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Effects of progress bars in web surveys

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ABSTRACT

This methodological note examines the effect of adding a progress bar on the completion rate, breakoffs, partial responses and survey duration in two web surveys. The results are mixed; in one study the completion rate was positively affected when a progress bar was added, an effect of 3.7 percentage points, while a negative effect (-1.9 percentage points) was found in the other study, but none of these differences were statistically significant. Neither were any statistically significant effects of the progress bar found regarding breakoff rate or survey duration (when excluding outliers). As including a progress bar in the surveys did not have any statistically significant negative effect on neither completion rate, breakoffs, nor on survey duration, future recommendation is to include progress bars in web surveys when possible, in order to comply with respondents' preferences.

Hypothesis and data

One of the most common requests among web survey respondents participating in LORE's web panels is the use of a progress bar in the web questionnaire. Despite a willingness to accommodate respondents' wishes, LORE has been reluctant to introduce progress bars because of a fear of respondents dropping out if they perceive the questionnaire to be too time-demanding, when looking at the progress bar. If the respondents don't progress as fast as they expect, the initial willingness to participate might turn into dissatisfaction, with breakoff as a result. Rather, one hopes respondents will finish what they started, once they have started investing time in answering the questionnaire.

Our first hypothesis is that the progress bar has a negative effect on completion rates, which in turn is due to more frequent breakoffs, when respondents are presented with a progress bar. We also hypothesize that a progress bar will decrease survey duration, as respondents might be speeding through the survey, if they don't progress as fast as they expect, when looking at the progress bar.

In order to study the possible effects of including a progress bar in web surveys, two web surveys were fielded simultaneously to 1,750 respondents each on the 12th of June 2013, using the web survey program Qualtrics. Within each survey, half of the respondents were

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presented with a progress bar, the other half without. The first survey covered questions regarding personality traits and the second survey was comprised of questions about motives for consumption. Overall, with a field period of 48 days the participation rates for the two surveys were 59% and 59.7%, respectively (AAPOR RR6).

Results

The first question is whether adding a progress bar in web surveys influence completion rates. Completes are defined as respondents who have answered at least 80% of the total number of questions and finished the survey. Looking at Table 1 and the completion rate for the first study, there is a small negative effect of the progress bar, where 90.7 percent of the respondents completed the survey, compared to 92.6 percent of the respondents without a progress bar. In the second study though, the numbers run in the opposite direction and a positive effect of the progress bar is detected; 90.8 percent completed the survey with a progress bar compared to 87.1 percent without the progress bar, yielding a difference of 3.7 percentage points in favor of the progress bar. Still, none of the effects are statistically significant (two-tailed t-test) and our first hypothesis, that the progress bar would have a negative effect on completion rates, cannot be confirmed.

Table 1. Completion rates with and without progress bar (percent)

	No Progress Bar	Progress Bar	Difference
Study 1	92.6	90.7	-1.9
Study 2	87.1	90.8	3.7

Comment: n=1,032 for study 1, n=1,045 for study 2. *=p<0.05.

Table 2 presents the results on what possible effect the progress bar has on partial responses and breakoff rates. Partials are defined as respondents who have missing values for between 20-49% of the total number of questions, open-ended comments excluded. Breakoffs are defined as respondents with more than 50% of the total number of questions left without answers. All respondents that have not finished the survey, i.e. have not proceeded to the very end, have been coded as breakoffs. The strongest effect of progress bar on partials is found in study 2, where a negative effect of 1.5 percentage points is shown, 1.7 percent partials in the group with no progress bar and 0.2 percent in the group with progress bar. In study 1, the effect goes in the same direction but is smaller, -0.2 percent in difference, with 0.4 percent partial responses in the group without progress bar and 0.2 percent in the group with progress bar. The difference in partial response rates for surveys with and without progress bar in study 2 is statistically significant on a 95 percent confidence level (two-tailed t-test), unlike the result of the partial response rate in study 1, where no statistically significant difference was found. However, the overall number of partials is very small, making it difficult to draw further conclusions.

Moving on to breakoffs in the same table, no statistically significant effects are found in the results for any of the two studies (two-tailed t-tests). In study 2, the progress bar

negatively affects breakoffs by 3.8 percentage points, compared to the progress bar's positive effect on breakoffs in study 1. The breakoff rate is almost twice as high among the group without progress bar in study 2 as for the same group in study 1 (13 percent versus 7.4 percent). Respondents with a progress bar in study 2 are closer to the two groups in study 1 with 9.2 percent breakoff compared to 9.3 and 7.4 percent in study 1. As results are mixed and no statistically significant effects are found regarding the progress bar's effect on breakoffs, our initial hypothesis cannot, once again, be confirmed.

Table 2. Effect of progress bar on partials and breakoffs (percent)

		No Progress Bar	Progress Bar	Difference
Study 1	Partials	0.4	0.2	-0.2
	Breakoffs	7.4	9.3	1.9
Study 2	Partials	1.7	0.2	**-1.5***
	Breakoffs	13.0	9.2	-3.8

Comment: *=p<0.05.

The mixed results seem to imply that the effect of progress bar might be dependent on the specific survey, we will therefore continue the analysis by examining the progress bar's effect on survey duration. We hypothesized earlier that the progress bar would lower the survey duration as respondents might become impatient with the survey and speed up the responding, if they don't progress as fast as they expect. In Table 3, no statistically significant effects of the progress bar are found here either (two-tailed t-tests). In study 2, the progress bar negatively affects the survey duration with 4 percentage points and the survey duration mean drops from 16.7 minutes to 12.7 minutes when a progress bar is presented. This effect disappears though when outliers are excluded, leaving the two groups with a survey duration mean of 11.9 minutes. In study 1 no effects are found from the progress bar, with a survey duration mean around 20 and 14 minutes, comparing means with and without outliers. Overall, the progress bar does not seem to affect the survey duration in the two studies.

Table 3. Survey duration among completes: mean comparisons with and without progress bar and outliers (minutes)

		No Progress Bar	Progress Bar	Difference
Study 1	Outliers included	20.4	20.1	-0.3
	Outliers excluded	14.0	13.6	-0.4
Study 2	Outliers included	16.7	12.7	-4.0
	Outliers excluded	11.9	11.9	0.0

Comments: Outliers are defined as respondents with survey duration of more than 90 minutes. *=p<0.05.

Concluding remarks

Judging by the results of this methodological note, our initial hesitation to include a progress bar in web surveys seems to be exaggerated. Instead of a negative effect from the progress bar, as earlier hypothesized, we found a positive effect on completion rate from the progress bar in one of the two studies, although not statistically significant. Still, results are mixed, and we do not to recommend the inclusion of a progress bar *as a means* to increase completion rates. Rather, we suggest that a progress bar is included in web surveys when possible as a way of meeting respondents' preferences, as no statistically significant *negative* effects were found among the two studies. However, due to the mixed nature of the results, and overall small differences, more studies on the effects of progress bars in web surveys are needed.

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:

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