

# Open-ended Questions: Some Implications for Mail Survey Research

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This study analysed data from a mail survey to test two hypotheses about responses to open-ended questions. Providing more space for responses to an open-ended question produced marginally more words and ideas per response, but did not generate a greater total number of ideas. Similarly, encouraging respondents to write positive or negative comments to an open-ended question did not produce either more words or more ideas. However, the question cue provided influenced both the number and content of the responses received. Thus researchers need to decide on their objective for using an open-ended question and use the cue most likely to achieve it.

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## Introduction

Open-ended questions are often used in research to clarify closed questions or as a means of generating ideas. In both cases it is generally assumed that the longer and more detailed the response to an open-ended question the better. However, relatively little is known about the effect of factors such as question wording or questionnaire design on the response to open-ended questions.

One of the few studies to investigate the nature of responses to open-ended questions was conducted by Engwall (1983). In his study, four groups of employees, journalists, graphical workers, administrative personnel, and branch office employees (a total of 144 employees), were asked two consecutive open-ended questions. The first asked respondents to give their impressions of characteristic properties of the company they worked in (a Swedish newspaper); the second question asked them what they thought people not employed by the company perceived as characteristic properties of the company.

Engwall found that the responses to the first question varied by occupational group. Journalists gave the longest answers and provided the highest proportion of negative responses, graphical workers the shortest answers and the smallest proportion of negative responses. Conversely, graphical workers had the highest proportion of blank responses, while journalists (and branch employees) gave no blank responses. Engwall concluded that length and content of responses was related to occupational role (and explained by differences in the nature of these roles).

For all four groups of employees in Engwall's study, answers to the second question were shorter than those given for the first. (An obvious explanation for this result is that respondents knew less, or were less willing to speculate, about how others perceived the company than about their own impressions of it.) Furthermore, the proportions of positive and negative responses for the different occupational groups were different to those for the first question. The significance of these results is the implication that the question itself is an important determinant of length and context of responses to an open-ended question.

Smith (1995) also studied the length of responses to open-ended questions, but he examined the effect on response of questionnaire design rather than of respondents. In a study on civil liberties and communism jointly fielded by Gallup and National Opinion Research Centre (NORC) using a common questionnaire, five times as much space was allowed by NORC for recording responses to open-ended questions. A word count of responses to two questions showed means of 13.6 and 13.7 words for Gallup and 23.6 and 18.4 words for NORC. Smith concluded that, while different interviewing staffs may explain these differences, it is likely that the greater amount of space allocated for answers in the NORC questionnaire encouraged the recording of longer and more detailed answers.

This paper reports the results of a study which analysed data from a mail survey and was designed to test two hypotheses suggested by Smith's and Engwall's work. First, that respondents will write more and offer more ideas in response to an open-ended question when there is more space available for their response; and, second, that the number and content of responses to an open-ended question will differ depending on how the question is asked. The first hypothesis arises from the fact that Smith's study involved face-to-face interviews. Whether the effects observed would occur in a self-completion survey has yet to be determined. The second hypothesis arises from Engwall's findings. Engwall showed that similar questions produced different numbers of positive and negative responses. This raises the question of what effect the positive, negative or neutral framing of the question would have on the proportions of positive and negative responses generated.

## **Method**

A systematically-selected random sample of 510 New Zealanders was drawn from the electoral rolls and divided into six treatment groups. Each treatment group received a different version of a mail questionnaire concerned with survey participation, according to the experimental design shown in Table 1. After two reminders to non-respondents, 249 valid questionnaires were received, representing an overall response rate of 59% (88 questionnaires were returned undelivered). Response rates for the individual treatment groups ranged from 54% to 63%.

For half the questionnaires respondents were given two lines (short version) for their response to an open-ended question on which survey topics they would object to answering questions on; for the other half they were given ten lines (long version). The questionnaires also contained three different versions of another open-ended question which asked respondents for their comments on surveys or opinion polls. In one third of the questionnaires respondents were encouraged to provide negative comments about surveys or opinion polls (negative cue). In another third of the questionnaires respondents were encouraged to write positive comments (positive cue), while in the final third the question simply asked respondents to provide any comments about surveys or opinion polls (neutral cue). (See Appendix for question wordings.)

