LORE Methodological Note 2015:5

Do gender, status and personalization of survey sender's signature affect response rates and evaluations of survey?

Maria Andreasson

ABSTRACT

In this methodological note we examine if the sender's signature in the invitation email of a web survey affect the willingness to participate in the survey. With a randomized experimental set-up (N=20 276), we test if gender and status affect participation rates, if a personal name is more appealing than the name of an organization, and if such potential effects linger on to the end of the survey when respondents are asked to evaluate the survey. In addition, we test if providing a stated purpose of the survey help increase participation rates. Results show that providing a name rather than an organization has the strongest statistically significant effect on participation rates, followed by the status of the sender - a professor's title yields higher participation rate an assistant's title, but no effect of gender is found. Providing a purpose of the study increases participation rates somewhat, although the differences are not statistically significant. None of the sender's features affected how the respondents evaluated the survey in the end.

Introduction and data

With four experiment groups, a 2x2 factorial design, the participation rates are controlled for on basis of gender and status of the sender's signature in the survey's email invitation. A joint control group to gender and status was added to test if the name of an organization is more effective than the name of a person. The names and titles used as senders' signatures are taken from existing researchers at the Department of Political Science at the University of Gothenburg. The organization name used is the Citizen Panel, an academically run respondent panel for public opinion research, linked to the same university. Apart from the signature in the invitation email (see Appendix for signatures and the complete invitation email), the same signature was also provided in the box "From", seen in the email window that respondents receive. In addition to examining the participation rates, we also test if the sender's characteristics affect how respondents

evaluate the survey in the end concerning how *entertaining*, *time-demanding*, *interesting*, *difficult* and *well considered* they found the survey.

Furthermore, for a sub-sample of the group receiving the organization name as signature, we test if mentioning a purpose of the study has an effect on participation rates. Aside from a control group to whom no explicitly stated purpose of the study was provided, the first treatment group received an invitation where the stated purpose of the study was international research projects; the second treatment group's stated purpose was contribution to the public debate, and the third treatment group received a combination of the two stated purposes.

On the 17th of September 2014, survey invitations were sent to an opt-in sample of 20 276 respondents, in total. The field work period lasted 31 days and gross participation rate (corresponding to AAPOR's RR6) for the whole study was 68.6 %. In the following analyses we define participation rate as the percent of respondents who have started the survey by clicking on the provided link in the email invitation.

The note is structured as follows: first we begin with examining the effect of the sender's characteristics on the participation rates for the whole sample, excluding the sub sample of organizational name who received an additional treatment with regard to stated purpose in the invitation email. The results are then compared on group level for each treatment group. Secondly, we examine if the effects of sender's characteristics are stronger or weaker depending on sex, age and education of the respondents. Thirdly, we test if the sender's signature effects the respondents' final evaluation of the survey. Finally, we evaluate the potential effects of adding a stated purpose of the study to the sub sample of the organizational name group. The results are then followed by a concluding section where the main findings are summarized.

Results

To control that the treatment groups are more or less equal in terms of demographic characteristics, one-way ANOVAs on sex [F(4, 15650)=0.16, p=.958], age [F(4, 16828)=1.15, p=.329], education [F(4, 14927)=0.08, p=.989] and political interest [F(4, 16825)=0.58, p=.676] among the different treatment groups were conducted, but no statistically significant differences were found. The sample has an overrepresentation of men (61 %) and highly educated (41 % have studied at least three years at university/college), but as shown by the ANOVAs, the demographic characteristics are evenly spread among the different treatment groups.

Effects of sender on participation rates

In table 1, the results from a one-way ANOVA [F(4, 16886)=5.87, p=.000] comparing the effects of gender, title and personalization of the sender on participation rates are shown. The participation rates range from 70.8% among the respondents with the male professor as sender and 65.8% for the respondents with the organization as sender. Post hoc comparisons using the Tukey HSD test showed that out of ten possible comparisons, two are significantly different from the other. Depersonalization of the sender, by providing the name of an organization instead of a name as signature in the invitation

email, yields significantly lower participation rates than the female and male professor's signature, a difference of 4.4 (p=.001) and 5.0 (p=.000) percentage points, respectively.

