

SSI POV: Online

Quality Control Questions

Data Quality is an issue that is top on everyone's minds. This is especially true in the online realm where there is no interviewer guidance or engagement to keep the respondent honest and on track. The truth is that there are people who begin a survey with the intention of not providing honest answers. While this number is relatively small, it can impact a data set and create some otherwise unexplainable shifts. There are others who simply become fatigued and satisfice throughout sections of a survey. While satisficing and fatigue are difficult to really diagnose in a dataset, we have found a method that has been successful in identifying some fraudulent behavior. This method would be the use of Quality Control questions, otherwise known as red-herring questions or trap questions.

At SSI, we first have identified three types of people that we would like to try to identify in our dataset:

- 1. Fraudulent people**—These are people who have no intention of providing any honest answers and are simply after the reward money. Depending on their level of experience in fraudulent survey taking, quality control questions will likely not catch these people. Additional levels of control would be needed to track these types of respondents.
- 2. Satisficing**—Satisficing is a situation where respondents enter the survey with the full intention of providing honest and thoughtful responses, but then get tired as they go through and become inattentive. This is the fault of questionnaire design, not the respondent. We can identify them with trap questions, but how should we deal with them? Do they deserve to be punished? Maybe a nice "Hey, I noticed your responses don't quite match up, can you please confirm your answers for these two questions" will wake them back up enough to finish the survey.
- 3. People who are not attentive 'today' (for whatever reason)**—This is what a trap question should be designed to find. However research has found it to be tough to prove. A respondent may fail one quality control question, but pass all the others...and have thoughtful, honest responses throughout the remainder of the survey.

Effective quality control questions should be reasonably disguised from the respondent. It should not attract attention to itself nor should it be so obvious that it annoys or irritates our respondents. Some effective types of trap questions include thought consistency and fact consistency. For example, in the beginning of the survey, ask the respondent to enter their date of birth. Towards the end of the survey, ask the same respondent to select the bracket that represents their age group. If $A \neq B$ then flag the respondent as inattentive. Similarly, in the beginning of the questionnaire, ask the respondent for their zip code and then ask for their state

What Are Some Effective Quality Control Questions?

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further on in the survey. If $C \neq D$ then flag the respondent as possibly inattentive. Some simple logic programming helps to automate this process and speed up the identification.

As mentioned above, thought consistency questions are useful however they have to be used carefully. One example of this may be asking two conflicting questions several questions apart. For example:

Q1: I often find that I get stressed out when I go shopping.

- a. Strongly agree
- b. Somewhat agree
- c. Neither agree nor disagree
- d. Somewhat disagree
- e. Strongly disagree

Q2: I find shopping to be a calming activity.

- a. Strongly agree
- b. Somewhat agree
- c. Neither agree nor disagree
- d. Somewhat disagree
- e. Strongly disagree

When analyzing these questions, it is suggested to leave some “wiggle room” for interpretation. In the example above, the words calming and stressful are not exact opposites however they are “likely” to be interpreted as opposites. So in this case, it would be reasonable to flag anyone who responded either A or B in Q1 and A or B in Q2 and likewise, D or E in Q1 or D or E in Q2. It is because of interpretation also, that we strongly suggest there be multiple quality control questions before declaring a person “bad.”

The third type of question that we have found to be successful is a multi-select question with several “low incidence” response options. The likelihood of having specific combinations of responses is very unlikely (although not impossible). For example:

To begin, which of the following activities apply to you? (Please select all that apply)

- a. Purchased a new house in the past year
- b. Purchased a condo
- c. Purchased a new automobile in the past month
- d. Purchased a used automobile in the past month
- e. Got Married in the past 6 months

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- f. Visited a museum in the past year
- g. Purchased a new smartphone in the past 6 months (e.g. Blackberry, Android, iPhone, HTC, etc)
- h. Purchased pet insurance in the past 6 months
- i. Researched a product or service online in the past month
- j. Flown in a helicopter in the past 6 months
- k. None of the above

In this question, it is highly unlikely for a respondent to have selected Purchased Pet insurance in the past 6 months and flown in a helicopter in the past 6 months. Another unlikely example is that they purchased both a new house and new condo in the past year. Again, not impossible, but highly unlikely.

SSI's Recommendations

SSI recommends avoiding questions that are blatantly obvious to the respondent which alert them that you do not “trust” them when asking them questions. There is a suspicion that traps such as “code 3 here” annoy attentive participants such that they deliberately code anything other than a 3.

Another type of question to avoid is one that slips in a “mythical” brand into a selection list. It is common for respondents to mistake one of these “brands” as something they think they remember seeing or using. It is not that they are trying to lie or fraud the survey, it is that they truly think they know that brand.

Final Thought

Quality control questions are useful tools to catch fraudulent and inattentive respondents from spoiling data, however they need to be used correctly. Because anyone’s attention can wander throughout the course of a long survey, it is important that a minimum of two quality control questions are used and that participants are only flagged as failing if both are answered incorrectly. If multiple people are satisficing by the end of the survey, it is strongly suggested to evaluate the questionnaire design and length. Look for ways to make the survey taking experience within the questionnaire more engaging. And lastly, respondents are human too. Is it possible they selected the wrong option or read the question wrong while taking the survey? Of course it is!