Preparing for Survey Design
EPSY 5224: Survey Design, Sampling, & Implementation

Survey design is an iterative process that requires extensive planning and thorough consideration of the intended survey audience. Perhaps *knowing your audience* is the greatest strength in meeting the goals of the survey project, the heart of the Tailored Design Method. The one task in survey design that is neglected the most is the planning stage, taking the time before item writing to consider important issues related purpose, population, and potential rewards, costs, and trust (elements of Social Exchange Theory). The hypothesis is that the success of the survey is largely a function of the planning and preparation conducted prior to instrument development. To support this planning, the following questions are offered as a tool to inspire thoughtful consideration of the context of the survey – prior to item writing. Responses to these questions can be used to maximize the effectiveness of item writing.

Purpose & Mode

1. What is the purpose for the survey? What are the essential requirements or information needs?

2. What is the intended mode of administration? Is this appropriate given the nature of the information needed?

Population Considerations

3. Who is the intended population?

4. Are there special characteristics of the population that are relevant to survey design or mode?

5. Are there communities in the population that require unique attention or special considerations?

6. What characteristics need to be considered when thinking about writing questions, including language, reading level, length of survey, type of question formats?

Rewards, Costs, & Trust

7. Are there considerations for appropriate incentives or motivational approaches? How can you incentivize or motivate your population in appropriate respectful ways?

8. What are the potential costs incurred by taking the survey? What barriers might be present to make survey response difficult for respondents?

9. Are there potential sponsors or other social-exchange relationships that can be utilized to support the survey purpose?

10. What personal or background information is essential to achieve the purpose of the survey? How will such information be used to meet the survey purpose?

Chapter 9: Formats and Guidelines for Survey Items

Selected-Response (SR) Formats (pp. 153-155)

We have three recommended SR formats. The first is the omnipresent rating-scale item, where an ordered set of responses is provided. Here the example is the disagree-to-agree rating scale. Other rating scales reflect frequency, quality, satisfaction, or any other ordered characteristics. Rating scales also can be unidirectional (e.g., rarely to frequently) or bidirectional (e.g., agree to disagree). The second is the alternate-choice item. In the example below, the alternate choice is yes/no, but it could be accept/deny, support/do not support, true/false. The third is the multiple-choice item. This example below is check-all-that-apply. However, as we recommend in guideline 27, there are better formats of this type, such as a forced-choice version. Many examples of SR formats are presented throughout this chapter.

1. *Do you disagree or agree that courses delivered entirely online meet the same quality standards as classroom courses?*
   ○ *Disagree*
   ○ *Tend to disagree*
   ○ *Tend to agree*
   ○ *Agree*

   ○ *Do not know*

2. *Would you consider registering for an online course if the topic was of interest to you?*
   ○ *Yes*
   ○ *No*

3. *I use the following sources to stay up to date on the upcoming national election.*
   ☐ *Internet*
   ☐ *Magazines*
   ☐ *Newspapers*
   ☐ *Radio*
   ☐ *Campaign Signs*
   ☐ *Television*
   ☐ *Word of mouth*

Another form of SR survey item is the ranking item, which requires respondents to enter or select a ranking for each option. We recommend against this format because other formats provide the same information with less effort (guideline 29).

Constructed-Response Formats

We have many CR survey item formats. These include (a) a numeric response, (b) a single short response, (c) a list of items, and (d) a description or elaboration. These four CR survey item types are illustrated below.

4. *For how many years have you lived in your current residence?*
If less than 1 year, enter 0.

☐ *years*

5. Who is your <u>favorite</u> author? _____

6. *List three important characteristics of an academic advisor?*
Characteristic #1: _____
Characteristic #2: _____
Characteristic #3: _____

7. *Describe one thing that you would like to change about your school?*

☐

CR items typically take the form of a question or prompt with a blank space or text box where survey respondents provide their responses, which varies from a single word or number to an extended response. This CR format works well when the intent is to obtain descriptive information or when the number of plausible options is very large. One criticism of the SR survey item is that the options available for selection for any given item force respondents to respond in a way they may not wish or that the available options influence responses. In addition, when the survey item developer is investigating a topic for which little is known, CR items allow the survey developer to explore the realm of possibilities as perceived or experienced by the respondents. Both require careful early planning in the item development stage, placing intended content and cognitive demand at the forefront. CR responses can also take the form of a drawn figure, diagram, map, or other graphical images.

