

Single Conversations Expand Practitioners' Use of Research:
Evidence from a Field Experiment

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Abstract

Many people seek to increase practitioners' use of research evidence in decision-making. Two common strategies are dissemination and interaction. Dissemination can reach a wide audience at once, yet interactive strategies can be especially beneficial because they entail back-and-forth conversations with practitioners to clarify how research evidence applies in a particular context. To date, however, we lack direct evidence of the impact of interaction above and beyond dissemination. Partnering with an international sustainability-oriented NGO, I conducted a field experiment to test the impact of an interactive strategy (a single conversation) on practitioners' use of research evidence in a pending decision. I find that the conversation had a large impact on research use relative to only receiving disseminated materials, and this was likely due to increased self-efficacy. I also provide practical guidance on how researchers can apply this finding close to home as they seek to strengthen linkages between science and society.

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While it rarely dictates the path practitioners and policymakers should pursue, scientific evidence is helpful when decisions depend upon having reliable knowledge about material and social conditions and/or what will happen if a particular action is taken. At times scientific evidence has influenced policies with direct consequences for human well-being, as in the cases of seatbelts and secondhand smoke (Brownson et al. 2008). At other times, it has helped practitioners build a new political constituency and thus create a more inclusive democracy (Levine 2019).

For these and many other reasons, research experts often seek to increase decision-makers' use of scientific evidence.¹ Two types of strategies are common: dissemination and interaction (Nutley et al. 2007).

Dissemination entails circulating research-based evidence – perhaps original papers, guidelines, and/or syntheses – to a target audience. It is a one-way transfer of information that can reach a large number of decision-makers at once.

In contrast, interaction entails dialogue between research experts and potential users. It typically occurs one-on-one or perhaps in a small group. Interactive strategies may involve *formal* collaborations, in which they work together on projects with shared ownership and decision-making authority. Or it may entail *informal* collaborations -- dynamic exchanges in which they share information, enter with a mindset that is open to learning from each other, and are mindful of the boundaries of what they know (Murray 1998). Informal collaborations can be as short as a single conversation (Levine 2020a).

Past work focusing on a diverse set of decision-makers, such as nonprofit practitioners, elected policymakers, and civil servants, and occurring in several countries around the world,

¹ I use the term “research experts” to encompass both researchers as well as knowledge brokers/research translators.

finds that both dissemination and interaction can increase research use (Haynes et al. 2011, Hird 2005, Jewell and Bero 2008, Knott and Wildavsky 1980, Lomas 2005, Peterson 2018, Weaver and Stares 2001). This work also argues that, despite its smaller reach, interaction can often be more beneficial than dissemination. Using research to inform practice and policy decisions entails context-dependent considerations, and in that case (for example) an informal collaboration can simultaneously leverage research- and context-based expertise to decide the most effective path forward (Haynes et al. 2011, Nutley et al. 2007).

That said, while past work identifies the benefits of interaction, it has not yet directly evaluated its impact on research use. Indeed, Peterson (2018:344) recently noted that “[while] some studies [on the use of research evidence] have systematically acquired empirical information to support their conclusions...the state of understanding in the field remains remarkably impressionistic”.

With that in mind, in this paper I compare research use among a set of practitioners that received disseminated research evidence in the form of written materials, versus those who received those same written materials along with a short one-on-one conversation with a research expert in which they talked about how to apply them in their local context. Here I define “research use” as practitioners directly applying the evidence to a pending decision (Weiss 1979).² Along with an organizational partner, I conducted a field experiment in which I find that the conversation had a large positive effect on research use. A supplemental survey reveals this is likely due to increased self-efficacy.

Overall, this study makes two contributions. For academics and other research experts, it contributes to our understanding of how to increase decision-makers’ use of scientific research

² This corresponds to what Weiss refers to as *instrumental* use.

evidence. In many ways this study is the flip side of work on anti-intellectualism in countries around the world (Gallup 2019, Hofstadter 1966, Merkle 2020, Motta 2018, Zhang and Mildener 2020), in the sense that my focus is on testing a practical strategy for bridging science and society as opposed to helping us understand why such bridges are needed. In addition, this study demonstrates one way organizations can benefit from research partnerships. Our project enabled my partner to calculate a credible return-on-investment for adding short conversations as follow-up to existing workshops, thus enhancing the impact of its work.

