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Text Message Notification for Web Surveys

Sending texts to survey panel members shortens response time

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Text Message Notification for Web Surveys

Sending texts to survey panel members shortens response time

Text messaging has grown in popularity in recent years, leading survey researchers to explore ways texts might be used as tools in the public opinion research process. In the U.S., at least, researchers must obtain consent from respondents before they are permitted to send an automated text. This means that text messaging can't be used in standard one-off surveys of the public – surveys where pollsters reach out to a randomly sampled list of telephone numbers. Texting also presents measurement challenges in terms of offering only limited space for writing questions and requiring respondents to type rather than click. While these factors limit the utility of texting for interviewing itself, texting has been explored as a means of alerting people to complete a survey, such as by sending them a link to a web survey.[1]

A new study by Pew Research Center found that sending notifications via text to consenting survey panel members improves response time (people take the survey sooner, on average) and boosts the share of respondents completing the survey on a mobile device. It does not, however, increase the ultimate response rate over a longer field period compared with sending notifications by email only.

These results come from two experiments conducted by Pew Research Center using its American Trends Panel (ATP), a probability-based, nationally representative group of people who have agreed to take multiple surveys and receive text messages about them. The first experiment examined the effect of sending a text as a first notification to take a survey. The second experiment examined using text messages to remind people to take a survey. These messages were sent several days after the initial notification.

In the first experiment, web panelists who had previously consented to receiving text messages (2,109 out of 3,634 web panelists in total) were randomized into one of two groups: one group received survey invitations via email and the other received them via both text message and email.[2]

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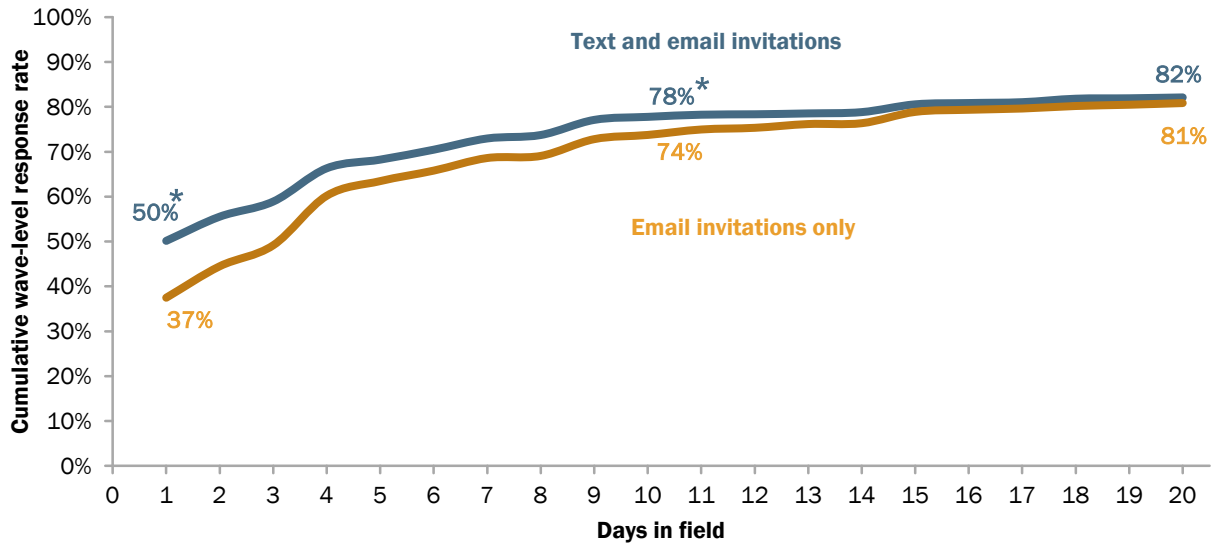
[1] See Crawford, S., C. McClain, S. O'Brien and T. Nelson. 2013. "Examining the Feasibility of SMS as a Contact Mode for a College Student Survey." Paper presented at the annual meeting of the American Association for Public Opinion Research, Boston; De Bruijne, M., and A. Wijnant. 2014. "Improving Response Rates and Questionnaire Design for Mobile Web Surveys." *Public Opinion Quarterly*, 78 (4): 951-962; Mavletova, A. and M. Couper. 2014. "Mobile Web Survey Design: Scrolling Versus Paging, SMS Versus E-mail Invitations." *Journal of Survey Statistics and Methodology,* 2(4): 498-518.

