

# **Do Introductory Sentences Cause Acquiescence Response Bias in Survey Questions?**

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August 2011

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### Abstract

When asking about a topic with which many respondents may not be well-informed, survey questions have sometimes introduced the topic with an introductory sentence stating the issue in question, followed by an interrogatory sentence seeking the respondent's opinion of the issue. The introductory sentence resembles statements offered in agree/disagree and true/false questions and might therefore induce acquiescence response bias, encouraging respondents to endorse the validity of the introductory statement when answering the question. This paper describes a test of this hypothesis conducted via a split ballot experiment implemented in one national RDD telephone survey and three statewide RDD surveys. The results of the experiment disconfirm the acquiescence hypothesis and suggest that beginning a question with a statement of the issue does not bias respondents toward favorable answers when the interrogatory sentence asks a balanced question offering construct-specific response options. Thus, introductory sentences offer respondents the opportunity to understand an idea before being asked to evaluate it, and doing so does not seem to induce endorsement of the view expressed in the introductory sentence.

## **Do Introductory Sentences Cause Acquiescence Response Bias in Survey Questions?**

### **Introduction**

Many academic studies have explored acquiescence response bias and have documented it in answers to three types of survey questions: agree/disagree questions, true/false questions, and yes/no questions (for reviews of this literature, see Krosnick & Presser, 2010; Saris, Revilla, Krosnick, & Shaeffer, 2010). Some past acquiescence studies have focused on questions that offer an assertion and ask respondents whether they agree or disagree with it, such as: “Please tell me whether you agree or disagree with the following statement: The world's temperature has been going up slowly over the past 100 years.” Other studies examined a different format, involving true/false answer choices: “Please tell me whether you believe the following statement is true or false: The world's temperature has been going up slowly over the past 100 years.” Other acquiescence studies have focused on questions with implicit yes/no answer choices, as in: “Do you believe that the world’s temperature has been going up slowly over the past 100 years?” Past studies suggest that these formats encourage respondents to offer affirmative answers, and some respondents (typically between 10% and 20%) are responsive to this encouragement and provide affirmative answers no matter what the offered statement says (see Krosnick & Presser, 2010).

One of many demonstrations of acquiescence was reported by Schuman and Presser (1981). In one of their studies, some survey respondents were randomly chosen to be asked this question: “Do you agree or disagree with this statement: ‘Most men are better suited emotionally for politics than are most women.’” Other respondents in the same survey were asked instead

this version of the question: “Would you say that most men are better suited emotionally for politics than are most women, that men and women are equally suited, or that women are better suited than men in this area?” This version is thought to avoid acquiescence because the response options explicitly state all possible viewpoints, rather than using generic response options such as “agree” or “disagree” and spotlighting only one viewpoint in an assertion offered by the researcher.

When this experiment was run in 1974, 47% of respondents agreed with the statement offered by the first version, whereas only 33% said that men were better suited in response to the second question. Thus, 14% of respondents manifested acquiescence bias. Researchers generally have more confidence in the 33% result, because the question wording that generated it does not push respondents toward expressing any one of the views that they might have on the issue.

Three theoretical explanations have been offered to account for acquiescence response bias, and all have received some empirical support (see Krosnick & Presser, 2010). A long-standing explanation in psychology asserts that some people have acquiescent personalities, importantly due to the nature of their upbringing experiences as children. For these people, disagreeing with another person about anything is unpleasant, so they prefer to agree whenever possible. A second explanation, from sociology, asserts that in some interviewing situations, a respondent might perceive a interviewer (or researcher) to know more about the topic being addressed in a question than he or she does, and perceive the question to propose the opinion of the interviewer or researcher, so these respondents agree as a way of deferring to a person whom they believe is more expert than they themselves are. The third explanation is survey satisficing: respondents who do not exert the mental effort to fully evaluate the plausibility of response

options or who have limited cognitive skills may manifest a confirmatory bias when evaluating the plausibility of an affirmative response and may not carry out the evaluation of a negative response, thus inclining these people toward affirmative responses.

