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Effectiveness of Messaging to Encourage Response
to the American Community Survey

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Abstract

The American Community Survey (ACS) is an ongoing and mandatory household survey conducted by the U.S. Census Bureau that collects essential information about states, local areas, and communities on an annual basis. Data collected in the ACS help to determine how more than \$400 billion in federal and state funds are allocated across the nation each year. The ACS samples approximately 295,000 households each month, and responses are collected primarily through self-administered web or mail surveys, with non-response follow-up efforts conducted by telephone and in-person interview. However, with declining rates of self-response to this survey, there has been an increase in the use of costly follow-up efforts to obtain responses (Walker, 2015).

In an attempt to learn more about how to reverse this trend, we conducted research to identify messages that effectively educate Americans on the importance and legitimacy of the ACS, and encourage self-response to the survey. The U.S. Census Bureau contracted with the Gallup Organization to collect survey responses on a nightly basis to assess respondents' stated willingness to participate in the ACS after being presented with a series of messages intended to convey the relevance of the survey and motivate self-response. The Gallup survey also captured information on respondents' attitudes toward trust, privacy, and confidentiality as they relate to federal statistics. This research investigated the relationship between respondents' stated willingness to participate in the ACS given the different motivational messages presented, and their attitudes toward trust, privacy, and confidentiality. This helps to identify which motivational messages resonate most with respondents to encourage participation, and whether the preferred motivational message differs by attitudes toward privacy, confidentiality, and trust as they relate to federal statistics and the federal statistical system.

Keywords: American Community Survey, self-response, privacy, trust, confidentiality

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1. Background

The American Community Survey (ACS) is a continuous and mandatory survey of American households conducted by the U.S. Census Bureau, and collects essential information about states, local areas, and communities. Data collected through the ACS are widely-used inside and outside the federal government, and help direct the allocation of more than \$400 billion in federal and state funds across the nation each year (Groves, 2012; Hagedorn & Green, 2014; Nichols, Horwitz, & Tancreto, 2015).

The ACS samples approximately 295,000 households monthly or 3.5 million households each year. The content of the ACS is equivalent to the former Census long-form, and includes questions related to respondents' demographic, social, and economic characteristics. Information collected through the ACS is used to produce statistics that describe the nation at large, as well as

states and local areas. Publicly-disseminated data is produced from the ACS each year for areas with populations of 65,000 or more, and every three and five years for areas with smaller populations (Groves, 2012; Hagedorn & Green, 2014; Nichols et al., 2015).

The ACS is a multi-modal survey, and until January 2013, responses were collected primarily through self-administered mail surveys. Web surveys were added as a response option in January 2013, and now sampled households are first sent an invitation encouraging them to complete the survey online, with instructions explaining how to do so (Nichols et al., 2015). Cases with an identified phone number who do not self-respond are eligible for computer-assisted telephone interviews (CATI). Those without identifiable phone numbers are subsampled for computer-assisted personal interviews (CAPI). Paper questionnaires are mailed only to sample members who do not complete the survey online, though some respondents complete the survey over the phone by calling into the help line prior to receiving the paper questionnaire (Chesnut, 2010; Nichols et al., 2015; U.S. Census Bureau, 2009).

The motive for adding the web response option to the ACS was to maximize rates of self-response, while maintaining data quality and reducing costs (Tancreto, Zelenak, Davis, Ruiter, & Matthews, 2012). Response rates to mail surveys have been declining over time in general (de Leeuw, 2002; National Academy of Sciences, 1995) and this trend has not spared the ACS, despite its mandatory nature (Chesnut, 2010). In 2012, prior to the addition of the web response option, less than 60% of ACS sample members self-responded (Olson, 2013). Further, costs associated with conducting CATI and CAPI interviews in the ACS were increasing, as fewer sample members were responding by mail (Chesnut, 2010).

