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Assessing the Accuracy of Survey Research

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Although research on the accuracy of surveys is important, it has not received the attention it deserves. Many articles and books have focused on survey errors resulting from issues relating to coverage, sampling, non-response, and measurement, but very little work has comprehensively evaluated survey accuracy.

Research on survey accuracy may be scarce because it requires having an external measure of the "true" values of a variable in order to be able to judge how well that value is measured by a survey question. For example, in the area of voting behavior, self-reports of turnout are often collected in surveys and compared with the official turnout statistics provided by the Federal Election Commission (FEC) after an election. When these sources yielded different rates, the errors have usually been assumed to be in the self-reports; the FEC numbers are assumed to document the truth.

Studies that have assessed survey accuracy have not yet been integrated into a single comprehensive review. Chang et al. (working paper) conducted such a review, the results of which constitute the first-ever meta-analysis of survey accuracy. The authors identified four principal methods for assessing the accuracy of survey results and collected published studies using each method. These studies assessed accuracy in a wide range of domains,

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including behaviors in the arenas of healthcare utilization, crime, voting, media use, and smoking, and measures of respondent characteristics such as demographics, height, and weight.

First, the authors identified 555 studies that matched each respondent's self-report data with objective individual records of the same phenomena, resulting in a dataset of over 520,000 individual matches. This method of verification indicated that for more than 85 percent of the measurements, there was perfect agreement between the survey data and the objective records or measures. Second, the investigators found 399 studies that matched one-time aggregate survey percentages and means with available benchmarks from non-survey data. These studies involved different units of measurement, such as percentages, means in centimeters, kilograms, days, hours, drinks, etc. This assessment method indicated that survey measures matched benchmarks exactly in 8 percent of the instances, 38 percent manifested almost perfect matches (less than one-unit difference), and 73 percent manifested very close matches (less than five-unit difference). Third, the authors found 168 instances in which studies correlated individuals' self-reports in surveys with secondary objective data. The results from this method indicated generally strong associations between the self-reports and the secondary data. Specific results and estimates are shown in the PowerPoint materials. The authors identified six studies that correlated trends over time in self-reports and with trends in objective benchmarks. This approach documented very strong associations between the self-report survey data and trends in the objective benchmarks. Thus, in this meta-analysis, Chang and her colleagues examined over 1000 published comparisons gauging the validated accuracy of survey data, and the vast majority of survey measurements of objective phenomena were found to be extremely accurate.

When differences do occur between survey estimates and objective benchmarks, it is important to consider exactly how these differences may have arisen, rather than immediately discounting the survey data. For example, researchers tend to assume that surveys overestimate voter turnout because of respondent lying. That is, respondents are thought to believe that voting is socially desirable, and so people who didn't vote may claim to have voted in order to look presentable. However, the accumulating literature suggests instead that individual survey reports may be remarkably accurate, and the problem may be that people who participate in elections also over-participate in surveys. If so, the disagreement between aggregate rates of turnout according to surveys vs. government statistics may not be due to inaccurate respondent reporting.

These findings should give survey producers, consumers, and funding agencies considerable optimism about the continued accuracy of surveys as a method of collecting data. The findings also indicate that survey research deserves its role as one of the most used and trusted methods for data collection in the social sciences.

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