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# CONDUCTING SURVEYS

## *Everyone Is Doing It*

### OVERVIEW

Surveys are used to collect information from or about people to describe, compare, or explain their knowledge, feelings, values, and behavior. Surveys typically take the form of self-administered questionnaires and interviews. Self-administered questionnaires can be completed by hand (“paper-and-pencil” or touch screen) or by computer (on or offline). Interviews may take place in person (“face-to-face”), on the telephone, or via teleconference. Survey data are used by program planners, evaluators, researchers, and policy leaders in diverse fields, including business, health, social welfare, and politics.

Surveyors must decide on the survey’s overall purposes and specific questions. They also need to know who and how many people will be contacted (sampling) and when and how often the survey will take place (design). Surveyors must also process, analyze, and interpret data.

To choose among survey types (self-administered questionnaires or interviews) or methods of administration (mail, telephone, or computer), you need select one that will produce credible and accurate results and for which you have resources.

Survey purposes and methods fall on a continuum. Some surveys can have far-reaching, generalizable effects, and their methods must be scientific. Surveys of the population’s health conducted by the U.S. government are examples of scientific surveys. Other surveys are conducted to meet very specific needs; their methods may not always achieve the highest standards of scientific rigor, but they must still produce accurate results and so must use reliable and valid techniques. Polling students in a particular school to identify their summer reading choices so as to be sure the library is well-stocked is an illustration of a survey designed to meet a specific need.

### WHAT IS A SURVEY?

Surveys are information collection methods used to describe, compare, or explain individual and societal knowledge, feelings, values, preferences, and behavior. A survey can be a self-administered

questionnaire that someone fills out alone or with assistance. Or a survey can be an interview done in person, on the telephone, or via teleconference. Some surveys are on paper or online and the respondent can complete them privately at home or in a central location—say, at a health center.

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The respondent can either return the completed survey by snail mail, e-mail, or online. Surveys can also be interactive and guide the respondent through the questions. Interactive surveys also may provide audio and visual cues to help.

Here at least three good reasons for conducting surveys:

*Reason 1: A policy needs to be set or a program must be planned.*

### Examples: Surveys to Meet Policy or Program Needs

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- The YMC Corporation wants to determine which hours to be open each day. The Corporation surveys employees to find out which eight-hour shifts they are willing to work.
- The national office of the Health Voluntary Agency is considering providing day care for its children's staff. How many have very young children? How many would use the Agency's facility?
- Ten years ago, the Bartley School District changed its language arts curriculum. Since then, some people have argued that the curriculum has become out of date. What do the English teachers think? If revisions are needed, what should they look like?

*Reason 2: You want to evaluate the effectiveness of programs to change people's knowledge, attitudes, health, or welfare.*

### Examples: Surveys in Evaluations of Programs

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- The YMC Corporation has created two programs to educate people about the advantages and disadvantages of working at unusual hours. One program takes the form of individual counseling and specially prepared, self-monitored videotape. The second program is conducted in large groups. A survey is conducted six months after each program is completed to find out if the employees think they got the information they needed. The survey also aims to find out if they would recommend that others participate in a similar program and how satisfied they are with their work schedule.
- The Health Voluntary Agency is trying two approaches to child care. One is primarily "child

centered," and the children usually decide from a list of activities which ones they would like to do during the hours they are in the program. The other is academic and artistic. Children are taught to read, play musical instruments, and dance at set times during the day. Which program is most satisfactory in that the parents, children, and staff are active participants and pleased with the curriculum's content?

- The Bartley School District changed its language arts curriculum. A survey is conducted to find out whether and how the change has affected parents' and students' opinions of the high school program.

