

## Experiments in General/Specific Questions: Comparing Results of Mail and Telephone Surveys

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Survey methodologists have been interested in patterns of responses where a general question either precedes or follows a series of related specific questions. They want to know if the distribution of responses depends on whether (1) the general question precedes or follows the specific items and (2) the survey is a face-to-face interview, telephone interview, or self-administered mail questionnaire. Drawing on a sample of residents from 30 rural communities, this paper highlights key results of a split-ballot experiment in which general/specific questions were asked in both a self-administered mail survey and a telephone interview.

### Hypotheses

As part of a community development study, respondents were asked a single general question and a series of specific items, first about their communities and then about their local governments. For each of these two topics, we manipulated two factors--mode of administration (mail vs telephone), and order of presentation of the general and specific questions. Given this setting, we tested a series of hypotheses, three of which are reported here. First, when compared with mail questionnaires, telephone interviews were expected to generate more positive evaluations, especially in response to the overall questions about satisfaction with community services and facilities and satisfaction with local government services (Aquilino & LoSciuto 1990; Ayidiya & McClendon 1990; Bishop et al 1988). Second, the general questions were expected to elicit more positive responses when they followed rather than precede the specific items (McClendon & O'Brien 1988; Schul & Schiff 1993; Willits & Saltiel 1995). Third, we expected a mode by order interaction, with telephone interviews more sensitive to order effects than mail questionnaires (Tarnai and Dillman 1992).

### Methods

The experiments use data from 30 rural Iowa communities. For each community, the most recent telephone directory was used to systematically random sample 150 households for the mail survey and 40 households for the telephone interview. A total of 3271 (73% response rate) mail questionnaires and 973 (78%) telephone interviews were returned. Both the mail

questionnaire and telephone interview were tailored for each community so that questions actually contained the name of their community rather than the more generic "in your community."

The statistical significance of effects discussed in the results is based on a sequence of hierarchically related log-linear models. The response variables were the distributions shown in Tables 1 and 2. The explanatory variables were mode of administration and form of the questionnaire, with controls added for gender and education. A baseline model was first fit that allowed for interactions among the explanatory and control variables. The second model linked the responses to gender, education, and the interaction between gender and education. The next three models linked the responses to mode, form, and mode by form interaction, respectively. Differences in chi-square reported below reflect this sequence.

### Results

Mode effects: The first hypothesis made predictions about mode differences in the distribution of responses to the two general questions. For community services and facilities, the general question read: "Please rate the overall quality of services and facilities located in (name of town)," with responses ranging from very good (1) to poor (4) and including don't know (5). It was either preceded or followed by a list of 9 specific community services (jobs, medical services, public schools, etc). Table 1 shows both the mail and telephone responses to the general question, depending on whether it came before (GS) or after (SG) the specific items. When the general question came first, 70 percent of the telephone respondents indicated that the overall quality of services was good or very good, compared with 62 percent among the mail respondents. When the general question was last, 65 percent reported that quality was either good or very good, compared with 52 percent among mail respondents. Using the sequence of log-linear models described above, mode differences were significant, as indicated by the change in chi-square [ $\Delta X^2(3)=31.3$ ]. As additional evidence that telephone answers are more positive than mail responses, eight of the 9 specific items were more positively evaluated in the telephone interview than in the mail questionnaire, regardless of whether they appeared before or after the general question.

Table 1: Responses to general question about community services.

	Mail		Telephone	
	GS	SG	GS	SG
Very good	15%	7%	21%	9%
Good	47	45	49	56
Fail	30	37	23	29
Poor	7	9	7	6
Don't know	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>
N:	1579	1608	472	501

After a series of other questions, respondents were asked "How would you rate the overall quality of government services in (name of town)?" Again, responses were on a scale from very good to poor, including don't know (Table 2). This general question either preceded or followed a list of 7 local government services (police protection, condition of streets, water, etc). Once again, the results were consistent with the first hypothesis: respondents reported greater satisfaction with government services in the telephone interview than in the mail questionnaire. Fifty-four percent of the telephone respondents who answered the general question first indicated the local government services were either good or very good, compared with only 47 percent among those answering the parallel mail questionnaire; likewise, 76 percent of the telephone respondents answering this question after the specific items indicated that government services were either good or very good, compared with only 56 percent the mail respondents. This difference is significant, as indicated by the change in chi-square [ $\Delta X^2(3)=47.3$ ]. In addition, all 7 of the specific items about local government services and facilities were more positively evaluated in the telephone interviews than in the mail questionnaires.

Table 2: Responses to general question about local government services.

