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Descriptive, but not Injunctive, Normative Appeals Increase Response Rates In Web-based Surveys

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Background: In an earlier experiment Misra, Stokols, & Marino (2012) found that participants who received a descriptive normative prompt in the message requesting them to complete an online survey were more likely to comply with the request compared to participants who did not receive any normative prompts.

Purpose: Building on that earlier study, the present field experiment compared the separate and additive effects of descriptive and injunctive norm- based persuasive messages on response rates of online surveys. We also investigate the influence of email reminders on response rates.

Intervention: Participants in an interdisciplinary conference were assigned to one of four groups. The three experimental groups received one of the following messages asking them to complete an online survey that highlighted: (1) a descriptive social norm indicating typical response rates among attendees of prior similar conferences; (2) an injunctive norm appealing them to join fellow participants in completing the survey; or (3) both social norms. The control group received a generic request to complete the online survey without any norm-based appeals.

Research Design: This study used an experimental design which afforded a within subjects replication of participants' assignment to each of two treatment groups and the control prompts for two successive surveys.

Data Collection and Analysis: One hundred and twenty nine conference participants were requested to complete an online questionnaire about their experiences of an interdisciplinary conference in Fall 2011, immediately following the conference (Time 1) and then three months later (Time 2). At both time points, participants were given three weeks to complete the online surveys. For both time points, participants who had not completed the survey one week after they were sent the initial request to complete the survey received an e-mail reminder. One week after the first email reminder, participants who had still not answered the survey were sent a second email reminder. Once the online surveys were closed at both time points, response rates were calculated. To evaluate the differences in response rates among the various treatment and control groups at both time points, we conducted one-tailed z-tests for proportions to ascertain the z-scores.

Findings: Participants receiving a message highlighting the descriptive social norm when asked to complete an online survey were more likely to comply with the request compared to all the other groups. Additionally, one and two email reminders were found to be effective in improving response rates of online surveys.

Keywords: response rate; online surveys; norm-based persuasive messages; descriptive norm; injunctive norm; research on evaluation

Introduction

The use of web-based surveys is becoming increasingly common in evaluation research. Jamieson & Azzam (2012) found that nearly 50% of the evaluators they surveyed used the common online survey tool SurveyMonkey in their work. Including other commonly used online survey tools would likely result in an even higher percentage. Improved functionality, lowered costs of access to online survey software, and speedy administration make it easier than ever for evaluators to convert paper-based surveys into instruments that can be administered online. As access to the Internet becomes more widespread and as people come to accept online environments, research into this method of survey administration as well as its influences on the production and dissemination of knowledge in evaluation research and practice is warranted (Jamieson and Azzam, 2012; Galen & Grodzicki, 2011; Greenlaw & Brown-Wetly, 2009).

This type of research contributes to the study of the practices and procedures of evaluation, also called research on evaluation. Although research on evaluation and products of research on evaluation have been considered very important to community bv evaluation evaluation practitioners and scholars alike there is mixed interest among respondents in actually conducting research on evaluation (Szanvi, Azzam, & Galen, 2011). Training in quantitative methods was found to play a role in how important evaluators rated personally conducting research on evaluation such that, "those with no formal methods training rated personally conducting research on evaluation significantly lower than did those with primarily quantitative training" (p. 50). One way to encourage more research on evaluation is to develop studies that can be conducted for minimal cost and analyzed without extensive training in statistics. Additionally, evaluators who are new to conducting research on evaluation may be willing to conduct their own research on evaluation project if doing so is inexpensive, simple, produces results quickly that are straightforward to analyze, and could potentially benefit their practice.

In an earlier experiment (Misra, Stokols, & Marino, 2012), we reported the results of one type of inexpensive and simple research on evaluation, called a *practice component experiment* (entailing gathering information about specific evaluation processes with the goal of improving, modifying, or discontinuing certain practices and procedures) (Henry & Mark, 2003). In that experiment, we tested the effectiveness of social norm-based

persuasive messages on response rates of online surveys (see Misra, Stokols, & Marino, 2012 for details). That experiment revealed participants who received a descriptive normative prompt 1 in the message requesting them to complete an online survey were more likely to comply with the request compared to participants who did not receive any normative prompts. Three months later when the same participants were invited to complete another online survey, those who received a double-dose of the descriptive norm-based appeal were significantly more likely to complete the online survey compared to those individuals who did not receive any normative messages at either time point.

