

Certified Inspector General Inspector / Evaluator Course



INSPECTOR GENERAL INSTITUTE
TRAINING AND CERTIFICATION FOR INSPECTION
AND OVERSIGHT PROFESSIONALS

Effective Survey Design and Techniques

Presented by:

Leigh R. Anderson, Ph.D.



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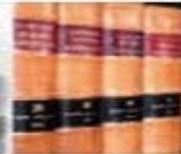


Course Objectives / Outline

- Define Descriptive Research
- Describe how surveys can be used in Inspections & Evaluations (I&Es)
- Explain the Purpose/Goals of Surveys
- Describe Questionnaires and when to use them



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Course Objectives/Outline (cont'd)

- Describe Sampling
- Identify a proper Survey Format/Mode
- Be able to prepare Question Design and Order
- Recognize proper Response Formats
- Identify characteristics of Response Bias



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Course Objectives / Outline (cont'd)

- Apply Pre-Testing and Piloting
- Identify Characteristics of Response Rates
- Develop a Checklist for Effective Questionnaires
- Be able to use Examples provided to develop questionnaires



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Descriptive Research¹

- Used to “describe” a situation, subject, behavior, or phenomenon.
- Used to answer questions of who, what, when, where, and how associated with a particular research question or problem.
- Concerned with finding out “what is”.

¹https://cirt.gcu.edu/research/developmentresources/research_ready/descriptive/overview

Descriptive Research² (cont'd)

- Attempts to gather quantifiable information that can be used to statistically analyze a target audience or a particular subject.
- Used to observe and describe a research subject or problem without influencing or manipulating the variables in any way.

Descriptive Research³ (cont'd)

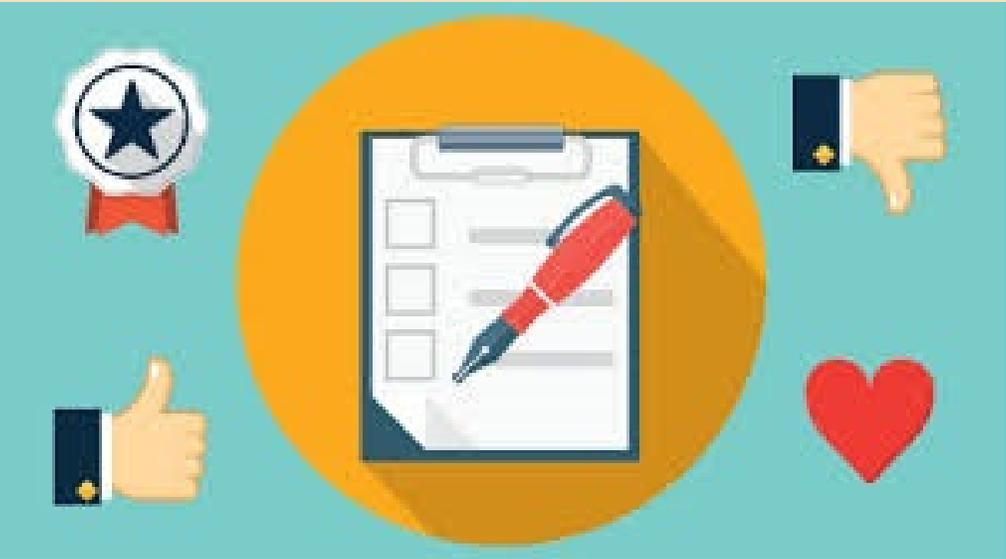
- Conclusive in nature, rather than exploratory.
- Does not attempt to answer “why”.
- Not used to discover inferences, make predictions or establish causal relationships.

Descriptive Research Methods

Survey

Questionnaire

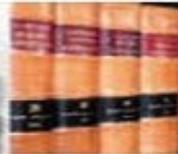
Interview



SURVEY



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Survey Definition



Survey



A technique of descriptive research that seeks to determine present practices or opinions of a specified population; can take the form of a questionnaire, interview, or normative survey (used to gather facts *and* determine the ways the object of the survey can be improved).

Questionnaires

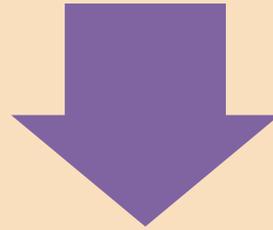
Questionnaire



A type of paper-and-pencil or electronic survey in which information is obtained by asking participants to respond to questions.