[2] In this first experiment all panelists received reminders via email and all web panelists with mailing addresses on file (96% of web panelists) also received a pre-notification postcard. In order to isolate the effect of the text messages, the analysis of this experiment was limited to web panelists who had consented and also receive an advance postcard. This excluded 130 web panelists who had consented to receiving text messages but did not have an address on file.

On average, panelists in the email and text group completed the survey earlier than those in the email-only group. This difference was most dramatic at the beginning of the survey field period. By the end of the first full day, half (50%) of the email and text group had completed the survey, compared with 37% of the email-only group.

More responses earlier in field period when respondents get text messages in addition to email invitations

Cumulative wave-level response rate by condition (%)



Note: Significant differences noted by asterisk. Each day runs from 9 a.m. to 9 a.m. Cumulative wave-level response rate is the survey response rate for each group up to that point.
Source: Survey conducted March 10-April 6, 2015.

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In the second experiment, all web panelists who had consented to text messages were sent survey invitations via email and text message. Those who hadn't responded after three days were then randomized into one of two groups: One group only received reminders via email and the other received reminders via email and text[3].

[3] In the second experiment there was no exclusion based on whether or not the panelist received the advance postcard.

Again, on average, panelists in the text and email reminder group responded earlier than panelists in the email-only reminder group. By the 10th day, the text and email reminder group had a wave-level response rate of 48% vs. 39% in the email-only reminder group. However, there was no significant difference in the final wave-level response rate by the end of the field period.

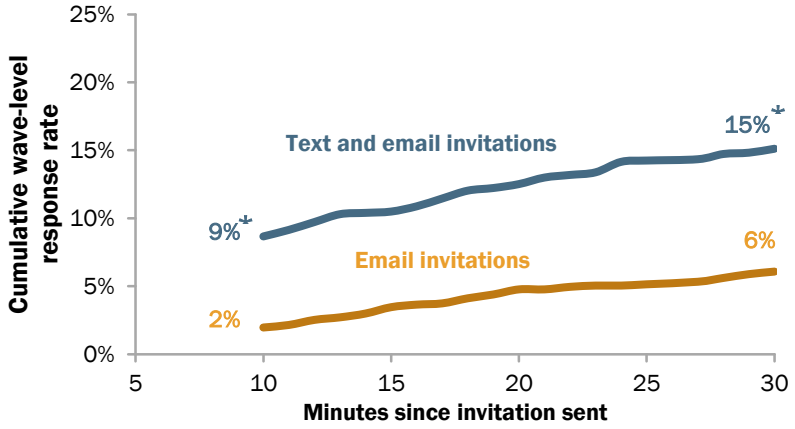
This report examines the response patterns and demographic composition of respondents in each group for the two experiments. It also looks more broadly at who in the panel consented to receiving this type of survey text message.

Text messages produce earlier responses but no difference in final response rate

When panelists received invitations via text message and email, they completed the survey earlier in the field period than those who received only email. In fact, in the first 30 minutes after the survey invitations were sent, 15% of the text message and email group had responded to the survey vs. only 6% of the email-only group. This has important implications for survey researchers who need to collect data in a short amount of time.

More responses in first 30 minutes when text sent

Cumulative wave-level response rate by condition (%)



Note: Significant differences noted by asterisk. Cumulative wave-level response rate is the survey response rate for each group up to that point.
Source: Survey conducted March 10-April 6, 2015.

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By the end of the first full day in the field, half of the panelists (50%) in the text and email group had responded vs. only 37% of the email-only group. By the end of the third day, 59% of the text and email group had responded vs. 49% of the email-only group. The higher wave-level response rate in the text and email group continued through the 10th day in the field.

