



# **SURVEY DEVELOPMENT: PROCESS AND EXPECTATIONS**

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## WHAT IS A SURVEY?

- A survey is an instrument for collecting information (or data) from a sample (or the entire population) to describe, compare, relate, or predict their attitudes, opinions, behaviors, characteristics, or knowledge (Creswell, 2008; Fink, 2003).



# TERMINOLOGY

- Instrument
  - A measurement tool used to collect scientific data
- Survey
  - an instrument for measuring attitudes, opinions, behaviors, characteristics, or knowledge
- Questionnaire
  - A self-report survey
- Assessment
  - An examination of one's knowledge and skills (educational) or mental health (psychological)
- Inventory
  - Psychological assessment tool



# WHEN TO USE A SURVEY

- To assess trends
- To assess opinions, beliefs, and attitudes
- For follow-up analyses
- For evaluations

Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Upper Saddle River, NJ: Pearson Education.



# STEPS IN CONDUCTING SURVEY RESEARCH

1. Identify the research questions
2. Identify the survey objectives
3. Identify the population, target population, sample, and sampling procedures
4. Determine the survey design and data collection procedures



## STEPS IN CONDUCTING SURVEY RESEARCH (CONT'D)

5. **Select or prepare a reliable and valid survey instrument**
6. **Pilot test the survey**
7. Obtain appropriate Committee and IRB approvals
8. Administer the survey
9. Manage and analyze survey data
10. Report the results

# TYPES OF SURVEYS

- Self-administered Questionnaires
  - Respondents complete by themselves
  - Examples
    - Mailed, paper and pencil, electronic
  
- Interviews
  - Requires at least two people
  - Examples
    - Telephone, face to face, video-conferencing





# DETERMINE WHETHER AN APPROPRIATE INSTRUMENT ALREADY EXISTS

NSU Librarians

Joana Fernandez-Nunez and Laura Ramirez



# LOCATING AN INSTRUMENT FOR DATA COLLECTION

- Look in published journal articles
- Run an ERIC search and a descriptor for the instrument you want in an online search to see if there are articles that contain instruments
- Check the Tests and Measurements Database
  - HAPI, Tests in Print, Test Reviews Online
- Check Mental Measurements Yearbook published by the Buros Center at the University of Nebraska

<http://www.unl.edu/buros/bimm/html/index00.html>



# CRITERIA FOR CHOOSING A GOOD INSTRUMENT

- Does the instrument have high reliability and validity?
- Have authors developed the instrument recently?
- Is the instrument widely cited by other authors?
- Are reviews available for the instrument?
- Does the procedure for recording data fit the research questions/hypotheses in your study?
- Does the instrument contain accepted scales of measurement?

Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Upper Saddle River, NJ: Pearson Education.



DEVELOPING A SURVEY  
INSTRUMENT

## USE AN EXPERT PANEL

- Choose a **formative committee** consisting of approximately three experts in the field to help inform (or create) the survey.
- Choose a **summative committee** consisting of approximately three (different) experts in the field to validate (or verify the legitimacy of) the survey.
- The formative committee creates the survey questions, while the summative committee verifies/approves the questions. Iterations of the survey go back and forth until both committees approve the survey instrument.



## DETERMINE THE SURVEY'S CONTEXT

- Identify the survey's purpose
- Clarify the terms used in the survey's purpose.
- Ensure the specific objectives of the survey are in place.
- Know your respondents
- Carefully balance what you want to need to know with time constraints.
  - Start by determining the number of questions for each topic/objective.

## DETERMINE THE SURVEY'S CONTEXT (CONT'D)

- Standardize the surveyor
- Standardize the response format
- Consider the social, cultural, and economic context.
  - Anonymous vs. confidential

# GUIDELINES FOR ASKING SURVEY QUESTIONS

- Ask **purposeful questions** that are specifically related to the survey objectives.
- Ask **concrete questions** that are precise and unambiguous.
- Use specific **time periods** that match the event or situation.
- Use **conventional language** in the survey questions.
  - Use complete sentences
  - Avoid abbreviations and acronyms
  - Avoid slang and colloquial expressions
  - Be careful of jargon and technical expressions

# GUIDELINES FOR ASKING SURVEY QUESTIONS (CONT'D)

- Have the questions **reviewed by experts**
- Have the questions **reviewed by potential respondents**
- **Adapt questions** from other surveys
- Avoid **wordy questions**
- Avoid **loaded questions**
- Avoid **bias**
  - Understand the culture and values of your respondents.
- Avoid **double-barreled questions**
- Avoid **negative questions**
- Avoid questions that are **not applicable to all participants**