Even with the addition of the internet response option, rates of ACS self-response have continued to decline. The Census Bureau has researched strategies to prevent further decline and motivate self-response. This includes survey research conducted by Hagedorn et al. (2014) that examined words, tones, and phrases to motivate participation, and also assessed concerns about whether or not the ACS is perceived as too intrusive.

This research found that more than half of respondents (59%) said they did not consider the ACS to be an invasion of privacy, and nearly three-quarters of respondents (71%) believed that their survey responses would be kept confidential. Hagedorn and Green (2014, p. 4) noted that “increasing self response rates from the initial mailings could reduce the number of those follow-up contacts that are costly to the Census Bureau and seen by some in the public as more intrusive – perhaps most especially phone calls and / or personal visits from Census Bureau field representatives.”

The research presented in this paper is an extension of this existing research, and evaluates the effectiveness of a series of messages about the ACS on respondents’ willingness to participate in the ACS. Each of the messages about the ACS that was tested in this research was designed to highlight the importance and legitimacy of the survey and encourage response. We also assessed attitudes about federal statistics and the federal statistical system, as well as the impact of these attitudes on stated willingness to participate in the ACS.

2. Methods

2.1 Data

Data for this research were collected through the Gallup Daily Tracking Survey, an ongoing, daily survey that asks adults in the U.S. questions on topics relating to politics, economics, and well-being. The Census Bureau added questions to the Gallup Daily Tracking Survey designed to assess the effectiveness of messages about the ACS on respondents' stated willingness to participate, as well as questions evaluating their attitudes towards federal statistics.

Each night, Gallup interviewers conduct CATI interviews with respondents ages 18 and older, including cell-phone only users and Spanish speakers, from all 50 states and DC. A random selection method is used to choose a respondent within landline households. The Gallup Daily Tracking Survey uses a dual-frame sample, which includes both random-digit-dial list-assisted landline interviewing and cell phone sampling, and is stratified by region. Survey data is weighted to account for any disproportionalities in selection probabilities, as well as account for nonresponse, and to match targets from the Census Bureau for age, sex, region, gender, education, ethnicity, and race, as well as population density of the respondent's reported geographic area (Childs, King, & Fobia 2015).

Data used in this research were collected between February 16 and March 16, 2014 .The AAPOR response rate 3 ranged from 8 -11 percent for this time period and for the section of the survey on which the questions were included (AAPOR, 2016). The response rate achieved by the Gallup Daily Tracking Survey does not meet Census Bureau quality standards for dissemination and is not intended for use as precise national estimates or distribution as a Census Bureau data product.

The original dataset included 6,825 respondents. Respondents with "Don't Know" and "Refused" responses to any of the relevant questions were removed from the dataset, resulting in a total of 4,310 respondents included in analysis.

2.2 ACS Messages

After being read a paragraph of introductory text about the ACS (see Appendix), respondents were presented with a series of messages about the ACS designed to encourage response (see below).

1. The American Community Survey helps determine the annual distribution of more than \$450 billion dollars in federal funds that go to communities nationwide.
2. The American Community Survey is required by law to be completely non-partisan and non-political. This ensures that the statistics the Census Bureau gathers and produce are both reliable and trustworthy.
3. State and local leaders use data from the American Community Survey to determine where to build new roads, schools, and hospitals.

4. The American Community Survey is often the most reliable source of accurate and timely statistical information essential for decision-making.
5. No other data collection compares to the level of detail collected in the American Community Survey. It is a leading source of local information Americans use to learn about their neighborhoods, communities, cities, and states.
6. The American Community Survey is used to produce key economic indicators. Businesses use the American Community Survey to create jobs, plan for the future, and grow the economy.
7. Even though all households participate in the census every ten years, only a small number of households are selected to participate in the American Community Survey each year.
8. The census has operated continually since Thomas Jefferson, James Madison, and the other Founders established it in 1790. Participating in the American Community Survey is an expression of patriotism and civic duty.
9. There are many ways to respond to the American Community Survey. It can be completed by mail, by phone, online, or in person.
10. All individual information collected as part of the American Community Survey is kept strictly confidential. The answers individual respondents provide cannot be shared with anyone - not even other government agencies.

