Encyclopedia of Survey Research Methods

Response Rates

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A response rate is a mathematical formula that is calculated by survey researchers and is used as a tool to understand the degree of success in obtaining completed interviews from a sample. In probability samples, where the intent of a survey is to project the results of the data onto a population (e.g. all adults in the United States), statistical theory rests on an assumption that data are collected from every unit, or person, selected. In practice, it is extremely rare for any survey to achieve this perfect level of cooperation from respondents. In turn, survey researchers may consider, examine, and when necessary, compensate for potential problems that this deficiency presents.

Response rates, sometime termed *outcome rates*, have traditionally been a topic of great interest because they describe the amount of nonresponse in a given survey. In doing so, they provide an indicator that can be used to better understand threats to the validity of survey data. Response rates inform researchers of the proportion of their sample that did not respond and also may lend insight into the reasons selected persons (or units) did not respond.

Background

Although nonresponse has been studied since the 1940s, serious efforts to standardize the measurement of nonresponse have arisen only within the last quarter of the 20th century. Furthermore, the common use of standardized response rate measurements has not yet been fully realized throughout the survey research profession.

Traditionally, there has been a great deal of overlap and inconsistency in both the definitions and formulas used to understand the concept of response rates. These discrepancies present a difficulty to the survey research profession because they often confuse consumers of survey information. Using consistent outcome rates is important because it allows the level of nonresponse to be compared more easily between different surveys. This provides researchers and clients or other end-users with a meaningful target when planning the design of research. Equally as important, standard outcome rates offer an important benchmark for understanding how well surveys performed.

For example, a lack of consistency prohibits the accurate comparison of nonresponse between two unique surveys, obscures agreement in target levels of nonresponse in research proposals, and hampers methodological research exploring nonresponse error.

In response to the historical differences among response rate calculations, the survey research profession has gradually worked toward a uniformly accepted set of formulas and definitions for nonresponse. These efforts are now spearheaded by the American Association for Public Opinion Research (AAPOR), which maintains a series of definitions, formulas, and dispositions that are continuously updated to reflect new technologies and changes in the survey research profession.

Cooperation Rate; Leverage-Saliency Theory; Nonresponse; Nonresponse Bias; Post-Stratification; Propensity Scores; Refusal Conversion; Response

[p. 759 ↓]

AAPOR Response Rates

AAPOR first published a series of response rates in 1998 for random-digit dialing and in-person surveys due to the concerted efforts of Tom. W. Smith and his colleagues. AAPOR based their development of the rates on the earlier work of the CASRO (Council of American Survey Research Organizations), which had published a set of formulas in 1982. Prior to that time, there had been numerous inquiries into the development of standards but no successful efforts put forth, at the association level, toward rate development.

Since the first release in 1998, AAPOR's volunteers have updated the response rates (and other outcome rates) three times (in 2000, 2004, and 2006). The most recent publication (2006) includes descriptions for calculating telephone, in-person, mail, and Internet survey response rates. AAPOR's development of response rates includes the formulas within a larger collection of “outcome rates.”

Collectively, the four rates (response, cooperation, refusal, and contact) each help describe a different facet of survey nonresponse:

- *Response rates* describe the proportion of respon-ders within a sample.
- *Cooperation rates* describe the proportion of respon-ders who were contacted and who cooperated.
- *Refusal rates* describe the proportion of the sample who refused to take the survey.
- *Contact rates* describe the proportion of sample members who were contacted.

These rates also help describe the total nonresponse of a survey, as well as the type of nonresponse that a survey includes (e.g. refusal vs. noncontact).

Notably, AAPOR's set of outcome rates include numerous variations of each of the four types of formulas (response, cooperation, refusal, and contact). The six iterations that apply to response rates vary according to the type of information that is included in each part of the formula. For example, AAPOR Response Rate 1 (RR1) is calculated as follows:

AAPOR RR1:

$$\frac{\text{Completed Interviews}}{\begin{array}{l}(\text{Completed Interviews} + \text{Partial Interviews}) \\ \quad + (\text{Refusals} + \text{Noncontacts} + \text{Other}) \\ \quad + (\text{Unknown Eligibility})\end{array}}$$

AAPOR Response Rate 2 (RR2) is similar to RR1, except it considers partial interviews in the numerator of the formula. This potentially increases the response rate for a given survey.