Selecting the Format

The SR format offers the greatest ability to make inferences to a population since all respondents consider the same options. CR formats provide descriptive, but often divergent, information, which is less useful for generalization and population-based inferences. Each format has costs and benefits. Based on the guidelines described in this chapter, the survey designer must determine which benefits are most needed and worth the costs that may be incurred.

It is difficult to obtain precise quantitative results in a survey item, such as weight or time. Survey item developers typically create categories (ranges) for such values. Thus, accuracy is sacrificed. The survey item developer must balance the need for an accurate quantitative response with a more convenient and efficient, but less precise, range of values.

A common example of a choice between SR and CR formats is the survey item regarding age of respondent. Consider the two formats. Note that the CR format requires a numeric entry. The first SR format has seven age categories and the second has four age categories. The need for information should be determined by the purpose of the survey. Perhaps specific age information is not required for the intended uses of the survey data. Also, as explained by Social Exchange Theory, obtaining precise age from respondents who are unwilling to provide personal information may be difficult.

8.   *What is your age in years?*

☐ *years*

9.   *Please indicate your age within the following ranges.*
        ○ *16-25 years*
        ○ *26-35 years*
        ○ *36-45 years*
        ○ *46-55 years*
        ○ *56-65 years*
        ○ *66-75 years*
        ○ *76 or more years*

10.   *Please indicate your age within the following ranges.*
        ○ *16-35 years*
        ○ *36-55 years*
        ○ *56-75 years*
        ○ *76 or more years*

Many of the costs and benefits for CR formats in survey items are similar to those with test items (see chapter 12 on scoring). The choice of item format is also similar to the SR/CR format decisions in achievement and ability tests, which was discussed in chapter 4.

Table 9.2 (p. 155)

General Survey Item-writing Guidelines

1.	Every item is important and requires a response. The item should apply to all respondents, unless filter questions are used to exclude a respondent.
2.	Avoid double-barreled items.
3.	The item should be technically accurate.
4.	An item should be complete question or complete sentence with a simple structure.
5.	Use as few words as possible in each item stem and options.
6.	Use simple, familiar words; avoid technical terms, jargon, and slang.
7.	Use specific, concrete words to specify concepts clearly; avoid words that are ambiguous or words with multiple or regional meaning.
8.	Avoid negatively worded or connotatively inconsistent items and options.
9.	Avoid leading or loaded items that suggest an appropriate response.
10.	Check for the presence of troublesome words.

Table 9.3 (p. 163)

Selected-Response and Constructed-Response Survey Item-Writing Guidelines

Ordinal SR Survey Items
11. Balance the item stem.
12. Response scale should be logically consistent with the item.
13. Choose an appropriate rating scale length - in general, four categories may be sufficient.
14. Avoid the middle or neutral category.
15. Provide balanced scales where categories are relatively equal distance apart conceptually.
16. Maintain spacing between response categories that is consistent with measurement intent.
17. Choose construct-specific labels to improve response accuracy.
18. Verbally label all response categories.
19. Avoid the use of numeric labels.
20. Align response options vertically in one column (single item) or horizontally in one row (multiple items).
21. Place non-substantive options at the end of the scale, separate them from substantive options.
22. Response categories should be exhaustive, including all plausible responses.
23. Response categories should be mutually exclusive.
24. Response categories should approximate the actual distribution of the characteristic in the population.

Nominal SR Survey Items
25. Place options in alphabetical or logical order.
26. Avoid the *other* option.
27. Use forced-choice items instead of check-all-that-apply items.
28. Use differently shaped response spaces to help respondents distinguish between single-response (circles) and multiple-response (squares) items.
29. Avoid ranking items; if necessary ask respondents to rank only a few items at once.

CR Survey Items
30. Clearly define expectations for response demands.
31. Specify the length of response or number of responses desired in the item stem.
32. Design response spaces that are sized appropriately and support the desired response.
33. Provide labels with the answer spaces to reinforce the type of response requested.
34. Provide space at the end of the survey for comments.

Table 9.4 (p. 164)

One-sided and Balanced Item Stems

One-sided	Balanced
To what extent do you agree with the following statements?	Do you agree or disagree with the following statements?
Please rate your level of satisfaction with your student experience.	Please rate your level of satisfaction or dissatisfaction with your student experience.
During the last school year, how often did you do the following?	During the last school year, how often, if at all, did you do the following?
How important are the following programs to your child's school experience?	How important, if at all, are the following programs to your child's school experience?