Each respondent was presented with a random selection of four of the ten statements, in randomized order. Respondents were told, “Now I would like to read you some statements and ask if that statement would make you more or less likely to complete the American Community Survey. For each statement, would you say this statement makes you much more likely to complete the American Community Survey, somewhat more likely, neither more nor less likely, somewhat less likely, or much less likely to complete the American Community Survey?” It is important to note that these questions and this research generally measures respondents’ *stated* willingness to respond to the ACS. Therefore, this research does not measure any actual changes in response rates as a function of these messages. Further, respondents were only provided with a general overview of the survey, and were not made aware of specific details regarding actual participation such as survey length.

2.3 Attitude Questions

The survey included a series of questions about respondents’ attitudes toward federal statistics and the federal statistical system, including trust in federal statistics, whether federal statistical agencies invade or respect people’s privacy, whether people can trust federal statistical agencies to keep their information confidential, and whether policy makers need federal statistics to make good decisions. An index assessing attitudes towards federal statistics and the federal statistical system was created from the four attitude questions in the survey. The questions included in the index, and their coding, is included in Table 1.

Table 1: Questions Included in Index of Attitudes Towards Federal Statistics, and Coding

<i>Question</i>	<i>Response Options (Index Coding)</i>
Personally, how much trust do you have in the federal statistics in the United States? Would you say that you tend to trust federal statistics or tend not to trust them?	Tend to trust (+1) Tend not to trust (-1)
Would you say that federal statistical agencies often invade people’s privacy, or generally respect people’s privacy?	Respect privacy (+1) Invade privacy (-1)
Policy makers need federal statistics to make good decisions about things like federal funding.	Strongly / Somewhat agree (+1) Neither Agree no Disagree (0) Strongly / Somewhat disagree (-1)
People can trust federal statistical agencies to keep information about them confidential.	Strongly / Somewhat agree (+1) Neither Agree no Disagree (0) Strongly / Somewhat disagree (-1)

Responses to questions in the attitude index were coded and then summed for each respondent, so that scores ranged from -4 to +4. Respondents with a positive score (+1 to +4) were considered to have more positive attitudes towards federal statistics and the federal statistical system; respondents with a negative score (-1 to -4) were considered to have more negative attitudes towards federal statistics, and respondents with a score of zero were considered to have a neutral attitude towards federal statistics. Table 2 presents the distribution of respondents with positive, neutral, and negative attitudes.

Table 2: Index Scoring and Distribution of Respondents Among Attitude Scores

<i>Attitude</i>	<i>Index Scores</i>	<i>% of Respondents</i>
Positive	+1 to +4	51%
Neutral	0	14%
Negative	-1 to -4	35%

Descriptive statistics were produced for the questions assessing attitudes towards federal statistics and respondents’ reactions to each of the ACS messages. We assessed differences in respondents’ stated willingness to respond to the ACS by attitudes towards federal statistics (positive, negative, or neutral) using chi-square analyses, and used Waller-Duncan *k*-ratio *t*-tests to examine within-message differences by attitudes toward federal statistics (Duncan, 1955).

