

SURVEY DESIGN:

GETTING THE RESULTS YOU NEED

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Why Survey?

- Efficient way to collect information about a large group of people
- Flexible medium that can measure attitudes, knowledge, preferences, etc.
- Standardized, so less susceptible to error
- Easy to administer
- Can be tailored exactly to the phenomena you wish to study

Keys to Effective Surveying

- Begin with a clear purpose
 - ▣ What are you trying to learn?
 - ▣ Your purpose will determine the scope and nature of your survey
- Know what you want to be able to do with the data ahead of time
 - ▣ The types of analyses you hope to conduct will determine the kinds of questions you will ask
- Identify the most logical group to survey
 - ▣ Who should take this survey?
 - ▣ The population you choose will determine to whom the survey results can be generalized

Designing Surveys: A Three-Step Process



1. Survey Construction
2. Survey Administration
3. Survey Analysis

STEP ONE:

SURVEY CONSTRUCTION

Survey Construction: The Title



A Survey Title :

- Should reflect the content of the Survey
- Should be easy to understand
- Should be concise

Survey Construction: The Introductory Statement

The Introductory Statement:

- Provides a brief summary of the survey's purpose
- Includes information about the respondent's confidentiality
- Motivates the respondent to complete the survey
- Provides an estimate of the time required to complete
- Should be clear and concise

Survey Construction: Questions

Keys to Constructing Effective Questions:

- Include directions for completing.
- Each question should have a defined objective.
- Pay close attention to question wording; avoid “double-barreled” questions.
- Lead with high-interest questions; close with demographic questions; group into sections.
- Keep it brief. Eliminate any unnecessary questions.
- Evaluate your survey prior to administration (focus groups, cognitive interviews, pilot survey).

Survey Construction: Question Types

- Open-Ended
 - ▣ Provide respondents the opportunity to express themselves in their own words.
 - ▣ No correct answers to open-ended questions
 - ▣ Often elicit unanticipated responses which provide new directions for research
 - ▣ Can be difficult to interpret/analyze if clear themes do not emerge
 - ▣ Almost exclusively short answer format

Survey Construction: Question Types

- Closed-ended
 - ▣ More difficult to write than open-ended questions
 - ▣ Have a finite set of answers
 - ▣ Responses are easy to standardize and analyze statistically
 - ▣ May miss pertinent information if a key answer is not provided to respondents (can be corrected by using "other" response option)

Survey Construction: Question Types

Likert Scale

- Offers rank options, and each option is logically equidistant from the next option
- Best suited to measure attitudes
- Example: On a scale of 1-5, with 5 being Very Satisfied and 1 being Very Dissatisfied, please indicate to what extent you agree with the following statements: "The presentation was clear and informative."

Survey Construction: Question Types

Multiple Choice

- Measures nominal variables
- Used when there are a finite number of options
- Can include “check all that apply”
- Example: Which of the following classifications best describes you? A) Faculty B) Staff C) Student

Survey Construction: Question Types

Categorical

- Offers categories (i.e., nominal variables) that have no numeric order
- The respondent can belong to only one of a set of possible categories
- Example: What is your race?
 - a) African American
 - b) Asian
 - c) Hispanic
 - d) Native American
 - e) Caucasian

Survey Construction: Question Types

Ordinal

- Offers rank options, but the distance between ranks is not uniform (ex. movie ratings)
- Demonstrates the position of one variable in relation to a set of other variables
- Often used to rank order a list of items
- Example: Please rank the following sports from one to four, with one signaling your favorite and four signaling your least favorite.

Football

Basketball

Baseball

Hockey

Survey Construction: Question Types

Interval

- Similar to ordinal, but the intervals between the values of the response options are evenly spaced
- Can be used for any quantitative variable
- Measures variables that fall into logical ranges
- Example: What was your undergraduate GPA upon graduation?
a) 3.5-4.0 b) 3.0-3.49 c) 2.5-2.99 d) 2.0-2.49

Survey Construction: Question Types

Numerical

- Measures ratio variables, which are similar to interval variables, but zero signals the total absence of the variable
- The answer must be a real number
- Used mostly in the physical sciences and engineering; rare in the behavioral sciences
- Almost always an open-ended question
- Example: What is your height in inches?