That 2012 study, which focused exclusively on the effectiveness of descriptive social norms in prompting higher rates of response to two successive online surveys, provided the foundation for the present experiment aimed at comparing the separate and additive effects of persuasive messages to encourage survey participation that invoke different types of social norms. Both descriptive and injunctive 2 social norm-based appeals have been found to be important motivators of human behavior when they are aligned or compatible with each other (Kallgren, Reno, & Cialdini, 2000; Reno, Cialdini, & Kallgren, 1993; Bator & Cialdini, 2000). We wondered whether it is plausible multidimensional persuasive appeals aligning both normative appeals (i.e., based on social participation as well as the values of social responsibility, cooperation, and reciprocity) might prove to be more powerful in persuading individuals to comply with requests to complete online surveys than those incorporating singular or unidimensional norm-based requests for participation. As well, we wanted to investigate whether highlighting an injunctive social norm (that of cooperation) would be as effective or more effective in improving response rates of online surveys compared to descriptive social normative appeals (that of participation).

¹ Descriptive norms are beliefs about what constitutes "typical behavior" within a given situation, such as beliefs about how most people would behave in that situation. The descriptive norm-based message in our study was highlighted in the following statement: *Most years, over 75% of conference participants complete the survey.*

² Injunctive norms are beliefs about which behaviors are approved or disapproved in a given situation. An injunctive normative message would be: *Please join your fellow participants in improving the quality of future conferences by filling out this survey.*

There is theoretical and empirical evidence to support such hypotheses (e.g., Bator & Cialdini, 2000; Cialdini et al., 1990; Goldstein, Cialdini, & Griskevicius, 2008; Kallgren, Reno, & Cialdini, 2000; Schultz, 1999). In research on the social psychology of natural resource conservation, a number of studies have found that descriptive normative messages are effective in promoting pro-environmental behavior compared injunctive normative appeals of social cooperation or appeals to protect the environment. Messages that omitted the descriptive normative prompt were not as effective in promoting environmental behavior as messages combined both types of social normative appeals. Please refer to our 2012 article for a detailed review of the literature on methods to improve survey response rates and the influence of social norms on human behavior.

In this brief report, we present the results of a follow-up study on using norm-based prompts to increase response rates in online surveys. As a supplementary project, we also investigate the influence of email reminders on response rates. Similar to our first study, we test the influence of norm-based appeals on the same participants at two different time points. Below we present the hypotheses for this follow-up experiment as they pertain to three topics: (1) effect of norm-based appeals on response rate; (2) dose response effect of norm-based appeals; and (3) effect of email reminders on response rates.

Effect of Norm-Based Appeals on Response Rate

The hypotheses for the effect of norm-based appeals on response rate are:

- (1) Participants receiving both the injunctive and descriptive normative prompts at Time 1 are more likely to respond to the online survey, compared to participants receiving no normative prompts.
- (2) Participants receiving both the injunctive and descriptive normative prompts at Time 1 are more likely to respond to the online survey, compared to participants receiving only the injunctive normative prompt.
- (3) Participants receiving both the injunctive and descriptive normative prompts at Time 1 are more likely to respond to the online survey, compared to participants receiving only the descriptive normative prompt.

Dose-response Effect of Norm-Based Appeals on Response Rate

The hypotheses for the dose-response effect of norm-based appeals on response rate are as follows:

- (4) Participants who receive a double dose of the descriptive and injunctive social norm prompt at Time 1 and Time 2 are more likely to complete the second survey than those who did not receive any normative prompts at either time point.
- (5) Participants who receive a double dose of the descriptive and injunctive social norm prompt at Time 1 and Time 2 are more likely to complete the second survey than those participants who received mixed prompts (i.e., where participants' experimental conditions were inconsistent across the two time points).

Effect of Email Reminders on Response Rate

Our hypothesis for the effect of email reminders on response rate is:

(6) There is a significant increase in the response rate following one email reminder and two email reminders to respond to the survey both at Time 1 and Time 2.