3. Results

3.1 Attitudes Towards Federal Statistics and Federal Statistical System

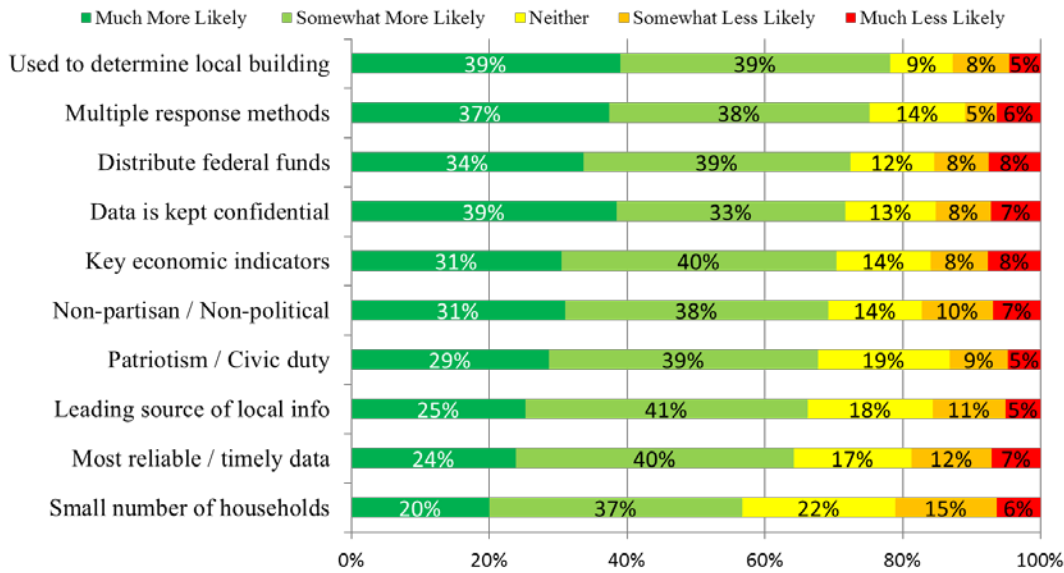
We first evaluated responses to the series of questions evaluating attitudes towards and beliefs regarding the federal statistical system. Respondents are nearly evenly split in terms of whether or not they reported that they tend to trust federal statistics (49% tend to trust, and 51% tend not to trust), and whether they reported that they believe that federal statistical agencies invade or respect people’s privacy (53% respect privacy, 47% invade privacy). However, the majority of respondents reported feeling that policy makers need federal statistics to make good decisions

(72% say they “Strongly Agree” or “Somewhat Agree”), and half say that people can trust federal statistical agencies to keep their information confidential (50% say they “Strongly Agree” or “Somewhat Agree”).

3.2 ACS Messages

We next evaluated respondents’ reactions to the ten messages about the ACS designed to encourage self-response to the ACS. The distribution of responses is presented in Figure 1.

Figure 1: Response Distribution to ACS Messages^{1, 2}



Reactions to these messages were generally positive, with more than half of respondents saying they would be “Much more likely to complete the American Community Survey” or “Somewhat more likely to complete the American Community Survey” for all of the messages tested. For two messages in particular, more than three-quarters of respondents said that they would be much more or somewhat more likely to complete the survey. The full text of these two messages is as follows:

“State and local leaders use data from the American Community Survey to determine where to build new roads, schools, and hospitals.” (78% said “Much more likely to complete the American Community Survey” or “Somewhat more likely to complete the American Community Survey”)

“There are many ways to respond to the American Community Survey. It can be completed by mail, by phone, online, or in person.” (75% said “Much more likely to complete the American Community Survey” or “Somewhat more likely to complete the American Community Survey”)

¹ Message text in Figure 1 is abbreviated.

² Sample sizes per item range from 1685 to 1790.

The final message listed in Figure 1 appeared to be least effective in encouraging stated self-response to the ACS. For this message, the smallest portion of respondents said it would make them more likely to complete the ACS, and the largest portion of respondents said it would make them less likely to complete it. The full text of this message is as follows:

“Even though all households participate in the census every ten years, only a small number of households are selected to participate in the American Community Survey each year.” (57% said “Much more likely to complete the American Community Survey” or “Somewhat more likely to complete the American Community Survey”)

Next, we examined responses to these same items by respondents’ attitudes, that is, whether their stated willingness to complete the survey varies by whether they have positive, neutral, or negative attitudes towards federal statistics. Table 3 shows the percent of all respondents, as well as respondents in each attitude category who said that each message made them “Much more likely to complete the American Community Survey” or “Somewhat more likely to complete the American Community Survey”. Chi-square analyses by item indicate that the relationship between attitudes and the stated impact of ACS messages is significant for all ten messages ($p < 0.001$). Further, differences across attitude groups emerged, as denoted by the letter notation in Table 3.

