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### **High Response Rates Don't Ensure Survey Accuracy**

*By David Radwin*

Though it may not grab headlines like Twitter or Facebook, the use of surveys is one of the fastest-growing and most pervasive trends on campuses, and it's no wonder. With rising demands for systematic evidence and rapidly shrinking costs to gather such data, colleges and universities are increasingly surveying students, employees, and alumni to measure all kinds of things—from engagement to satisfaction to the carbon footprint made in commuting to campus.

In just the last decade, for instance, the National Survey of Student Engagement has reached over 1,300 institutions in the United States and Canada, and provisions calling for surveys of undergraduates and alumni in last year's Higher Education Opportunity Act will undoubtedly increase the pressure to survey. With all those surveys under way, higher-education officials are understandably worried about whether, when, and how much they can trust the results. Unfortunately, all too often they interpret a survey's response rate as a comprehensive indicator of its accuracy, and their reliance on that weak and unreliable benchmark not only misleads but also distracts from other, more pernicious forms of bias.

The concern most commonly voiced is that if certain groups participate in surveys at higher rates than others, the differences in response rates among groups will skew the results. If, for example, disaffected and disengaged students are less likely to participate, the survey would overestimate the true level of satisfaction and engagement in the student population. Moreover, the nonresponse bias—the magnitude of the overestimate—would increase, or get worse, in direct proportion to disgruntled students' lower propensity to respond.

Logically, a perfect 100-percent response rate would eliminate nonresponse bias, but since universal participation is rarely if ever attainable in practice, many colleges and universities focus instead on maximizing response rates. Or they may strive to reach an acceptable threshold, although the lack of consensus on what

constitutes a "good" response rate has various authorities citing figures anywhere from 10 percent to more than 90 percent. Institutions devote considerable resources to increasing participation in surveys, including repeatedly contacting nonrespondents, offering material incentives, and conducting extensive marketing campaigns. While those efforts are well intentioned, they probably do little to reduce nonresponse bias. Emerging research shows that despite all the hand-wringing about survey nonresponse, the actual effect of response rate on survey accuracy is generally small and inconsistent, and in any case it is less consequential than many other serious but often ignored sources of bias. Ironically, by drawing time and attention away from the prevention and correction of those other forms of bias, efforts to minimize nonresponse bias may actually decrease the accuracy of higher-education surveys.

The sharpest evidence against raising response rates comes from political surveys because the key survey outcomes—the respondents' choices of candidates—can be directly compared with the outcomes for the whole voting population. When, in 1996, researchers in Ohio analyzed 15 years' worth of state political polls, the results turned the conventional wisdom on its head. The estimates from a mail survey with an average 20-percent response rate were much closer on average to the actual election results (mean discrepancy of 1.6 percent) than were the estimates from a telephone survey with a 60-percent average response rate (mean discrepancy of 5.2 percent). In other words, the survey with the lower response rate was much more accurate than the survey with the higher response rate.

Other studies make clear that even when the survey mode is held constant, increasing the response rate does not necessarily lead to more-accurate measures. A 1997 experiment compared two identical telephone surveys differing only in their efforts to recruit participants. The first achieved a response rate of 36 percent, but the second made special efforts (more attempts to contact individuals over a longer period of time, token cash payments, and so forth) to boost response rate to 61 percent. Despite the large difference in response rates, the results were nearly identical. The mean difference, about two percentage points, was smaller than either survey's sampling margin of error, and no difference was greater than nine percentage points. A 2003 replication yielded similar results.

Additionally, statistical corrections to adjust for nonresponse have

little overall effect on the substantive results of surveys. A 2006 meta-analysis of 30 journal articles concluded that "higher response rates do not necessarily reduce nonresponse bias," and a 2008 follow-up study added that "the nonresponse rate of a survey, by itself, is a poor predictor of the absolute relative nonresponse bias." All in all, the evidence demonstrates convincingly that response rate, within reasonable bounds, has at most a modest effect on survey accuracy.

If it is good news that a high response rate is not necessary for a survey to produce unbiased results, the bad news is that it is not sufficient, either. There are many other invidious sources of bias in surveys, and there is no response rate—not even 100 percent—that is adequate to prevent them. Decades of research in survey methods have uncovered enough of these biases to fill many a bookshelf, but this brief selection offers some telling examples.

**Vague terms.** A 2002 *Time* magazine survey of 10,000 Americans found that an incredible 60 percent of self-described vegetarians also admitted to having eaten red meat, poultry, or seafood in the last 24 hours, and 37 percent had eaten red meat specifically. Likewise, a 2007 Pew Research Center survey found that 21 percent of self-described atheists professed to believe in God or a universal spirit, with 6 percent of them believing in a personal god specifically.

**Ambiguously constructed questions.** A 1993 Roper Poll found that 22 percent of Americans apparently believed that the Holocaust might not have occurred and that an additional 12 percent were unsure. But that sensational result turned out to be caused by an awkward double-negative construction: "Does it seem possible or does it seem impossible to you that the Nazi extermination of the Jews never happened?" When follow-up studies offered more clearly phrased choices, the percentage of Holocaust deniers dropped to 1 to 3 percent.

**Dissembling to follow social norms.** Respondents may change their answers to conform to socially desirable standards. The proportion of Americans who say they voted in a given election invariably exceeds the turnout calculated by dividing the number of votes cast in that election by the population of eligible voters. Conversely, survey-based estimates of the prevalence of abortion are appreciably lower than estimates based on hospital and clinical records.

**Meaningless agreement.** People tend to agree with survey items

regardless of their content, as in the experiment in which 60 percent of one group agreed that "Individuals are more to blame than social conditions for crime and lawlessness in this country" and 57 percent of the control group agreed that "Social conditions are more to blame than individuals for crime and lawlessness in this country." Simply changing the order of the alternatives caused a near-perfect reversal of opinion.

**Question-order effects.** Responses can also be influenced by earlier items on a survey. In a couple of illustrative examples, subjects reported less interest in politics when the question followed a few challenging questions about their congressman's voting record, and they gave appreciably higher ratings to their city governments if they were first asked about 12 specific city services.

Biases like those, which typically dwarf any bias from nonresponse, are endemic to surveys, making it risky to accept any survey result uncritically, no matter what the response rate. From that perspective, nonresponse bias is but one small component of survey accuracy.

Fortunately, college and university officials can mitigate these issues, first and foremost by familiarizing themselves with the complexity and the limits of surveys as sources of information. Those directly involved in conducting surveys should follow best practices for survey research, including reviewing the relevant research, testing surveys to the extent feasible, employing established techniques for minimizing measurement error, and using data from other sources to corroborate survey results whenever possible.

Carrying out those recommendations requires significant investments of time and money, but they might be partly offset by resources that would otherwise have been used to boost response rates. And by shifting their focus to creating better surveys, college and university officials can worry a bit less about those response rates.

*David Radwin is principal analyst in the Office of Student Research and Campus Surveys at the University of California at Berkeley.*

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David Radwin

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