Method

Participants

One hundred and twenty nine conference participants were requested to complete an online questionnaire (55.0% male and 45.0% female) about their experiences of an interdisciplinary conference in Fall 2011. Participants ranged from 24-72 years in age. The mean age of the sample was 43.4 years (*SD*=10.6). The majority of the sample, 69.5%, was employed at academic institutions and the remaining 30.5% were from other sectors (e.g., business/industry, government, social sector/nonprofit, and media). Conference participants were invited to participate in the conference based on the fit between their academic interests and the themes of the conference, and their scholarly accomplishments.

Procedure

In order to assess the effectiveness of the annual interdisciplinary conferences, all conference participants were asked to complete an online questionnaire immediately following the conference (Time 1) and then three months later

(Time 2). Immediately following their conference attendance, participants were asked to complete a short survey that took approximately 10-15 minutes to complete about their experiences in the conference. Likert scale items included participants' subjective assessments of the enjoyability and effectiveness of each conference element. The survey also included items assessing participants' satisfaction with various aspects of conference hotel and meeting venue. Approximately three months after the conference, attendees were asked to complete another shorter survey. This questionnaire asked participants to describe the nature of interactions they had with other attendees since the conference. The survey asked participants about their research behaviors and attitudes and also included some items from the initial survey at Time 1.

At Time 1, participants were randomly assigned to one of four groups—descriptive norm, injunctive norm, both descriptive and injunctive norm, and a control group that received no normative messages. Following their participation in the conference, 129 participants received an email message with a link to an online questionnaire. Group A, the descriptive normative group (n=31), received the following message: "Most years, over 70% of conference participants complete the post-conference survey." The injunctive normative group, Group B, (n=32) received the message: "Please join your fellow participants in improving the quality of future conferences by filling out the survey." Group C, which was exposed to both types of normative prompts (n=33), received the following message: "Most years, over 70% of conference participants complete the postconference survey. Please join your fellow participants in improving the quality of future conferences by filling out this **survey**." The control group, Group D, (n=33)received a generic message without any normative prompts. The stated 70% response rate figure in the descriptive social normative prompt was derived from survey response rates obtained in prior conference surveys. See Appendix A for the complete text of the messages that was emailed to each experimental group and the control group.

Three months later (Time 2), participants were sent a similar e-mail message providing them with a link to another online conference evaluation survey. The descriptive prompt at Time 2 was, "Every year, most conference participants complete the 3-month follow-up survey." We did not provide the 70% figure since the response rate for the 3-month survey in previous years had been less than 70%. The injunctive

prompt at Time 2 was the same as Time 1. The group exposed to both types of normative prompts received the following message, "Every year, most conference participants complete the 3-month follow-up survey. Please join your fellow participants in improving the quality of future conferences by filling out the survey." Half of the participants in each of the four groups (Groups A-D) at Time 1 were randomly assigned to one of two groups (descriptive or control) at Time 2. The other 50% received the same prompt they received at Time 1, yielding eight different groups at Time 2: A1A2, A1D2, B1A2, B1D2, C1A2, C1D2, D1A2, D1D2. Table 1 summarizes the research design used in this study.

This experimental design afforded a within subjects replication of participants' assignment to each of two treatment groups and the control prompts for two successive surveys. Therefore, it was possible to calculate the effect of a dose response relationship between the treatments and the outcome --- that is, whether an individual received the different normative prompts once, twice, or not at all over the course of the experiment and its impact on the degree of change in participants' compliance with the request to complete two successive surveys.

At both time points, participants were given three weeks to complete the online surveys. For both time points, participants who had not completed the survey one week after they were sent the initial request to complete the survey received an e-mail reminder. One week after the first email reminder, participants who had still not answered the survey were sent a second email reminder. The e-mail reminder had the same norm-based or generic message contained in the initial invitation to complete the online survey. depending on the participant's assignment to Group A, B, C, or D at Times 1 and 2. The text of the e-mail reminder messages received by participants in the treatment and control groups is provided in Appendix A.

