Author’s response to reviews

Title: Elucidating the Influence of Supervisors’ Roles on Implementation Climate

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Version: 1 Date: 05 Sep 2019

Author’s response to reviews:

Dear Dr. Rogers and Reviewers,

Thank you so much for reviewing our manuscript. We appreciate the thorough feedback, suggestions, and the opportunity to revise. Based on the reviewers’ comments we made revisions throughout the manuscript (as indicated in tracked changes). We focused our attention on clarifying our study’s contribution to the literature (in light of evidence of the link between supervision and implementation climate, we explore how supervisors shape climate). In addition, we realized that our original presentation of our qualitative methods and results were misleading therefore we clarified the robustness of our data, and corrected the presentation of our results. Specific responses to the reviews are detailed below:
Editor

1 In particular reviewer 1 is concerned about the limited amount of data to analyze, and the clarity of the novel contribution of the work. The analysis of the data clearly needs to be extended with a clear line of argument linking this work to previous work in the field. I understand that if there is no further data to analyse or draw on then a re-submission is not going to be possible.

Response: As described below we now describe in clearer terms the amount of qualitative data we drew from (45 pages of single-spaced text). We also made revisions throughout to clarify our contribution. Specifically, our study advances the field by exploring HOW supervisors shape the implementation climate. The general relationship between supervision and climate has been suggested by theory and associational studies. However, these previous studies do not specifically examine the specific ways supervisors can shape the implementation climate. Our robust qualitative data address this gap. Moreover, we observe how supervisors shape the implementation climate in child welfare agencies, a very high-stress and resource-constrained environment – we believe this illustrates the feasibility and acceptability of enacting these roles.

Reviewer 1

2 This manuscript features a qualitative study of how supervisors' roles influence implementation by shaping implementation climate. …This is a well-written manuscript and the findings are informative for explaining how supervisors' behaviors shape the implementation climate.

Response: Thank you!

3 One issue that needs to be addressed is the lack of findings suggesting ways in which supervisors' may have a negative influence on implementation climate. The paper focuses primarily on the positive ways that supervisors influence climate. This may be a result of referral procedures that involved asking supervisors to identify staff with experience implementing the intervention and inviting them to attend voluntary focus groups. This manuscript would make a stronger contribution to the literature if the study had also highlighted the negative ways in which supervisors influence implementation climate.

Response: We appreciate this observation, and now include additional examples/detail in our results (pages 17-18) about how the absence of supervisory activities may lead to weak or negative perceptions about the degree to which the intervention was expected, supported, and rewarded:
“While the child welfare intake workers discussed how their supervisors conveyed clear expectations about screening, ongoing workers (in the child welfare agency) described how unclear communication may have negatively impacted the degree to which workers perceived that the intervention was expected. For instance, workers in the ongoing units noted how some supervisors “don’t tell us either way” and there was “little to no directive” in their office about whether they are expected to ensure and monitor whether children received the services recommended by the assessment team (the fourth intervention component). In one of the ongoing groups (July 2015), workers described how the absence of clear communication, and strong expectations led them to defer to an external behavioral health providers’ discretion rather than follow through on the assessment team’s recommendation.” (pg. 17)

“There were also instances where workers’ described how even with clear directions from their supervisor, they still felt unsupported because of limited communication with and help from their supervisors. For example, one intake worker (July 2015) shared how they received directions from their supervisor “to show up to this [training] and I had no idea what was going on… and that [the screens] had to be on time. S/he told me to do these custody cases.” In these situations, workers turned to co-workers for explanation of the intervention’s purpose and support.” (pg 18)

“Discussion of rewards for implementation were rare and workers often felt as though supervisors conveyed expectations for task completion without any positive feedback which may have led to confusion about how the intervention should be implemented. As one CALL clinician summarized, “we still don’t know what we can do because the feedback we get is, “We need the data. We have to do it. You have to do it.” Themes about the role of supervisors for rewarding implementation only emerged during focus group discussions with front-line intake workers in 2015.” (pg. 18)

Reviewer 2

This study intends to generate new knowledge regarding how supervisor behaviors affect implementation climate, where the supervisor behaviors are defined as diffusing information, synthesizing information, selling implementation, and translating top management plans to front-line workers. That is, we know that these factors influence implementation climate, but don’t know enough about how this process works. The introduction promises to develop specific implementation strategies. This is an important topic and the paper is generally well-written. My concerns are there is a limited amount of data to analyze, and the novel contribution of this work is not clear.

