Roadmap to Questionnaire Design

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Overview

- Formulation
- Validity and Reliability
- Translation
- Preparation
- The Pretest
Introduction

- Purpose
- Difficulties
- Proper Planning
Formulation

- Defining the Domain
- Types of Questions
- Vocabulary
- Formulating the Questions
Defining the Domain: Class Discussion

Proposed Research Study:

Graduates of Vanderbilt University School of Medicine (VUSM) are successful.

- The Research Question
- Literature Search
  - Existing Questionnaires
Types of Questions: Open-ended

- Examples
  - How would you describe success?
  - What are the primary tasks you perform at work?
- Advantages
- Disadvantages
Types of Questions: Closed

- Examples
  1. What is your annual salary?
  2. On a scale of 1 - 10, where 1 is dislike and 10 is like, rate how well you like your job.
  - Advantages
  - Disadvantages
Types of Questions: Semi-closed

- Example

1. What role have you taken the most in published research?
   a) Author
   b) Reviewer
   c) Other (specify)
      ______________
   d) None
   e) Don't Know
Defining the Domain: Brainstorming Session for Questions

In small groups on a sheet of paper, write seven open, closed, and semi-closed questions and the choices of answers for graduates of VUSM that would help us understand the proposed research study: Graduates of Vanderbilt University School of Medicine have a strong impact on published research.
Vocabulary

- Appropriate Language
  - Slang
  - Ethnic
  - Regional
- Familiar Language

Wuz up?
Fixin' to
I recon'
Y'all
Dot gone
Props
Cocodrie
Formulating the Questions: Class Discussion

Discuss the following questions requested to be answered by graduates of Vanderbilt University School of Medicine:

a. Are you an editor of a journal or a reviewer?

b. Have you recently had an article published?

c. Don't you believe receiving grant money is the most important aspect of successful research?

d. Out of the published research that you have contributed to, what was the highest impact factor?

e. How often have you bribed someone in order to be published?
Formulating the Questions: Class Discussion on Biases

a. Are you an editor of a journal or a reviewer? Double-barrelled
   Solution: Make two separate questions.

b. Have you recently had an article published? Vague words
   Solution: Try different words and ask others for feedback.

c. Don't you believe receiving grant money is the most important aspect of successful research? Leading
   Solution: Reword the question. On a scale of 1-10...
Formulating the Questions: Class Discussion on Biases

d. Out of the published research that you have contributed to, what was the highest impact factor? Ambiguous/Technical jargon/Relies on memory

Solution: Reword. Try not to rely too much on recall.

e. How often have you bribed someone in order to be published? Sensitive

Solution: If you must ask sensitive questions, try giving a lead sentence such as: Some researchers have admitted buying lunch, sending a gift.....
Formulating the Questions: Other Biases

- Complex
- Insensitive measure: Scale of 1 – 2 – 3 vs. 1 – 10
- Too few categories
- Missing and/or overlapping intervals
- Horizontal vs. vertical response format
- Length of questionnaire
- Placement of questions
- Skipping questions and branching
- Cultural differences
Group Activity:

Revise your questions

Write three additional questions
Validity and Reliability

- **Validity**
  - Content validity: Has the domain been adequately covered?
  - Face validity: Does the questionnaire look professional?
  - Construct validity: Does the questionnaire agree with existing theories and hypotheses?

- **Reliability**
Translation

“Out of sight, out of mind”

“Invisible and insane”
Translation

- Preliminary Translation
  - Expert Evaluators
  - Back Translation
- Cross-language Equivalence
Preparation

- Type of Analysis
- Establishment of Codes
  - Open-ended Questions
  - Closed Questions
- Code Book
  - Live Document
  - Precision and Completion
  - Record of Algorithms
Preparation

- Clearly define the purpose of the study.
- Provide clear and concise instructions.
- Discuss the policy on confidentiality.
- Discuss the person's right to refuse any question(s).
- Include identifying data on multi-page questionnaires.
The Pretest

• Purpose

Considerations

• Appropriate Wording
• Blank Answers
• Right Sample
• Skip Patterns
• Read Body Language

• Length
• Request Feedback from Subjects
• Listen to Feedback
• Software (Zoomerang, Adobe Live Cycle Designer, SurveyMonkey.com)
The Pretest: Group Activity

- Give constructive feedback to other groups.

- Revise questionnaires based on feedback.
Conclusion

- Start as Soon as Possible (ASAP)!
- Don't Recreate the Wheel!
- Pretest the Right Population!
- Review, Revise, Test, Review, Revise, Test, Review, Revise, Test and then after you're done doing that, Review, Revise, and Test (if time is permissible)!
I would like to recognize Cathy Jenkins and Theresa Scott for their lecture notes and assistance.
Questions?