Table 1
Diagram of Study Design

	× 0	0	D	X _{a1a2}	O ₂		
	X _{a1}	O ₁	n —	X_{a1d2}	02		
	V	01	D	X_{b1a2}	02		
D	X _{b1}	O_1	n —	X_{b1d2}	02		
R	V	0	O_1 R $\frac{X_{c1a2}}{X_{c1d2}}$	X_{c1a2}	O ₂		
	^c1	O_1		X_{c1d2}	O_2		
	V	0	D	X _{d1a2} O ₂			
	X _{d1}	O ₁	n —	X _{d1d2}	O ₂		

In the above diagram,

R= Random assignment

X_{a1} = Assigned to Group A (descriptive norm) at time 1

 X_{b1} = Assigned to Group B (injunctive norm) at time 1

 X_{c1} = Assigned to Group C (both norms) at time 1

X_{d1} = Assigned to control group at time 1

X_{a1a2 =} Assigned to Group A (descriptive norm) at time 1 and time 2

X_{a1d2} = Assigned to Group A (descriptive norm) at time 1 and control group time 2

X_{h1a2} = Assigned to Group B (injunctive norm) at time 1 and Group A (descriptive norm) time 2

X_{b1d2} = Assigned to Group B (injunctive norm) at time 1 and control group at time 2

X_{c1a2=} Assigned to Group C (both norms) at time 1 and Group A (descriptive norm) at time 2

X_{c1d2=} Assigned to Group C (both norms) at time 1 and control group at time 2

X_{d1a2} = Assigned to control group at time 1 and Group A (descriptive norm) at time 2

X_{d1d2} = Assigned to control group at time 1 and time 2

 O_1 Observation at time 1 (Immediately following the conference)

 O_2 Observation at time 2 (Three months after the conference)

Data Analyses

Once the online surveys were closed at both time points, response rates were calculated. At Time 1, 73.5% (95 respondents) of the conference participants responded to the survey. At Time 2, 57.4% (74 respondents) answered the online questionnaire. To evaluate the differences in response rates among the various treatment and control groups at both time points, we conducted one-tailed z-tests for proportions to ascertain the z-scores.

Results

Effect of Norm-Based Appeals on Response Rate

Contrary to our hypotheses (H1, H2, & H3), participants who received both the descriptive and injunctive prompts at Time 1 were not found to be more likely to respond to the survey compared to the other groups. Instead, it was found that the group that received <u>only</u> the message highlighting the descriptive normative prompt when asked to complete an online survey was significantly more likely to complete the survey compared to the control group (z=1.99, p<.05) and the group that received both types of normative prompts (z=1.81, p<.05).

The message highlighting only the injunctive normative appeal was not found to be effective in increasing response rates compared to control group. Table 2 provides details of the number of participants who responded to the web-based survey in each group.

Table 2

Number of Respondents and Non-Respondents to the Online Survey from Treatment (Groups A, B, and C) and Control Group (Group D) at Time 1 (Immediately Following the Conference) (n=129)

	Group A (Descriptive Norm)	Group B (Injunctive Norm)	Group C (Both Norms)	Group D (Control Group)
Number of Non-Respondents	3	10	11	10
Number of Respondents	28	22	22	23

Dose-response Effect of Norm-Based Appeals on Response Rate

At Time 2, the descriptive normative appeal was not found to be significantly more effective in improving the response rate compared to the control group as was found at Time 1. However, contrary to H4 and H5, we found that participants receiving a double dose of <u>only</u> the descriptive normative message were marginally significantly more likely to complete the second online survey

compared to participants who received both types of prompts at Time 1 and a no prompt at Time 2 (z=1.79; p<.07). Table 3 specifies the number of respondents to the second online survey for each combination of treatment and control conditions across the two time points.

No significant differences in response rates were found between participants in the mixed-prompt groups (i.e., where participants' experimental conditions were inconsistent across the two time points).

Table 3

Number of Respondents to the Second Online Survey in Each Combination of Treatment and Control Conditions

Across Time 1 and Time 2 (n=129 at each time point)

	X _{a1a2}	X _{a1d2}	X _{b1a2}	X _{b1d2}	X _{c1a2}	X _{c1d2}	X _{d1a2}	X _{d1d2}
	n=16	n=15	n=16	n=16	n=17	n=16	n=16	n=17
Number of Respondents	12	7	10	11	9	7	9	9

 X_{a1a2} compared to X_{c1d2} : z=1.79; p<.07 X_{a1a2} compared to X_{a1d2} : z=1.6; p<.11

All other comparisons between groups were non-significant

Effect of Email Reminders

As expected, two email reminders after the initial request to respond to the survey were effective in increasing the response rate at Time 1 (z=4.26; p<.01) and Time 2 (z=4.27; p<.01). Even a single email reminder sent one week after the initial

request was found to significantly increase the response rate to the online survey at Time 1 (z=2.58; p<.01) and Time 2 (z=2.80; p<.01). Table 4a and 4b show the number of respondents to the initial request to complete the survey and the numbers of respondents following the first and second email reminders at both time points.