*Reason 3: You are a researcher and a survey is used to assist you.*

### Examples: Surveys for Research

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- Because the YMC Corporation has so many educational programs, they want to research how adults learn best. Do they prefer self-learning or formal classes? Are reading materials appropriate or are films and videotapes better? How do they feel about computer-assisted learning or learning directly from the Internet? As part of their research, and to make sure all the possibilities are covered, the Corporation conducts a survey of a sample of employees to learn their preferences.
- The Health Voluntary Agency is considering joining with a local university in a study of preschool education. The Agency conducts a survey of the parents participating in the new day care programs. The survey asks about the participants' education and income. Researchers need data such as these so that they can test one of their major assumptions—namely, that parents with higher education and incomes are more likely to choose the less academic of the two preschool programs.
- The Bartley School District is part of a federally funded national study of the teaching of the English language. The study's researchers hypothesized that classroom teaching depends more on their teachers' educational backgrounds and reading preferences than on the formal curriculum. A survey is conducted to find out teachers' educational backgrounds and reading habits so that those data are available for testing the researchers' hypothesis.

## WHEN IS A SURVEY BEST?

Many methods are available for obtaining information about people. A survey is only one. Consider the youth center that has as its major aim to provide a variety of services to the community. It offers medical, financial, legal, and educational assistance to residents of the city who are between 12 and 21 years of age regardless of economic or ethnic background. The program is particularly proud of its coordinated approach, arguing that the center's effectiveness comes from making available many services in one location to all participants. Now that the center is ten years old, a survey is to be conducted to find out just how successful it really is. Are participants and staff satisfied? What services do young people use? Is the center really a multiservice one? Are people better off with their health and other needs because of their participation in the center? A mailed self-administered questionnaire survey is decided on to help answer these and other questions. Here are some excerpts from the questionnaire:

### Examples: From an Overly Ambitious Self-Administered Questionnaire

5. Is your blood pressure now normal? 11  
 Yes 1  
 No 2

7. Which of the following social services have you used in the last 12 months? (Please indicate yes or no for each service.) 15-18

Services	Yes	No
Medical	1	2
Legal	1	2
Financial	1	2
Educational	1	2

10. How satisfied you are with each of the following services? Please indicate your satisfaction for each service. 20-28

Services	Definitely		Neither	Definitely	
	Satisfied	Satisfied	Satisfied nor Dissatisfied	Not Satisfied	Not Satisfied
Daily counseling session	1	2	3	4	5
Legal aid facility	1	2	3	4	5
Library	1	2	3	4	5

11. How much time in a five-minute period does the doctor spend listening (rather than, say, talking) to you? (Please mark one) 29  
 \_\_\_\_\_ Less than one minute  
 \_\_\_\_\_ About one or two minutes  
 \_\_\_\_\_ More than two minutes

The questionnaire was shown to a reviewer, whose advice was to eliminate Questions 5, 7, and 11, and keep only Question 10. The reviewer stated that surveys are not best for certain types of information. Here's the reasoning:

Question 5 asks for a report of a person's blood pressure. Is it normal? In general, information of this kind can best be obtained from other sources—say, a medical record or directly from a doctor. Many people might have difficulty recalling their blood pressure with precision and also would be at a loss to define “normal” blood pressure.

Question 7 may be all right if you feel confident that the person's recall will be accurate. Otherwise, the records of the center are probably a better source of information about which services are used.

Question 11 asks the patient's to tell how much time the doctor spends listening rather than talking. If you are interested in the patient's perceptions, then the question is fine. If, however, you want data on the actual time the doctor listened rather than talked to the patient, observation by an impartial observer is probably best.

Question 10 is appropriate. Only participants can tell you how satisfied they are. No other source will do as well.

Survey questionnaires are by no means the only source of information for policymakers,

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evaluators, or researchers, nor are they necessarily the most relevant. Some other sources of information are the following:

- Observations or eyewitness reports; filmed, videotaped, and audiotaped accounts
- Performance tests that require a person to perform a task (such as teaching a lesson to a class); observers assess the effectiveness of the performance
- Written tests of ability or knowledge
- Record reviews that rely on existing documentation, such as reviews of medical and school attendance records; analysis of the content of published and unpublished articles and diaries

Surveys can be used in making policy or planning and evaluating programs and conducting research when the information you need should come directly from people. The data they provide are descriptions of feelings and perceptions, values, habits, and personal background or *demographic* characteristics such as age, health, education, and income.