Pressure toward an affirmative answer with agree/disagree, true/false, or yes/no questions is thought to be removed by stating all possible substantive points of view explicitly in the question. For example, respondents could be asked: “Do you believe that the world’s temperature probably has been going up slowly over the past 100 years, or do you believe that this probably has not been happening?” That way, the researcher states both points of view and allows respondents to consider both alternatives without directing attention to one more than the other.

Sometimes, however, doing so yields a very long question. Consider, for example: “Do you approve or disapprove of the bill that Congress passed and President Obama signed into law that raises the federal government's debt ceiling through the year 2013 and makes major cuts in government spending over the next few years?” An alternative approach would be to begin with an introductory statement expressing the core issue of interest, as in: “As you may know, Congress passed and President Obama signed into law a bill that raises the federal government's debt ceiling through the year 2013 and makes major cuts in government spending over the next few years. Based on what you have read or heard, do you approve or disapprove of that bill?” (CNN/ORC Poll, August 5-7, 2011). In that example, the introductory statement expresses a fact which is also the conceptual object to be evaluated by the respondent.

Questions including introductory statements of this sort have been included in many past national surveys, such as:

“As you may know, a health reform bill was signed into law early last year. Given what

you know about the health reform law, do you have a generally favorable or generally unfavorable opinion of it?” (Kaiser Family Foundation Health Tracking Poll. July 13-18, 2011).

“Republicans in the House of Representatives approved a budget plan that would change Medicare, the government health insurance program for the elderly. These changes would affect Americans currently under age 55. From what you've heard about it, do you support or oppose this new plan for Medicare?” (ABC News/Washington Post Poll. June 2-5, 2011).

An introductory statement can also express a belief, such as, “You may have heard the idea that being on welfare spoils poor people by giving them free money, thereby reducing their incentive to work and encouraging them to drop out of the labor force permanently. What’s your personal opinion about this? Do you think welfare does this to most of the people who are on it, does it to some of the people who are on it, or doesn’t do it to any of the people who are on it?” And again, this wording seems likely to be less cognitively challenging them a version of the question combining it all into a single sentence, such as: “Do you think that being on welfare spoils most poor people who are on it by giving them free money, thereby reducing their incentive to work and encouraging them to drop out of the labor force permanently, or do you think welfare does that to some people who are on it, or do you think it doesn’t do that to any people who are on welfare?”

Note that in this example, the introductory statement is not an assertion of fact—by using the verb phrase “may have been”, the idea to be evaluated is expressed as a possibility. And the final sentence explicitly states both viewpoints explicitly. Consequently, acquiescence response

bias may not be induced by this question wording. In this paper, we describe a series of studies that were conducted to determine whether this is in fact the case.

### **A New Test**

To explore this possibility, we conducted new experiments embedded in four different surveys: an omnibus random digit dialing (RDD) telephone survey conducted by GfK Custom Research North America (1,004 American adults were interviewed by telephone between June 18 and 20, 2010), and three RDD telephone surveys that Abt SRBI conducted in Florida, Maine, and Massachusetts (N = 600 each) between July 9 and 18, 2010. The data were stacked to produce a single set of results with maximum statistical power, though the same results are supported when examining each survey separately.

The national data were collected via OMNITEL, a weekly national CATI survey of about 1,000 American adults in English. Each OMNITEL study is based on an RDD probability sample of all households with landline telephones in the continental United States. All sample numbers selected by this procedure are subject to an original and at least four follow-up attempts to complete an interview. AAPOR Response Rate 3 (RR3) for this survey was 5%. Weights were generated by GfK Roper to match population estimates of age, sex, education, race and geographic region.

In each state survey, 400 respondents were interviewed on a landline telephone, and 200 were interviewed on a cell phone in English or Spanish. Samples were drawn from landline and cell phone RDD frames. Persons with residential landlines were not screened out of the cell phone sample. A maximum of seven call attempts were made to numbers in the landline and cell phone samples. Refusal conversion was attempted on soft refusal cases in the landline sample.

Calls were staggered over times of day and days of the week to maximize the chance of

making contact with potential respondents. The sample was released for interviewing in replicates, which are representative subsamples of the larger sample. Using replicates to control the release of sample ensures that complete call procedures are followed for the entire sample. For the landline sample, the respondent was randomly selected from all of the adults in the household. For the cell sample, interviews were conducted with the person who answered the phone. Interviewers verified that the person was an adult and in a safe place before administering the survey. Cell sample respondents were offered a post-paid reimbursement of \$5 for their participation.