Why Might a Conversation Be Impactful?

One common method for increasing practitioners' use of research evidence entails disseminating written materials. Dissemination strategies are most likely to be successful when they employ accessible language, cite timely, actionable, and relevant research, and are shared by sources that the audience views as credible (Nutley et al. 2007).

That said, even well-crafted dissemination strategies will not always increase research use (Knott and Wildavsky 1980). Two common barriers are limited attention and low self-efficacy.³ First, like everyone else, practitioners can only pay attention to a limited number of stimuli at a time. Due to competing demands, they may be unable to devote attention to disseminated information (Lupia 2013). Second, using research may entail doing something new, and with innovation comes risk (Knott and Wildavsky 1980). Even if they pay attention, practitioners may not yet feel efficacious about successfully applying it to their work.

I expect that a conversation about how to apply evidence in their local context will increase practitioners' research use relative to only receiving disseminated written materials, and

³ Another reason decision-makers may resist research evidence is if it conflicts with personal values. I do not discuss that here as it unlikely to apply in the context of my field experiment.

that it may do so by overcoming one or both of these barriers. First, the back-and-forth nature of a conversation, including the need to respond to questions, may increase the likelihood that they actively and effortfully process the material (Petty et al. 1995). In this case we would expect the conversation to increase knowledge (measured either objectively or subjectively). Second, the conversation may increase self-efficacy, a judgment of their capability to successfully apply the new information (Bandura 2006). In what follows I examine both of these behavioral and attitudinal consequences.

Field Experiment Set-Up

When designing this study several constraints had to be satisfied. I needed to have a large number of practitioners who faced comparable decisions that entailed clearly using or not using research evidence. Given the varying nature of many practitioners' work, these constraints are typically difficult to meet. I decided that one promising approach was to focus on a population that attends a workshop to learn about research evidence relevant to their work, and then afterwards faces a concrete moment in which they have to decide whether to use what they learned (Jewell and Bero's (2008) study of the use of research evidence similarly focused on a group of workshop attendees).

Fortunately, I was able to partner with an international NGO to implement this approach. My partner is based in the United States and employs research experts who lead multi-day workshops in countries around the world. Workshop participants typically work at small nonprofits with missions to promote public health and environmentally sustainable behavior in their local community. My partner's workshops teach participants how (and why) to conduct issue awareness campaigns to help achieve these goals. Workshop leaders discuss relevant

research evidence, guidelines for implementation, and many examples. International NGOs like my partner, and the local nonprofits they work with, are often powerful voices for increasing awareness of community problems around the globe (Davis et al. 2012). While this experiment (like any experiment) occurred in a particular context and with a particular set of decision-makers, the workshop participants shared a number of attributes and constraints that are common in the nonprofit world more generally (see online appendix for more details).

Based on previous workshops, my organizational partner was troubled that many participants did not end up using the research evidence they learned about (i.e. they did not conduct an issue awareness campaign in their local community). One possible reason was because the workshop did not include any follow-up.⁴ Thus, for this experiment we decided to add a follow-up component to several workshops in 2018.

The population for the field experiment was drawn from workshop attendees in Kenya and Mexico in March 2018 and Ecuador and Nepal in June 2018. Eight weeks after workshops concluded all participants had to decide whether to conduct an issue awareness campaign. The reason for the simultaneity is that my partner offered competitive grants to cover the cost, and so the application deadline provided a comparable decision point. In this context, applying for a grant was equivalent to committing to conduct an issue awareness campaign for two reasons. First, none of the participants in these four workshops reported that they could afford to conduct a campaign without the grant (based on pre-workshop surveys). Second, submitting an application entailed promising to conduct the campaign if awarded grant money. Thus, whether or not they applied for a grant was a concrete behavioral outcome that effectively corresponded

⁴ Cost was also a barrier, which we also addressed in the context of our study.

to research use. Data from one year after the grant deadlines (presented later in this paper) further justify this equivalence claim.