Interviews

Interview



A survey technique similar to the questionnaire except that participants are questioned and respond orally rather than in writing.

Survey Definition (cont'd)



Survey

Usually used to find facts by collecting the data directly from the population or sample.

Means of gathering information by asking a set of questions to a group of respondents who represent a population with specific characteristics.

Survey Purpose

The whole point of conducting a survey is to obtain useful, reliable, and valid data in a format that makes it possible to analyze and draw conclusions about the total target population.



Survey Validity and Reliability

Validity:

The extent to which a survey question measures the property it is supposed to measure.

Reliability:

the extent to which repeatedly measuring the same property produces the same result.

Effective
Survey

```
graph TD; V[Validity] --> ES((Effective Survey)); R[Reliability] --> ES;
```

The diagram illustrates the relationship between survey validity and reliability. On the left, a red rounded rectangle contains the definition of validity. On the right, a green rounded rectangle contains the definition of reliability. Arrows from both rectangles point towards a central blue circle labeled 'Effective Survey', indicating that both validity and reliability are necessary for a survey to be effective.

A Few Survey Goals...

Identify Issues

Learn About a Population's Wants and/or Needs

Receive Feedback from a Specific Population

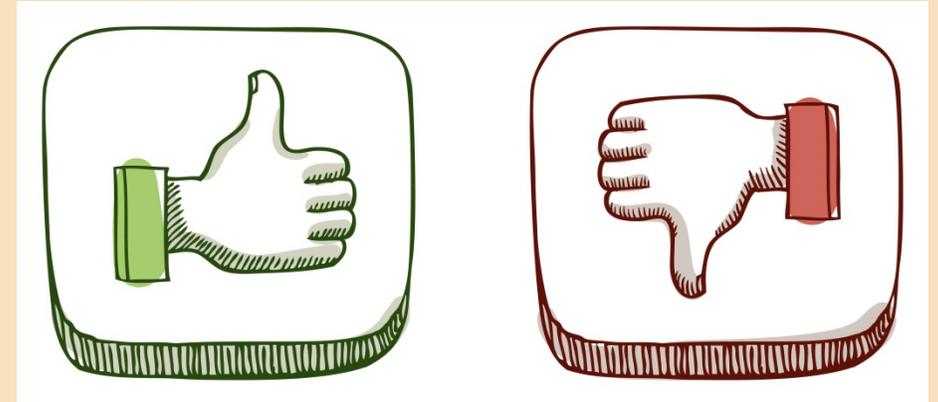
Make Comparisons between Groups

Describe a Population

Advantages

- A lot of data can be collected

- Does not require specialist administrators / interviewers



- Respondents are more willing to answer questions on a written questionnaire than in a face-to-face interview

Disadvantages

- Questions left to Respondent's interpretation
- Biased Samples
- Ethical Concerns
 - Privacy
 - Confidentiality



Survey Format/Mode (cont'd)

Mail/Written Surveys (Questionnaire)

Sent/given to a preselected sample of people, with instructions on how to fill out the survey and return it.

Internet Surveys (Questionnaire)

An “on-line” questionnaire designed to quickly and easily elicit responses on any research topic.

Survey Format/Mode (cont'd)

Telephone Interviews

Respondents are contacted by telephone in order to collect data for surveys.

Personal Interviews

Form of direct communication in which an interviewer asks respondents in a face-to-face conversational situation.

QUESTIONNAIRE



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Questionnaires are Best Used When...

- There is a relatively large sample.
- There is a need for fairly straightforward information.
- There is a need for standardized data from identical questions.
- There is interest in what occurs or has occurred rather than why or how.
- There is a specific set of questions to be asked.



Survey Population

Population:

A complete set of elements (persons or objects) that possess some common characteristic defined by the sampling criteria established by the researcher.



Target Population:

The group of people whose activities, beliefs, or attitudes are being studied and to which the researcher wishes to generalize the study findings.

Accessible Population:

The portion of the population to which the researcher has reasonable access; may be a subset of the target population.