## TYPES OF QUESTIONS TO INCLUDE

- Closed-ended (or closed) questions
  - Respondents choose from preselected answers
- Open-ended (or open) questions
  - Respondents use their own words



# CLOSED-ENDED QUESTIONS

## ○ Benefits

- Questions are easier to standardize
- Questions have higher reliability
- Data collection, data entry, and data analysis is generally easier
- Respondents may feel more comfortable responding
- The survey can be administered quickly

## ○ Weaknesses

- Questions are more difficult to write
- Must know possible answers or response choices in advance



# OPEN-ENDED QUESTIONS

- Useful for
  - Getting unanticipated answers
  - Learning the viewpoint of your respondent
  - Giving respondents freedom of expression
- Weaknesses
  - Takes longer for respondents to answer
  - Difficult to make comparisons across respondents
  - Data analysis is more time consuming
  - Interpretation can present challenges

## CLOSED OR OPEN QUESTIONS?

- What is the survey's purpose?
- What are the characteristics of the respondents?
- Are the response choices known?
- Do you have the skills or resources to analyze the data?
- Will you report individual or grouped verbal responses or statistical data?

# RESPONSE CHOICES FOR CLOSED QUESTIONS

- Nominal
  - Responses options fall into separate categories (e.g., gender)
- Ordinal
  - Response options can be rank ordered (e.g., Likert scales)
- Numerical
  - Response options contain numbers (e.g., age, years of service)

# NOMINAL RESPONSE MEASURES

- Used to categorize respondents (e.g., male or female)
- Often used to obtain demographic information
- Can be used for inclusion (or exclusion) criteria
- Categories should be mutually exclusive
- Response categories should be exhaustive
  
- **IMPORTANT NOTE:** Results can only be expressed as counts and frequencies

# SAMPLE NOMINAL RESPONSE QUESTIONS

- Which best describes your ethnicity?
  - White, non Hispanic
  - White, Hispanic
  - African American
  - Asian
  - Native American
  - Other (please specify \_\_\_\_\_)
  
- What is your gender?
  - Male
  - Female



# ORDINAL RESPONSES

- Responses are ordered
- Likert scales are the most common
  1. Strongly Disagree
  2. Disagree
  3. Neither Agree nor Disagree
  4. Agree
  5. Strongly Agree
  
- The big debate on analyzing Likert scale data!!





# GUIDELINES FOR ORDINAL RESPONSES

- Use a meaningful scale
  - Match the question to the response
- Consider the type of response option
  - Agreement (Strongly agree to Strongly disagree)
  - Frequency (Often to Never)
  - Satisfaction (Very satisfied to Very dissatisfied)
  - Intensity (None to Severe)
  - Judgment (Excellent to Poor)
  - Influence (Big problem to No problem)
  - Comparison (Much more than others to Much less than others)
  - Endorsement (Definitely true to Definitely false)



# GUIDELINES FOR ORDINAL RESPONSES (CONT'D)

- Balance response options
- Use a neutral category only if it is valid (pilot with and without or ask during pilot)
- Use 5- to 7-point rating scales
- Be consistent in order of response scale across survey
- Keep self-administered questionnaires uncluttered and easy to read
  - Ensure the response options are clear!!

# SAMPLE ORDINAL RESPONSE QUESTIONS

- Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neutral or Not Sure	Agree	Strongly Agree
Overall my coursework prepared me for my future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall I am satisfied with my education at NSU.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My education at NSU has increased the quality of my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will encourage others to enroll at NSU.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# NUMERICAL RESPONSES

- Ask respondents to produce numbers
- Can be discrete or continuous
- Can be interval or ratio data
  
- Allow for a wide range of statistical techniques



# SAMPLE NUMERICAL RESPONSE QUESTIONS

- As of today, what is your current age, in years?
  - \_\_\_\_\_ years old
- How many professional development trainings have you attended this school year?



# ATTITUDES

- A general way of thinking
- Synonymous with
  - Opinions
  - Beliefs
  - Preferences
  - Feelings
  - Values
- Questions should have two components:
  - Feelings - **How** respondents feel
  - Intensity - **How strong** respondents feel
- Example: How satisfied are you with your current job?

Fink, A. (2002). *The survey kit* (2nd ed.). London: Sage Publications.



