



# Survey Design

Obj. 6.11: Identify potential problems in the design of survey questions.



## Survey Critique

As you take the survey below, consider any possible weaknesses in the way the questions are written.

### News Habits Survey

1) When and how do you prefer to learn of the news?

- On the internet whenever I feel like it
- On the evening news
- In the newspaper in the morning
- I don't typically follow the news

2) How much does the news depress you?

1 2 3 4 5

A lot      Not at all

3) Approximately how much time each day do you spend on the news?

Write your answer in the box below

What problems, weaknesses, or errors did you notice in the survey questions? Record your answers below:

Question #	Problem
1	
2	
3	

## DISCUSS

**Survey Obstacles**

A student wants to gather information on the obesity problem in her school. She decides to create a survey that will ask people about their height and weight (to calculate BMI), their eating habits, any health issues they have, and their self-perception of their own weight. What are some obstacles this student would face in designing and conducting her survey?

NEW  
INFO**Primary Source: Survey**

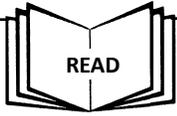
A survey is a systematic method of collecting data from a population of interest. It tends to be quantitative in nature and aims to collect information from a sample of the population. The purpose of a survey is to collect primarily quantitative (numbers-based) information, usually through the use of a structured and standardized questionnaire. Sometimes qualitative (descriptions-based) open-ended responses are used, but their usefulness is limited.

**STEPS TO CONDUCTING A SURVEY:**

- 1. Clarify purpose**  
Why conduct a Survey? Who are the stakeholders? Who is the population of interest?  
What issues need to be explored?
- 2. Assess Resources**  
What external resources will you need?  
Which accessible resources (ex: within our school) can you make use of?
- 3. Decide on Methods**  
Select the method that is most appropriate
- 4. Write Questionnaire**  
Decide on what questions to ask. Set the types of response formats. Set the layout of the questionnaire.
- 5. Revise questionnaire**  
Revise and edit the questionnaire for clarity and grammar/punctuation/spelling. It should be professional.
- 6. Prepare Survey**  
Decide on the sample design, format and method.
- 7. Collect data**  
Administer your survey to the selected population.
- 8. Process data**  
Data entry: automatic and online
- 9. Analyze the Results**  
Use statistical formulas to determine different trends.
- 10. Interpret the Results**  
What are the trends in the data telling you?
- 11. Take Action**  
Respond to the data with an intervention.

## DISCUSS

What are the advantages and disadvantages of using surveys to collect data?



## Writing Surveys

Read the following guidelines for writing excellent surveys:

### 1. Surveys should have a clear focus

What research question do you hope to answer from the survey?). This research question should serve as your guide to creating each survey question. If a particular question does not help you to answer your research question, do not include it in the survey.

### 2. Surveys should be short and questions should be concise.

When questions are stated in a clear, simple way, there is less opportunity for respondents to misread, get confused, or lose patience taking the survey.

### 3. Use closed-ended questions

These questions, in which respondents choose from a set of listed responses, are easier to analyze and are often easier for the respondent. Occasionally, open-ended question (also called a free-response question) are used in order to provide a greater depth of information.

### 4. Avoid "double-barreled" questions

A double barreled question is a single question that actually asks two different things at once. For example asking "Why do you exercise and eat right?" is actually asking two different things. People may exercise because they think its fun but eat right because they like the way healthy food tastes. Instead, the question should be separated into two different questions; "Why do you exercise?" and "Why do you eat right?"

### 5. Avoid "leading questions"

A leading question suggests a possible answer or makes some responses seem better than others. In the example above, respondents are asked "Why do you exercise"? However, some respondents may not exercise at all. Which option would a person choose below if they never exercised?

1. Why do you exercise? (select all that apply)
  - A. I exercise because it is fun
  - B. I exercise to stay healthy
  - C. I exercise because I feel good afterward

You could split this question into two separate questions. Alternatively, you can keep the questions combined as long as you include an "I do not exercise" response option.

2. *If you exercise*, what is the primary reason why you exercise? (select one)
  - A. I exercise because it is fun
  - B. I exercise to stay healthy
  - C. I exercise because I feel good afterward
  - D. *I do not exercise*

Another type of leading question makes the respondent think they should answer a question in a particular way. In the following example, the use of the word "love" makes one think that they should love math class. Even the responses to this question are biased.

3. How much do you love math class?
  - A. I love math class more than most people
  - B. I love math class the same as most people
  - C. I love math class less than most people

However, asking people how they feel about math class, instead of how much do they love math class, allows them to report their own feelings about the course.

4. Please rate your feelings about math class on the scale below:

1	2	3	4	5
I love it!		It's O.K.		I hate it!

## DISCUSS

## Response Options

Surveys can have a variety of different types of response options. Some common examples are:

### Response Options

- *Multiple choice* (Respondents only select one option; see example #2)
- *Choose from a list* (Respondents may select several options; see example #1)
- *Scale* (Respondents choose a degree of agreement with a statement; see example #4)

**Can you think of any other types of response options?**



### Practice: Create Two Survey Questions

Complete Steps 1 and 4 of the “Steps to Conducting a Survey” to practice.

#### 1. Clarify purpose

a. Select an issue you would like to collect information about:

b. Write a research question about that issue. Be sure you have two distinct variables that you hypothesize have a causal relationship. For example, if your issue is “coffee drinking and sleep” your question might be, “Do those who get less average sleep tend to be coffee drinkers?” Write your research question below:

#### 4. Write Questionnaire

Devise one question and the corresponding response options for each variable. Avoid open-ended, double-barreled and leading questions.

*Variable #1 Question:*

*Variable #2 Question:*



## Identify the Errors

Explain the error(s) or problem(s) with each question below:

1. How much do you like coffee?
  - a. I love it
  - b. I like it
  - c. I dislike it
  - d. I hate it

**Error or Problem:**

2. How much sleep do you get, on average?
  - a. a healthy amount (8 or more hours)
  - b. a moderately unhealthy amount (6-8 hours)
  - c. an unhealthy amount (less than 6 hours)
  - d. I don't know

**Error or Problem:**



## Create an Online Survey

**Assignment:** Using the two questions you devised earlier in this lesson (or new ones if you prefer), create a fun, appropriate survey using any online survey tool. Be sure your questions are not open-ended, double-barreled, or leading!

**Recommendation:** Use a “Google Form” to create your survey. More information can be found online by searching for “How to create a google survey” on google.com

**Challenge:** Add more questions and try to use different types of response options