**Table 1. Experimental design and sample sizes**

Question cue	Length of response space		Total
	Long (10 lines)	Short (2 lines)	
Positive	85 (37)	85 (43)	170 (80)
Negative	85 (44)	85 (41)	170 (85)
Neutral	85 (39)	85 (45)	170 (84)
Total	255 (120)	255 (129)	510 (249)

Note: Figures in parentheses denote actual sample size.

The mean and median number of words and ideas were calculated for each of the questions tested, and compared. In addition, responses to the three versions of the second question were coded as positive, negative, mixed, and neutral, and the mean number of words and ideas were calculated for each type of response and question cue, and compared.

A positive response was defined as one for which a respondent wrote only favourable comments about surveys or opinion polls. These comments included "easy to complete", "fun to do", and "good for society". Statements such as "waste of my time", "they do not represent reality", and "the results are manipulated for political reasons" were considered to be negative. A mixed response was one which contained both positive and negative comments. Finally, comments such as "I don't mind them" and "I don't have any comments" were considered to be neutral.

## Results

### Long and short space following a question

Analysis of responses to the "short" and "long" questions tested is summarised in Table 2. The results support the hypothesis that respondents write more words and offer more ideas in response to an open-ended question when more space is available for their answers. However, in this study the differences are small (though statistically significant): 6.7 words and 1.6 ideas per respondent for the long version of the question compared to 4.5 words and 1.3 ideas per respondent for the short version<sup>1</sup>.

Furthermore, the conclusion that more ideas are produced when more space is available for responding applies only at the individual respondent level and not at the aggregate level. Overall, the question produced seventeen different ideas, and this is the same number of ideas generated by the short and long versions of the question individually.

**Table 2. Comparison of Response length and number of ideas by response space.**

Response	Space available for response								Sig.of diff. in mean values (one-tailed t-test)
	Long (10 lines)				Short (2 lines)				
	Mean	Median	s.e	Range	Mean	Median	s.e.	Range	
<b>Including No response</b>	n=127				n=122				
Words	6.7	4	.98	0-80	4.5	3	.52	0-35	0.02
Ideas	1.6	1	.11	0-5	1.3	1	.08	0-4	0.01
<b>Excluding No response</b>	n=127				n=122				
Words	7.6	4	1.10	1-80	5.1	3	.58	1-35	0.00
Ideas	1.8	1	.10	1-5	1.4	1	.08	1-4	0.00

### Negative, Positive and Neutral Cues

The effects of the different question cues tested are summarised in Table 3. There was little evidence that question cue had any significant effect on the number of words or ideas produced.

When blank responses are included, the neutral cue produced 14.7 words and 1.2 ideas per respondent, compared to 13.9 words and 1.4 ideas for the positive cue, and 11.5 words and 1.2 ideas for the negative cue. However, the proportion of blank responses was much higher for the negative cue (18 missing responses compared to 7 and 9 for the positive and neutral cues, respectively), and when these blank responses are excluded, the differences observed are much smaller (and, in fact, disappear if medians rather than means are compared).

Though the number of ideas produced by the three cues tested was very similar, the content of these ideas was significantly different. The cues used "worked" in the sense that the negative cue produced more negative responses, the positive cue more positive responses and the neutral cue more neutral responses. This is shown in Table 4.

**Table 3. Comparison of response length and number of ideas produced by negative, positive and neutral question cues**

Response	Question Cue											
	Negative				Positive				Neutral			
	Mean	Median	s.e.	Range	Mean	Median	s.e.	Range	Mean	Median	s.e.	Range
<b>Including no response</b>	n=85				n=80				n=84			
Words	11.5	4	1.59	0-60	13.9	10.5	1.71	0-99	14.7	9.5	1.89	0-99
Ideas	1.2	1	.11	0-4	1.4	1	.09	0-3	1.2	1	.08	0-3
<b>Excluding no response</b>	n=67				n=73				n=75			
Words	14.5	11	1.84	1-60	15	11	1.79	1-99	16.5	11	2.02	1-99
Ideas	1.6	1	.11	1-4	1.6	1	.01	1-3	1.4	1	.07	1-3

**Table 4. Number of respondents providing negative, positive, neutral, and mixed responses for each question cue**

Response	Question Cue							
	Negative		Positive		Neutral		Total	
	n <sup>1</sup>	% <sup>2</sup>	n <sup>1</sup>	% <sup>2</sup>	n <sup>1</sup>	% <sup>2</sup>	n <sup>1</sup>	% <sup>2</sup>
Negative	46	69	22	30	22	29	90	42
Positive	0	0	30	41	11	15	41	19
Neutral	17	25	10	14	31	41	58	27
Mixed	4	6	11	15	11	15	26	12
<b>TOTAL</b>	<b>67</b>	<b>100</b>	<b>73</b>	<b>100</b>	<b>75</b>	<b>100</b>	<b>215</b>	<b>100</b>

Note.

