

# Research Methods in Psychology

## Survey Research



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## What We Will Cover in This Section

- Overview
- Interviews
- Questionnaires
- Summary



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## What Do You Think of These Questions?

Do you support President Bush's initiatives to promote the safety and security of all Americans?	Yes	No	Undecided
Do you support reforms proposed by the Bush Administration to improve curriculum, invest more in training teachers and create safer schools for our children?	Yes	No	Undecided
Do you support the use of air strikes against any country that offers safe harbor or aid to individuals committed to attacks on America?	Yes	No	Undecided

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## Questionnaire Items from Common Cause

George W. Bush received fewer votes than AL Gore; he won the presidency because small states have more electoral votes per capita than large states. Do you think this arrangement should be changed?

Yes	No	Don't Know
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The President is officially elected by the Electoral College, whose members are unknown to most voters, and who could ignore the wishes of the voters. Should we abolish the Electoral College?

Yes	No	Undecided
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## Overview

Research in which the participant is asked to respond to oral and/or written questions. The questions and responses can be either structured or unstructured.

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## Key Concepts

- Surveys should be considered to be in the same category as a test.
  - Each question represents a test item.
  - Administering the survey should be standardized.
  - The researcher has to consider reliability issues.
  - The researcher has to consider validity issues.

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## Bottom Line

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Effective surveys depend on asking the right questions right.

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## Sampling

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Techniques used to select participants for a study.

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## Target Population

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*The group of people to whom we wish to generalize our results.*

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## Sample Frame (Study Population)

*The individuals or clusters of individuals who might be actually be selected for inclusion in the study.*

*List of all of the people in the study population who will be contacted.*

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## Research Sample

*The group of people who are actually selected from whom we collect our data.*

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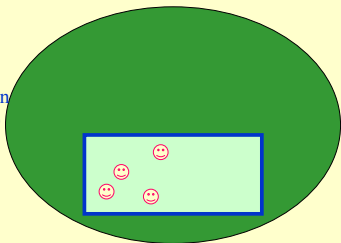
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## Model

-  Target Population
-  Study Population (Sample Frame)
-  Research Sample



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## PROBABILITY SAMPLING

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## Probability Sampling

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*Techniques in which every member of the population has a known probability of being selected for the research sample.*

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## Simple Random Selection

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*Technique for choosing people from the sample frame in which each person has an equal probability of being selected.*

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## Stratified Random Sampling

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*A technique in which the sample population is divided into strata followed by random sampling within each stratum.*

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## Cluster Sampling

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*Existing groups or clusters of potential participants are identified. Then random samples are taken from within each cluster.*

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## Probability Sampling

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- **Benefits.**
  - Generalize from the sample to the target population.
- **Issues.**
  - Difficult to get full participation from the 'selected' people.
  - Difficult with large, geographically diverse population.

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NONPROBABILITY SAMPLING



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Nonprobability Sampling

*Type of sampling in which it is impossible to specify the probability that any member of the study population will be included in the sample.*

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Haphazard (Convenience) Sample

*Selecting subjects in a non-random manner, usually on the basis of availability.*

*Usually done without regard to having a representative sample of the population.*

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## Purposive Sampling

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*The researcher uses his/her own judgment to select the membership of the sample.*

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## Snowball Sampling

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*People who are selected using convenience/haphazard techniques nominate additional participants.*

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## Sampling and Statistics

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- Anticipate effect size.
- What is the overall power of the statistical test?

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## Key Learning Points

- It is easy to criticize research on the basis of its sample. The key is to determine the impact of the sample on the inferences being made.
- Sample size and statistical analyses have a symbiotic relationship in terms of power and interpretation of the results.

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## Interviews



A conversation with a purpose.

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## Unstructured Interview

Questions are unplanned. The interviewer can ask questions at his/her discretion.

- Benefits
  - Cover a wide range of issues.
  - Flexibility.
- Issues
  - Reliability
  - Validity

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## Structured Interview

Questions are pre-planned in advance to elicit responses in a specific area.

- Benefits.
  - Consistency.
  - Even coverage.
  - Content validity.
- Issues.
  - Limits coverage.

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## Standardizing Interview Procedures

1. Read each question exactly as written.
2. Use standard probes when the person does not answer fully.
3. Record answers in the same way.
4. Be interpersonally neutral.

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## Questionnaires



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## Step 1. Determine the purpose

- What do you need to know?
- What can you do with the responses?
- What decisions can be made from the responses?
- What will you do with the responses once you have them? How will the responses be analyzed?
- How will you report the responses?

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## Step 2. Target Population

- To whom do you want to generalize your results?
- What is your target population?
- What is your sample frame?

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## Step 3. How Will the Survey Be Evaluated?

- Will the responses be content analyzed?
- Will the responses be computer analyzed?
- What kinds of analyses will be required?
- What statistical decisions will be made from the survey?