Table 4a

Number of Respondents to the Initial Request, First Email Reminder, and Second Email Reminder at Time 1 (n=129)

	Initial request	First Email Reminder	Second Email Reminder
Number of Respondents	60	21	14
Number of Non- Respondents	69	48	34
Total requests sent	129	69	48
Total Response Rate	46.5%	62.8%	73.5 %

First email reminder: (z=2.58; p <.01)Second email reminder: (z=4.26; p <.01)

Table 4b
Number of Respondents to the Initial Request, First Email Reminder, and Second Email Reminder at Time 2 (n=129)

	Initial request	First Email Reminder	Second Email Reminder
Number of Respondents	40	22	12
Number of Non- Respondents	89	67	55
Total requests sent	129	89	67
Total Response Rate	31.01%	48.06%	57.4%

First email reminder: (z=2.80; p< .01) Second email reminder: (z=4.27; p< .01)

Discussion

This article reports the results of a follow-up field experiment to test the effectiveness of messages emphasizing descriptive and injunctive social norms on response rates of online surveys. Prior research on the influence of norm-based messages has found descriptive and injunctive norms to be powerful motivators of human behavior. People are strongly influenced to compare and align their attitudes and behaviors with those of others they perceive to be similar to themselves. We hypothesized that descriptive social norms, or beliefs about typical behavior in a given situation, combined with injunctive norms, beliefs about how a person should behave in a given situation, would be the most potent motivator with regard to improving response rates of online surveys. The results of our study indicate otherwise.

At Time 1, a solicitation highlighting only a descriptive normative prompt (i.e., a statement about the actual behavior that occurs in this situation) was more effective in improving response rates than a message that combined these two types normative prompts (i.e., one that included both a statement about the actual behavior occurring in this situation and a statement about the social desirability of the

behavior itself). Also, the message emphasizing only the descriptive norm was found to be more effective in improving response rates as compared to a message without any normative appeals at Time 1. Furthermore, participants who received messages incorporating the descriptive norm at both time points were marginally significantly more likely to respond to requests to complete successive online surveys as compared to those who received messages containing different normative prompts across the two time points as well as those who did not receive any social normbased appeals.

But the descriptive normative prompt was not effective in increasing response rates at Time 2. This could be because the email message used for highlighting the descriptive norm at Time 2 was not specific enough to generate the desired response. At Time 2, we used the following wording "most conference participants" instead of the more specific wording used at Time 1: "over 70% of the participants complete the survey." We changed the wording of the original prompt at Time 2 to provide an accurate representation of the response rates from previous 3-month post conference surveys, which had been less than 70%. The more general wording of the prompt might

have diluted the effects of the descriptive normative message.

Overall, however, the results of this field experiment point to the strong influence of descriptive normative messages in increasing the response rates of online surveys, compared to injunctive prompts and appeals that combined both types of social norms. A possible explanation for the stronger influence of the socially descriptive prompt administered alone versus the descriptive and injunctive prompts administered together is that mixed normative messages dilute or reduce the salience of the descriptive norm by distracting respondents' attention away from the socially-descriptive information. The latter may be more relevant and influential to participants in this study than the injunctive norm, per se. Prior studies have shown that behavior is unlikely to be guided by normative appeals if they are not salient or focal to the individual at the time of the behavior (Cialdini et al., 1990; Kallgren, Reno, & Cialdini, 2000). Although it is reasonable to hypothesize that the two types of norms in this case --- injunctive norm (cooperation) and the descriptive norm (participation) are compatible with each other, it is possible that the norm of participation (socially descriptive norm) is more relevant at the time of filling out the survey since the focal stimulus (the online survey) is present in setting. the behavioral Thus, presenting descriptive normative messages by themselves, rather than in combination with other kinds of normative prompts, may be in effect the most concentrated and potent means of influencing respondents' compliance with requests complete online surveys.