Table 1. Participation rates depending on sender characteristics: gender, status and organization (%)

	Participation rate	N
Female, professor[a]	70.2	3377
Male, professor[b]	70.8	3380
Female, assistant	68.6	3378
Male, assistant	68.5	3380
Organization[a,b]	65.8	3376
Total	68.8	16891

Comment: **Groups with joint superscript letters have statistically significant differences in participation rates at the 99% confidence level. Significance tests were performed using post hoc comparisons with the Tukey HSD test.**

No statistically significant differences between male/female and assistant/professor are found when comparing the different treatments separately, but when merging the five different groups into three factors (gender, status and organization vs. personal name), the effect of status becomes statistically significant (p=.015), in addition to the earlier significant negative effect of organization (p=.000) (see Table 6 in Appendix). The mean score of participation rate when a professor is the sender is 70.5%, compared to 68.5% when an assistant sends the invitation. Comparing the participation rate for the organization vs a person as the signature sender, the mean scores are 65.8% and 69.5%, respectively. The mean score with a male sender is 69.6% and 69.4% with a female sender. All in all, so far, the professor's signature has the strongest effect for increasing participation rates and the somewhat anonymous organization signature has the weakest.

In Table 7, 8 and 9 in Appendix, the participation rates for the different features are showed under control for sex, age and education of the respondents. The greatest differences in participation rates are found when comparing younger respondents (total participation rate 58%) with older (total participation rate 74%) (see Table 8 in Appendix). The older respondents are more prone to participate and yield around 14-18 percentage points higher participation rates than the younger respondents, peaking with the negative effect of the organization as sender, where only 54% of the younger participated compared to 72% of the older. (All effects of age on participation rates are significant at p<.000). Significant effects are found with regard to education, as can be seen in Table 9 in Appendix. Respondents with higher education participate to a greater extent than respondents with low or medium education, on average the higher educated have a participation rate of 78% compared to 72% of the lower educated. A small effect can also be found when it comes to gender, where men (72.4%) tend to participate slightly more often than women (70.7%) (p<0.05). (See Table 7 in Appendix)

Sender effects in different demographic groups

We have seen that demographic characteristics clearly affect the probability of participation. By comparing the signatures' effect on participation rates one by one for every demographic characteristic, we want to assess if any characteristic is more effective than the other for certain respondents. Starting with Table 2 and the effect of gender of the sender, we find no significant effects at all, differences are small, at most 2 percentage points, and they seem to run in both directions. A male or female signature simply does not seem to affect any respondent groups' participation rates.

Table 2. Effects of gender of sender on participation rates by gender, age and education (participation rate, %)

	Female	Male	Difference	P
Women	71.7 (2443)	71.6 (2439)	-0.1	.921
Men	73.0 (3828)	73.4 (3821)	0.4	.697
Younger	58.2 (2045)	60.2 (2048)	2.0	.212
Older	74.5 (4686)	74.0 (4689)	-0.5	.567
Low/medium education	72.4 (3508)	73.2 (3517)	0.8	.478
High education	78.2 (2464)	78.5 (2451)	0.3	.777

Comment: N within parentheses. The category of younger are here defined as respondents in the age of 16-39 years old and older as 40+. Low/medium education equals education less than three years of university/college studies and high education equals three years of university/college studies or more. Significance tests were performed using independent-samples t-test.

Continuing with Table 3 and the effect of status, significant effects of the professor's title are found among older and less educated. Among older respondents, the status of the professor increases the participation rate with 2.6 percentage points and the effect is statistically significant at p=.004. The effect is even slightly higher among the less educated, where it increases with 2.8 percentage points (p=.008). The differences are small but they all run in the same direction, with a positive effect of the higher ranking professor as signature.

Table 3. Effects of status of sender on participation rates by gender, age and education (participation rate, %)

	Assistant	Professor	Difference	P
Women	70.7 (2461)	72.7 (2421)	2.0	.122
Men	72.2 (3805)	74.1 (3844)	1.9	.065
Younger	58.7 (2013)	59.7 (2080)	1.0	.539
Older	73.0 (4721)	75.6 (4654)	2.6	.004
Low/medium education	71.4 (3503)	74.2 (3522)	2.8	.008
High education	78.1 (2462)	78.6 (2453	0.5	.651

Comment: N within parentheses. The category of younger are here defined as respondents in the age of 16-39 years old and older as 40+. Low/medium education equals education less than three years of university/college studies and high education equals three years of university/college studies or more. Significance tests were performed using independent-samples t-test.