1. The number of respondents for each cue who gave a negative, positive or neutral response for that cue.

2. The number of respondents who provided a negative, positive, neutral or mixed response as a percentage of the total number of respondents for each cue.

More respondents responded negatively to the question about surveys and opinion polls than answered either positively or neutrally. Interestingly, 30% of those asked for positive comments wrote only negative comments, while none provided only positive comments when encouraged to write negative ones. However, it is impossible to tell if this tendency to answer negatively is a generalisable finding or simply a function of this particular question.

In total, the three versions of the second question tested produced 17 negative ideas and nine positive ideas. Table 5 shows the number of different positive and negative ideas produced by each question cue.

Individually, each cue produced a similar total number of ideas (between 18 and 20) but the mix of ideas produced was quite different. For example, the negative cue produced 15 of the 17 negative ideas but only three of the nine positive ones, whereas the positive cue produced only 11 of the negative ideas but eight of the positive ones. Though it was not tested in the study, this result suggests that, if the objective is to maximise the number of ideas produced, a combination of question cues may be required. However, the reassuring outcome from a questionnaire designer's perspective is that the most successful cue in terms of number of different ideas produced was the neutral cue, and this is the question version which is commonly used.

**Table 5. Number of different negative and positive ideas produced by question cues**

Cue	Different ideas produced overall		
	Negative Number of ideas	Positive Number of ideas	Total
Negative	15	3	18
Positive	11	8	19
Neutral	12	8	20
Maximum number of ideas	17	9	26

## Discussion and Conclusions

This study suggests that, in mail surveys, providing more space for the responses to open-ended questions will produce marginally more words per response. However, the affect observed was much less than reported in Smith's (1995) study. There are at least three possible reasons for this.

First, allowing more space to record an answer may produce more words in face-to-face surveys than in mail surveys because of the nature of the survey process. In other words, interviewers seeing more space for open-ended responses may interpret this as a signal to seek longer answers from respondents. Second, the differences in Smith's results may have been due to different interviewing staffs in the two surveys he studied, rather than to the different response space provided. Finally, the difference between the results of this study

and Smith's may be related to the questions asked. It is possible that some questions are intrinsically more prone to this questionnaire design effect.

Though the "long" version of the first question produced more ideas per respondent than the "short" version, overall, more space did not generate a greater total number of ideas. Similarly, there was little evidence that encouraging respondents to write positive or negative comments produced either more words or more ideas.

Nevertheless, the question cues used appeared to "work" in the sense that like tended to produce like. In other words, more respondents responded negatively to the negative cue, more positively to the positive cue, and more neutrally to the neutral cue. Furthermore, the negative cue produced more negative ideas, and the positive and neutral cues more positive ideas, but, regardless of the cue, the total number of ideas produced was similar. What differed was the mix of ideas produced.

On a practical level, this study suggests that if researchers want respondents to write more in response to an open-ended question, they should provide more space. However, they should be aware that they will not necessarily get more ideas in total. Similarly, researchers need to be aware that the cue they provide will influence the type of responses they receive. Thus, they need to decide on their objective for using an open-ended question and use the cue which is most likely to achieve it.

## References

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### Footnote:

The calculation of words or ideas per response is influenced by the inclusion or exclusion of blank responses. For example, when blank responses are excluded, the average number of words produced by the "long" version of the question increases to 7.6 and the number of ideas to 1.8. However, values which include blank responses are reported in the text because these are assumed to be comparable to the figures quoted by Smith (1995).

## **Appendix**

### **Question Wording**

To examine whether respondents write more when more space is available for their response, the following question was used:

*"What survey topics would you object to answering questions on?"*

The questions designed to provide positive, negative and neutral cues were:

*"What objections or concerns do you have about surveys or opinion polls?"*

*"What benefits or advantages do you see in surveys or opinion polls?"*

*"What comments do you have about surveys or opinion polls?"*