How accurate are survey data?

Confidence in the data considers both confidence levels (the percentage of times you would get the same results) and confidence intervals (the range of accuracy of the estimate). Setting a confidence level at 95% means that if you repeated the survey 100 times, the survey estimate would be the same 95 times out of 100. This is the level chosen for the calculations and chart below. The confidence interval describes the accuracy of the estimate, with a plus or minus value around the percentage score. A confidence interval of +/- 5% for an agreement rating of 75% would provide an agreement estimate range of 70% to 80%. Putting it all together, we could be confident that if we asked students 100 times, 95 of those 100 times the percentage agreement score would be between 70% and 80%.

Confidence intervals in survey data depend upon the following three measurements:

1. Population size
2. Sample size (can be measured as a response rate)
3. Proportion estimate (proportion of the population expected to have the attribute being estimated in the survey; for example, the percentage agreement on a survey question)

Larger populations can produce confident survey estimates with smaller response rates, whereas smaller populations will require higher response rates to achieve the same levels of confidence. If respondents rate questions more consistently, the proportion estimate is higher, and a lower response rate will achieve similar levels of confidence.

The chart below depicts differing levels of confidence (+/-5% to +/-15%), based on a conservative proportion estimate of 50 per cent and a confidence level of 95 per cent.

For example: The 2011 ANU Higher Degree Research Exit Survey had a population of 344 and a response rate of 53%. Using the conservative 50% proportion estimate, the confidence interval is +/-5% for satisfaction with research supervision. With an 80% proportion estimate, the confidence interval improves to +/-4%.

This methodology can be applied to any random sample survey data.

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