26.   Avoid the *Other* option (p. 177-178)

Guideline 12 requires that the lists of options be exhaustive. However, if the list is too long, it is tempting to simply use a catchall *other*. The *other* option allows for unique responses that are difficult to interpret. The *other* response may be useless because other respondents did not have an opportunity to see and choose from the unique *other* responses. In fact, when a respondent creates a unique response, the item is a unique item.

It is likely that personality characteristics unrelated to the construct being surveyed determined whether the respondent selects a provided option rather than construct a response. In any case, no consistent interpretation is possible from such responses. Consider an example.

72.   Who makes the best hamburger?
  ○ *Burger King*   (13%)
  ○ *Culver's*   (21%)
  ○ *Hardee's*   (4%)
  ○ *McDonald's*   (13%)
  ○ *Wendy's*   (15%)
  ○ *White Castle*   (9%)
  ○ *I don't know*   (3%)
  ○ *Other (please specify):*   (Smash Burger: 17%; My dad: 4%; Various responses: 2%)

There is an implicit assumption that the respondent has eaten a hamburger at all of the listed establishments. Otherwise they cannot accurately respond. The question of *Who* is vague. The question invites responses that include individuals or even oneself. If this item was administered online, one might consider randomizing the order of options. Second, an *I don't know* option is offered for those individuals who do not eat hamburgers or who do not eat out.

Consider the results contained in the parentheses following each option, based on 200 respondents, 3% reported *Don't know*. The data analyst may delete these responses and consider them missing. This action will not eliminate the bias introduced with the *other* option.

What are the appropriate inferences from such results? The results clearly show the most popular burger places, but the 17% for Smash Burger as listed from the *other* option distorts our interpretation.

From a statistical perspective, making comparisons across pre-specified and *other* options is not appropriate. Not all respondents were given the opportunity to respond to the *other* options. This item is badly flawed due to the omission of *Smash Burger*.

When deciding item format or content, we must consider the purpose of the survey. If someone is surveying for information regarding opening a new franchise, then the options should be more suitable for those being surveyed and for the purpose of the survey. The item should be rephrased.

The *other* option is a natural way to finish a list of options on a pilot version of an item. However, after the pilot test, the *other* option should be eliminated.

Social Exchange Evaluation Tool
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This tool is designed to help you evaluate the use of social exchange in surveys, including your own. For this class project you will review a survey and decide if the survey has utilized any/all of the social exchange methods discussed by Dillman and his colleagues in Chapter 2 of *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method*.

Increasing Benefits

Look at the survey and check the appropriate box. You may provide a comment to justify your response. Does the survey…

Yes	No		Comment
☐	☐	specify how the results will be useful?	
☐	☐	Ask for help or advice?	
☐	☐	Ask interesting questions?	
☐	☐	Utilize a sponsorship?	
☐	☐	Stress that opportunities to respond are limited?	
☐	☐	Convey that others have responded?	
☐	☐	Use cash and material incentives to encourage (but not require reciprocity)?	
☐	☐	Recognize that benefits have additive effects and can reinforce one another?	
☐	☐	Do not deny the existence of benefits?	

Decreasing Costs

Look at the survey and check the appropriate box. You may provide a comment to justify your response. Does the survey...

Yes	No		Comment
☐	☐	reduce the burden of length?	
☐	☐	reduce complexity?	
☐	☐	use visual design principals to make questionnaires?	
☐	☐	avoid subordinating language?	
☐	☐	make it convenient to respond?	
☐	☐	avoid requiring respondents to provide answers in a survey mode that is uncomfortable for them?	
☐	☐	recognize that offering a choice of response modes may lower response rates?	
☐	☐	minimize requests to obtain personal or sensitive information?	
☐	☐	show similarity to other requests to which a person has responded?	

Establishing Trust

Look at the survey and check the appropriate box. You may provide a comment to justify your response. Does the survey...

Yes	No		Comment
☐	☐	emphasize sponsorship by a legitimate authority?	
☐	☐	build upon previously established relationships and friendships?	
☐	☐	provide a token of appreciation in advance?	
☐	☐	assure confidentiality and protection of data?	
☐	☐	design communications with professionalism in mind?	