattern of densities within the network were indicative of a core-periphery structure (see Figure 1). The density of ties among the core actors was 16%; the density of ties sharing information from the core to the periphery was 10%; the density sharing information from the
periphery to the core was .1%; and the density of ties sharing information among periphery actors was .1% (Test Fitness =.33).”

5. In the first paragraph of the background, the authors state that "few studies have acknowledged or examined the complex process of mobilizing research evidence", but in the next paragraph, they write "Diffusion of innovations theory

We apologize that these points were unclear. While diffusion of innovations theory has been used to understand knowledge mobilization strategies, few studies have examined the process of knowledge mobilization. We now state, “While research has examined various strategies to encourage knowledge mobilization, few studies have acknowledged or examined underlying the complex process of mobilizing research evidence [7-9]. In particular, there is inadequate understanding of how communication networks (e.g., who is in contact with whom) account for the success or failure of knowledge mobilization efforts [7]. Diffusion of innovations theory has been widely used by researchers to begin to understand the mobilization of research findings in health care and public health settings.”