The AAPOR Response Rate 3 for the landline samples was 15% in the three states combined, and 14%, 14% and 19% for Florida, Massachusetts, and Maine, respectively. AAPOR Response Rate 3 for the cell phone samples was 10% in the three states combined, and 10%, 9% and 12% for Florida, Massachusetts, and Maine, respectively. Weights for each state were computed following procedures outlined by DeBell and Krosnick (2009) and using Anesrake (Pasek, 2010). The weights were designed to combine interviews done on landlines and cell phones, taking into account the national rates of landline and cell phone usage from the National Health Interview Survey. The sample in each state was weighted to account for unequal probability of selection within household among those respondents called on a landline telephone, and post-stratification was done to match state demographic benchmarks from the 2006-2008 American Community Survey: gender, age, education, race, and Hispanic ethnicity. Weights larger than 5 were changed to 5.

Variance estimation for significance testing was computed using a Taylor series linearization, taking into account clustering by interviewer.



About half of these respondents were randomly assigned to be asked the target question in the introductory sentence form (N = 1,433):

“You may have heard about the idea that the world's temperature may have been going up slowly over the past 100 years. What is your personal opinion on this - do you think this has probably been happening, or do you think it probably hasn't been happening?”

The other half of the respondents were instead asked the simple and direct question without the initial statement (N = 1,367):

“What is your personal opinion? Do you think that the world's temperature probably has been going up slowly over the past 100 years, or do you think this probably has not been happening?”

## **Results**

Of the respondents asked the question with the introductory sentence, 77.58% said they thought worldwide warming probably had been happening. And of the respondents who were asked the simple and direct question, 75.11% said they thought worldwide warming probably had been happening. This 75.11% is not significantly different from the 77.58% of respondents who gave the same answer in response to the question with the introductory sentence (Rao-Scott second-order adjusted chi-square, clustering by interviewers,  $F(1, 349) = 1.34; p = .25$ ). This result suggests that the question with the introductory sentence is not contaminated by acquiescence response bias and that it does not exaggerate the proportion of people who express this viewpoint.

To do a more targeted test of whether the opening sentence biased answers to the question including it, responses to it can be compared with responses to the simple and direct question among the respondents whom past research suggests are most likely to manifest this

bias: those who have relatively little formal education (see Krosnick & Presser, 2010). And here again, we could not reject the null hypothesis of no difference in the patterns of responses to the two questions.

Among respondents who had not received any education after high school, the percent who said that world-wide warming had been happening was 75.96% in response to the question including the introductory sentence ( $N = 599$ ) and 75.16% in response to the simple, direct question ( $N = 610$ ), not a significant difference (Rao-Scott second-order adjusted chi-square, clustering by interviewers,  $F(1, 278) = 0.06; p = .81$ ).

Among respondents who received additional formal education after graduating from high school, 79.21% of the respondents who received the question with the introductory sentence ( $N = 802$ ) thought that GW had been happening, as compared to a 75.57% among those who received the simpler wording ( $N = 723$ ), a non-significant difference (Rao-Scott second-order adjusted chi-square, clustering by interviewers,  $F(1, 327) = 1.93; p = .17$ ). This reinforces confidence in the conclusion that the question with the introductory sentence was not biased by acquiescence.

## **Conclusion**

Introductory sentences have been used regularly in past survey questions. They are appealing because they allow researchers to state a complex idea, allow respondents to digest the idea, and then ask respondents to evaluate the idea in some particular way. But beginning a question by stating an idea is reminiscent of questions in the agree/disagree and true/false forms and thereby raises the specter of acquiescence response bias.

In the experiment described here, the available data do not offer support for this concern. This may be attributable to the fact that the introductory statement version of the question did not

begin with a factual assertion and instead stated an idea that “may” be true, and that the last sentence of the question explicitly stated both points of view on the issue in a balanced way. Therefore, when introductory statements make an assertion of fact (e.g., what a particular piece of legislation does) or a controversial idea stated as a possibility (e.g., that the world’s temperature may have been rising), the introductory statement format appears to be useful for optimal survey measurement.

We look forward to future research on this topic.

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