

## Follow-up on Report SPAS-001

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We received a lot of mail in response to [our first report](#) of the Skeptic Research Center. We are glad that you have found this work interesting and thank you for engaging with us via email. This enables us to comment a little more on this project. Paraphrasing, some of your comments are asking, in essence:

*I just saw a poll(s) in the New York Times, Washington Post, on CNN etc., that shows different results from what you found. Who should I believe?*

The actual beliefs and behaviors of people in a country as large as the United States are hard to know with any exactitude. All researchers (and the public!) can hope to do is triangulate their best attempts to understand what's going on—collect data from around the country, ideally from representative random samples, and report findings. The reality of what people believe and how they behave will emerge from this aggregate inquiry.

When we say science is a collective enterprise, we mean it: researchers, journalists and members of the public will need to look at the preponderance of results in order to make a reasonable inference as to what the truth is. No single study and no small group of studies is sufficient for drawing a fully accurate picture of reality. Science is cumulative and tentative, pending the best available data and evidence. This pursuit of truth is never ending; no one poll is likely to adequately capture the reality which confronts us.

So, look at our results and look at the results of other researchers. The truth is what begins to slowly emerge as consensus as a convergence of evidence to one conclusion over others. Prioritize studies drawn from representative, random samples, and pay attention to differences between people calculated to be statistically significant.

Finally, don't take the prestige of an outlet as a necessary sign of its quality. For example, many well-known newspapers and networks sample only their viewers (CNN and Fox do this regularly), or only registered voters in their state (as the *New York Times* sometimes does) or only undergraduates at universities. Take the extra step to find out where samples were drawn from, and whether differences in responses were statistically significant.

*These results don't seem to fit my intuitions or what I recently read in another article. Why is that?*

Take in as much information as possible, from as many researchers and outlets as possible. Whose samples are most representative of the population? Which opinion editorials are most

engaged with data and evidence? Is the data and evidence discussed in the opinion editorial described accurately by the journalist? We always recommend looking up the original study to decide for yourself because misinterpretation is common and no one knows the research better than the researchers themselves.

The approach to data and evidence will be most fruitful when: (1) scrutinizing the sample characteristics of surveys, (2) looking at multiple different sources of information and evidence, (3) checking out the actual studies bantered about in opinion editorials, (4) reflecting on what new questions might be worth asking, and (5) keeping your mind open to revising what you thought was true.

*Your sample size is small. Shouldn't you have sampled more people?*

There are around 209 million adults (age 18 or over) in the United States. No survey can adequately glean responses from all of these people because of the sheer expense and time it would take. Even the US Census, which seeks to tally every American, inevitably falls short of this standard.

To address this problem researchers seek smaller, more manageable, samples of people. To ensure these samples are adequate for making larger inferences, researchers seek samples of the population that are representative (that is, proportionally reflective of the population in terms of characteristics such as gender, race, age, socioeconomic class, and other relevant demographic variables). Researchers also make sure to collect enough responses to be able to test for statistical significance (that is, enough responses to be able to conclude that differences between people were not likely random, but reflective of more stable tendencies).

Is a representative sample of 10,000 people better than a representative sample of 500? Yes. However, any systematic differences in peoples' attitudes, insofar as they really do exist in a population of people, will be discernible in both samples. The larger the sample, the easier it will be to pick up very small differences, but samples needn't be particularly large (so long as they are sufficiently large, and sufficiently representative) to identify trends.

One reason that polling research is not all that common is that obtaining truly representative samples is expensive. The more [funding we receive from readers like you](#), for example, the larger the sample sizes that we'll be able to fund. Nevertheless, with our current samples, we are seeking representativeness and testing for statistical significance: our core belief is that the more information given to the public, the better.

*Does the wording of survey questions like yours bias the results?*

There are many different ways to ask the same question. Researchers are constantly seeking to validate, re-validate, shorten or lengthen the particular questions they use in surveys. While we strive to ask the public about relevant issues as clearly as possible, you should never rely only on one survey or result to form your opinion. Look at what our results showed, where our sample was drawn, and how we asked our questions. Then, look at some other results, samples, and questions reported by other researchers in other outlets. What consensus seems to be emerging? Which question phrasing seems to best capture differences of public opinion?

If you have suggestions for new questions, or for question re-wordings in future reports, just [drop us a line](#).

*Where can I find more details about your sample or statistical analysis?*

We provide all of our sample and statistical information in the *Supplemental Materials* (PDFs), downloadable for each report in the [Skeptic Research Center](#). If you still have questions, [send us an email](#).