Designing Effective Questionnaires

Assessing Attitudes, Preferences, Opinions, Beliefs, etc.
The Affective Domain

- Subjective, internal states vs. objective, external information
- Interacts with knowledge to guide behavior
  - Cognition and affect as separate systems
  - Cognition and affect as integrated systems
- Affect pervades cognition
  - Affect motivates behavior
  - Positive affect increases creativity and aspects of problem solving
Attitudes, Preferences, etc.

• The link of affect to specific events, things, concepts, people, etc. result in attitudes, preferences, opinions and beliefs

• Most common framework is a simple bipolar continuum (good-bad, like-dislike, happy, unhappy)

• Can measure valence (+/-) and intensity of attitudes, etc.
Two Main Methods for Assessment

• Ask questions
  • Do they know themselves?
  • Are they telling the truth?
• Observe behavior
  • Believe what I say, not what I do
  • Behavior influenced by any factors
  • Manipulated vs. natural behaviors
Types of Questions – Unstructured Questions

• “How do you view the educational process?”

• Strengths
  • Qualitative insight
  • Hypothesis generation

• Weaknesses
  • Poor quantification
  • Complex
  • Time consuming
Semi-structured Questions

• “What do you consider to be the three best features of this faculty member’s teaching methods?”

• Strengths
  • Qualitative
  • Confirm general hypotheses
  • Generate specific hypotheses

• Weakness
  • Limited quantification
  • Complex
  • Time consuming
Structured Questions

• “Rate your agreement with the following theories of development”

• Strengths
  • Quantification
  • Aggregation

• Weaknesses
  • Incorrect assumptions
  • Qualitative differences
Writing the Items: Common Problems

- Asking questions they can’t answer
- Double-barreled questions
- Unclear references
- Excessive jargon
- Leading questions
Problem: Questions they can’t answer

• How much will funding for your program change in the next three years?
• How many students attending your course reduce television viewing hours in order to keep up with the course work?
Problem: Double-barreled questions

• Should third and fourth year medical students have more options for electives?
• How often do your attendees arrive late or leave early from your GME activities?
Problem: Double-barreled questions

• Should third and fourth year medical students have more options for electives?
• How often do your attendees arrive late or leave early from your GME activities?
Problem: Unclear references

- Do you believe that graduating medical students are better prepared for specialty training?
- Has attendance at noon report changed in the past year?
- Do you believe that new GME models can be built around prevailing theories of adult learning?
Problem: Excessive Jargon

• Are you using social media in your education programs?
• Is your course-tracking software web-based?
• Are you currently working with your institutional CQI office to develop training modules in PBLI and SBP core competencies?
Problem: Leading Questions

• Do you believe that training in professional ethics would be worthwhile for student teachers?

• Do you support the extensive efforts of the AMA to limit inappropriate gifts to physicians from pharmaceutical companies?
Response Options: Open- v. Closed-ended

• **Open-ended**
  • longer to complete
  • requires thought
  • often left blank
  • limited control
  • more difficult to analyze
  • good follow-up to closed ended questions

• **Closed-ended**
  • quick to complete
  • focuses responses
  • subject to response sets
  • easier to analyze
  • doesn’t allow explanation of response
### Response Options

#### Likert scale

<table>
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<th>Strongly Disagree</th>
<th>Strongly Agree</th>
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<td>4</td>
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<td>4</td>
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<td>5</td>
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#### Semantic differential

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#### Visual analog

0 _____________________________________________________________________ 100
Response Options

Ranking

Rank order your favorite clerkships
(1 = most favorite, 6 = least favorite)

__ Family Medicine
__ Internal Medicine
__ Ob/Gyn
__ Pediatrics
__ Psychiatry
__ Surgery
Response Options

**Weight allocation**

Assign 100 points to the following options to reflect your learning preferences.

- ___  Reading
- ___  Lecture
- ___  Small group discussion
- ___  Individualized instruction
- ___  Learning projects
- ___  Other: ______

100 Total
Response Options: Polarity

- Unipolar
  - none – a lot
  - never – always
- Bipolar
  - strongly disagree – strongly agree
  - definitely yes – definitely no
Response Options: Neutrality

- Neutral point
  - Should you have one?
    - Is neutral a legitimate option?
    - Will respondents hide their opinions behind neutrality?
  - Labeling: “neutral,” “both agree and disagree,” “no opinion,” “not applicable”
## Which is Better? Why?

### Indicate your career goal(s)
- **a. Administration**
- **b. Teaching**
- **c. Research**
- **d. Early retirement**

### Indicate your career goal(s)

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<thead>
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<th></th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Admin.</td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>b. Teach</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td></td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
Which is Better? Why?

• How old are you (to the nearest year)? ___
  Or

• Check the appropriate age group:
  • <18 years
  • 18-25 years
  • >25 years
  Or

• Please provide your date of birth: __/__/___
Putting It All Together: Questionnaire Design
Outline of a Questionnaire

1. Introduction/explanation
2. Instructions
3. Questions
4. Thank you
Outline: 1. Introduction

• Purpose and relevance to them
  • Who is supporting (letterhead)
  • Personalize address and salutation
  • What is requested
  • Why selected
• Usefulness of questionnaire
• Appreciation for completing
Outline: 1. Introduction

• Operational information
  • Anonymity/confidentiality of responses
  • When does the survey need to be completed
  • How does the respondent return the completed questionnaire
Outline: 2. Instructions

• Almost nothing is “self-explanatory”
• Place instructions where needed
• Specify things like
  • How to respond when I don’t know
  • Circle, check, underline responses
  • Do/do not make multiple responses
  • “If yes, go to..”
Outline: 3. Questions

- Follow a logical pattern
- Group similar questions together
- Leave sufficient room for open-ended responses
- Watch the length of the questionnaire
- Pay attention to aesthetics
  - Don’t make the page too busy
  - Make things easy for the respondent
  - Use readable typeface and font
Outline: 4. Thank you

- Indicate the end of the survey
  - Thank you
  - Submit
  - The end
- Repeat instructions to return survey
  - Fax number  or email address
  - Address
  - Contact name and phone #/e-mail address
Resources

• Existing instruments
  • Buros Center for Testing
    http://www.unl.edu/buros/
  • Health and Psychosocial Instruments
    http://nihlibrary.nih.gov/
Resources