Census Study vs. Sampling

- **Census Study**: the entire population is sufficiently small and the researcher can include the entire population in the study (Complete Enumeration/Complete Count).
- **Sample**: a subset of units in a population that is selected to represent all units in a population when the population is too large to attempt to survey all of its members.

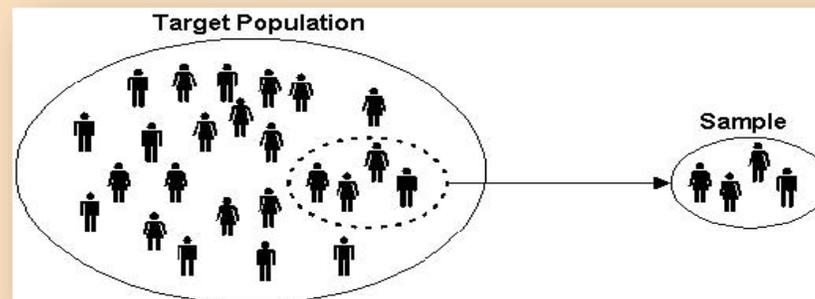
Sampling

Sampling

- The process of selecting a group of people, events, behaviors, or other elements with which to conduct a study.

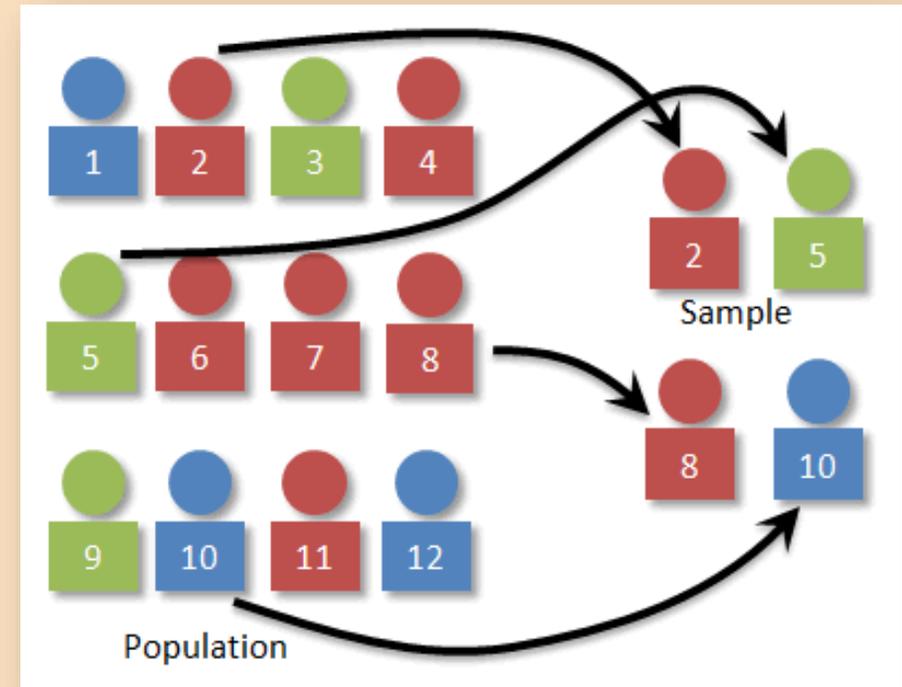
Sample

- The selected subjects chosen for participation in a study.



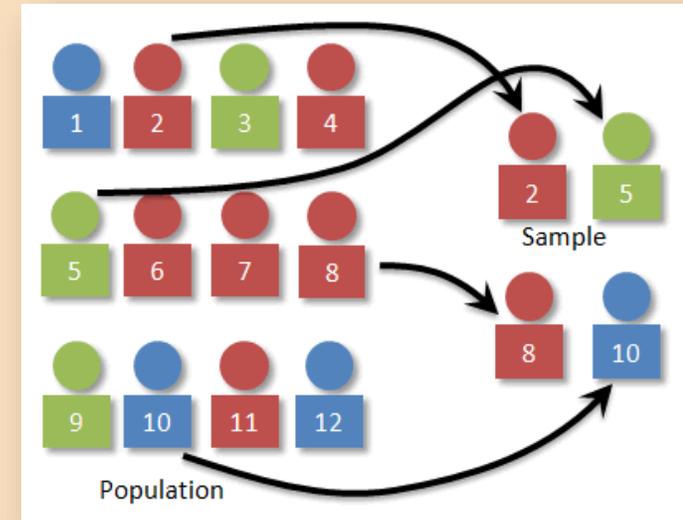
Sampling (cont'd)