Sometimes surveys are combined with other sources of information. This is particularly true for evaluations and research.

#### **Example: Surveys Combined With Other Information Sources**

- As part of its evaluation of child care programs, the Health Voluntary Agency surveyed parents, children, and staff about their degree of participation and satisfaction. Also, the Agency reviewed financial records to evaluate the costs of each program, and standardized tests were given to appraise how ready children were for school.
- The YMCA Corporation is researching how adults learn. Achievement and performance tests are given at regular intervals. In addition, a survey provides supplemental data on how adults like to learn.

#### QUESTIONNAIRES AND INTERVIEWS: THE HEART OF THE MATTER

All surveys consist of (1) questions and (2) instructions. To get accurate data, you

must account for a survey's (3) sampling and design, (4) data processing or "management" and analysis, (5) pilot testing, and (6) response rate. Survey results are given in written and oral reports.

#### **Questions**

Information from surveys is obtained by asking questions (sometimes called "items"). The questions may have forced-response choices:

#### **Example: Forced-Choice Item**

*What is the main advantage of multiple-choice over essay questions?*

- |   |                          |
|---|--------------------------|
| Can be scored objectively                       | <input type="checkbox"/> |
| Are best at measuring complex behaviors         | <input type="checkbox"/> |
| Can have more than one answer                   | <input type="checkbox"/> |
| Are the least threatening of the question types | <input type="checkbox"/> |

Questions on questionnaires or interview may be open-ended.

#### **Example: Open-Ended Item**

*What is the main advantage of multiple-choice over essay questions?*

Answer here:

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The selection, wording, and ordering of questions and answers require careful thought and a reasonable command of language.

#### **Instructions**

Surveys always contain instructions for completion. Are all respondents to answer all questions? Is there a time limit? Must all questions

be answered? In a survey of viewers' television habits, one section—for example, asking for the programs watched regularly—may be mandatory, whereas a second—calling for demographic or background information on age, educational level, and income—may be optional.

### Survey Sample and Design

Surveys are data collection methods used to obtain information from and about people. From and about which people, how often, and when? As soon as you raise questions such as these, you must become concerned with the *sample* and *design* of the survey. The sample is the number and characteristics of people in the survey. The design refers to how often the survey takes place (just once, or *cross-sectional*; over time, or *longitudinal*), whether the participants are selected at random, and how many groups are included.

Consider these three surveys:

- Survey 1: What do graduates from the class of 2005 know about physical fitness?

*Survey method:* Mailed, self-administered questionnaire

*Sample:* All 1,000 graduates from State College's class of 2005

*How often survey takes place:* Just once—at graduation

*How participants are selected:* All graduates are eligible

*How many groups:* Just one—the class of 2005

*Design:* Cross-sectional

- Survey 2: Does knowledge about physical fitness change over a 12-month period among graduates of the class of 2005?

*Survey method:* Mailed, self-administered questionnaire

*Sample:* All 1,000 graduates from State College's class of 2005

*How often survey takes place:* Twice—at graduation and 12 months later

*How participants are selected:* All graduates are eligible

*How many groups:* Just one—the class of 2005

*Design:* Longitudinal

- Survey Question 3: Over time, do differences exist among graduating classes in their knowledge of physical fitness?

*Survey method:* Mailed, self-administered questionnaire

*Sample:* A 75% randomly selected sample of graduates from the classes of 2005, 2006, and 2007 to equal a total of 2,250 graduates

*How often survey takes place:* Three times—at graduation and 12 and 24 months later

*How participants are selected:* Randomly

*How many groups:* Three—the classes of 2005, 2006, and 2007

*Design:* Longitudinal and comparative

Survey 1 asks for a portrait of the class of 2005's knowledge of physical fitness, and a mailed questionnaire is to be used. This portrait is called a cross-sectional survey design. Survey 2 wants to know about changes in knowledge of physical fitness over a one-year period: from graduation forward 12 months. The design is longitudinal.