Activity #1

- Turn to the person sitting next to you
- Read the scenario below
- Construct three survey questions using a different format for each one

You are the manager of the Pavilion XI dining facility in Newcomb Hall. You are interested in learning more about your customers, especially their demographics, preferences, & satisfaction.

Survey Construction: The Closing Statement

- Thank the respondent for participating
- Provide contact information for questions
- Explain how the survey results will be disseminated
- If any incentive is offered, provide relevant information

STEP TWO:
SURVEY ADMINISTRATION

Survey Administration: First Steps



- Identify your **Population** – The larger set of individuals you wish to study
- Choose a **Sample** – A subset selected from a population

Survey Administration: Sampling Techniques

- **Simple Random Sample (SRS)** – members of the subset are chosen completely at random so that every member of the population has an equal probability of being selected
- **Stratified Sample** – the population is divided up into relatively homogeneous groups; then, a proportionate sample is drawn from the groups
- **Cluster Sampling** – used when natural groupings are evident in a population; a sample is drawn from each natural grouping
- **Convenient Sample** – members of the subset are selected according to their availability

Activity #2

- Turn to the other person sitting next to you
- Describe something you would like to study using survey research
- Identify the appropriate **population** for your study
- Select the best **sampling strategy** for your survey

Survey Administration: Sampling & Response Rates

- The average survey response rate is 32%
- Use a sample size calculator to ensure an adequate sample size
- <http://www.raosoft.com/samplesize.html>
- Be sure to report your confidence level and margin of error
- Give respondents sufficient time to complete the survey
- Follow up after initial contact to increase response rate; largest increase will occur after first follow up
- A higher response rate will give you a larger sample, which will increase your confidence level and decrease your margin of error

Survey Administration: Select a Survey Medium

Types of Surveys

- Paper/Mail – Adds additional layer of confidentiality, but less efficient medium for tabulating results
- Telephone – Easier to tabulate than paper, but increasingly difficult to administer due to cell phones
- Electronic – Easiest to administer and tabulate, but most susceptible to “survey fatigue”
- In Person – Increases response rate, but introduces other factors that threaten validity (less scientific)

STEP THREE:
SURVEY ANALYSIS

Survey Analysis: Measuring the Results

- Central Tendency
 - Mean – Average (Interval, Ratio)
 - Median – Middle Number (Ordinal)
 - Mode – Most Often Occurring (Nominal)
- Spread/Dispersion
 - Range – Highest to Lowest
- Relative Position
 - Percentiles (Interval, Ratio)
- Relationships
 - Correlation (Interval, Ratio)
- Themes
 - Emerging patterns (Open-ended)

Survey Analysis: Interpreting the Results

- Implications of the data – what is the meaning?
- What relationships and trends are evident?
- How do the findings relate to other information or literature?
- What actions might be considered as a result of the findings?
- Is there additional information or research that should be conducted?

Activity #3

- Partner with a new person
- Discuss the survey results that have been distributed
- Determine how you would formally report the survey results

Survey Analysis: Reporting the Results

A final report should include the following:

- Purpose
- Development of survey instrument
- Administration processes
- Data analysis
- Findings

Resources

- Survey Monkey: <http://www.surveymonkey.com>
- Zoomerang: <http://www.zoomerang.com>
- Louis M. Rea & Richard A. Parker (2005) Designing and Conducting Survey Research: A Comprehensive Guide
- Don A. Dillman, Jolene D. Smyth, & Leah Melani Christian (2008) Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method
- Ronald Czaja & Johnny Blair (2005) Designing Surveys: A Guide to Decisions and Procedures
- Center for Survey Research, UVa – Cooper Center
- Office of Institutional Assessment and Studies, UVa
- UVa Graduate Students - Curry School of Education
- UVa Policy on Mass Electronic Mailings:
<https://policy.itc.virginia.edu/policy/policydisplay?id=IRM-006>
- UVa Institutional Review Boards (IRB):
<http://www.virginia.edu/vpr/irb/>