- **Probability Sampling**
 - **Systematic Random Sampling**
 - **Cluster Sampling**
 - **Stratified Sampling**
 - **Simple Random Sampling**
 - **Multistage Sampling**

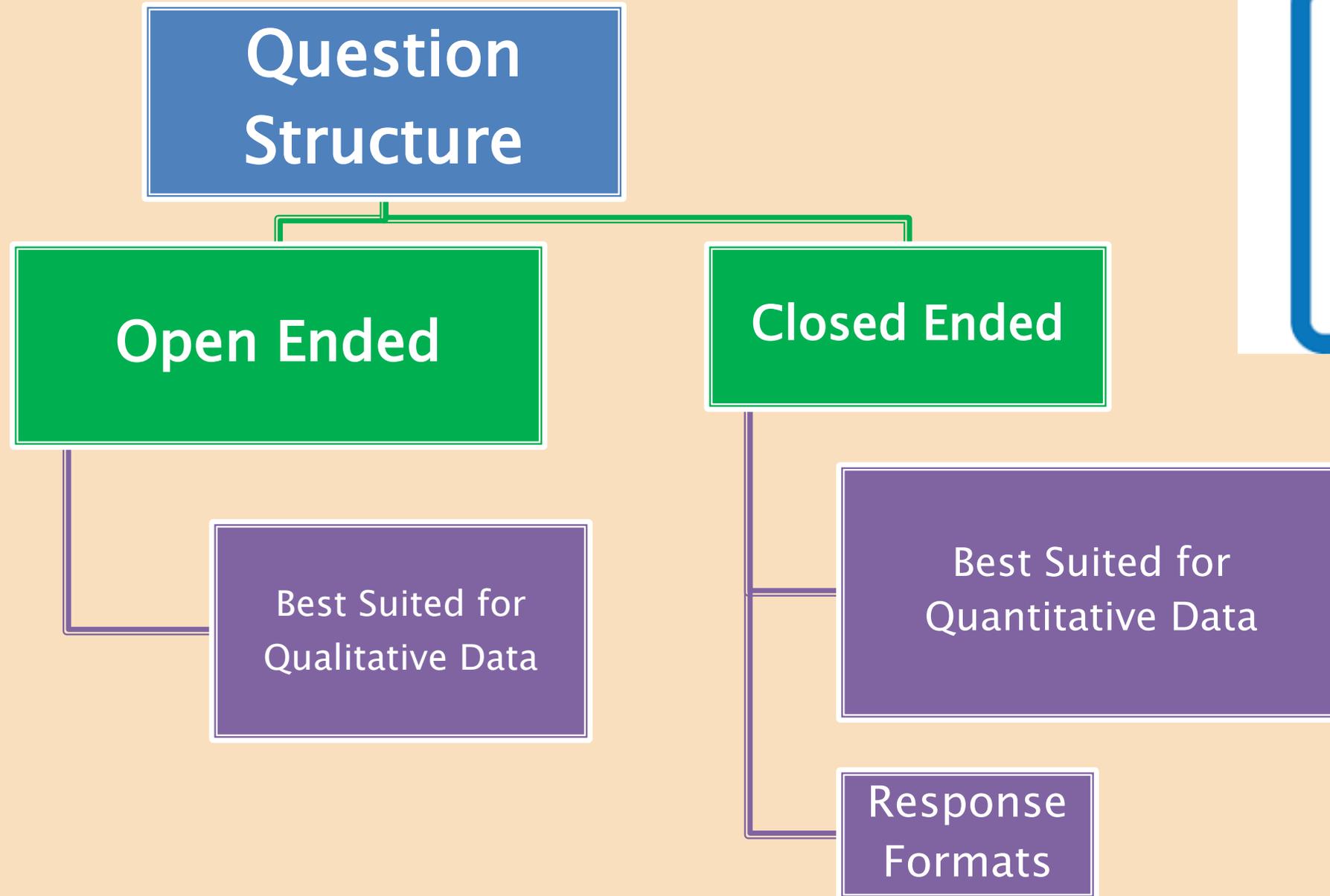


Sampling (cont'd)

- **Non-Probability Sampling**
 - **Convenience (Haphazard) Sampling**
 - **Quota Sampling**
 - **Judgment Sampling** ←
 - **Volunteer Sampling**
 - **Snowball Sampling** ←



Question Design



Question Design (cont'd)

- **Avoid technical terms, abbreviations, and jargon.**
- **Ensure questions are clear and specific as possible.**
- **When possible, ensure that words are neutral.**

Tips on Question Succession and Order

Sensitive questions should be asked late in the survey.