Survey 3 is longitudinal because survey data will be collected from each of the three graduating classes over three points in time: at the time of graduation and one and two years later. The design is also comparative because knowledge can be compared between any two and among all three classes at graduation, one year later, two years later, or across all three times. An illustration of the design for Survey 3 can take this form:

Class	Survey is Given at:	
	Time of Graduation	One Year After Graduation
2005		
2006		
2007		

Survey 3 differs from Surveys 1 and 2 in how the graduates are selected for participation. In Survey 3, a 75% sample of graduates will be randomly selected to participate. In the other two surveys, all graduates, not just a sample, are eligible. Random selection means that each graduate has an equal chance of being included.

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All three surveys rely on mailed, self-administered questionnaires, but their designs and samples vary.

### Planning for Data Analysis

Regardless of your survey's design size, you must think ahead to how you plan to analyze the survey's data.

Will you compute percentages so that you results look like this?

Of the total sample, 50% reported that they were Republicans; 42%, Democrats; 5%, Independent; 1% belonged to the Green Party; and 3% had no party affiliation.

Will you produce averages to appear this way?

The average age of the respondents is 56.4 years.  
The median educational level is 13 years.

Will you compare groups?

A total of 60% of the men, but only 20% of the women, were Republicans.

Respondents do not differ significantly in satisfaction with the present government.

Will you look for relationships such as this?

The survey found no connection between how liberal or conservative people were and their educational attainments.

High school graduates who were 30 years of age or older were significantly more likely to vote in the last election than were older, less educated respondents.

Will you look for changes over time?

Since 1997, statistically significant differences have been found in the number of men participating in two or more hours of child care per day.

### Pilot Testing

A pilot test is a tryout, and its purpose is to help produce a survey form that is usable and that will provide you with the information you need. All types of questionnaires and interviews must be pilot tested. Self-administered

questionnaires depend heavily on the clarity of their language, and pilot testing quickly reveals whether people understand the directions you have provided and if they can answer the questions. A pilot test of a face-to-face interview will also tell you about interviewers. Can they follow the form easily? Are the spaces on printed surveys large enough for recording responses? Do interviewers know what to do if the computer "freezes"? Pilot tests can also tell you how much time it takes to complete the survey.

Testing helps make the survey run smoothly. Whenever possible, you should try to duplicate the environment in which the survey is to take place. That might mean obtaining permission from people to be in the tryouts, but not in the survey, even though they are eligible for full participation.

### Response Rate

The surveyor wants everyone who is eligible to respond to all questions. Pilot testing helps improve the response rate because it can eliminate severe potential sources of difficulty, such as poorly worded questions and no place to record answers. Furthermore, if the entire set of survey procedures is carefully tested, then this, too, can help the response rate. Before you do a telephone interview, ask: Do you have available a current source of information on people's telephone numbers? Are you willing to make telephone calls at the time the survey respondents are available? Other ways of ensuring good response rates exist, such as keeping surveys short and providing incentives (such as payment for participating).

How high should the response rate be? If you are conducting a large, complex survey, you will want to use statistical procedures to answer this question. If your survey is relatively simple (say, a pool of teachers in a school or nurses in three hospitals), then you have to decide how many people you will need for the results to be believable. If 20 people are eligible for completing a mailed, self-administered questionnaire and only ten respond, you may feel different from the way you will feel if, at another time, 200 of 400 respond. Both surveys have a 50% response

rate, but reporting on the views of 10 of 20 people may appear less convincing than telling about 200 of 400. Except when done statistically, the desired response rate tends to be entirely subjective, and the general rule is “higher is better.”

## Reporting Results

Survey results are reported daily on the Internet, television, and in the newspaper. To many, a survey is a poll, usually of some, but not all, people about an issue of immediate political, social, or economic concern. Survey results typically *look* like this:

### Example 1: The Look of Survey Results

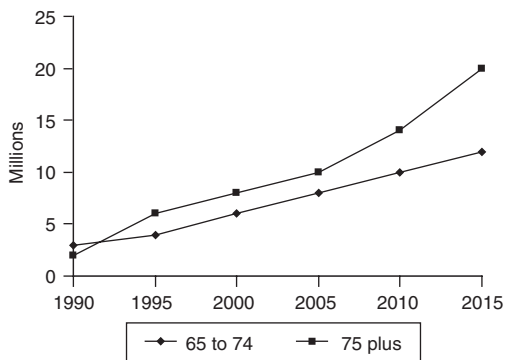
*Question:* If the election were held today, would you vote for Candidate X?