Experimental procedure

Immediately after each workshop I randomly assigned participants to receive one of two types of follow-up. Those randomly assigned to the *control group* (dissemination only) received a personalized email with additional written materials from their workshop leader. The email noted that these materials were important for completing a successful grant application/conducting an issue awareness campaign. They went more in-depth on two topics covered during the workshop and were thus related to, but not duplicative of, that content. Participants randomly assigned to the *treatment group* also received a personalized email from their workshop leader with the same written materials, along with a request to schedule a thirty-minute Skype conversation to talk about how to apply them in an awareness campaign in their community. The appendix provides more details on the substance of the written materials, along with the conversation script.⁵

After the treatment group conversations were complete, all participants in the control and treatment groups received another personalized email from their workshop leader requesting that they take a check-in survey and inviting them to ask any questions prior to the grant deadline. This “check-in” email and survey served important experimental design purposes. It ensured that participants in both the control and treatment groups felt like they had received personalized attention near the deadline. It also allowed us to collect measures of knowledge and self-efficacy.

⁵ The script employed relationship-building techniques to demonstrate responsiveness and caring (Leary 2010).

Figure 1 provides a summary of the experimental procedure. Two other points are worth noting. First, all workshop participants were told in advance that their workshop leader would not have the final say on who received the competitive grants. Second, in some cases more than one person from a given nonprofit attended a workshop, and so we implemented nonprofit-level clustered random assignment, blocked on workshop location (see appendix for more details).

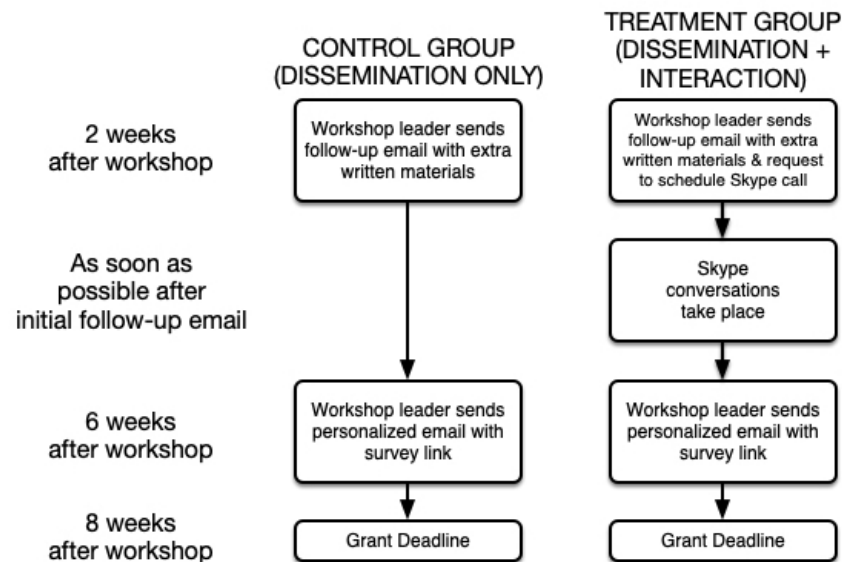


Figure 1: Timeline of Field Experiment

Field Experiment Results

In total, the experiment involved 59 participants: 23 from the Kenya workshop, 13 from the Mexico workshop, 16 from the Ecuador workshop, and 7 from the Nepal workshop.⁶ The compliance rate among those randomly assigned to the treatment group (i.e. those who were assigned to have a Skype conversation and with whom leaders were able to schedule it) – was quite high (82.4%). To the best of our knowledge, non-compliance was unrelated to the content

⁶ This experiment did not include all participants in each workshop. See online appendix for more details on inclusion criteria.

of the experiment or how people might respond to the conversation (Green and Gerber 2012). Instead, it was due to idiosyncratic factors such as weather and personal family emergencies. No treatment group participant refused to take part in a conversation due to lack of interest.