Start with broad, general questions and move to narrow specific ones.

Avoid Double-Barreled Questions.

Ensure reference/time periods are noted in the instructions (more than one question) or specifically for each question.

Save demographic and classification questions for the end.

Never start a questionnaire with an open-ended question.

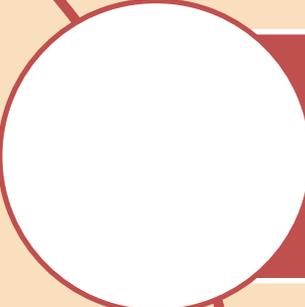
Response Formats

Response Format	Definition	Example
Dichotomous	When a question has only two possible responses.	Yes/No; True/False; Agree/Disagree
Multi-chotomous	Questions have a range of responses such as multiple choice.	Yes, No, or Maybe
Multiple Response	Questions have a range of responses where more than one response can be selected; 'check all' is often an option.	How are you feeling today? ___ Happy ___ Fortunate ___ Excited ___ All of the Above

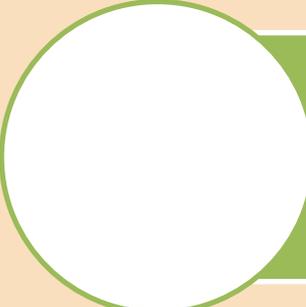
Response Formats (cont'd)

Response Format	Definition	Example																														
Likert Scale	Equally-spaced intervals, usually 3 to 9 intervals.																															
Graphical Rating	Able to mark any point on a continuous scale.	<table border="1"> <thead> <tr> <th>Behavior:</th> <th>Unsatisfactory</th> <th>Questionable</th> <th>Satisfactory</th> <th>Outstanding</th> </tr> </thead> <tbody> <tr> <td>A. Quantity of work</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>B. Quality of work</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>C. Work initiative</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>D. Efficiency</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>E. Overall</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </tbody> </table>	Behavior:	Unsatisfactory	Questionable	Satisfactory	Outstanding	A. Quantity of work	1	2	3	4	B. Quality of work	1	2	3	4	C. Work initiative	1	2	3	4	D. Efficiency	1	2	3	4	E. Overall	1	2	3	4
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Semantic Differential	Two words at opposite ends of a scale with interval marks.																															

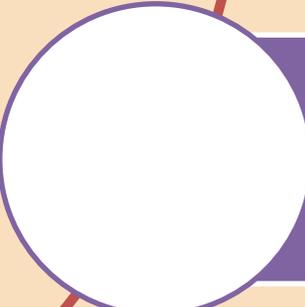
Survey Bias



Social Desirability Bias: the tendency of survey respondents to answer questions in a manner that will be viewed favorably by others.



Order Effect: the placement of a question can have a greater impact on the result than the particular choice of words used in the question.

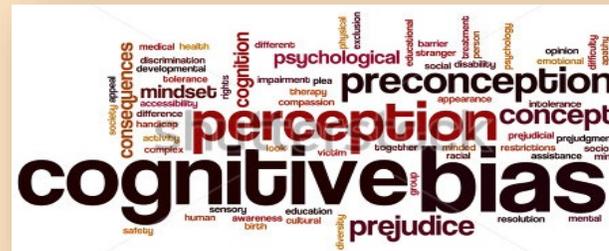


Fatigue Effect: occurs when individuals involved in research or surveys grow bored, tired, or uninterested with the task and begin to perform or respond at a substandard level.