Alternatively, the findings could be explained in terms of certain situational or personal factors that may influence recipients' interpretation of the normative information. For instance, our sample consisted of accomplished scientists drawn predominantly from the natural and physical sciences. It is possible that such a group would be more likely to respond favorably to appeals that state actual facts about behavior in a certain situation (descriptive norm) as opposed to appeals that highlight behaviors that are approved or disapproved (injunctive norm). It is possible that underscoring approved behavior might not be effective for groups who think of themselves as having a high degree of autonomy and independence. It is, therefore, possible that personal norms (autonomy and independence) may contradict social norms (cooperate and reciprocate) in certain situations (Kallgren, Reno, & Cialdini, 2000).

Among the important findings of this research is the replication of the results of our initial study (Misra, Stokols, & Marino, 2012) --- indicating the effectiveness of descriptive norms in increasing survey response rates --- in a different sample, thereby extending the generalizability of our previous findings. Also, the repeated measures within-subjects replication design of this study provides further evidence for the efficacy of the descriptive normative prompts in influencing response rates to online surveys as we found a marginally significant dose-response effect of the descriptive normative message at Time 2. The generalizability of this study to non-academic groups and offline survey formats, however, remains to be assessed.

Limitations notwithstanding, this study has important implications for evaluation research. It offers further evidence for the influence of descriptive normative messages on response rates in online surveys, thus providing empirical support for a relatively simple and low cost means of improving response rates in evaluation research. This study represents a straightforward and low cost method for practicing evaluators to engage in their own research on evaluation. Conducting this study was a simple matter of creating separate versions of the survey for each group and using mail merge to target the survey request and reminders. Most evaluators using online survey tools and standard word processing and email programs could conduct similar studies to test the effectiveness of norm-based or other types of messages. The analysis of the results also was straightforward, using one-tailed z-tests to evaluate the differences in response rates among the various treatment and control groups at both time points. If enough evaluators replicated the present and the previous study with different populations and survey administration methods (online and offline), the cumulative knowledge generated would produce a body of evidence about the effectiveness of social norm-based persuasive messages on response rates. Moreover, studies like this could be easily written into projects and result in added value for the client or organization funding the evaluation.

Furthermore, this study documents the usefulness of email reminders as an effective strategy for increasing survey response rates. Sending one email reminder to participants who had not yet answered the survey one week after the initial request significantly improved response rates. Also, combining two email reminders within a span of three weeks was found to significantly improve the response rate of web-based surveys among participants who had not complied with the

initial request to complete the survey. Taken together, these findings contribute to the literature on practice component studies (Henry & Mark, 2003; Shadish, Cook, & Levition, 1991) within evaluation research as well as to the psychological literature on norm-based persuasive messages by demonstrating the efficacy of socially descriptive normative appeals in improving rates of response to online surveys.

References

- Misra, S., Stokols, D., & Marino, A. H. (2012). Using norm-based appeals to increase response rates in evaluation research: A field experiment. *American Journal of Evaluation*, 33, 88-98. doi: 10.1177/1098214011414862
- Bator, R. J., & Cialdini, R. B. (2000). The application of persuasion theory to the development of effective pro-environmental public service announcements. *Journal of Social Issues*, *56*, 527–541.
- Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology*, 58, 1015–1026.
- Galen, M. & Grodzicki, D (2011). Utilizing emerging technology in program evaluation. In S. Mathison (Ed.). Really New Directions On Evaluation: Young Evaluators' Perspectives. New Directions for Evaluation, 131, 123-128.
- Goldstein, N., Cialdini, R. B., & Griskevicius, V. (2008). A room with a viewpoint: Using normbased appeals to motivate conservation behaviors in a hotel setting. *Journal of Consumer Research*, 35, 472-482.
- Greenlaw, C., & Brown-Welty, S. (2009). A comparison of web-based and paper-based survey methods: Testing assumptions of survey mode and response costs. *Evaluation Review*, 33, 464-480.
- Henry, G. T., & Mark, M. M. (2003). Toward an agenda for research on evaluation. *New Directions for Evaluation*, 97, 69-80.
- Jamieson, V., & Azzam, T. (2012). Use of technology in evaluation practice. *Journal of Multidisciplinary Evaluation*, 8(18), 1-15. Retrieved from http://survey.ate.wmich.edu/jmde/index.php/jmde_1/article/view/340/345.
- Kallgren, C. A., Reno, R. R., & Cialdini, R. B. (2000). A focus theory of normative conduct: When norms do and do not affect behavior.