Seen in Table 4, one finds that the positive effect of personalizing the signature is significant for every respondent group. The strongest effect, 5.7 (p=.001) percentage points, is found among young people, where only 53.5% would participate if the organization is the sender, compared to if the invitation has a name's signature (59.2%). The personalization has an effect of the older too, but it is lower with 2.6 (p=.010) percentage point's difference.

Table 4. Effects of personalization of sender on participation rates by gender, age and education (participation rate, %)

	Organization	Person	Difference	P
Women	67.0 (1216)	71.7 (4882)	4.7	.002
Men	69.4 (1908)	73.2 (7649)	3.8	.001
Younger	53.5 (1070)	59.2 (4093)	5.7	.001
Older	71.6 (2295)	74.2 (9375)	2.6	.010
Low/medium education	68.4 (1768)	72.8 (7025)	4.4	.000
High education	74.3 (1224)	78.3 (4915)	4.1	.002

Comment: N within parentheses. The category of younger are here defined as respondents in the age of 16-39 years old and older as 40+. Low/medium education equals education less than three years of university/college studies and high education equals three years of university/college studies or more. Significance tests were performed using independent-samples t-test.

Following up on possible effects of sender's signature, we examine if the sender's signature effects the respondent's evaluations of the survey. In the end of the survey respondents evaluated the survey on 0-100 scales of how entertaining they found the survey to be, how time-demanding, interesting, difficult and well considered they found it. Out of 50 (5x10) possible combinations, none were found statistically significant,

neither were any systematic differences discovered. The initial signature in the email invitation seems to be too small of a treatment to affect the evaluations in the end of a survey.

Effects of stated purpose with the survey

Comparing the group with no stated purpose in the invitation with the groups with an explicitly stated purpose, we find that adding a stated purpose increases the participation rate with between 1.2-2.9 percentage points, but these differences are not significant (see Table 5).

Table 5. Effects of stated purpose with study on participation rates (%)

	Participation rate	N	P
No stated purpose	65.8	3376	.063
Stated purpose	67.9	3385	
(Research)	68.1	1129	
(Public debate)	68.7	1130	
(Research+public debate)	67.0	1126	
Total	66.9	6761	

Comment: **The full wordings of the stated purposes are found in Appendix. The N-values and participation rates for the rows of research, public debate and research+public debate are included in the total participation rate and N of stated purpose. Significance tests were performed using independent-samples t-test.**

With a stated purpose, the participation rates increases somewhat (on average +2.1 percentage points) and closes in on the total mean of participation rate for all respondents (68.8%, see Table 1), to some extent compensating for the lower participation rates of organization as sender signature. Even if the differences are not statistically significant, the differences all run in the same direction, indicating that providing a stated purpose could actually yield somewhat higher participation rates.

Concluding remarks

The results show that the strongest effect on participation rates is personalization of the signature. Signing the invitation with a name rather than an organization increases the participation rates for every demographic group, but even more so for younger respondents, a well-documented difficult-to-reach group. Status of the sender increases the participation rates as well, with the professor's signature outweighing the assistant's, although not with as strong an effect as that of a person's name. With respect to demographic differences older respondents and the less educated are more susceptible to be affected by status. Gender of the sender did not seem to affect the respondents' willingness to participate. Even though status and personalization of sender's signature

have an effect on participation rates, this effect does not linger to the end of the survey, as the sender's signature did not have any effect of respondents' evaluation of the survey. No effects of providing a stated purpose of the study were found, but the direction of the effect went in favor of providing one, more studies experimenting with providing stated purposes are encouraged.

Appendix

Table 6. Participation rates depending on sender characteristics: gender, status or organization. Group level (%)

		Participation rate	N	P
Gender	Male	69.6	6760	0.779
	Female	69.4	6755	
Status	Assistant	68.5	6758	0.015
	Professor	70.5	6757	
Personalization	Organization	65.8	3376	0.000
	Person	69.5	13515	

Comments: The separate treatment groups have been merged into the three categories of gender, status and personalization: female professor and female assistant as sender are merged into the category of gender and likewise for the male counterparts; the male and female professor are merged into the category of status and likewise for the assistant counterparts; and male and female professors and assistants are merged into the category of person, while the organization as sender remain intact. Significance tests were performed using independent-samples t-test.

