

The Threat of Satisficing in Surveys: The Shortcuts Respondents Take in Answering Questions

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Introduction

This article introduces the concept of "satisficing" by survey respondents. The idea is that some respondents sometimes do just enough to satisfy the survey request, but no more. The relevance of this concept is that it could explain a number of phenomena observed in the survey methodological literature and that we can use it to help us to better understand how to design surveys in ways which will maximise the quality of the responses received.

The article starts off by describing some important findings and debates concerning questionnaire design. I then describe how satisficing has the potential to explain all of them. I then present some data which appear to demonstrate empirically the existence of satisficing. For further discussion of this and related issues, see Krosnick and Fabrigar (in press).

Instrument Effects

There exists much research evidence that apparently very small changes in the way we ask survey questions can produce large changes in the answers obtained. For example, this has

been observed for questions about attitudes, preferences and past behaviour. Some psychologists view this as evidence that people do not have (real, strong, reliable) attitudes, preferences or memories of their own behaviour.

My view, on the other hand, is that much of what we do when we design questionnaires and survey procedures discourages respondents from reporting accurately or thoughtfully. In other words, it tends to be the fault of the researcher rather than the respondent if responses do not have the meaning we had intended. The good news is that by understanding more about the effects of our procedures on responses, we can improve the procedures and hence data quality.

Response Order Effects

Table 1 below shows an example of a response order effect. Specifically, this is an example of a "recency effect." Propensity to give a particular response increases if that response is offered last.

Some studies have shown evidence of "primacy effects." In such cases, the propensity to give a particular response increases if that response is offered *first* (e.g. Matthews, 1929; Asch, 1946).

A few years ago, with colleagues I pulled together all the response order effects studies that have been done. Table 2 lists most of them. It can be seen that some found primacy effects, some found recency effects and some found no significant effects.

Table 1: Example of a Response Order Effect

Question	Survey	Percentage responding "plenty" by response order (2 replications)			
		Response order		χ^2	P
		"Plenty" first	"Plenty" last		
Some people say that we will still have plenty of oil 25 years from now. Others say that at the rate we are using our oil, it will all be used up in about 15 years. Which of these ideas would you guess is most nearly right?	1	63.5% (293)	77.3% (273)	13.00	< .001
	2	60.7% (443)	68.8% (218)	4.17	< .05

Adapted from Schuman and Presser (1981, p.60)

Table 2: Response Order Studies

	Primacy	Recency	Non-sig't
Campbell & Mohr (1950)	1		
Becker (1954)			1
Kalton <i>et al</i> (1978)			1
Schuman & Presser (1981)	2	5	8
McClendon (1986)		4	3
Bishop (1987)		3	3
Krosnick & Alwin (1987)	1		
Bishop <i>et al</i> (1988)	1	3	1
Israel & Taylor (1990)	2		8
Ayidiya & McClendon (1990)	2		1
McClendon (1991)		7	9
Krosnick (1992)		1	3
Schwarz <i>et al</i> (1992)	1	4	
Krosnick <i>et al</i> (1996)		1	3

Acquiescence Bias

Another type of question effect found in methodological studies is known as acquiescence bias. This is a tendency to agree with unbalanced statements, as illustrated by the example in table 3. Acquiescence bias does not only apply to yes/no questions - it can operate on any question that is unbalanced (Schuman and Presser, 1981, chapter 8). It has been suggested that acquiescence may be due to norms of conduct - i.e. a tendency to be polite and agreeable - and/or due to the effects of status differential - a tendency to defer to a person of higher status (as some respondents may perceive interviewers).

Ranking Tests

Another important set of research findings concern ranking tests. This is where respondents are presented with a list of items and asked to place them in rank order (e.g. order of value, order of importance, etc). Questions of this sort can be considered to impose considerable respondent burden. An alternative would be just to ask respondents to rate each item on the list separately. Indeed, studies have shown that respondents prefer rating to ranking. But, there seems to be much evidence that ranking produces higher quality data than rating. Respondents complete ranking tasks more accurately, in the sense that they are less likely to omit items or answer in an incorrect format. Test-retest and cross-sectional reliability of ranking is higher than for

rating. Other indicators of accuracy such as the validity of factor structure and discriminate and correlation validity are also higher for ranking.