*Answer:* 125 of 132 (94.6%) men and 200 of 210 (95.2%) women responded. The results are given here in percentages.

	Yes	No	Don't Know
Men	62	18	20
Women	10	85	5

### Example 2: The Look of Survey Results

Number of Applicants 65 Years and Older: 1990 to 2015



Source: A Survey of Applicants—Senate Committee

To get results such as these requires many steps, and all surveys follow them:

- Deciding on the type of survey (mailed or online questionnaire, telephone, or face-to-face interviews)
- Selecting the survey's content, writing questions, and trying out the form
- Deciding who should participate (Everyone? A sample of people?) and when (Just once? Each year for five years?)
- Administering the survey (Who should conduct the interview? By when must the questionnaire be returned?)
- Processing the data (Are data to be scanned into the computer? Entered manually? What should be done about missing data?)
- Analyzing and interpreting the results (Did enough people participate? What do the numbers or differences mean? Just how do people feel about Candidate X? Have opinions changed over time?)
- Reporting the results orally or in writing using text, charts, tables, and graphs (Who is the audience? How long should the report be? Which data should be presented?)

No credible survey can omit any single step, although depending on its purposes and resources, some steps will receive more emphasis in any given survey than in another.

## SURVEY TYPES:

### THE FRIENDLY COMPETITION

How do you choose between self-administered questionnaires and interviews? Is a mailed questionnaire better than a telephone interview? How good are Internet-based surveys? Here are some criteria for selecting among the different survey types.

## Reliability and Validity

A reliable survey results in consistent information. A valid survey produces accurate information. Reliable and valid surveys are obtained by making sure the definitions and models you use to select questions are grounded in theory or experience. No single survey type starts out

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with better reliability and validity than another. Choose the survey method that is most precise and accurate for your specific purposes. For example, if you are worried that the people you are surveying cannot read well, an oral interview is likely to produce far better results than a written one. Focus groups and pilot tests help you decide which type to use and if you have done a good job of designing the survey and making it user-friendly. Respondents or survey administrators (the people who do the interviewing or hand out the questionnaires) who have trouble with the survey will use it incorrectly introducing bias, and that in turn reduces the accuracy of the results. A well-designed, easy-to-use survey always contributes to reliability and validity.

### Usefulness or Credibility of Results

The results will be useful if they are valid and if the survey device is one that users accept as the correct one. Find out before you start which method is the one people want. Sometimes the people who will use the results have strong preferences.

### Costs

This refers to the financial burden of developing and administering each type of survey. The costs associated with written questionnaires (on-site and mailed) include paper, reproduction, and incentives. Mailed questionnaires require an up-to-date address list (which you may have to purchase), postage, and envelopes. Sometimes, you have several follow-up mailings, adding to the costs.

The costs of face-to-face and telephone interviews include purchasing a telephone system and paying for miscalled and out-of-date telephone numbers as well as hang ups. You also need to pay for writing a script for the interviewer, training the interviewers, monitoring the quality of the interviews, and providing incentives to respondents.

Computer-based and online surveys require extensive development and testing. Any mistakes in programming or analysis can invalidate the survey's findings. Costs mount if you need to purchase consultants and computers. Online surveys require special programming expertise, a connection to the Internet, and special methods of

ensuring privacy and confidentiality. Also, for some time to come, certain respondents (such as some who have not grown up with computers, do not have access to the Internet, or prefer to take cyberspace slowly) will continue to mistrust online surveys. It is always wise to offer at least two modes of survey administration—say, online or mail. Be prepared to compare groups of respondents who choose differing survey types to make certain that they are alike in important ways. Are they the same age? Gender? If you find differences, you may have to regard each set of respondents as a separate sample.