AAPOR RR2:

$$\frac{(\text{Completed Interviews} + \text{Partial Interviews})}{\begin{array}{l}(\text{Completed Interviews} + \text{Partial Interviews}) \\ \quad + (\text{Refusals} + \text{Noncontacts} + \text{Other}) \\ \quad + (\text{Unknown Eligibility})\end{array}}$$

AAPOR's response rates are used widely within the survey research profession and academia. AAPOR maintains a policy of encouraging the use of their rates and definitions and has taken steps to see them proliferated throughout the survey research profession. Notably, at least two scholarly journals *[Public Opinion Quarterly* and *International Journal of Public Opinion Research*) have recognized the AAPOR formulas. Additionally, their use is endorsed by the CMOR (Council for Marketing and Opinion Research) for survey research conducted within the United States of America.

Survey response rates measure unit nonresponse. Unit nonresponse occurs when those who *have been selected* for participation in a survey *do not participate*. Nonresponders may not participate for numerous reasons ranging from circumstances where they plainly refuse to participate, to situations where they are never contacted and do not have the chance to participate. Survey nonresponse affects survey validity when nonresponders are different from those that do respond in ways that skew survey results. The following example illustrates a situation where nonresponders are absent from survey data in a way that affects survey validity:

> A researcher interviewed a sample of college students from ABC University about extracurricular activities. Those students who were more engaged in university activities also tended to participate in the university survey in greater proportions than other students. Those "active" students skewed survey statistics because of their very distinct feelings about extracurricular activities. This led the university to believe that the student body held a more favorable opinion of extracurricular activities than was actually the case.

Declining Response Rates

For many years, response rates have been declining in the United States (as well as in many other countries). **[p. 760 ↓]** There are multiple factors that are believed to have contributed to this phenomenon. This trend of declining response rates is attributed to survey refusals and noncontacts.

Survey refusals are cases where a respondent receives a contact to complete a survey but declines to participate. The increase in survey refusals has been attributed to both social changes and reactions to changes within the survey research profession. These factors include (a) a growing expectation for privacy among the public; (b) the use of *pseudosur-veys* as a guise to sell, fund-raise, push-poll, create marketing databases, or engage in political telemarketing; (c) the commoditization of research and substantial increase in the number of surveys being conducted; and (d) a decrease in the perceived value of surveys by society.

Noncontacts are situations where researchers are unable to communicate with the selected respondent. The growing problem of survey noncontacts has also had a wide breadth of contributing factors. Many of the situations that are thought to add to noncontacts vary largely across survey modes. For example, telephone research has been particularly susceptible to technologies affecting noncontacts such as the advent of telephone screening devices and services, cellular phone only households and number portability. However, other modes of recruitment or data collection are also challenged by unique circumstances that may magnify survey noncontacts (e.g. spam filters blocking Internet survey invitations, doormen preventing interviewer access to respondents in in-person surveys).

Additionally, response rates in the United States are subject to a third growing category of nonresponse: language. Many survey research organizations may want to interview persons who do not speak English and yet do not have the mechanisms in place to translate into other languages than English. If not addressed, this problem is likely to continue growing in scope.

Direction of Research on Nonresponse

Numerous studies have been conducted on response rate trends and the factors that may influence response rates for individual surveys. In more recent times, researchers have turned to studying the circumstances where survey nonresponse may be likely to pose threats to survey validity.

Nonresponse tends to be a complex, sophisticated phenomenon in survey research. As such, the meaning of response rates is often misinterpreted. It is important to view survey response rates in the context of the survey design.

Recent research in survey methods lends support to the idea that response rates must be considered along with other information. This convention contrasts somewhat with previous notions of researchers who believed a certain minimum response rate would offer sufficient protection (or mitigation) against nonresponse error, which is recognized nowadays to not be the case.

Evaluating Response Rates

The body of literature on response rates and survey nonresponse nevertheless indicates that response rates remain an important indicator of survey quality and should be considered when performing survey research. For this reason, it is recommended that response rates be calculated and considered when conducting survey research that relies on probability samples. However, it is also important to analyze response rates (and other outcome rates) in the context of the design of the study.

All available sources of information should be considered when exploring the meaning of response rates on a particular study. Important considerations for evaluating response rates may include the survey variables of interest, the survey population of interest and sample, survey design choices (e.g. use of incentives, timing, and nature of information given to respondents throughout survey process), and the design and administration of the survey instrument.

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See also

- American Association for Public Opinion Research (AAPOR)
- Contact Rate
- Cooperation Rate
- Council for Marketing and Opinion Research (CMOR)

- Council of American Survey Research Organizations (CASRO)
- International Journal of Public Opinion Research (IJPOR)
- Noncontact
- Pseudo Polls
- Public Opinion Quarterly (POQ)
- Refusal
- Refusal Rate
- Standard Definitions
- Unit Nonresponse

Further Readings

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