However, given enough time in the field, the email-only group's response rate eventually catches

up with that of the email and text group. By the end of the 20-day field period, there was no difference between the two groups in terms of the percent who opened the survey or the percent who responded

In total, 84% of the email and text group opened the survey vs. 82% of the email-only group, which led to an 82% and 81% response rate, respectively. The 84% of text and email panelists who opened the survey consisted of 54% who opened the survey from the email link and 30% who opened using the link in the text message, as they had the option to use either link.

It's important to note that had the field period been shorter, as is typical in other web surveys, the final response rate would have been higher for the text and email group. For instance, 10 days into the field period, 78% of the text and email group had responded compared with only 74% of the email group. After 10 days the difference between the two groups narrowed to just 1 percentage point.

Eventually, wave-level response rate in email invitation-only group catches up

Survey open and wave-level response rates by condition (%)

	Email+Text	Email only
	%	%
Opened survey	84	82
Wave-level response rate after 10 days	**78**	74
Final wave-level response rate	82	81
Unweighted n	1,039	1,070

Note: Survey open rate measured by clicking hyperlink in invitation. Significant differences in **bold.**

Source: Survey conducted March 10-April 6, 2015.

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Text messages lead to more interviews completed on a smartphone

Not surprisingly, sending invitations via text message encourages respondents to complete the survey on a smartphone.

Within the email and text group, about half (51%) of respondents completed the survey on a smartphone, compared with only a third (33%) of respondents in the email-only group, despite similar rates of smartphone ownership in the two groups.[4]

Taken together with tablets, 57% of respondents in the text and email group completed the survey using a mobile device, compared with only 42% of the email-only group. For survey researchers who want to leverage features of smartphones in their studies, such as capturing GPS (with appropriate consent) or asking respondents to take pictures, this could be quite helpful.

On the other hand, certain types of surveys are better suited for completion on a desktop or laptop computer, such as very long surveys or those using software that is not optimized for smartphones. For these types of surveys, encouraging completion on a mobile device could lead to data quality issues or higher break-off rates.

Over half of respondents in email and text group completed survey on a smartphone

% of respondents within each condition

	Email+text	Email only
	%	%
Smartphone	**51**	33
Tablet	6	**9**
Desktop/Laptop	43	**58**
	100	100
Unweighted n	853	865

Note: Device used at respondent's final login. Significant differences in **bold.**

Source: Survey conducted March 10-April 6, 2015.

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Text message invitations did not distort respondent demographic composition

Demographically, the respondents in the text message and email group were virtually indistinguishable from respondents in the email-only group. There were no differences between the two groups in terms of sex, age, race/ethnicity, education, income, party affiliation or urbanicity. The only difference found was that the email-only group was somewhat more likely to

[4] All panelists in the email and text and email-only groups have cellphones, but not all have smartphones. The rate of smartphone ownership was nearly identical for the two groups: 92% of the text and email group vs. 90% of the email-only group own smartphones.

be religiously unaffiliated (26%) than the text message and email group (21%). Even limiting the analysis to respondents from the first 10 days still produces no demographic difference between the two groups apart from religious affiliation.

This lack of demographic difference across the two sets of respondents is encouraging, as there is evidence that texting is more popular among certain demographic groups than others, such as among younger adults or those with higher education. The experiment suggests that these differences in *who texts* did not result in differences in *who responded* to the panel survey when text invitations were used. This may be due in part to the fact that in both experiments all respondents received email invitations. If, by contrast, respondents were only allowed to access the survey via the link from the text, then the effect on the demographic profile of the responding sample may have been more noticeable.

No difference in demographic composition when invitations sent via email and text vs. email only

Unweighted demographic profile of respondents by condition (%)

	Email+text	Email only
	%	%
Male	50	48
Female	50	52
18-29	19	19
30-49	33	36
50-64	31	29
65+	17	15
White, non-Hispanic	75	77
Black, non-Hispanic	9	7
Hispanic	10	9
Other	6	6
High school or less	13	14
Some college	29	30
College graduate or higher	58	57
$75,000+	41	42
$30,000-$74,999	37	34
<$30,000	19	20
Republican/Lean Republican	42	41
Democrat/Lean Democrat	51	53
Urban	37	39
Suburban	49	50
Rural	13	11
Protestant	44	43
Catholic	21	18
Unaffiliated	**21**	26
Other	13	12
Unweighted n	853	865