Table 3: Example of Acquiescence Bias

Form A (agree Is): <i>Individuals are more to blame than social conditions for crime and lawlessness in this country</i>		
Form B (agree SCs): <i>Social conditions are more to blame than individuals for crime and lawlessness in this country</i>		
	Form A (agree Is)	Form B (Agree SCs)
Agree	59.6%	56.8%
Disagree	40.4%	43.2%
Base	473	472

Adapted from Schuman and Presser (1981, p.208)

Table 4: Example of Effect of No Opinion Filter

<i>This next question is about a man who admits he is a communist. Suppose he wrote a book, which is in your public library. Somebody in your community suggests the book should be removed from the library...</i>			
<i>...Would you favour removing the book or oppose removing the book? (form A)</i>			
<i>... Would you favour removing the book, oppose removing the book, or do you not have an opinion on that? (form B)</i>			
	Form A		Form B
Favour removing	29.1%	Favour removing	17.2%
Oppose removing	67.9%	Oppose removing	56.6%
DK (volunteered)	3.0%	No opinion	26.2%
Base	563		533

Adapted from Schuman and Presser (1981, p.120)

No Opinion Filters

Table 4 shows the answers obtained to a question about attitudes towards the presence in a public library of a book written by a communist. The question was originally asked in a study by Stouffer (1955), but the results shown here are from an experiment mounted in 1977 (Schuman and Presser, 1981). The first version of the question presents two balanced alternative response categories while the second version adds "no opinion" as a third alternative. It can be seen that far more respondents choose "no opinion" when offered it as an explicit alternative, reducing both the proportion favouring and the proportion opposing removal of the book.

Some researchers suggest that offering “no opinion” as an explicit response category is meaningful as many people genuinely do not have opinions. Findings cited as evidence of the lack of opinions include observations that respondents will offer opinions on matters that are completely fictitious and that they will often choose “don’t know” or a no opinion filter if offered. However, the use of filters or don’t know categories does not improve the reliability or validity of the data.

Satisficing

I have shown examples of four different types of effects of the way we ask questions and offer answer categories:

- Response Order Effects
- Acquiescence and Balance
- Ratings vs. Rankings
- No Opinion Categories and Filters

I will now suggest that all of these can be explained by a single phenomenon – satisficing. Satisficing is giving minimally acceptable answers, rather than optimal answers. To give optimal answers, a respondent should go through a four-stage process (Tourangeau and Rasinski, 1988):

- 1) Interpret question
- 2) Search memory for relevant information
- 3) Integrate information into summary judgement
- 4) Report judgement

But in life, people do not always optimise. You do not view every possible house before deciding which to buy - you stop searching when you have found a satisfactory one. Why should the process of answering survey questions be any different?

Weak Satisficing is when steps 2 and 3 of the response process are incomplete and/or biased.

Strong Satisficing is when steps 2 and 3 are skipped altogether. Instead, the respondent looks to the question and the situation for cues pointing to easy answers which can be justified without requiring much or any thought.

Satisficing may take different forms. It may involve selecting the first reasonable response,

thus avoiding the need to read or listen to the rest of the list. It may involve simply agreeing with assertions. It may manifest itself in the form of a lack of differentiation in ratings questions (i.e. the respondent gives the same answer to each item in a list) or a tendency to respond “don’t know” or responses that are the result of the mental equivalent of coin flipping.

The extent to which satisficing takes place is likely to be related to three key factors:

- Task Difficulty
- Respondent Ability
- Respondent Motivation

Task Difficulty

There are many aspects to this. Key ones are:

Interpretation: The difficulty of interpreting the question will be affected by the number of words in the question, the familiarity of the words used and the extent to which any of the words may have multiple possible meanings.

Retrieval: It is more difficult to retrieve information relating to previous states rather than the current state. It is more difficult to retrieve information relating to multiple objects (“How many times did you do any of X, Y or Z?”, as opposed to “How many times did you do X?”) or multiple evaluative dimensions (“Rate each product for quality and size”).

Judgement: Absolute judgements can be less demanding and subjective than relative ones. The task of forming a judgement can be easier if it can be decomposed into stages.

Response selection: Reporting the judgement involves selecting a response. This is generally easier if response categories have verbal rather than numeric labels, and if the words used in the labels are familiar and unambiguous.

Interviewer pace: In the case of interviewer-administered surveys, the difficulty of the respondent’s task can also be affected by the speed at which the interviewer asks the questions and the time allowed for responses.

Distraction: Socio-environmental factors, largely outside the control of the researcher, can also impact upon task difficulty. In particular, responding can be more difficult if the

respondent is distracted, for example by the presence of other people, or by voices or noise.

Respondent Ability

The ability of a person to perform the role of survey respondent adequately will depend upon their cognitive skills. It will also be affected by the extent to which he or she has previously thought about the topic of the questions and the extent to which he or she has a relevant pre-consolidated judgement stored in memory.

Respondent Motivation

Many factors can affect the motivation of a respondent. These include the need for cognition, accountability, the importance of the topic to the respondent personally, the respondent's belief about the overall importance of the survey, the behaviour of the interviewer, the number of prior questions, and so on.