Table 3: Percentage of Respondents Who Said “Much more likely to complete the American Community Survey” or “Somewhat more likely to complete the American Community Survey” for Each Message³ (Among All Respondents, and by Attitude)

	% Who said “Much more likely” or “Somewhat more likely”			
	All Respondents	Positive Attitudes (A) ⁴	Neutral Attitudes (B)	Negative Attitudes(C)
Used to determine local building	78%	90% ^{B, C}	78% ^C	61%
Multiple response methods	75%	86% ^{B, C}	75% ^C	61%
Distribute federal funds	72%	86% ^{B, C}	69% ^C	55%
Data is kept confidential.	72%	84% ^{B, C}	68% ^C	56%
Key economic indicators	70%	83% ^{B, C}	74% ^C	50%
Non-partisan / Non-political	69%	84% ^{B, C}	70% ^C	54%
Patriotism / Civic Duty	68%	76% ^C	70% ^C	54%
Leading source of local info	65%	78% ^{B, C}	66% ^C	57%
Most reliable / timely data	64%	80% ^{B, C}	58% ^C	45%
Small number of households	57%	68% ^{B, C}	49%	45%

As illustrated in Table 3, a greater portion of respondents with positive attitudes towards federal statistics say each of the ten messages makes them more likely to complete the ACS as compared to respondents with negative attitudes. For respondents with neutral attitudes towards federal

³ Message text in Table 3 is abbreviated.

⁴ Letters denote significance ($p < 0.05$) across attitude groups.

statistics, stated willingness to complete the ACS is greater than those with negative attitudes, but not as great as those with positive attitudes.

The stated appeal of most of the messages differed by respondents' attitudes towards federal statistics. For two messages in particular, the difference in stated willingness to respond varied considerably between respondents with positive attitudes towards federal statistics and negative attitudes towards federal statistics. The message "*The American Community Survey is required by law to be completely non-partisan and non-political. This ensures that the statistics the Census Bureau gathers and produce are both reliable and trustworthy*" appealed to 84% of those with positive attitudes, vs. 48% of those with negative attitudes, and the message "*The American Community Survey is often the most reliable source of accurate and timely statistical information essential for decision-making*" appealed to 80% of those with positive attitudes, vs. 45% of those with negative attitudes.

4. Conclusions and Limitations

In this research, respondents generally had positive reactions to the ten tested messages designed to encourage ACS self response, with more than half of respondents saying that all messages would make them "Much more likely to complete the American Community Survey" or "Somewhat more likely to complete the American Community Survey". Further, the stated willingness to complete the ACS was greater for respondents with more positive attitudes towards federal statistics, as assessed through the attitude index, as compared to respondents with more negative attitudes towards federal statistics. The two messages that worked best among all respondents also worked best among respondents in each of the attitude subgroups:

State and local leaders use data from the American Community Survey to determine where to build new roads, schools, and hospitals.

There are many ways to respond to the American Community Survey. It can be completed by mail, by phone, online, or in person.

However, the generalizability of this research is limited as it measures respondents' stated willingness to respond to the ACS as a function of these messages, and does not measure actual changes in response rates.

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Appendix

ACS Introductory Text

The American Community Survey is conducted by the U.S. Census Bureau. Each year, roughly three percent of all U.S. households are selected at random to participate. The survey asks questions about you and the people in your household. For example, it asks about topics such as your commute time, income, and the age of children. Now I would like to read you some statements and ask if that statement would make you more or less likely to complete the American Community Survey. For each statement, would you say this statement makes you much more likely to complete the American Community Survey, somewhat more likely, neither more nor less likely, somewhat less likely, or much less likely to complete the American Community Survey?