



Quantitative methods: writing and scoring surveys

4th Aug 2020

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Quantitative data:

- **Advantages:**
- Questionnaires are often less time consuming than interviews or other in-person qualitative research methods.
- They're a common, fairly simple way to collect data.
- They can be a cost-effective option for gathering data from a large sample.
- Easy to summarize, compare, and generalize
- attempts to estimate the size of a phenomenon of interest



Quantitative data:

- **Limitations:**
- Responses may lack depth and provide limited information.
- Respondents may lose interest or quit if the questionnaire is long.
- Respondents may not understand all questions, which would lead to inaccurate responses.
- If not well developed, may fail to provide the necessary information of interest





Questionnaires

- widely used data collection methods in M&E
- These can provide both quantitative and qualitative data
- In Part 4 of the training series: we covered the analysis of qualitative data collected from open ended questionnaire items
- Today we look at creating closed-ended questions to obtain quantitative data;





Questionnaires

- may help simplify and quantify people's behaviors and attitudes
- Attempts to fit diverse experiences into predetermined response categories eg ratings like the likert scale
- Validated versus non-validated questionnaire

Developing a questionnaire



Step 1--Background

- Determine the purpose, objective, evaluation questions
- Determine who is your audience; what is their background, especially their educational/technicality levels
- Thorough understanding of the program or topic through literature search and readings is a must to effectively develop a good questionnaire
- Start thinking of how respondents will be selected



Step 2—Questionnaire conceptualization

- After developing a thorough understanding of the topic/program
- generate statements/questions for the questionnaire- transform content curriculum into questions/statements
- Statements may be phrased in the affirmative or vice versa to adequately assess the respondents

Step 3--Format and Data Analysis

- Selection of appropriate scales of measurement
- Scales attempt to quantify a subject's response on a particular variable
- Examples of scales;-likert scales, nominal categories eg yes/no/don't know
- Choose a questionnaire layout, format, question ordering etc

Example of likert scales

Frequency	Never	Rarely	Sometimes	Often	Always
Quality	Very poor	Poor	Fair	Good	Excellent
Intensity	None	Very mild	Mild	Moderate	Severe
Agreement	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Approval	Strongly disapprove	Disapprove	Neutral	Approve	Strongly approve
Awareness	Not at all aware	Slightly aware	Moderately aware	Very aware	Extremely aware
Importance	Not at all important	Slightly important	Moderately important	Very important	Extremely important
Familiarity	Not at all familiar	Slightly familiar	Moderately familiar	Very familiar	Extremely familiar

Step 4--Establishing Validity

1. Is the questionnaire valid? In other words, is the questionnaire measuring what it intended to measure?
2. Does it represent the content?
3. Is it appropriate for the sample/population?
4. Is the questionnaire comprehensive enough to collect all the information needed to address the purpose and goals of the program?
5. Does the instrument look like a questionnaire?



Step 4--Establishing Validity (cont)

1. Is the questionnaire valid? In other words, is the questionnaire measuring what it intended to measure?

Establishing Construct Validity is established using a panel of experts and a field test; probably the most complex process of all the types of validity

2. Does it represent the content?

Establishing content validity

3. Does the instrument look like a questionnaire?

Face validity



EXAMPLE 1: Exploring the example used in Part 4

Addresses program indicators:

1.1 Girls know that they have rights and can clearly articulate those rights.

- Develop a questionnaire to collect data on this two indicator of the program
- Explore what is contained in the curriculum on rights, you can include some true & false statements as in the example below
- Cover as much of the curriculum content as possible
- Which of the following are child rights?
 - Right to Equality
 - Right to Education
 - Freedom from household chores
 - Right to furniture
 - Freedom from harassment or humiliation
 - Right to religion

EXAMPLE 1: Exploring the example used in Part 4

Addresses program indicators:

- 1.2 Girls feel empowered by knowledge about their rights.
- This can be assessed can using a question eg
- Does knowing about your rights make you feel empowered?
(yes/no/maybe/don't know)

OR

- statements in which they indicate how much they agree/disagree with the statements
- After learning about my rights as a girl, I feel empowered (strongly agree to strongly disagree)



Example cont

- NOTE: this questions or statements, evaluate whether they FEEL empowered or not, and they are information obtained is subjective and findings maybe limited by a number of things eg do the girls understand what is empowerment?
- A different way to assess empowerment would be to attempt to “measure” empowerment among the respondents
- This entails developing a set of questions that are designed to measure the concept of “empowerment” and going through the process of establishing validity as previously discussed OR
- Adopting a pre-validated empowerment scale and/or adapting it to your context