# BEHAVIORS

- What respondents do
- Questions are concerned with
  - **Time**
  - **Duration**
  - **Frequency**
  
- Potential problems
  - **Recall**
    - Use specific and appropriate time frames
    - Use exhaustive lists



# BEHAVIORS: SAMPLE QUESTIONS

- How often do you exercise?
  - ❑ Every day
  - ❑ 2 to 3 times a week
  - ❑ 4 to 6 times a week
  - ❑ Once a week
  - ❑ Once every other week
  - ❑ Once a month
  - ❑ Less than once a month
  
- How many times did you exercise in the last 2 weeks?
  
- **IMPORTANT NOTE:** How you ask a question depends on the type of data you want to gather.





# KNOWLEDGE

- Measure what respondents know about a given topic
- Things to consider:
  - **Difficulty**
  - **Threat**
- Example: When was the No Child Left Behind Act mandated?

## DEMOGRAPHIC INFORMATION

- Learn the characteristics of the targeted respondents so response categories are appropriate.
- Decide on an appropriate level of specificity.
- Ask for exact information through an open-ended question.
- Use current terminology
- Consider borrowing questions from other surveys (e.g., SurveyMonkey.com has a list of demographic questions)

## ADDITIONAL CONSIDERATIONS

- Permissions
  - When do I need to ask permission?
  - Copyright laws and fair use guidelines
- Negative questions and reverse scoring
  - Pros and cons
- Multiple Item Measures
- Other Considerations?



# SURVEY RESPONSE RATES

- A typical response rate for a survey is 30–35%.
- Therefore, you should overestimate your sample size to account for this.
  - For example, if you want your sample size to be 300, you will need to administer close to 1,000 surveys in order to get 300 participants.
- What are some ways to increase the response rate?



PILOT TESTING

## PILOT TESTING

- Administer the survey to a small number of potential participants.
- Ask for written feedback on the questions.
- Revise the survey based on the written comments by enlisting the help of the formative and summative committees.
- Exclude the pilot participants from the final sample for the study.

# QUESTIONS FOR PILOT PARTICIPANTS

## ○ Self-Administered Questionnaires

- Were the instructions clear and easy to understand?
- Were any of the questions confusing or hard to understand?
- Were directions on how to respond clearly stated and easy to understand?
- Are the response choices mutually exclusive?  
Exhaustive?
- Did you have difficulty answering any of the questions?
- Were the questions presented in a logical order?
- Approximately how long did it take you to complete the survey?



## QUESTIONS FOR PILOT PARTICIPANTS: SELF ADMINISTERED QUESTIONNAIRES (CONT'D)

- If you are incenting respondents, do they understand how to obtain the incentive?
- Do you feel your privacy was respected and protected?
- Do you have any suggestions regarding the addition or deletion of questions, clarification of instructions, or improvement of the format?
  
- For mailed surveys
  - Do respondents understand how to return the survey?
- For electronic surveys
  - Were there any problems completing the survey? Any computer glitches?





# QUESTIONS FOR PILOT PARTICIPANTS: INTERVIEWS

- If other interviewers, do they understand how to ask questions and record responses?
- Do interviewees understand the questions?
- Were the instructions clear and easy to understand?
- Were any of the questions confusing or hard to understand?
- Did you have difficulty answering any of the questions?
- Were the questions presented in a logical order?
- If you are incenting respondents, do they understand how to obtain the incentive?
- Do you feel your privacy was respected and protected?



## REVISE SURVEY

- Revise the survey based on input from the pilot test
- Utilize assistance of the formative and summative committees
- Gain approval from both committees





**STUDENT EXPERIENCES WITH  
DEVELOPING A SURVEY**

*Anthony Stuckey, current EdD student*

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NEXT STEPS

# OBTAIN APPROVAL AND CONDUCT THE STUDY

- Obtain appropriate approvals
  - Site administrator
  - Dissertation committee
  - ARC Approval
  - IRB Approval
    - cooperating site IRB approval
    - NSU IRB approval
  - Participant consent



# PLANNING AND CONDUCTING AN ELECTRONIC QUESTIONNAIRE

- Write an email invitation to invite the participants to complete the questionnaire
- Form and construct the questionnaire using an online survey software (e.g., SurveyMonkey.com)
- Identify what statistical procedures will be used to analyze data from the questionnaire

# PLANNING AND CONDUCTING A MAILED QUESTIONNAIRE SURVEY

- Write a cover letter to invite the participants to complete the questionnaire
- Form and construct the questionnaire
- Identify what statistical procedures will be used to analyze data from the mailed questionnaire

# PLANNING AND DESIGNING AN INTERVIEW SURVEY

- The interviewer should maintain a neutral stance during the interview
- Train the interviewers prior to the interview
- Take good notes of responses or use a tape recorder
- For telephone interviews, develop a telephone interview guide prior to the interview
- Determine how you will analyze the interview data