Behavioral Results

First, I present the behavioral results: the percentage of people that applied for a grant to conduct an issue awareness campaign (see Figure 2). The *intent-to-treat effect* measures the effect of receiving the request to have a conversation. This answers the question: “What is the overall effect in the real world where the intervention is made available yet some people take advantage of it while others do not?” Overall, 12% of people in the control group (3 of 25) submitted an application, as compared with 59% in the treatment group (20 of 34). So, the intent-to-treat effect was a (very large) 47 percentage points.

The *complier-average-causal-effect* takes account of the fact that some people who received the request to schedule the conversation did not do so. It provides a causal estimate of actually receiving the intervention – i.e. actually having the conversation about how to apply the research evidence. As noted earlier, workshop leaders were able to schedule conversations with 82.4% of people in the treatment group. The implied effect of actually having the conversation was also very large: 57 percentage points.

Overall, looking at both the intent-to-treat effect and the complier average causal effect, I find strong evidence that having a conversation greatly increased research use above and beyond dissemination. In addition, follow-up data with all workshop participants one year after the grant deadline helps justify my assumption that applying for a grant is equivalent to committing to run an issue awareness campaign. At that time, all but one person who applied for the grant and

received money was actively running a campaign (this person had unfortunately lost his job and returned the money). In addition, none of those who did not receive grant money (because they did not apply or they did apply but were not awarded funding) reported actively running campaigns.

Figure 2: Impact of Conversation on Practitioner Behavior

	CONTROL GROUP (DISSEMINATION ONLY)	TREATMENT GROUP (DISSEMINATION + INTERACTION)
Number of Participants	25	34
Received Conversation	--	28 (82.4%)
Submitted Grant Application	3 (12.0%)	20 (59.0%)
<i>Intent-to-Treat Effect: 47 percentage points ($p < .00$)</i>		
<i>Complier Average Causal Effect: 57 percentage points ($p < .00$)</i>		

Note: The number of participants randomly assigned to the treatment group was higher because in each block there was an uneven number of clusters, and in advance we adopted a rule that the "extra" would always be assigned to the treatment group. P-values are two-tailed, with estimates produced using randomization inference (Aronow and Samii 2012).

Survey Results

As mentioned earlier, before the grant deadline workshop leaders emailed a brief survey to all participants (see appendix for question-wording). The survey measured objective knowledge (do they answer questions correctly?) and subjective knowledge (do they feel uncertain about what they know?). We also assessed perceptions of self-efficacy. Due to feasibility constraints, it was not possible to design the field experiment in such a way that would satisfy all of the assumptions required for a formal mediation test (Bullock et al. 2010), and thus I treat these survey responses as a suggestive but not dispositive test of the underlying mechanism(s).

We collected usable survey responses from 47 people. Nine people did not answer the survey at all (five in the control group, four in the treatment group). In addition, there were three participants who did not include their contact information when responding to the survey, and so we were unable to match their responses to experimental assignments. So, in total, I do not have complete survey data from 12 participants (6 in the control group and 6 in the treatment group). I verified that this missingness is not related to treatment assignment – the difference in attrition rates between the control and treatment groups is not statistically significant ($p=0.65$). In addition, I do not find evidence that attrition was related to compliance status ($p=0.56$).

Figure 3 contains a summary of the survey results. Each entry in the table represents the average of a short battery of questions described in the appendix. Overall, I find no evidence that the conversation affected either (a) factual knowledge about aspects of conducting an issue awareness campaign or (b) participants' subjective perceptions of how uncertain they felt about what to do. This likely reflects the fact that both the control and treatment groups received exactly the same disseminated materials written in clear and accessible language. Yet I did observe evidence (highlighted in Figure 3) suggesting that the conversation boosted self-efficacy – they personally felt more capable of successfully conducting a campaign. Given that the conversation did not seek to rehash the basic principles discussed in the disseminated materials, but instead entailed a back-and-forth on how to apply that knowledge locally (see the online appendix for the script), this difference in self-efficacy suggests that it was the *content* of the conversation that mattered as opposed to simply the fact that people in the treatment group had an “extra” interaction.

