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Dichotomous data are data that have only two possible values (such as sex or full-time/part-time status). Although they are technically categorical data, because there are only two values in dichotomous data, they can be treated as scaled data. Categorical and ordered data can often be grouped into dichotomous categories and then introduced into a parametric statistical analysis.

If you plan to use statistical analyses to explain, predict, or explore and anticipate, keep in mind that you will get more meaningful results if your questions have a fairly large number of response choices. (Statisticians would say that the greater variability improves the explained variance.) Balance this against the difficulty that many people have in distinguishing among more than seven possible responses.

A final question to consider is who will use your findings. Unsophisticated users may not be able to understand or appreciate a factor analysis, even if you determine that it would best meet their needs. Simple tallies may be all that your users want.

Are Exit Surveys Worthwhile?

Every year it seems that hundreds of colleges across the country decide that they want to find out why some students drop out and that the way to find out is by doing an “exit survey”: having the dropouts fill out a questionnaire or be interviewed either while they’re in the process of “signing out” or a few months afterward. Don’t do it! It’s well-documented that these are the worst times to ask these students while they’re leaving. When they’re signing out, they’re probably angry and frustrated, and your survey is just one more obstacle they face before they can leave. Just to get you “off their backs,” many will give you one of two reasons for leaving: “financial difficulties” or “personal reasons.” These “reasons” are probably only the symptoms, not the underlying problems. After these students have left, many are probably thoroughly disenfranchised from your school and difficult to track down, so you’ll get a very poor response rate.

So how should you study the factors affecting student attrition? This method will yield far more useful, valid information:

1. Do a quick review of the literature on reasons why students drop out of college (some of the key researchers on this subject are Vincent Tinto, Ernest Pascarella, Patrick Terenzini, and Alexander Astin). You may get
If you plan to explain, predict, or explore, however, you will probably need complicated statistical analyses such as factor analysis, regression analysis, or analysis of variance. These analyses require (1) knowledge of statistics, either your own or that of someone available to advise you, (2) a statistical software package such as SAS or SPSS and computer facilities large enough to handle it, and (3) the proper type of data. There are four basic data types or "scales" applicable to survey research:

Categorical or nominal data break people into categories. Examples of categorical data include racial/ethnic group, marital status, major, and responses to many multiple choice questions. Categorical data cannot be ranked and means or medians cannot be calculated. Because means cannot be calculated, these data cannot be used in many statistical analyses designed to explain, predict, or explore. Specifically, they cannot be incorporated into many parametric statistical analyses: analyses based on variation from a mean, such as t-tests, regression, analysis of variance, and factor analysis. You should therefore avoid collecting this type of data if you want to do more than describe.

Ranked, ordered, or ordinal data may be collected from questions asking for an "excellent/good/fair/poor" rating or similar ratings. Suitable analyses for ordered data are a topic of hot debate among social science researchers. Everyone does agree that medians can be calculated and that this type of data can be analyzed using non-parametric statistical analyses (those that use some other technique than assessing variation from a mean). Ordered data can therefore be used to at least a limited extent to explain, predict, or explore.

But is it appropriate to calculate means for ordered data and use them in parametric analyses? This is where the debate lies. For further discussion of this topic, see the section on Likert scales in Chapter 2.

Scaled or interval data can be converted into meaningful numbers, where the difference between, say, a 1 and 2 is the same as the difference between a 4 and 5. (Time, height, weight, grade point average, and salary are examples of scaled data.) Means can be calculated, and the data can be analyzed using a wide variety of powerful parametric statistical techniques. If you would like to use a fairly complex statistical analysis with your data, you should try to make the data interval.
Preface

This book is designed for institutional researchers and others interested in research in higher education. It has two purposes: first, to provide the novice with a guide to the basic steps of survey research, and, second, to provide the more experienced researcher with a useful reference tool.

This book grew from my interest in survey research in general and in questionnaire design in particular. Many of the principles I learned in my graduate studies in educational testing and measurement can be applied to questionnaire design. After finding myself repeatedly answering the same questions from colleagues on survey research, I wrote a short manual. The manual grew into a series of workshops I have presented around the country for the Association for Institutional Research and a number of other professional organizations. Those workshops, in turn, inspired this book.

This monograph has been written in an informal style to keep it readable and interesting. A question-and-answer format has been used throughout to help you focus quickly on the point of the discussion and use this monograph as a reference. Rather than use citations, I admit freely to borrowing the thoughts and findings of many; they are listed in the “For More Information” section at the end.

The monograph has been organized in a roughly chronological fashion to take you step-by-step through the survey research process. Chapter 1 discusses planning the survey: determining the purpose of the study, collecting background information, designing the sample, and making a time line for completing the project. Chapter 2 introduces questionnaire design by discussing the pros and cons of various question formats. Chapter 3 is the central chapter of the monograph. It examines developing the questionnaire itself, and it is here that such important concepts as validity and reliability are introduced.