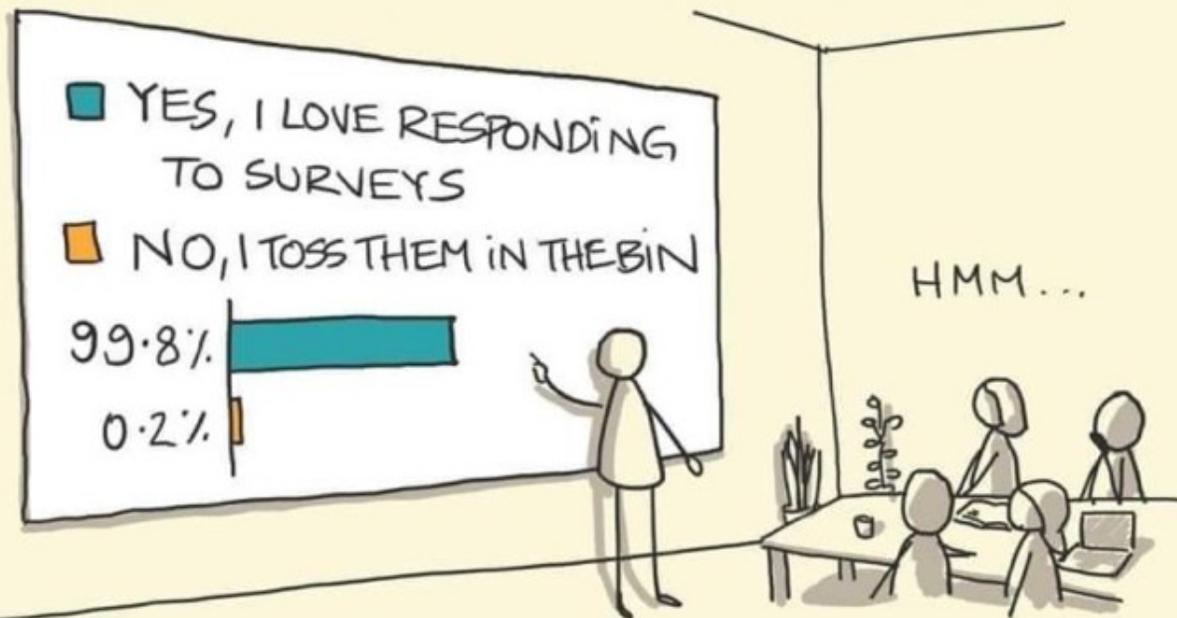
Survey Bias (cont'd)

Novelty Effect: refers to the fact that an outcome or result may be due in part to the uniqueness of an experimental situation or testing rather than the intervention itself.

Demand Characteristics: refers to an experimental artifact where participants form an interpretation of the experiment's purpose and subconsciously change their behavior to fit that interpretation.



SAMPLING BIAS



" WE RECEIVED 500 RESPONSES AND FOUND THAT PEOPLE LOVE RESPONDING TO SURVEYS "



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Pre-testing and Piloting

Why...

-Obtain estimates of reliability and validity

How...

-Administer the surveys to a few colleagues
-Ask people to think out loud as they are answering the survey questions

Result...

-Identify any final changes that might be needed to ensure success

Pre-testing and Piloting



“I don’t understand this question”
“The option I want isn’t available”
“I can’t find the next section”
“This is getting boring. Why is it so long?”
“Why is it asking about that? That makes me uncomfortable”

Steps for Pretesting a Survey

1. Select a Small Sample ($n = 5-10$)
2. Administer the Survey Items
3. Conduct a Focus Group
4. Integrate Feedback

Questionnaire Design

Have a cover letter or introductory page giving the study title, organization, and aim of the study.

Be sure there is enough space for open ended questions.

Font should be large enough to read without needing to strain.

There should be clear and consistent instructions.

Avoid continuing the same question on the next page.

Keep your questionnaire short and questions simple, focused and appropriate.

Type on one side of the page.

Questionnaire Stages

1. Define the research question.
2. Formulate the questions.
3. Formulate the responses.
4. Design the layout.
5. Test the questionnaire.
6. Refine.
7. Upload online, or print.
8. Design the coding scheme.
9. Analyze data and report.