Lastly, during the latter two data collections (after the workshops in Ecuador and Nepal), I added a question at the end of the survey to measure outcome expectations: participants'

perceptions of the likelihood of receiving the grant if they applied. This question helps assess whether the treatment group conversations may have unintentionally boosted participants' expectations about receiving the grant money. Admittedly the number of respondents who received this question is quite low (N=15), yet with that caveat in mind I find no evidence that the conversation increased expectations and in fact the estimated effect is in the opposite direction (ITT: -0.05 ($p=0.80$), CACE: -0.05 ($p=0.80$)).

Figure 3: Impact of Conversation on Practitioner Attitudes

	INTENT TO TREAT EFFECT	COMPLIER AVERAGE CAUSAL EFFECT
Correct knowledge of what to do	-0.001 ($p=0.95$)	-0.002 ($p=0.94$)
Subjective feelings of uncertainty about what to do	-0.002 ($p=0.97$)	-0.002 ($p=0.97$)
Subjective perceptions of self-efficacy	0.10 ($p=0.09$)	0.12 ($p=0.05$)

Each entry compares the treatment group to the control group, with two-tailed p-values in parentheses. All estimates produced using randomization inference.

Conclusion

My results suggest that, although interactive strategies for increasing research use are often more costly than disseminating information to a large audience at once, their impact can be quite large. Future work is needed to better understand how this impact may vary depending upon the nature of decision makers' values and political considerations (within nonprofits, bureaucracies, and/or legislatures). In addition, especially with elected policymakers, it would be helpful to examine other facets of potential research use. They may not directly use new research evidence in a pending decision, but it is possible that a conversation with a research expert will change what problems they prioritize, how they conceptualize the nature of those problems, how

they build coalitions, and/or whether they employ research evidence to bolster pre-existing decisions (Weiss 1979, Bogenschneider and Corbett 2010).

I close on a practical note. Readers can apply the findings in this paper close to home by initiating new informal collaborations directly with decision-makers in their local town or city. An accumulating body of work shows how to conduct such outreach, including the range of goals that policymakers (Bogenschneider and Corbett 2010) and nonprofit practitioners (Levine 2020a) may have, as well as the importance of using relational strategies (which depends, among other things, on being aware of beliefs about and past interactions with researchers; Levine 2020b). Surveys of policymakers (especially at the sub-national level) reveal that they are open to that kind of cold outreach and do not regularly receive it (Bogenschneider and Corbett 2010), and past work targeting nonprofit practitioners also finds demand for it (Levine 2020a). To be sure, not everyone will be interested, but when connections do happen decision-makers can gain new, relevant information that is tailored to their decision-making and researchers gain new insights about local contexts and context-dependent implementation challenges. And, in addition to these private benefits, increasing the prevalence of these interactions helps establish norms of interaction, a public benefit.

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ONLINE APPENDIX

Additional Information about the Experiment

More details about the workshop participants and the context for the experiment

As noted in the main text, workshops took place in Kenya, Mexico, Nepal, and Ecuador. In many cases participants traveled for several hours by land in order to reach the workshop location. Participants typically worked at small nonprofits located in rural areas with missions to promote public health and environmentally sustainable behavior in their local community.

They all attended a workshop hosted by my partner organization in order to learn how (and why) to conduct issue awareness campaigns to help achieve these goals. This activity was entirely new to them and, if they conducted it, would represent a sizable shift in their day-to-day activities and attention. It was also costly, which is why grant funding was important. The issue awareness campaigns entailed clearly identifying a problem and concrete solution (i.e. an action that they wanted people in the community to take), conducting systematic research on the likely audience, and then creating messages for wide distribution. This is how they would be applying the scientific information shared in the workshop and in the follow-up. Many of the people they would be targeting with their issue awareness campaigns were poor and lacked access to reliable digital technology, and so the media used to spread these messages were new songs to play on the radio, billboards to display on the side of the road, puppet shows that parents and children could watch together, and so on.

