

# Questionnaire Design

BUS 230: Business Research and Communication

## 1 Introduction

### 1.1 Goals and Learning Objectives

#### Goals and Learning Objectives

- Goals of this chapter:
  - Identify survey questions / variables needed to answer a research question.
  - Understand benefits and problems with open ended and fixed-alternative questions.
  - Be able to phrase questions to limit respondent bias.
  - Be able to order questions to limit respondent bias.
- Learning objectives:
  - LO2: Recognize and use the appropriate techniques to collect or use survey data to address a research problem.
  - LO2.C: Identify sources of respondent and administrative error and develop the ability to construct and administer a survey instrument that minimizes these errors.

### 1.2 Basic Principles

#### Basic Principles

1. What should be asked?
2. How should questions be phrased?
3. How should questions be sequenced?

## 2 What should be asked?

### 2.1 Variables

#### What should be asked?

- Get data on relevant outcome variables.
- Get data on background variables and other explanatory variables.
- Example: Living on campus and academic performance
  - Outcome variables: semester GPA, cumulative GPA, frequency using campus resources, extra curricular activities.
  - Relevant explanatory variables: high school GPA, parents' income, year in school.
- Be careful not to ask too many questions! This can decrease response rate.

### 2.2 Open-ended Questions

#### Open-ended Questions

- **Open-ended questions** can serve uses that fixed alternative questions cannot:
  - How can service be improved?
  - Viterbo might want to ask: What Viterbo community events are you aware of?
- Can get deeper answers, reasoning behind answers.
- Useful for exploratory research, though not exclusively.
- Responses can be grouped together into categories after data has been collected.
- Might be useful to even count number of responses to a particular question.

#### Problems with Open-Ended Questions

- Greater chance for respondent biases.
  - *Average person effect*: individual may not want to give a response he or she may expect is unusual.
  - *Social desirability effect*: individual may give untrue responses to demonstrate he or she cares about an issue.
  - *Acquiescence bias*: individual may give a response to placate the interviewer.

- Questions and/or expectations for answers may be unclear.
- Less anonymity: face-to-face, hand writing, or even choice of words or reasoning can expose respondents.

## 2.3 Fixed Alternative Questions

### Fixed Alternative Questions

- **Fixed-alternative questions:** questions where the interviewer provides only a limited number of answers to choose from.
- Simple dichotomous questions: respondent must pick one and only one of two possible alternatives.
  - Have you attended any UW-L varsity athletic sporting events in the last year? **Yes**  **No**
- Determinant-choice questions: respondent chooses one and only one choice from 3 or more options.
- What is your current academic status?
  - Freshman (undergraduate degree seeking / less than 30 credits accumulated)  Sophomore (undergraduate degree seeking / more than 30 and less than 60 credits accumulated)  Junior (undergraduate degree seeking / more than 60 and less than 90 credits accumulated)  Senior (undergraduate degree seeking / more than 90 credits accumulated)  Undergraduate Non-degree seeking.  Other

### Avoid Problems with Determinant Choice Questions

- Don't force invalid responses: make sure your choices are **totally exhaustive**.
- Make sure the correct choice is clear:
  - Make sure wording is sufficient and appropriate (notice definitions about college year)
  - Make sure choices are **mutually exclusive**.
- Impossible for respondents to explain, clarify, or qualify an answer:
  - Do you think women should be able to legally get an abortion? Yes / No.

## Frequency Determination Questions

- **Frequency determination questions:** Questions which ask for how often some occurrence generally happens.
- How often do you study for your classes, besides completing homework assignments?
  - One or more times every day.  4-6 times per week  2-3 times per week  Once per week  One or two times per month.  Less than one time per month.
- Look out for:
  - Should you expect frequency to be constant, or does it change by season, semester, etc?
  - Is it reasonable to suppose respondent can accurately recall frequency, according to your scale?
  - Make sure scale is totally exhaustive and mutually exclusive.

## Checklist Questions

- **Checklist question:** fixed-alternative question that allows respondent to provide multiple answers to a question.
- Please check which of the following sources of media you use at least twice per week, if any:
  - Facebook.  Network television.  Cable television.  *La Crosse Tribune*.
- Offers more flexibility than other fixed-alternative questions.

