Survey Development Guide

The following steps will help design questions for a survey such that the questions meet the research objectives. The survey should maximize the ease that respondents can answer the questions. Remember that the survey development process is iterative and may involve multiple rounds of testing and refinement to enhance the survey's validity. This guide is not meant to be comprehensive and a consultation with survey expert/biostatistician is strongly encouraged.

1. Define the research objective: Determine the purpose of the survey, the specific construct(s)[1] or domains you aim to measure, and the population of interest.
    a. Note the ASBrS membership is predominantly surgeons with a demonstrated interest in breast surgery. Surveys inquiring about practices outside of the purview of breast surgical oncology will not be considered.
2. Develop the survey items:
    a. When possible, it may be helpful to select a survey or subscales that have been validated to assess the constructs of interest in the target population. If using an existing scale, items may need to be adapted and validated.[2]
    b. Generate a pool of potential survey questions or items that are relevant to the construct and population of interest. These items should tap into different aspects of the construct and be formulated in a clear and understandable manner. Follow survey design best practices to develop questions.[3] Recognize when it is appropriate to use closed versus open-ended questions.[4] Avoid incomplete question wording, poorly defined terms (ambiguous terms/concepts), and multiple questions in a single question. Care should be taken to minimize item response bias by judiciously placing questions that may influence participants' responses to subsequent questions (e.g., demographics at beginning of survey versus the end).[5, 6]
3. Expert review: Seek feedback from subject matter experts or individuals with expertise in the construct or field related to your research. They can review the survey items for content validity and provide suggestions for improvement.[7]
4. Pretesting: Conduct a pilot study or pretest with a small sample of participants (who are not your primary survey participant) by asking them to read and restate each item aloud in their own words to the researcher.[8, 9, 10] This step helps identify potential issues with item clarity, response options, or instructions. It also allows you to gauge how well the survey captures the construct of interest.
5. Construct validation: After pretesting, you assess the construct validity of the survey.[11] This involves analyzing the data collected during the pretest phase to evaluate how well the survey items measure the intended construct. Common techniques for construct validation include factor analysis, convergent validity, discriminant validity, and reliability analysis.[12]
6. Revision and refinement: Based on the results of the construct validation, revise the survey items, instructions, or response options as needed. This iterative process aims to improve the survey's validity and ensure that it effectively measures the intended construct.
7. Main data collection: Once the construct validation steps are completed, and the survey has been refined, it is ready for use in the main data collection.

Survey Development Checklist

Please ensure you have completed the following steps prior to submitting the survey for consideration by ASBrS.

- ☐ Define the research objective
- ☐ Survey item review by subject matter experts
- ☐ Pretesting of questions
- ☐ Construct validation of survey questions
- ☐ Refinement of questions as needed

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This document was been approved by the ASBrS research commitee on September 1, 2023