Table 7. Participation rates depending on sender characteristics: gender, status or organization. By sex (%)

	Women	Men	Difference
Female	71.7 (2443)	73.0 (3828)	1.3
Male	71.6 (2439)	73.4 (3821)	1.8
Assistant	70.7 (2461)	72.2 (3805)	1.5
Professor	72.7 (2421)	74.1 (3844)	1.4
Organization	67.0 (1216)	69.4 (1908)	2.4
Person	71.7 (4882)	73.2 (7649)	1.5
Total	70.7 (6098)	72.4 (9557)	1.7*

Comments: N within parenthesis. Significance tests were performed using independent-samples t-test. ***=p<.00, **=p<.01, *=p<.05

Table 8. Participation rates depending on sender characteristics: gender, status or organization. By age (%)

	Younger	Older	Difference
Female	58.2 (2045)	74.5 (4686)	16.3***
Male	60.1 (2048)	74.0 (4689)	13.9***
Assistant	58.7 (2013)	73.0 (4721)	14.3***
Professor	59.7 (2080)	75.5 (4654)	15.8***
Organization	53.5 (1070)	71.6 (2295)	18.1***
Person	59.2 (4093)	74.2 (9375)	15.0***
Total	58.0 (5163)	73.7 (11670)	15.7***

Comments: N within parenthesis. The category of younger are here defined as respondents in the age of 16-39 year old and older as 40+. Significance tests were performed using independent-samples t-test. ***=p<.00, **=p<.01, *=p<.05

Table 9. Participation rates depending on sender characteristics: gender, status or organization. By education (%)

	Low/medium education	High education	Difference
Female	72.4 (3508)	78.2 (2464)	5.8***
Male	73.2 (3517)	78.5 (2451)	5.3***
Assistant	71.4 (3503)	78.1 (2462)	6.7***
Professor	74.2 (3522)	78.6 (2453)	4.4**
Organization	68.4 (1768)	74.3 (1224)	5.9**
Person	72.8 (7025)	78.3 (4915)	5.5***
Total	71.9 (8793)	77.5 (6139)	5.6***

Comments: N within parenthesis. Low/medium education equals education less than three years of university/college studies and high education equals three years of university/college studies or more. Significance tests were performed using independent-samples t-test. ***=p<.00, **=p<.01, *=p<.05

Sender

Each treatment group received one of the following sender's signatures in the invitation email of the survey:

Professor, female	Lena Wängnerud, professor
Professor, male	Henrik Oscarsson, professor
Assistant, female	Maria Andreasson, assistant
Assistant, male	Elias Markstedt, assistant
Organization	Medborgarpanelen

Stated purpose of the study

For an additional sub group of the organization treatment group, the respondents were provided with one of the following three stated purposes:

Research project	"Our surveys are conducted in collaboration with researchers at leading universities around the world and will be used in international research projects."
Public debate	"The results will be available to the public and decision makers and will thereby contribute to the public debate in Sweden."
Research project and public debate	"Our surveys are conducted in collaboration with researchers at leading universities around the world and will be used in international research projects. The results will also be available to the public and decision makers and will thereby contribute to the public debate in Sweden."

Invitation email

Hi!

This year's election is now over and you are invited to participate in a short survey about your thoughts and experiences from the election. The survey includes a combination of current issues and opinions about politics and elections. [Stated purpose] Your answers are equally important for us no matter how interested you are in societal issues.

Click on the link in order to start the survey:

${l://SurveyLink?d=Survey}

The expected time to complete the survey is around 10 minutes. Participation in the survey is completely optional and your answers are treated with confidentiality. Results are only publicized as summaries in tables and figures.

We look forward to your participation!

With kind regards,

[Sender]
Department of Political Science, University of Gothenburg

The Laboratory of Opinion Research (LORE) is an academic web survey center located at the Department of Political Science at the University of Gothenburg. LORE was established in 2010 as part of an initiative to strengthen multidisciplinary research on opinion and democracy. The objective of the Laboratory of Opinion Research is to facilitate for social scientists to conduct web survey experiments, collect panel data, and to contribute to methodological development. For more information, please contact us at:

info@lore.gu.se