## Questionnaire Accuracy

- Write questions that generate accurate answers.
- Questions should have answers that are easy to recall.
- Be careful with questions regarding quantity or frequencies: make sure it is reasonable for respondents to accurately report these.
- Do the following questions have accuracy problems? How would you fix it?
  - How many hours per week do you usually study?
  - How many hours do you spend each week on Facebook?
  - How many hours per week do you skip classes?
  - How many credits are you taking at UW-L during Fall 2011?

## Ordinal Scales

- **Ordinal scales:** Responses to a question that have a natural order/ranking.
- Common attitude scales:
  - Strongly agree, Agree, Disagree, Strongly disagree.
  - Very satisfied, somewhat satisfied, somewhat dissatisfied, very dissatisfied.
- Common quality scale:
  - Excellent, Very Good, Fair, Poor
- Avoid ambiguous frequency scales:
  - Always, Often, Occasionally, Rarely, Never

## Using Ordinal Scales

- Avoid neutral responses (neutral response bias).
- Use no-answer responses if appropriate: no opinion / don't know.
- Limit number of choices to ensure an accurate response.
- Use words, not meaningless numbers (1-10 scales).

# 3 Phrasing Questions

## 3.1 Loaded and Leading Questions

### Phrasing questions

- Avoid **leading questions:** questions that lead the respondent to a particular conclusion.
- Avoid **loaded questions:** questions that suggest a socially desirable answer, or questions or answers that are emotionally charged.
- Examples:
  - Should foreign-born terrorists caught and held in United States detainment facilities be given the same legal rights as U.S. citizens?
  - Do you believe it is acceptable for the United States to detain potentially innocent battlefield detainees without legal representation and interrogate them by means that violate the Geneva Convention against torture?
  - Do you believe the presumption of innocence should apply to suspected enemy combatants.

## 3.2 Ambiguous Phrasing

### Avoid Ambiguity

- How often do you read your local newspaper or popular national newspapers such as the *Wall Street Journal* or the *New York Times*?  Frequently  Occasionally  Hardly Ever  Never
  - Where is the line between frequently and occasionally?
  - Does the *New York Post* count as a “popular national newspaper?”
- How many car repairs did you do in the last year?
  - Do yourself or take to a mechanic?
  - Per-car, or for all the cars you owned?
  - Repairs you made for other people?
- How would you rate your experience at UW-L?
  - What about the experience? Quality of education? Friendliness of faculty and staff? Extra-curricular experience?
  - For an “overall” question, ask something more specific and meaningful, “Would you recommend UW-L to a friend or family member?”

## 3.3 Explicit and Implicit Assumptions

### Explicit and Implicit Assumptions

- Avoid questions that make assumptions:
  - Should General Electric continue to pay its stockholders its outstanding quarterly dividends? Yes/No
  - The researcher made an assumption for the respondent, that the respondent might not necessarily believe.
- Avoid questions that assume the respondents have thought about an issue, or have knowledge of an issue:
  - Should Cartwright Center change its name? Yes / No
  - Many respondents will answer, even though they have no prior opinion and no prior knowledge of the topic.

## 4 Question/Answer Sequencing

### 4.1 Examples

#### Question/Answer Sequence

- Sometimes the ordering of alternatives can influence which outcome people pick:

- Which candidate are you most likely going to vote for in the 95th Assembly Race: Jill Billings, Nick Charles, Christine Clair, David Krump.
- Often times the ordering of questions can influence the response to the questions that follow:
  - How satisfied are you with the outside availability of your instructors at UW-L?
  - How satisfied are you with the knowledge/expertise of your instructors at UW-L?
  - How satisfied are you with the quality of your instructors at UW-L?
  - How satisfied are you with the quality of academic technology at UW-L?
  - How satisfied are you with the quality of academic resources at UW-L?
  - How satisfied are you with the quality of your education at UW-L?

## 4.2 Sequencing Strategies

### Sequencing Strategies

- **Funnel technique:** strategy of asking general questions before specific questions in order to limit question-sequence bias.
- Avoid bias by giving multiple alternative questionnaires that differ on order.
- **Filter question:** To eliminate bias caused by lack of knowledge or prior opinion, first ask questions that reveal the respondent's background on the topic, then proceed only if there is sufficient background.
  - Do you plan to vote in the upcoming Democratic primary election for the Wisconsin 95th Assembly seat?
  - Are you aware of existing arguments for and/or against changing the name of Cartwright Center?