

# Fielding a survey - A very short guide

Research Beyond the Lab: Open Science and Research Methods  
for a Global Engineer

Prof. Elizabeth Tilley

2025-05-08

# #1: Know What a Survey Can (Not) Do

## Can:

- Gather (a lot of) data (e.g., ratings, frequencies, opinions)
- Provide standardized data (all respondents answer the same questions, allowing for consistent and comparable data)

## Can Not:

- Capture the full complexity of human behavior (we're irrational every now and then)
- Eliminate bias (e.g., social desirability bias, acquiescence bias, recall bias)

## #2: Single-Subject Rule for Every Question

A concept borrowed from constitutional law: A survey question may deal with only one issue.

### Good:

*“On a scale of 1 to 5, where 1 is ‘very dissatisfied’ and 5 is ‘very satisfied,’ how satisfied are you with the speed of our online checkout process?”*

### Bad:

*“How satisfied are you with our product’s price and customer service, and would you recommend it to a friend?”*

**Pro Tip:** Assign the corresponding research question to each and every question. This helps you to see if the survey question (partially) allows you to answer your research questions.

# #3: Diminishing Marginal Utility of Questions

- We all want to answer as many questions as possible (after all, you never know if you might need the information later), but please don't
- Survey fatigue is a big issue
- Be honest with yourself: Are you really going to analyze the answers afterwards?
- **Rule of thumb:** If you're not sure if you should include the question, don't include it.
- Also, respondents incur opportunity costs for taking the time to answer your questions. Make sure it's worth their time.

## #4: Structure Your Survey (Visually)

- Work with groups, colors, sections, tabs, etc.

|                  |                                 |  |  |   |
|------------------|---------------------------------|--|--|---|
| select_one yesno | apply_fertilizer                | Did you apply chemical fertilizer in your maize field LAST YEAR? | Make sure to make clear the question refers to NPK |   |
| begin_group      | chemical_fertilizer_application | Chemical fertilizer application questions                        |  |   |
| integer          | n_bags_npk                      | How many bags of NPK did you apply last year?                    | Type -99 if the farmer didn't apply any NPK.       | K |
| begin_group      | npk                             | NPK  |  |   |
| integer          | n_bags_npk_subsidized           | How many of those were subsidised?                               |  | N |
| integer          | price_bags_npk_nonsubsidized    | How much did you pay for a full-priced bag of NPK?               |  | K |
| integer          | price_bags_npk_subsidized       | How much did you pay for a subsidised bag of NPK?                |  | K |
| select_one yesno | enough_bags_npk                 | Was this enough NPK to meet your needs?                          |  | K |
| integer          | n_bags_npk_desired              | How many bags of NPK would you have liked?                       |  | K |
| end_group        | npk                             | NPK  |  |   |
| integer          | n_bags_npk_buying_next_year     | How many bags of NPK will you try to buy for the coming year?    | Type -99 if the farmer doesn't know yet.           | K |
| integer          | n_bags_urea                     | How many bags of urea did you apply last year?                   | Type -99 if the farmer didn't apply any NPK.       | K |
| begin_group      | urea                            | Urea   |  |   |
| integer          | n_bags_urea_subsidized          | How many of those were subsidised?                               |  | N |
| integer          | price_bags_urea_nonsubsidized   | How much did you pay for a full-priced bags of urea?             |  | K |
| integer          | price_bags_urea_subsidized      | How much did you pay for a subsidised bags of urea?              |  | K |
| select_one yesno | enough_bags_urea                | Was this enough urea to meet your needs?                         |  | K |
| integer          | n_bags_urea_desired             | How many bags of urea would you have liked?                      |  | K |
| end_group        | urea                            | Urea   |  |   |
| integer          | n_bags_urea_buying_next_year    | How many bags of urea will you try to buy for the coming year?   | Type -99 if the farmer doesn't know yet            | K |

## #5: As Many Checks as Possible

- The more logical incoherences you can anticipate the better!

### Example:

Survey Question 1: “What is your age?” [answer\_q1]

Survey Question 2: “How many years have you been driving?”  
[answer\_q2]

**Logical Check:** The response to [answer\_q2] should not exceed the response to [answer\_q1] minus the legal driving age in the respondents area.

Implementation: If  $[\text{answer\_q2}] > ([\text{answer\_q1}] - 18)$  (assuming 18 is the legal driving age), display an error message: *“Please correct your response. The number of years you have been driving cannot exceed your age minus the legal driving age.”*

## #6: Open-ended Questions

- You can't think of every possible option in close-ended question, so open-ended questions can be a good option
- However, more often than not, they tend to clutter your survey and since the data is unstructured, it is a lot harder to analyze
- Pro tip: You can include open-ended questions during a pilot (see Tip #8), see if there are answer options haven't thought about and then include them in an updated close-ended question

## #7: Think About Data Analysis Already

- Name variables consistently (e.g., firstword\_secondword or FirstwordSecondword)
- Prefixes for groups (e.g., nutrition\_item1, nutrition\_item2, nutrition\_outlook, nutrition\_cycle)
- Use meaningful labels (e.g., “morning”, “noon”, “evening” instead of 1,2,3)



## #8 Soft Launch Your Survey

- As much as you anticipate, you will only really know if your survey works once it's out in the real world.
- Send it to friends and colleagues to test it.
- Ideally, you go through several iterations of soft launches before you field the actual survey.

# #9: Provide the Full Package

- Don't just publish the final analysis.

## Publish Also...

- The raw data
- The questionnaire
- The sampling frame
- Additional files like photos or recordings if not
- The data processing files
- The analysis scripts

# #Bonus: Cultural Sensitivity

- Ensure accurate translation by native speakers, not just literal translations.
- Avoid questions that may be considered taboo or offensive in certain cultures.
- Allow for diverse responses and avoid imposing Western-centric categories.
- Consider color symbolism, as colors can have different meanings in different cultures.
- Choose distribution methods that are accessible and culturally appropriate for the target population.