- Personality and Social Psychology Bulletin, 26, 1002–1012.
- Reno, R. R., Cialdini, R. B., & Kallgren, C. A. (1993). The transsituational influence of social norms. *Journal of Personality and Social Psychology*, 64, 104-112.
- Russell, C. W., Boggs, D. A., Palmer, J. R., & Rosenberg, L. (2010). Use of a Web-based Questionnaire in the Black Women's Health Study. *American Journal of Epidemiology*, 172(11), 1286-1291.
- Schultz, P. W. (1999). Changing behavior with normative feedback interventions: A field experiment on curbside recycling. Basic and Applied Social Psychology, 21, 25—38.Shadish, W. R., Jr., Cook, T. D., & Leviton, L.C.L. (1991). Foundations of Program Evaluation. Thousand Oaks, CA: Sage Publications
- Szanyi, M., Azzam, T., & Galen, M. (2013). Research on evaluation: A needs assessment. *Canadian Journal of Program Evaluation*, 27(1), 39-64.

Appendix A

Prompt Received by Group A - Descriptive Norm Only

"Dear Conference Participants,

[We] are committed to continuing what works, improving what is less valuable and trying new ways to make the program as beneficial for you as possible. One way we do this is by collecting information from you through online surveys.

Most years, over 70% of applicants complete the applicant survey.

Please recall your conference experience and complete the survey by 5pm (Pacific Time) on <date here>. We realize your time is valuable, which is why the survey quite brief. It should take less than 15 minutes to complete.

Your responses will be used for our internal evaluation efforts. We will not publicly present responses in any way that identifies you or your institution without your permission.

Thank you for your participation."

Prompt Received by Group B— Injunctive Norm Only

"Dear Conference Participants,

[We] are committed to continuing what works, improving what is less valuable and trying new ways to make the program as beneficial for you as possible. One way we do this is by collecting information from you through online surveys.

Please join your fellow participants in improving the quality of future conferences by filling out this survey.

Please recall your conference experience and complete the survey by 5pm (Pacific Time) on <date here>. We realize your time is valuable, which is why the survey quite brief. It should take less than 15 minutes to complete.

Your responses will be used for our internal evaluation efforts. We will not publicly present responses in any way that identifies you or your institution without your permission.

Thank you for your participation."

Prompt Received by Group C- Both Norms

"Dear Conference Participants,

[We] are committed to continuing what works, improving what is less valuable and trying new ways to make the program as beneficial for you as possible. One way we do this is by collecting information from you through online surveys.

Most years, over 70% of applicants complete the applicant survey. Please join your fellow participants in improving the quality of future conferences by filling out this survey.

Please recall your conference experience and complete the survey by 5pm (Pacific Time) on <date here>. We realize your time is valuable, which is why the survey quite brief. It should take less than 15 minutes to complete.

Your responses will be used for our internal evaluation efforts. We will not publicly present responses in any way that identifies you or your institution without your permission.

Thank you for your participation."

Prompt Received by Group D- No Norms

"Dear Conference Participants,

[We] are committed to continuing what works, improving what is less valuable and trying new ways to make the program as beneficial for you as possible. One way we do this is by collecting information from you through online surveys.

Please recall your conference experience and complete the survey by 5pm (Pacific Time) on <date here>. We realize your time is valuable, which is why the survey quite brief. It should take less than 15 minutes to complete.

Your responses will be used for our internal evaluation efforts. We will not publicly present responses in any way that identifies you or your institution without your permission.

Thank you for your participation."

E-Mail Reminder Message Received by Participants in the Treatment /Control Conditions

This is a friendly reminder to please complete our follow up survey regarding the conference. Every response is important to the program and we appreciate you taking the time to answer a few questions about your activities since the conference.

Below is the original message you received on <date here> with instructions for accessing the survey. If you have any questions or concerns, please feel free to contact me using the information provided below.

Thank you.

<Original message depending on the group to which the participant was assigned follows>