Source: Survey conducted March 10-April 6, 2015. Significant differences in **bold.**

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Not all panelists consent to text messages; those who do are demographically distinct

Even though respondents in the text and email group are not demographically distinct from the respondents in the email only group, it's important to note that these groups consist of panelists who have consented to receiving text messages. Not everyone who uses text messaging actually consents to receiving text messages in the first place Among U.S. adults, 91% own cellphones and 74% use text messaging.[5] And while 98% of ATP panelists own cellphones, only 54% consented to receiving text messages. It is between those who consent and those who do not consent where there are demographic differences.

Only half of panelists consented to text messages

% of active panelists

	Unweighted %
Cellphone owner	98
Cellphone owner and consented to receive text messages	54
Unweighted n	3,983

Note: 115 Wave 1 mail nonrespondents not asked for consent were not included in base.

Source: Active panelists as of June 2015.

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Under federal law, researchers need prior consent in order to send automated text messages to potential respondents. Text messaging was possible in this panel study because consent was obtained from panelists prior to this study being conducted.

Those who consented to receiving survey text messages tend to be younger and higher income than those who didn't consent. Consenters are more likely to live in urban areas and to be Democrats. They are less likely to be white or to be Protestant. However, there is no difference between the consenter and nonconsenters in sex or education.

[5] According to the Centers for Disease Control and Prevention's National Health Interview Survey, 91% of adults own cellphones. When last measured by Pew Research Center in 2013, 81% of cellphone owners used text messaging. Taken together, at least 74% of U.S. adults use text messaging. Given the rise in text messaging over time, this is likely an underestimate.

Panelists consenting to texts are younger, less white than nonconsenters

% of all U.S. adults, all U.S. cellphone owners, active panelists who own cellphones who consented/did not

	U.S. adults	U.S. cellphone owners	Consented to texts	Did not consent
	Weighted %	Weighted %	Unweighted %	Unweighted %
Male	48	50	49	49
Female	52	50	51	51
18-29	22	23	**19**	10
30-49	34	34	**35**	23
50-64	26	27	**30**	34
65+	19	15	**16**	32
White, non-Hispanic	65	64	**72**	80
Black, non-Hispanic	12	11	**10**	7
Hispanic	15	15	**10**	5
Other	8	8	7	7
College grad+	28	29	51	49
Some college	31	32	33	33
HS or less	41	38	17	18
Unweighted n	2,403,157	6,004	2,140	1,676
$75,000+	28	30	**38**	32
$30,000-74,999	31	32	**33**	37
<$30,000	31	30	25	24
Rural	16	16	**14**	17
Suburban	47	47	48	49
Urban	37	37	**38**	33
Rep/Lean Rep.	40	41	**40**	45
Dem/lean Dem.	46	46	**52**	48
Protestant	46	46	**46**	49
Catholic	22	21	20	18
Unaffiliated	23	23	22	21
Other	8	8	12	10
Unweighted n	6,004	6,004	2,140	1,676

Source: U.S. adult sex, age, race/ethnicity and education data from 2014 ACS 1-year estimates for non-institutionalized adults; remaining U.S. adult data and U.S. cellphone owner data based on survey conducted Aug. 27-Oct. 4, 2015. Consent data based on all active American Trends Panelists as of June 2015, including mail panelists. Significant differences between consented/did not consent in **bold.**

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Additionally, 5% of panelists consented to receiving text messages but could not receive Pew Research Center text messages because ATP texts are sent using short codes, which the panelists had blocked. Short codes are five- to six-digit phone numbers that companies use to, among other things, send automated text messages to a large set of mobile telephone numbers more quickly than if using a traditional 10-digit phone number (long code). Some cellphone carriers, device manufacturers and/or individuals choose to block text messages sent from short codes.

All in all, only 49% of web panelists could receive survey text messages because they owned a cellphone, consented to receiving text messages and did not have short codes blocked.[6] Pew Research Center uses short codes due to the volume of texts being sent and the speed efficiencies, but using a long code would allow researchers to reach these additional panelists.