Chapters 4 and 5 deal more with the mechanics of conducting a survey. Chapter 4 addresses maximizing response rate, and such essential details as preparing a cover letter, pilot testing, and making follow-up mailings. It also briefly introduces in-person administrations, telephone surveys, and focus groups. Chapter 5 deals with preparing the returned surveys for data processing: editing and coding.
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Chapters 6 and 7 discuss analyzing and reporting your findings. Chapter 6 is an attempt to cover several semesters' course work in statistics in a few pages that serve as a guide to choosing the most appropriate statistical analysis for your data and your needs. Those readers with some background in inferential statistics who need an easy reference guide should find it of value. Chapter 7 discusses reporting the survey results.

Although it might be tempting to read this book "as you go," it is strongly recommended that you go through the entire book and not just Chapter 1 as you plan your survey. Subsequent chapters will raise additional questions and ideas that will likely influence your plans.

This second edition is an expansion and update of the first. Sections on ethics, reliability, and validity have been added, along with brief comments on telephone surveys, focus groups, and in-person administrations. Many parts have been updated to incorporate the latest advances in technological support and several portions have been expanded, including the bibliography. Information on network and software resources have been added. Many other sections have been rewritten to improve their clarity.

Deep gratitude is expressed to those who contributed to the first edition of this book, including Sidney Micek, who conceived this monograph and proposed the initial outline and format, Jennifer Presley, Gary Reighard, Pat Terenzini, Lou Attanasi, and Tim Sanford. Special appreciation is expressed to Gary Hansen, whose thoughtful observations were incorporated into this second edition. Finally I would like to thank the many people around the country who have attended my workshops on questionnaire survey research, discussed their ideas and concerns with me, and shared examples of questionnaires with me. Many of their comments and questions have been incorporated into this edition.

This book is dedicated to my family: my husband Steve and my children Melissa and Michael.
Chapter I

Planning the Survey

Any good survey is a major research project, involving considerable time and resources. To make sure your efforts pay off, it's crucial that you spend some time planning. A survey that doesn't provide needed information or delivers it too late to have an impact is a tremendous waste. This chapter will help you delineate the survey's objectives, make some basic data collection and analysis decisions including selecting a sample, and set deadlines so everything gets done in time.

What is an Ethical Survey?

As professional researchers, we have an obligation and responsibility to adhere to the ethical and professional standards of our profession. The Association for Institutional Research's Code of Ethics is provided in Appendix 1. Other professional codes that apply to those engaged in survey research are the Code of Professional Ethics and Practices of the American Association for Public Opinion Research, the Code of Professional Responsibility in Educational Assessment prepared by the Ad Hoc Committee on the Development of a Code of Ethics of the National Council on Measurement in Education, and the Research Industry Coalition's statement on Integrity and Good Practice in Marketing and Opinion Research. Here are some key points from these standards:

• Strive to conduct a survey in a manner that is free of potential bias. Minimize potential sources of bias, and disclose factors that may bias the results of the survey.

• Protect the rights of privacy of those who are surveyed, and protect the confidentiality of individually identifiable information.

• Avoid harming, humiliating, embarrassing, or seriously misleading respondents.

• Avoid the fraudulent use of copyrighted materials.
• Take appropriate security precautions before, during, and after administration of the survey.

• Disclose the following items in any report of survey results:
  o Who sponsored the survey, and who conducted it;
  o The exact wording of questions asked, including the text of any preceding instruction or explanation to the respondents that might reasonably be expected to affect the response;
  o A definition of the group being studied;
  o A description of how the respondents were selected by the researcher; including eligibility criteria and screening procedures;
  o Sample size and completion rates;
  o Method, location, and dates of data collection;
  o Information on the precision of the findings, including, if appropriate, estimates of sampling error, and a description of any weighting or estimating procedures used;
  o A fair, objective, and complete presentation of the outcomes of the survey, both intended and unintended, without censorship;
  o Appropriate attributions of the work and ideas of others; and
  o Appropriate qualifiers for the conclusions of the research within the limitations of the study.

• Discourage others from making inappropriate reports, unsubstantiated claims, inappropriate interpretations, or otherwise false and misleading statements about survey results.

• Promote the use of multiple sources of information about persons or programs in making decisions.
Why Are You Doing a Survey?

It is the rare institutional researcher who decides (and has the time) to conduct a survey "just for the fun of it." Usually we conduct surveys because we perceive a need for the information it will elicit. Sometimes we are more explicitly asked to conduct a survey on a specific topic. In either case, the first step in planning a survey is to sit down with the people requesting the survey or needing the survey results to get more information on why a survey should be done. Seek answers to the following questions.