	Mail		Telephone	
	GS	SG	GS	SG
Very good	8%	10%	8%	18%
Good	39	46	46	58
Fail	32	26	31	17
Poor	12	8	7	4
Don't know	<u>9</u>	<u>9</u>	<u>8</u>	<u>3</u>
N:	1566	1578	501	472

Order effects: Although the differences in mode were consistent with our expectations, the direction of the order effects followed the hypothesized direction only for the general question about local

government services. Contrary to arguments put forth by Schul and Schiff (1993), both the mail and the telephone responses to the general question about the quality of community services were more positive when it was asked before (GS) rather than after (SG) the specific items (Table 1). For example, in the mail questionnaire 62 percent reported either good or very good ratings of services and facilities when the general question came first, whereas only 52 percent reported good or very good ratings when it followed the specific items. The differences were significant, as indicated by the change in chi-square [ $\Delta X^2(3)=82.7$ ].

A post-hoc interpretation of this unexpected result is that respondents in this study may already have had well-defined and mostly positive images of their community, images that were undermined when they were asked to first examine the specific domains before making an overall evaluation. We have no direct evidence supporting this interpretation, except to use "don't know" and missing responses as indicators of respondent difficulty in formulating an answer. In their Montana data, Willits and Saltiel (1995) reported 11.3 percent missing data when the general question came first verses 0.1 percent when it was last. For our mail survey, only 1 percent said don't know and there was less than 2 percent overall missing data. Thus it appears that nearly everyone in our study was willing to offer an opinion about their community, and in a majority of cases the answer to the general question was uncritically positive except when tempered by their evaluations of specific domains when the specific items preceded the general question.

Responses to the general question about local government services were consistent with the second hypothesis and with findings reported in previous studies (Schul and Schiff 1993; Willits and Saltiel 1995). For both mail and telephone, responses to the general question were more negative when it preceded rather than followed the specific items. This pattern was significantly stronger in the telephone interviews (Table 2): the difference in the percentage of respondents who rated local government services either good or very good was 9 percent for the mail survey (56% - 47%) and 22 percent in the telephone survey (76% - 54%). The effect of question order was significant [ $\Delta X^2(3)=82.1$ ].

Mode by order interactions: The hypothesis that telephone interviews would be more sensitive to order effects than would be mail questionnaires was supported only for the question about local government services. For that question, the effect due to the order by mode interaction was significant [ $\Delta X^2(3)=12.7$ ].

## Discussion

By simultaneously conducting mail surveys and telephone interviews with the same population of adults, this study provides one of the most definitive tests to date of mode and question order effects on general/specific questions. The evaluation of our three hypotheses provide some clear and some ambiguous patterns. The results support our first hypothesis that respondents are consistently more positive in their answers to telephone interviews than in self-administered mail questionnaires, especially in situations where the response framework provides a range of vague quantifiers. These results generalize previous work by Tarnai and Dillman (1992) and others by extending their results from college students to the general population.

Our second hypothesis that responses to the general question would be more positive when the general follows the specific was supported for the question about local governments (Table 2) but not for the question about communities (Table 1). We drew this hypothesis from previous work on public utilities reported by Schul and Schiff (1993). We suspected that local governments might be thought of as organizations like public utilities. Services provided by both are taken for granted until something goes wrong, and when something goes wrong it is remembered. Thus, when respondents are asked to evaluate their local government services first, without framing it in terms of the specific items, they recall a past problem. It is only when they answer the specific items first that they obtain a more comprehensive perspective about their local government.

In contrast, we suspect that many respondents view the community in which they live rather idyllically. They were predisposed to evaluating it positively, and when the general question preceded the specific items, they drew on this romantic vision to provide an uncritical, positive response. However, when the general followed the specific, they were reminded of their community's shortcoming: jobs are hard to find, housing stocks are old, they have to drive miles for good recreation facilities, etc. Under this condition, the community was scrutinized more carefully and evaluated less positively. This post-hoc explanation seems convincing to us, but it isn't consistent with previous community studies reported by Willits and Saltiel (1995). They found that, in two separate mail surveys conducted in Montana and Pennsylvania, responses to general questions about community were like our response to the general question about local government: higher when asked after the specific items. Resolving this inconsistency is one of our next tasks.

This paper highlights just some of the results of two of 4 experiments included in the overall study. The other two experiments were also variants on the general/specific theme, and the results were largely consistent with the two experiments reported above. In addition, all 4 experiments confirmed an observation made by Ayidiya and McClendon (1990): when regressing the general question on the specific items, the R-square is higher when the general follows the specific than when the general precedes the specific. This provides tangible evidence that respondents use the specific items to frame their response to the general question when the general follows the specific.

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