The "Decision" to Satisfice

Respondents will either satisfice or not, depending on the relative levels of ability, motivation and task difficulty:

$$P(\text{Satisficing}) = \frac{a_1(\text{Task Difficulty})}{a_2(\text{Ability}) \times a_3(\text{Motivation})}$$

Of course, this will not be a conscious decision on the part of the respondent, but rather a quick, automatic reaction to the situation.

Explanation of Observed Effects

Having now explained the nature of satisficing, we can return to the observed effects described earlier and see whether satisficing could explain them.

With response order effects, we must first realise that satisficing should have different effects with different survey modes. Specifically, visual presentation of responses should lead to primacy effects due to satisficing. Choosing the first (reasonable) item avoids the need to read through the complete list, thus reducing fatigue. With oral presentation, one should expect recency effects. This is partly due to fatigue again but also partly due to memory effects (if the interviewer has read out a list of items, the respondent is

more likely to remember the ones read out most recently, i.e. last). Table 5 repeats the summary of studies presented in table 1, but sorts them into ones where the responses were presented visually (self-completion questionnaires or show cards) and ones where the presentation was oral. The pattern is clear. Primacy effects are associated with visual presentation and recency effects with oral presentation.

Table 5: Response Order Studies – by Mode

	Primacy	Recency	Non-sig't
<u>Visual Presentation</u>			
Campbell & Mohr (1950)	1		
Becker (1954)			1
Krosnick & Alwin (1987)	1		
Bishop et al (1988)	1		1
Israel & Taylor (1990)	2		8
Ayidiya & McClendon (1990)	2		1
Schwarz et al (1992)	1		
<u>Oral Presentation</u>			
Kalton et al (1978)			1
Schuman & Presser (1981)	2	5	8
McClendon (1986)		4	3
Bishop (1987)		3	3
Bishop et al (1988)		3	
McClendon (1991)		7	9
Krosnick (1992)		1	3
Schwarz et al (1992)		4	
Krosnick et al (1996)		1	3

Consistent with satisficing theory, many factors have been shown to moderate response order effects. These include the education and cognitive skills of the respondent (effects are weaker for the more educated/skilled), priming of knowledge on the topic by prior questions (can eliminate the effect), the existence of pre-consolidated opinions (fast reaction times lead to weaker effects) and the use of more words and/or more complex words in the questions.

In passing, it should be noted that response order effects have also been observed in contexts other than surveys, e.g. product trials, voting and knowledge tests.

Acquiescence can also be explained by satisficing. If the question appears to be offering only one alternative, then the respondent might assume that it must be "right" as the researcher must know the "right" answer. So, as long as the statement seems

reasonable, the easiest response is just to agree. Even without any assumption about the “right” answer, the form of the question makes it apparent that agreement is an acceptable answer and will therefore suffice.

Acquiescence is modified by factors including income (social status), education, cognitive skills, GPA, cognitive energy (task persistence), knowledge about the topic, the need for cognition (lower need = more acquiescence), language difficulty (more difficulty = more acquiescence), ambiguity of meaning (more ambiguity = more acquiescence), speed (faster presentation = more acquiescence), question placement within questionnaire (later = more acquiescence), age (older = more acquiescence), gender and anonymity.

Failure to differentiate on ratings questions can also be a result of satisficing. A set of questions similar in form can be most easily answered by responding in a similar form, e.g. ticking the same box in each column. This effect is also moderated by many factors, however. These include education, need for cognition, whether the interviewer instructs the respondent to think carefully, question placement (later placement = more non-differentiation), perceived value of the survey to the researchers and/or to other potential respondents.

The likelihood of choosing a no opinion category or filter will be increased by satisficing. As with the other effects discussed above, the extent of this effect will, however, be moderated by various other factors including many of those already mentioned.

Remedies

We can avoid many of the undesirable effects of the way we ask questions and present responses. We can do this by:

- a) minimising the likelihood of respondents satisficing;
- b) Minimising the sensitivity of our questions to satisficing.

Of the three sets of factors that were posited to determine the likelihood of satisficing, one (respondent ability) is out of the control of the researcher. But we can influence the other two.

Maximise Respondent Motivation

- Describe the purpose and value of the study
- Provide instructions to think carefully
- Obtain commitment to think carefully
- Give booster instructions to think carefully
- Include random probes (why do you say that?)
- Keep questionnaires short and place important questions early

Minimise Task Difficulty

- Minimise number of words in questions
- Maximise familiarity of words (use findings from word frequency analyses)
- Minimise use of words with multiple definitions
- Focus on current or very recent events
- Ask only about one object in each question
- Ask only about a single evaluative dimension in each question
- Ask for absolute, not relative, judgements
- Decompose questions whenever possible
- Include text labels on response alternatives
- Keep pace slow
- Minimise distraction

Minimise Response Effects

- Offer responses in balanced or random order
- Avoid agree/disagree, true/false, yes/no questions
- Avoid blocks of ratings on the same scale
- Do not offer no opinion response options

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