Response: We appreciate the reviewer’s assessment of our manuscript. In this revised version, we clarified the strength of our data for addressing our research question, and the contribution we make.
5  Introduction - I found the last paragraph hard to follow. Consider revising to enhance clarity.

Response: We revised the first paragraph of our introduction on page 5 to read as follows:

“Set within the context of a large public child welfare agency, this study explored how supervisors’ roles influence implementation climate at the front-lines of a high-stress and resource-constrained working environment, where implementation strategies must be feasible and effective. Our study is intended to inform the refinement of causal theories (e.g. Theory of Middle Managers’ Roles in Healthcare EBP Implementation), by identifying practical strategies that supervisors can use to promote implementation, and exploring how these strategies influence the degree to which the intervention if expected, supported, and rewarded at the front-lines of their organization (the three domains of implementation climate). First, we consider the evidence suggesting the importance of a strong implementation climate for supporting proficient use of new interventions, and extant theory that explains how supervisors may shape the implementation climate.”

6  Methods - Use of open coding, and then applying a framework onto the data. 87 excerpts is not a lot of data to base conclusions on, and particularly, when you consider the amount of data available for each of the sub-codes within the four leader behaviors.

a. 11 codes for diffusing information (40 excerpts; 3.63 per code) b. 6 codes for synthesizing information (24 excerpts; 4 per code) c. 7 codes for mediating (48 excerpts; 6.85 per code) d. 6 codes for selling (6 excerpts; 1 per code). I don't agree that you can use the quantity of excerpts to determine the strength of the relationship. The quantity may be a methodological artifact. I don't think you can make a statement about the cause of the quantity because you didn't develop an interview guide and sampling plan to specifically assess leadership behaviors.

Response: We appreciate these observations and after re-examining our work, we agree with the reviewer that we were remiss in using the quantity of excerpts to infer strength of the relationship between supervision and climate. We included this basic information about the number of excerpts in the spirit of transparent reporting, to demonstrate the robustness of our data, and to illustrate the output of our matrix coding. We recognize that this was a misleading way of presenting our data and results. We have corrected ourselves in this version by making three revisions.

First, to contextualize the prominence of supervision and climate themes during our discussions, highlight the strength of our data, and allay concerns about data adequacy, we now clarify on page 12 that the supervision-focused excerpts that we used for this analysis accounted for 45 pages of single spaced transcribed text (a robust amount of data).
Second, we think it is important to note that when we analyzed supervisors’ behavior, we coded for the four middle managers’ roles; that is we did not specifically code for subthemes (the 11 different types of diffusing behavior, or 6 types of synthesizing behavior). Our intent was to deepen our understanding of these four roles (for which we have extensive data), rather than cover the breadth of examples of how supervisors enact these roles in this setting. Therefore, as our reviewer notes, readers should not make inferences about code coverage based on code quantity. We realize that our Table 2 (quotes illustrating Middle Managers’ Roles) may be misleading since we offer quotes that are aligned with these specific subthemes. Therefore, we have adjusted the presentation of Table 2 – we no longer specify a potential sub-code, but instead include an explanatory note next to each quote.

Third, we removed references to the analysis of excerpt quantity, since it is misleading. This includes deleting a sentence on page 12 (where we noted that we used the quantity to make inferences about relationship strength – this was not correct). We have also deleted reference to the number of excerpts throughout the results section, including our Table 3 (matrix analysis results).

7 Results - There is a lot of detail here, but much of it seems to be a rehash of what we already know about leadership behaviors from prior work. There may be some marginal value to explicating the associations that we already expect from the theory, but I am not sure that this is the appropriate dataset given that there is so little data on leadership behaviors. It would be helpful to focus the reader on the novel contribution of this work. What does the study tell us that we wouldn't already expect? This was not clear to me from the results (or from the discussion).

Response: As noted above, we clarify the scope and extent of our data on pg. 12 to demonstrate the robustness of our data about supervisors’ roles, and implementation climate. The value of this study is that it provides detailed evidence about how supervisors shape the implementation climate in a high-stress service environment. Although there are fairly recent theory-based expectations about the relationship between supervisors and implementation climate, there is limited evidence about how they do so. Our results highlight a range of practical and feasible ways that supervisors can promote a strong implementation climate. We now clarify our specific contributions in the paper’s introduction.