Participants' specific goals for the outreach campaign differed, though they all related to environmental sustainability in some way. For instance, one participant wanted to reduce monocropping among local farmers. Another participant was focused on promoting pig farmers' use of living bio-beds instead of allowing waste from pigs to collect on a concrete floor and then pollute nearby waterways.

While in many ways the participants for this experiment were unique (as with any experiment), they had several key attributes that are common to nonprofits more generally. The grant-funded task would be resource-intensive and new to them. They faced severe resource constraints in terms of annual budget, office space, and personnel size. In most cases they had at least a minimal Internet presence (e.g. a basic website) though most business was not conducted online. They received funding from a variety of public and private sources (though there was large variation on this across location). In addition, they worked in areas with limited infrastructure. Weather (e.g. heavy rains) and spotty Internet were concerns, as were roads that were not always reliable.

Overall, many of these attributes and constraints are hardly unique. While it is always difficult to say for certain what would happen if we conducted a similar experiment comparing dissemination and dissemination+interaction among an entirely different group of workshop participants, it seems unlikely that the impact of interaction observed in the present experiment would not be observed elsewhere.

More details on experimental design

One workshop leader led the workshops in Kenya and Nepal, and another led them in Mexico and Ecuador. We believed that having these leaders conduct all of the follow-up communication (emails, treatment group conversations) would seem most natural to participants and help maximize compliance with the request for the Skype call. It also made sense for the experiment given that, as workshop leaders, they are experts on the research literature. It is also worth noting that there was no formally-scheduled one-on-one time between leaders and participants during the workshop itself (most exercises were group-based with practice scenarios).

More information on the content of the disseminated materials

As part of their full-time jobs all workshop participants were already raising awareness of environmental challenges in their local communities. The purpose of the workshop was to show how conducting an issue awareness campaign could expand the reach of their efforts. All workshop materials on how to do that were created by my partner organization. The research evidence and guidelines shared were based on findings from the fields of communication, public opinion, and behavior change.

One part of conducting an issue awareness campaign involves gathering systematic background information on one's audience using in-depth interviews and surveys. During the main workshop leaders talked about this, including why it is important, some evidence-based techniques for doing it, and how the results should inform their campaigns. They also briefly touched on some biases that can arise when gathering this background information.

That said, due to time constraints during the main workshop there was more that could be shared. For the disseminated materials in the field experiment we decided to share two other documents (also created by my partner organization) that discussed research and evidence-based recommendations on how to minimize systematic biases when conducting in-depth interviews and surveys.⁷ Both of these documents contained material that would be directly relevant to practitioners and worth bringing to their attention as they decided how to conduct background research within their own local community (and, by extension, how to complete a successful grant application).

Note that while grant applications covered content other than the topics covered in the disseminated written materials and discussed during the conversations, it was the case that having a detailed plan for designing and conducting systematic in-depth interviews and surveys was one key requirement. In other words, submitting a complete grant application required applying the research evidence from these follow-up materials. Afterwards, workshop leaders reported that the submitted applications met minimum competence thresholds in this area in all but one case.

⁷ In order to preserve organizational anonymity, copies of the disseminated written materials are not included here.

Further notes on randomization and participant inclusion criteria

In some cases more than one person from a given nonprofit attended a workshop, which raised concerns about a situation in which one colleague was randomly assigned to the treatment group and one to the control group (which might produce unintended spillover effects). To avoid this, participants were randomized at the level of the nonprofit. The *nonprofit-level clustered random assignment* took place within blocks defined by the number of participants from a nonprofit (1 or 2) and the location of the workshop (Kenya, Mexico, Ecuador, or Nepal). In total, there were 6 blocks: single or paired participants from Kenya and Mexico, and then single participants from Ecuador and Nepal. There were no paired participants from Ecuador and Nepal. This pre-treatment blocking reduced the chance of imbalance between the treatment and control groups and also improved the precision of the estimates.