How will the results be used? What potential decisions will be affected by the survey results? Surveys are not ends unto themselves. They are tools that are used to help make decisions. You wouldn't buy tools for a workbench, or software for your computer, unless you knew for what you would use them, and unless you knew for sure that you were going to use them. Similarly, you shouldn't conduct a survey unless you know for what decisions the survey data will be needed, and unless you are convinced that you really need survey data to help make those decisions. Talk to the people who requested the survey and to anyone else who might use the results. Ask them how things will be different if the survey turns out the way they expect (or don't expect).

For example, suppose someone planned to conduct a survey on "institutional climate for diversity," and one of the questions asked respondents whether they agreed or disagreed that "Homosexuality is morally wrong." What could or would an institution do about this? Suppose it found out that 10 percent of the respondents felt this way? 30 percent? 50 percent? The very act of administering a survey raises the expectation that actions will be taken from the results. We do not want to generate results that we cannot respond to proactively. Don't conduct a survey on the need for child care services, for example, unless you are confident your institution would act upon strong indications that such services are needed. Ask whether the results of the survey will give rise to other needs, and whether those needs can be fulfilled.

Here are some other questions you might ask:

- If you ranked the various needs you have right now, where would this one (the need for information from this survey) fit?
• What are all the benefits that you and our institution might get from this survey?

• How important is this survey to you?

• Who is the audience for the results? Who are the people who will be most affected by the need for this survey or its results? Do they agree about the need? How will they react to the results and the solutions the results imply?

Sometimes, of course, a survey is needed for general background information and not to contribute to specific decisions. A periodic profile of the student body's goals and plans, for example, is helpful to the college administration and faculty in a wide range of contexts and not just for one or two specific decisions. In this case, you should still understand why there is a perceived need for the survey information and what uses will be made of the survey results. Will it be worth the time and resources spent collecting the information?

**What are the objectives of your survey?** State the objectives of your survey as specifically as possible. It's not enough to say you want to investigate student opinions on alcohol consumption. Refine the problem. Put your objectives in writing. If they're written down, they'll be clearer, easier to explain to others, and easier to keep in mind as you plan the survey. Keep in mind the "first golden rule of mathematics," sometimes attributed to John Tukey: An approximate answer to the right question is worth a great deal more than a precise answer to the wrong question.

**What are the critical questions to be answered?** You may find that to meet all the objectives on your list, you'll have to ask dozens or hundreds of questions. You'll have to drop some objectives from your list just to keep the process from getting too complicated. Talk again to the people who will be using the survey results. Find out what the most crucial decisions or objectives are. Of all the things people would like to know about this subject, which are the most important to them? What are the essential points that they want to find out no matter what? Why are they critical? Knowing the answers to these questions will be of great help in focusing the survey questions, deciding which are of primary importance, and making the survey of maximum value.
What information do you need to answer the questions? Write a list of the specific information—facts, figures, and opinions—that you will need to obtain to meet your objectives. Then ask how each piece of information will contribute to the survey's objectives. Be particularly critical of demographic information such as information on sex, age, racial or ethnic group, geographic origin, and marital status. Is it really important, for example, that you find out the sex of your respondents? Think about how you will use this information. Since men and women must be treated alike in many situations, your findings may be of no use and little interest to anyone.

What concepts need to be defined? To make sure your survey provides the needed information, some of the terms that you use will doubtless need clarification. If you're being asked to conduct a survey of students, press to find out exactly what is meant by "students." All currently enrolled students? Or just undergraduates? Just full-time undergraduates? Just full-time undergraduates living on campus? Just full-time undergraduates who entered as freshmen?

Words and phrases such as "attrition," "non-traditional student," "degree-seeking," "teaching effectiveness," and even "satisfaction" and "quality" are full of ambiguities. If such concepts are applicable to your study, define them to everyone's satisfaction now, before the study gets underway.

What have others done on this topic? Depending on the nature of the problem you are studying, a review of relevant literature and published survey instruments could be a considerable time-saver. Why reinvent the wheel when you can take advantage of what others have done before you? If the problem you're studying is student attrition, for example, a review of what others have found should help you hone in quickly on factors you should be examining. A review of surveys others have done on your subject will give you ideas on questions to ask and how to ask them. Try asking fellow institutional researchers at other colleges if you can adapt their questionnaires for your purposes rather than write your own from scratch.

Do you really need a survey? Ask yourself critically if you really need a survey to get the information you need. Perhaps the review of what others have done will suffice. Will your survey likely yield the same results that others have found? If so, is it worth the time and expense to conduct your own survey? Would a few phone calls or interviews give you all you need? If all you need is factual data, are you sure it isn't available from another source such as student records, tests,
We hope you enjoyed reading sample pages from this volume.

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