In the paper’s introduction (pgs 4-5):

Although recent evidence and theory suggest a link between supervisors and implementation climate, it is unclear how each of these roles conveys expectations, supports and rewards for implementation (i.e. the causal mechanisms underlying the empirical link between supervisors’ roles and implementation climate)[11]. As a result, there is a limited understanding of specific
strategies supervisors might use to create a strong implementation climate, and in turn, implementation and client outcomes. …Our study is intended to inform the refinement of causal theories (e.g. Theory of Middle Managers’ Roles in Healthcare EBP Implementation), by identifying practical strategies that supervisors can use to promote implementation, and exploring how these strategies influence the degree to which the intervention if expected, supported, and rewarded at the front-lines of their organization (the three domains of implementation climate).”

And on pgs 7-8:

“However, while theory and evidence suggest a link between these roles and implementation climate, we do not know how each role and the underlying mechanisms of action shape how innovation use is expected, supported, and rewarded (the three implementation climate domains). Therefore, this study is intended to address this gap and elucidate how supervisors shape implementation climate. Specifically, we examined how supervisors fulfill middle managers’ roles (diffusing, synthesizing, mediating, and selling) during implementation of a new behavioral health intervention, and how these roles target the three implementation climate domains (expectations, supports, and rewards) at the front-lines”

And in the discussion on pgs 19

“Supervisors can directly influence the implementation climate, or the shared sense that an intervention is expected, supported, and rewarded. Yet we have limited understanding of exactly how supervisors shape the implementation climate. This study drew on the theory of middle managers’ roles in healthcare EBP implementation to examine the relationship between four supervisory roles (diffusing and synthesizing information, mediating, and selling implementation) and implementation climate. Although these roles have been highlighted in other studies, this is the first to examine how they influence the three implementation climate domains (expectations, support, and rewards). Moreover, we observed how supervisors shape the implementation climate in a high-stress and resource constrained work environment, which illustrates the feasibility and acceptability of carrying out these roles. Thus, our results advance causal theory about how supervisors (and other middle managers) shape implementation climate, and implementation practice. Our findings suggest that these roles interact and may especially reinforce expectations and support for implementation. We discuss these findings and their implications for advancing theory, and development of implementation strategies that target or engage individuals in these key roles.”

8 Table 1: I liked the presentation of a positive and negative example for diffusing information, but then I look at the codebook and see that it is only one dimension of the diffusing concept. There is more detail for mediating, but again it is incomplete.
Response: We coded our data based on the four main types of roles because we were interested in understanding how these roles shape implementation climate. Indeed, the first half of our results section describes and contextualizes how supervisors within this organization carried out these four major roles. Our codebook was developed by drawing on existing conceptual definitions, and prior research that highlights how there are many ways that supervisors can carry out each of the four roles. To help our team code the four major roles accurately, we included extensive definitions, examples and notes in our codebook. Therefore our highly detailed codebook includes examples and activities that we did not observe in our data (although if we did, we would have coded it accordingly).

9 In several sections, the authors imply that the paper will address whether and how supervisors affect implementation climate. The former seems to require hypothesis testing, and so I believe that the paper is only addressing the how question.

Response: We appreciate this observation and it reflects the discussion our team has had about our work’s contribution. Indeed, we agree that our study is best suited to address the “how” supervisors shape the implementation climate, considering there is already evidence to suggest that supervisors do have an effect (the “whether”). We made revisions in our introductory section to clarify.

10 Participants. Although the authors do not have data on how many people were approached, it would be helpful to know how many employees and supervisors are in each of the units.

Response: There were about 250 staff (front-line workers, supervisors, behavioral health clinicians) involved in implementation. We now note this in our Study Context section on page 9: “About 250 front-line staff and supervisors from the agency were involved.” And we note the proportion of staff who participated in focus groups on page 9 (“about one-third of all staff involved in implementation”).

11 It would be helpful to briefly define the tasks of the three units: intake, behavioral health, ongoing.

Response: Additional detail about work tasks have been included in Study Context section on page 8-9.
“First, a new behavioral health screening process was implemented within child welfare intake units. Workers in these units investigated child maltreatment allegations, and assessed whether family safety risks required intervention. A positive behavioral health screen at intake triggered a behavioral health assessment and referral to treatment by a co-located behavioral health team from a local nonprofit organization (the second and third intervention components). The behavioral health assessment team members provided behavioral health consultation, assessment, and linkage support to child welfare agency workers. The fourth component involved case monitoring practices by ongoing child welfare workers. Ongoing workers link families with an array of services, work with caregivers, and assess their progress.”