In addition, participants were excluded from the experiment if it was not possible to conduct random assignment within blocks that they were part of. For example, there was one nonprofit that sent 5 participants to the Mexico workshop, but because there was no other nonprofit that also sent 5 people to the Mexico workshop, it was not possible to randomly assign some of these participants to receive the treatment and some others to receive the control (instead, we would have ended up with a large imbalance in which 5 people with a highly unique circumstance – the fact that they had 4 colleagues who also attended the workshop – were in either the control or treatment group). A similar situation occurred in Ecuador with one group of 4 and in Nepal with one group of 3. Finally, I also excluded some participants from Nepal due to large language barriers between them and the workshop leader (thus making it difficult to conduct the treatment group conversations; the main workshop had had a translator).

Other Spillover Considerations

Although workshop participants did not generally live in close physical proximity to one another (with exceptions noted above), they were part of online discussion boards created as part of the workshop. We closely monitored these boards during the experiment to ensure that treatment group participants were not talking about their conversations. We found no evidence of this.

Script of treatment group conversation

In advance of the Skype conversations I provided workshop leaders with the following script. It used relationship-building techniques to demonstrate responsiveness and caring (Leary 2010). While some aspects of the script use language that is unique to this context (e.g. my partner organization used the term “social marketing campaign” rather than “issue awareness campaign”), much of the basic structure could easily be applied in other contexts. *[Note that I have redacted some aspects of the script that contained possibly-identifying information]*

“Great to talk with you again. Thank you for taking the time. I wanted to first review some of the content that was in the documents that I shared.”

“Remember that we talked about conducting in-depth interviews. These are critical for learning a lot about your target audience. They also take a lot of time. One of the key decisions you have to make is who you are going to interview.”

“A number of participants said that they weren’t totally certain about how to make this decision, which is totally understandable given that there wasn’t a powerpoint on this and we didn’t talk about in depth.”

“So that’s why I shared the extra document with you called [redacted]. Have you had a chance to look at it yet? By the time you’re ready to do in-depth interviews, you’ll already have a good idea of your target audience, and if you have multiple target audiences.”

“These are useful [evidence-based recommendations for choosing who to interview], but of course I can’t tell you exactly what to do. You have to decide what’s best for your site. You know your audience best.”

“So what do you think? Given what you know about your target audience so far, what kinds of people do you think would be ideal for in-depth interviews?”

[Probe why; give participant time to respond to respond, and then let the conversation go from there...]

[After talking for a short while...]

“So how are you feeling about conducting in-depth interviews? Feel like you have good ideas?”

“Is there anything else I can help with on this?”

“OK so now let’s move on to the other topic that people had a lot of questions about: how to design the sample for the household questionnaire.”

“Remember that one of the key parts of a social marketing campaign is having a survey questionnaire that you administer before your campaign and then afterwards to test its impact.”

“A number of participants said that they weren’t totally certain about how to decide who should receive the household questionnaire – [about the biases that can arise, why they arise, and evidence-based techniques to minimize them]. This is totally understandable – although we talked a lot about [other aspects, and practiced them as a group, we didn’t discuss this as much].”

“I can’t tell you exactly what’s right for your org, as you know the target audience best.”

“So what do you think? Given what you know about your target audience so far, let’s talk about some of the neighborhoods where you would be interviewing people at their houses. How might you [apply some of this]?”

[Again, here give participant time to respond to respond...]

[After talking for a while...]

“So how are you feeling about this? Is there anything else I can help with on this?”

References

Leary, Mark R. 2010. “Affiliation, Acceptance, and Belonging: The Pursuit of Interpersonal Connection.” In Susan T. Fiske, Daniel T. Gilbert, and Gardner Lindzey (Eds.) *Handbook of Social Psychology* Vol. 2 (pp. 864-897). Hoboken, NJ: John Wiley & Sons, Inc.

Survey questionnaire

The survey was distributed to everyone in both the control and treatment groups prior to the grant deadline. The results presented in Table 2 of the main text are composed of averaged indices of the following questions:

(Objective) Correct knowledge of what to do: Q1-Q6

Subjective feelings of uncertainty about what to do: Q7-Q11

Subjective perceptions of self-efficacy: Q12-15

Subjective perception of the likelihood of receiving the grant: Q16

[Note: In some cases the questions below use terms that are specific to my partner organization, including the fact that they referred to the issue awareness campaigns as “social marketing campaigns” and participants as “social marketing managers”.]