Checklist for Effective Questionnaires¹

Do:	Do Not:
<ul style="list-style-type: none"><input checked="" type="checkbox"/> Give clear instructions<input checked="" type="checkbox"/> Keep question structure simple<input checked="" type="checkbox"/> Ask one question at a time<input checked="" type="checkbox"/> Maintain a parallel structure for all questions<input checked="" type="checkbox"/> Define terms before asking the question<input checked="" type="checkbox"/> Be explicit about the period of time being referenced by the question<input checked="" type="checkbox"/> Provide a list of acceptable responses to closed questions<input checked="" type="checkbox"/> Ensure that response categories are both exhaustive and mutually exclusive<input checked="" type="checkbox"/> Label response categories with words rather than numbers<input checked="" type="checkbox"/> Ask for number of occurrences, rather than providing response categories such as often, seldom, never<input checked="" type="checkbox"/> Save personal and demographic questions for the end of the survey	<ul style="list-style-type: none"><input type="checkbox"/> Use jargon or complex phrases<input type="checkbox"/> Frame questions in the negative<input type="checkbox"/> Use abbreviations, contractions or symbols<input type="checkbox"/> Mix different words for the same concept<input type="checkbox"/> Use “loaded” words or phrases<input type="checkbox"/> Combine multiple response dimensions in the same question<input type="checkbox"/> Give the impression that you are expecting a certain response<input type="checkbox"/> Bounce around between topics or time periods<input type="checkbox"/> Insert unnecessary graphics or mix many font styles and sizes<input type="checkbox"/> Forget to provide instructions for returning the completed survey!

¹https://oqi.wisc.edu/resourcelibrary/uploads/resources/Survey_Guide.pdf

Response Rates

Response Rate:

The number of completed surveys divided by the number of eligible potential respondents in the sample; usually expressed in the form of a percentage.



Response Rates (cont'd)

- No agreed-upon minimum response rate
 - The more responses that are received, the more likely that statistically significant conclusions can be drawn about the target population
- Extremes in Responses (Negative/Positive)
- Missing Data
 - Important Questions up front
 - Calculated as a non-response (0)

Response Rates (cont'd)

“...everything you do or don't do – will affect the response rate, so seemingly simple decisions...should not be taken lightly...”²

“From your very first contact with potential respondents to obtain cooperation, you have the opportunity to affect the response rate...”³



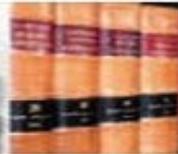
²https://oqi.wisc.edu/resourcelibrary/uploads/resources/Survey_Guide.pdf

³https://oqi.wisc.edu/resourcelibrary/uploads/resources/Survey_Guide.pdf

EXAMPLES



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8. The customer service representative was knowledgeable.

Strongly Agree

Agree

Disagree

Strongly Disagree

9. The customer service area was clean, neat, and accommodating.

Yes

No

10. Overall, how satisfied were you with your DMV experience?

Very Satisfied

Satisfied

Dissatisfied

11. Are there additional [REDACTED] functions that should be included in this inspection that have not yet been addressed?

* 6. [REDACTED] employees communicate and work well with each other.

- 1. Strongly Agree
- 2. Agree
- 3. Disagree
- 4. Strongly Disagree
- 5. Unable to rate

Comments

*** 8. Employees have opportunities to resolve problems with each other and their supervisors, and to file complaints and air grievances without fear of retaliation.**

- 1. Strongly Agree
- 2. Agree
- 3. Disagree
- 4. Strongly Disagree
- 5. Unable to rate

Comments

The survey should take only about 15 minutes, and you can provide, in strict confidence, your first-hand observations on (1) how well [REDACTED] carries out its mission; (2) your knowledge of any operational or personnel management problems or concerns; (3) your awareness of any improper activities and behavior at any level; and (4) other job-related matters. In addition, we welcome any recommendations you have to improve workplace conditions and satisfaction, and that might help you and other [REDACTED] employees function at the highest level.

*** 1. Are you currently a manager or supervisor at [REDACTED]?**

1. Yes

2. No

*** 4. The training I received within the past year was effective.**

- 1. Highly Agree
- 2. Agree
- 3. Disagree
- 4. Highly Disagree
- 5. Not applicable

*** 9. To whom did you make your complaints? (select all)**

[Q2]

[REDACTED]

Other (please specify)

The following five questions are optional. The results of your survey will still be analyzed if you do not answer the following questions, but we would appreciate your taking the time to write comments.