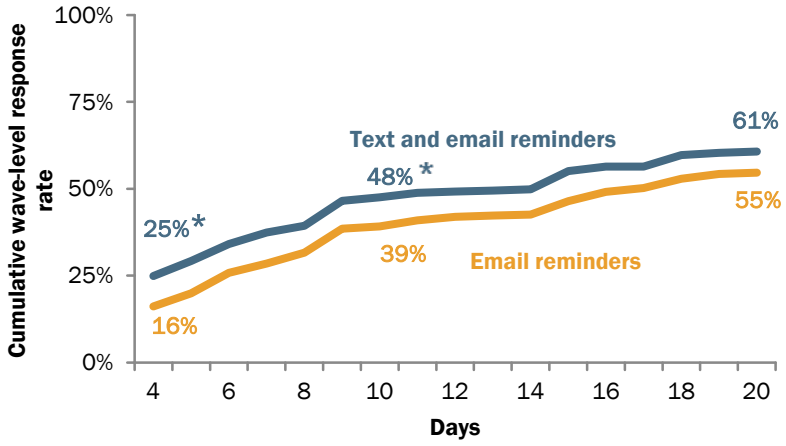
[6] The panel vendor made an effort to help panelists unblock short codes. Of the 273 panelists who originally had short codes blocked, 44 had telephone carriers that prohibited them from being unblocked even if the panelist wanted to allow it. The other 229 panelists had one of the top five carriers that would allow short codes to be unblocked. An email was sent to these panelists with instructions on how to unblock short codes. After this effort, 160 remained blocked in addition to the original 44 whose carriers prohibited unblocking.

Reminder texts result in earlier responses, but not higher overall wave-level response rate

In the second experiment, all consenting respondents received text message and email invitations to their surveys. Those who had not responded by the third day were randomized into either the treatment group, which received text and email reminders, or the control group, which received only email reminders. Reminders were sent on days 4, 9, and 15 of the field period.

Text message reminders result in earlier responses

Cumulative wave-level response rates by condition (%)



Note: Experiment is limited to nonrespondents at the time of the first reminder. Reminders sent day 4, 9 and 15. Significant differences between groups noted by asterisk. Each day runs from 9 a.m. to 9 a.m. Cumulative wave-level response rate is the survey response rate for each group up to that day.

Source: Survey conducted June 2-June 29, 2015.

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The text message reminders resulted in earlier responses, although by day 11 the control group had caught up and was no longer statistically significantly lower than the treatment group. By the end of the 20-day field period there was no statistically significant difference in the final open or response rates between the treatment and control group. That said, the 20-day field period used in the ATP is longer than that of most public opinion surveys. If the field period had been 10 days, for example, the text message reminders would have resulted in a significantly higher final wave-level response rate.

Text message reminders lead to higher response rates in the short term, but email catches up

Survey open and wave-level response rates by condition (%)

	Email+text	Email only
Opened survey	66	60
Wave-level response rate after 10 days	**48**	39
Final wave-level response rate	61	55
Unweighted n assigned to condition	304	291

Note: Survey open rate measured by clicking hyperlink in invitation. Significant differences in **bold.**

Source: Survey conducted June 2-June 29, 2015.

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Reminder text messages skewed responding sample slightly older

The respondents who received only email reminders but still answered the survey were younger than the respondents who received both text and email reminders. Of the email-only group, one quarter (25%) were ages 18 to 29 versus only 15% of the text and email group. This was unexpected because of the popularity of texting among this age group. One possible explanation is that younger people use text messaging more than older adults, so the text message reminders may have been less novel. There were no other differences in demographics between the two groups of respondents.

Text messages are now standard American Trends Panel protocol

Based on the results of these experiments, consensual text message invitations and reminders are now standard protocol for the American Trends Panel. The next step is to explore using consensual text messages to collect the survey responses themselves, rather than just using texts to send links to web surveys.