1. For in-depth interviews, it's acceptable to select interviewees that you know already or are recommended by a community leader.
 - a. *True*
 - b. *False*
 - c. *I'm unsure right now, but I'll review the training materials later on*
2. You've identified one potential audience segment for your target audience. The minimum number of in-depth interviews you should conduct is:
 - a. *3*
 - b. *6*
 - c. *9*
 - d. *12*
 - e. *I'm unsure right now, but I'll review the training materials later on*
3. If at all possible, as the social marketing manager, you should not be the interviewer for in-depth interviews.
 - a. *True*
 - b. *False*
 - c. *I'm unsure right now, but I'll review the training materials later on*
4. Ideally, if at all possible the representative sample for your household survey questionnaire should be randomly selected.
 - a. *True*
 - b. *False*
 - c. *I'm unsure right now, but I'll review the training materials later on*
5. In creating a systematic sampling frame, choosing which houses to go to (every other, every third, every fifth, or every ninth) will depend on which factors:
 - a. *The total population of the village*
 - b. *The number of interviews you've calculated you need to conduct*
 - c. *The population density of the village*
 - d. *All of the above*

- e. *I'm unsure right now, but I'll review the training materials later on*
6. Conducting your survey at a central location (e.g. town hall or community center) may be appropriate in some cases depending on your target audience:
- a. *True*
 - b. *False*
 - c. *I'm unsure right now, but I'll review the training materials later on*
7. Right now how uncertain are you about the best way to state your theory of change?
- a. *Extremely uncertain*
 - b. *Very uncertain*
 - c. *Somewhat uncertain*
 - d. *A little uncertain*
 - e. *Not uncertain at all*
8. I feel that I fully understand how to construct a concept model.
- a. *Strongly agree*
 - b. *Agree*
 - c. *Somewhat agree*
 - d. *Agree a little*
 - e. *Don't agree at all*
9. Right now how uncertain are you about how you'll pick the best people for your in-depth interviews?
- a. *Extremely uncertain*
 - b. *Very uncertain*
 - c. *Somewhat uncertain*
 - d. *A little uncertain*
 - e. *Not uncertain at all*
10. Right now how uncertain are you about how to design the sampling strategy for the household questionnaire?
- a. *Extremely uncertain*
 - b. *Very uncertain*
 - c. *Somewhat uncertain*
 - d. *A little uncertain*
 - e. *Not uncertain at all*
11. I feel like I fully understand how to draft a budget and work plan.
- a. *Strongly agree*
 - b. *Agree*
 - c. *Somewhat agree*
 - d. *Agree a little*
 - e. *Don't agree at all*

12. I consider myself well-qualified to design and run a social marketing campaign.

- a. Strongly agree*
- b. Agree*
- c. Somewhat agree*
- d. Agree a little*
- e. Don't agree at all*

13. Regardless of how you answered the last question, how nervous do you feel about running a social marketing campaign?

- a. Extremely nervous*
- b. Nervous*
- c. Somewhat nervous*
- d. A little nervous*
- e. Not nervous at all*

14. I feel that I could do as good a job in designing and conducting a social marketing campaign as other workshop participants.

- a. Strongly agree*
- b. Agree*
- c. Somewhat agree*
- d. Agree a little*
- e. Don't agree at all*

15. I am uncertain about whether I'll be able to persuade people at my organization to conduct a social marketing campaign.

- a. Strongly agree*
- b. Agree*
- c. Somewhat agree*
- d. Agree a little*
- e. Don't agree at all*

16. If you submit a grant application, how likely do you think it is that you'll get it? [*Note: only Ecuador and Nepal participants received this question*]

- a. Extremely likely*
- b. Likely*
- c. Somewhat likely*
- d. A little likely*
- e. Not likely at all*