Table 1.1 compares the advantages and disadvantages of the major survey types and reminds you of their special needs and costs.

### A SURVEY CONTINUUM: FROM SPECIFIC TO GENERAL USE

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Surveys have become a major means of collecting data to answer questions about health and social, economic, and political life. How extensive and scientific must a survey be?

Compare these two surveys:

#### **Example: Survey With a Specific Use**

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The directors of the Neighborhood Halfway Houses want to provide services that are appropriate for residents. At present, many complaints have arisen over the lack of adequate fitness facilities. A survey will be conducted to poll the five health care providers, 100 residents, and ten full- and part-time staff to find out what facilities are desirable and affordable.

#### **Example: Survey With a General Use**

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The County Health Department is concerned with the effectiveness of its 10 halfway houses. Together, the 10 houses have 20,000 residents and 220 full- and part-time staff. This County has negotiated arrangements for health care services from a number of providers in the public and private sectors. As part of its effectiveness study, This County is surveying a random sample of residents, staff, and providers at all houses. NextDoor County is interested in adopting This County's halfway house model and is anxiously waiting for the results of the survey and the evaluation.

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**Table 1.1** Comparing Survey Types

	<i>Self-Administered</i>			<i>Interviews</i>	
	<i>Mailed</i>	<i>On-Site</i>	<i>Online</i>	<i>Telephone</i>	<i>In-Person</i>
Characteristics	Paper and pencil	Paper and pencil	Internet based	Can be done with written script or computer assisted	Can be done with a written script or computer assisted
Advantages	Can reach large geographic areas People are used to completing paper and pencil surveys Can take the survey with you and complete it anywhere	Information is obtained immediately Questions about survey can be asked by respondents as they arise In some cases, surveys can be done with groups of people	Worldwide Order of questions can be preprogrammed Only "legal" answers are accepted Can give respondent links that explain unfamiliar words and help with difficult questions Data are automatically entered and can be automatically analyzed	Can explore answers with respondents Can assist respondent with unfamiliar words	Same as telephone
Disadvantages	Need a motivated sample to return survey. Many people think they have too much to do without also having to complete surveys. Respondents must be able to read, see, and write	Limited to responses from just those who are on site Respondents must be able to read, see, and write	Need reliable access to Internet Respondent must be able to use a browser Browser must support survey graphics System can go down or be unreliable	Need trained interviewers Need to make sure respondent is home If using computer-assisted interviews, will need technical expertise to program them	Need trained interviewers Must find a suitable place to conduct interview
Special needs	Up-to-date address list Follow-up mailings Incentives	Space and privacy for respondent to complete the survey	Technical expertise Convincing method of ensuring privacy and confidentiality	Up-to-date phone numbers Schedule for reaching respondents May need a sampling expert for random digit dialing Incentives	If on site, need space and privacy May be difficult or dangerous to go to person's home
Costs	Printing, paper, envelopes, stamps, incentives	Printing, paper, incentives, survey supervisor, and possibly space for respondent to work	Mainly technical (e.g., someone who is experienced in designing online surveys)	Training, incentives, telephones and telephone charges, computers and technical expertise, sampling expert, incentives	Training, space, travel, incentives

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The justification for the first survey is one halfway house's concern with its own needs. The reason for the second is This County's interest in the effectiveness of all its halfway houses. Also, NextDoor County is interested in the survey's results. Survey 1, with its limited impact, can be relatively informal in its methods. Survey 2, on the other hand, must be rigorous in its sampling plan, questionnaire construction, and data analysis and interpretation. Survey 1 is concerned primarily with usefulness.

Survey 2 is also concerned with validity and generalizability: If adapted in another place (NextDoor County), will This County's halfway house model be equally effective?

Each time you do a survey, you must evaluate where its purposes fall on a continuum that goes from specific to general use. You have some leeway with a survey designed to meet very specific needs. All surveys that aim to be generalizable in their findings must be conducted with rigor.