Text message reminders lead to slightly older respondents but no other demographic differences

Unweighted demographic profile of respondents by condition (%)

	Email+text	Email only
Male	44	49
Female	56	51
18-29	**15**	25
30-49	39	34
50-64	32	29
65+	14	12
White, non-Hispanic	77	77
Black, non-Hispanic	10	6
Hispanic	7	11
Other	5	6
College grad or higher	52	61
Some college/Associate degree	39	32
High school grad or less	9	7
$75,000+	44	40
$30,000-74,999	35	38
<$30,000	17	19
Registered to vote	93	94
Republican /Republican Lean	41	40
Democrat/Democrat Lean	53	50
Rural	14	16
Suburban	54	43
Urban	33	40
Protestant	51	42
Catholic	17	19
Unaffiliated	19	23
Other	11	15
Unweighted N	185	159

Source: Survey conducted June 2-June 29, 2015. Significant differences in **bold.**

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Methodology

The American Trends Panel (ATP), created by Pew Research Center, is a nationally representative panel of randomly selected U.S. adults living in households. Respondents who self-identify as internet users (representing 89% of U.S. adults) participate in the panel via monthly self-administered web surveys, and those who do not use the internet participate by mail. The panel is being managed by Abt SRBI.

Data in this report are drawn from the March wave of the panel, conducted March 10-April 6, 2015, among 3,147 respondents (2,833 by web and 314 by mail), and the June wave of the panel, conducted June 2-June 29, 2015, among 3,057 respondents (2,733 by web and 324 by mail). The margin of sampling error for the full March sample of 3,147 respondents is plus or minus 2.4 percentage points and for the full sample of 3,057 respondents is plus or minus 2.6 percentage points.

All members of the American Trends Panel at the time of these waves were originally recruited from the 2014 Political Polarization and Typology Survey, a large (n=10,013) national landline and cellphone random-digit dial (RDD) survey conducted Jan. 23 to March 16, 2014, in English and Spanish. At the end of that survey, respondents were invited to join the panel. The invitation was extended to all respondents who use the internet (from any location) and a random subsample of respondents who do not use the internet.[7]

Of the 10,013 adults interviewed, 9,809 were invited to take part in the panel. A total of 5,338 agreed to participate and provided either a mailing address or an email address to which a welcome packet, a monetary incentive and future survey invitations could be sent. Panelists also receive a small monetary incentive after participating in each wave of the survey.

The following table shows the unweighted sample sizes and the error attributable to sampling that would be expected at the 95% level of confidence for different groups in the survey on an unweighted basis:

[7] When data collection for the 2014 Political Polarization and Typology Survey began, non-internet users were subsampled at a rate of 25%, but a decision was made shortly thereafter to invite all non-internet users to join. In total, 83% of non-internet users were invited to join the panel.

Group	Unweighted sample size	Plus or minus ...
March wave		
Total sample	3,147	1.7 percentage points
Text and email invitations	1,039	3.0 percentage points
Email invitations only	1,070	3.0 percentage points
June wave		
Total sample	3,057	1.8 percentage points
Text and email reminders	304	5.6 percentage points
Email reminders only	291	5.7 percentage points

Sample sizes and sampling errors for other subgroups are available upon request.

In addition to sampling error, one should bear in mind that question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of opinion polls.

The web component of the March wave had a response rate of 78% (2,833 responses among 3,634 web-based individuals enrolled in the panel); the mail component had a response rate of 61% (314 responses among 512 non-web individuals enrolled in the panel). Taking account of the response rate for the 2014 Survey of Political Polarization (10.6%) and attrition from panel members who were removed at their request or for inactivity, the cumulative response rate for the March ATP wave is 3.4%[8].

The web component of the June wave had a response rate of 75.3% (2,733 responses among 3,630 web-based individuals enrolled in the panel); the mail component had a response rate of 66.5% (324 responses among 487 non-web individuals enrolled in the panel). Taking account of the response rate for the 2014 Survey of Political Polarization (10.6%) and attrition from panel members who were removed at their request or for inactivity, the cumulative response rate for the June ATP wave is 3.3%.

[8] Prior to the October 2014 wave, 962 web panelists who had never responded were removed from the panel. Prior to the November 2014 wave, 37 mail non-web panelists who had never responded were removed from the panel.