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## Step 4. How will the survey be administered?

- Interview?
  - Face to face?
  - Group?
  - Telephone?
- Questionnaire
  - Controlled group?
  - Pencil & paper vs. computer?

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## Step 5. Determine the question format.

- Open ended questions.
- Closed ended questions.

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## Open-ended Questions

Questions where the respondent is free to answer in his/her own words.

- Benefits.
  - Complete answers.
  - Person's reasons.
  - Find unanticipated ideas and responses.
- Issues.
  - Coding.

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## Closed-ended Questions

Questions where the respondents are limited to a fixed set of alternatives in their answers.

- Benefits.
  - Easy to code.
  - Rater reliability.
- Issues.
  - Limits responses.
  - Some alternatives may not apply.

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## Step 6. Question Construction

- Characteristics of a good item.
  - Single issue.
  - Simple wording.
  - Can the respondent answer this?
  - Is it relevant to the survey purpose?
  - Is the question neutral (leading or loaded)?
  - Are there issues of social desirability inherent in the question?
- Number of items.

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## Step 7. Develop Response Scale(s)

- Keys to good response scales.
  - Relevant to the question.
  - Mutually exclusive.  
*Categories defined so that membership in one rules out membership in another.*
  - Mutually exhaustive.  
*Categories are defined so that all possible answers fall into one of them.*

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## Good **BAD** Examples

1. How well do you like chocolate?
  - a. Yes
  - b. No
2. How old are you?
  - a. 0 – 15
  - b. 15 – 20
  - c. 22 – 30
  - d. 33 – 50

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## Self Report: Scales

1. Numerical scales
2. Semantic Differential
3. Graphic Rating Scale
4. Behaviorally anchored scale
5. Forced choice

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## Numerical Rating Scale

Witty	1	2	3	4	5	Serious
Dull	1	2	3	4	5	Alert
Stingy	1	2	3	4	5	Generous

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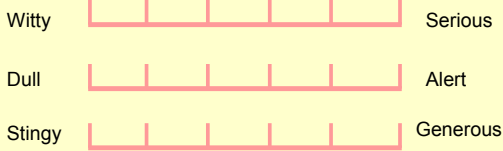
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## Semantic Differential



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## Typical Graphic Rating Scale

I hate to lose a contest.	Yes ? No
It is harder for me to adapt to	a. Routine b. Constant change.
Which word in each pair appeals to you more?	a. Forgive b. Tolerate
I criticize poor work in my work unit	a. Always b. Often c. Occasionally d. Seldom e. Never

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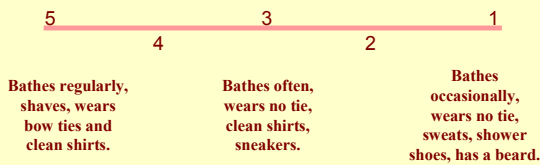
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## Behaviorally Anchored Scale

### Sartorial Splendor



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## Forced Choice

A. I like to feel free to do whatever I want to do.

or

B. I like to be called upon to settle arguments and disputes between others.

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## Rank Ordering

Rank order your preference for the following ice cream flavors from 1= most preferred, to 5 = least preferred.

- \_\_\_ Chocolate
- \_\_\_ Vanilla
- \_\_\_ Cherry
- \_\_\_ Banana
- \_\_\_ Broccoli

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## Step 8. Pilot Test

- Use members of the target population.
- Examine readability and interpretation.
- Examine adequacy of the responses.
- Examine consistency of the interviewers.

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## Step 9. Distribute the Survey.

- How to deliver?
- How to recover?

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Errors and  
Response Biases

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## Interviewing Errors

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- Confirmation Bias  
*An error in which the interviewer unconsciously seeks to gather information to support an established opinion or point of view.*

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## Social Desirability

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*A characteristic of certain items or responses that causes people to choose that response even if it does not represent their true tendency or opinion.*

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## Halo Error

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Tendency of a rater to let one positive or negative characteristic to affect an overall evaluation.

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## Leniency/Central Tendency/Severity Error

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Tendency of rater to give either all high, moderate, or low evaluations.

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## Questionnaire Errors

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## Scale Ambiguity

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Errors caused as a result of having response scales that are not clear.

**How much fun are you having in class right now?**

**Nice**

**Cool**

**Lots**

**Tons**

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## Category Anchors

Errors caused as a result of having response scales that indicate a cue for what is an appropriate response.

**How great is your instructor?**

<b>Perfect</b>	<b>Wonderful</b>	<b>Marvy</b>	<b>Superb</b>
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## Acquiescence Response Set

Tendency of respondents to either systematically agree or disagree with items on a scale.

Can be influenced by the way a question is worded.

*The problems at the university are caused more by students than the faculty.*

*The problems at the university are caused more by the faculty than the students.*

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## Extreme Response Bias

Tendency of respondents to endorse extreme responses.

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# The End

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