Example 2: Scoring on the agency survey Self-Esteem Scale

1. On the whole, I am satisfied with myself. (**se_1**)

- Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

2. I am able to do things as well as most other people. (**se_4**)

- Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

3. I feel useless at times. (**se_6**)

- Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

4. I'm a person of worth, at least one who is equal to others. (**se_7**)

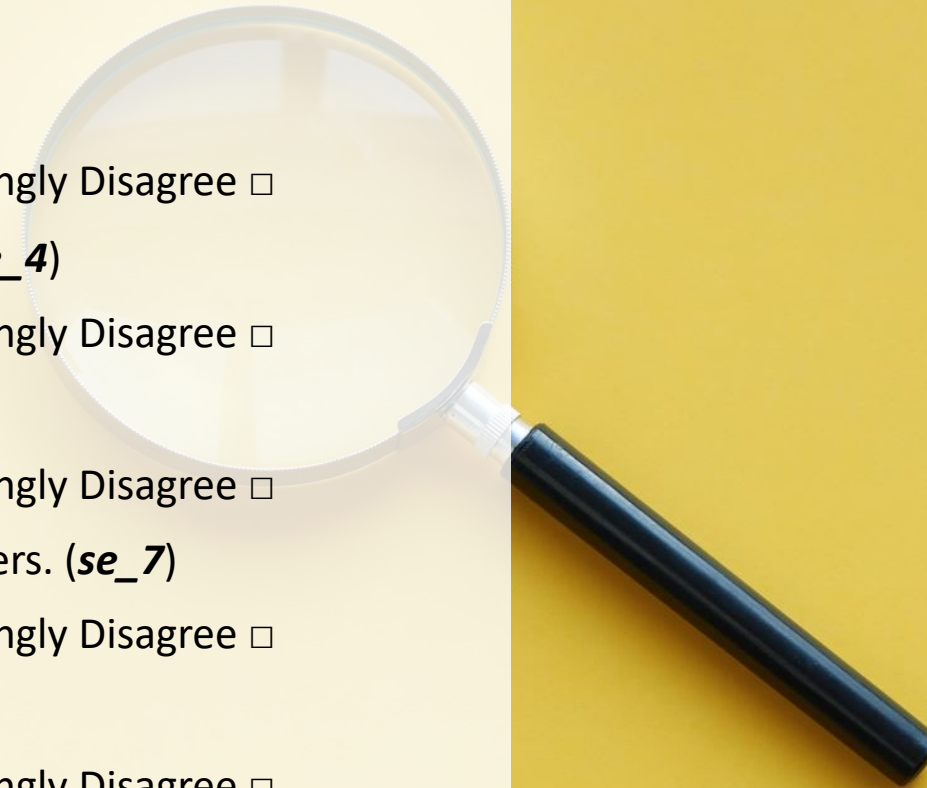
- Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

5. All in all, I feel that I am a failure. (**se_9**)

- Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

6. I take a positive attitude toward myself. (**se_10**)

- Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐



Example: Cont

- Let's assign code
- Give “Strongly Disagree” 1 point, “Disagree” 2 points, “Agree” 3 points, and “Strongly Agree” 4 points.
- Note Qn 3 & 5, are reversed hence would need to be reverse coded
- Sum scores for all items. Keep scores on a continuous scale. Higher scores indicate higher self-esteem
- **NOTE:** summing all item scores is one way of scoring self-esteem **BUT** it should be noted that items do not usually contribute the same weight to the attribute in question and there are advanced statistical techniques (not discussed today) used to determine overall scores

Assigning codes: Tips

- Scores allow you to assign a value to each code
- If the intention is to produce an aggregate score of a section or entire questionnaire, assign codes/values in a logical ranking order this may be ascending/descending order
- It's quite important to decide what you do with your "Don't Know" values in terms of judging the score of your respondents. By using a code you can choose to score them as a neutral value, or discard them from the calculation.

Validated vs Non validated

- For psychometric tests, standardized tests or validated assessments are recommended
- Examples of psychometric tests; agency, self-esteem, depression, resilience etc
- Where a validated instrument exists, it is highly recommended to use it for evaluation but may sometimes need to be adapted to the context in question
- This approach may be limited by the technical expertise of relevant staff, hence you may need to weigh the requirements of the audience consuming the results of the evaluation vs technicality

1.	Can sports benefit people's health?	yes	no	don't know
1.	Is it OK for girls to play sports?			
a.	a. Is it OK for girls to cycle?	yes	no	don't know
a.	Is it OK for girls to play Football?	yes	no	don't know
a.	Is it OK for girls to play basketball?	yes	no	don't know
a.	Is it OK for girls to play volleyball?	yes	no	don't know
1.	Is it OK for girls to play sports with boys?	yes	no	don't know
1.	Is it OK for a girl to beat a boy in sports?	yes	no	don't know

Assigning
codes:
Tips

Data Entry

- Coded data in excel

Respondent	Is it ok for girls to cycle?	Is it ok for girls to play soccer?	Is it ok for girls to play sports with boys?	Total
Girl 1	0	1	0	1/6
Girl 2	0	0	0	0
Girl 3	2	1	0	3/6
Girl 4	1	2	1	4/6
Girl 5	2	1		3/6

Analysis: Summarizing your findings

- can convert this into useful mean values by analyzing the responses using a score
- Frequency or percentage of responses e.g. 2 (40%) of girls reported that its okay for girls to cycle
- The mean, or arithmetic average, which may require weighting to be accurate, provides the best overall statistic of the typical rating given by survey respondents

This can be accomplished digitally by using Excel or a statistical software application.

Example

- How often do you exercise?*(please select only one)*
- How many respondents exercise at least once per week?

Freq of participation	No.
Never	10
Once per month	45
Twice per month	60
Once per week	25
More than once per week	30

Beyond descriptive summary of survey results

- Advanced quantitative methods;
- Developing Validated Scales: Using Explorative factor analysis and confirmatory factor analysis to determine scores
- Using correlations or regression techniques to determine associations or factors affecting your outcomes
- Designing an evaluation/different types of evaluation design
- Other topics?