



RESULTS OF A WITHIN-PANEL SURVEY EXPERIMENT OF DATA COLLECTION MODE EFFECTS USING THE GENERAL SOCIAL SURVEY'S NATIONAL PRIORITY BATTERY

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ABSTRACT

This study is an attempt to contribute to previous research on the subject of data collection mode effects comparing specifically the Internet mode of data collection to telephone-based and in-person data collection. In this study, we controlled for sample source by having all interviews conducted with pre-recruited panelists from KnowledgePanelSM. The administered survey questions are the 'national priority' items from the General Social Survey (GSS). The actual GSS was in the field for the in-person main study during the fielding of our experiment. In the analysis, we compared the results from the three modes of data collection – web, telephone, and in-person – to identify categories of questions where the mode of data collection is related to a directional difference in the survey findings.

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INTRODUCTION

In 2000, NORC and Knowledge Networks (KN) conducted an experiment on the GSS national priority items. In that experiment, the "Don't Know" option was shown to respondents on the screen. The results showed that respondents from the KN experiment were significantly more likely to indicate "Don't Know" than the respondents from the in-person GSS (Smith, 2003). In 2002, NORC and KN conducted another experiment as an extension to the year 2000 experiment to investigate the effects of data collection on survey responses. In that study, results from KnowledgePanelSM collected over the Internet via WebTV were compared to the results of the GSS survey collected by in-person interviews. The results showed that when the "Don't Know" option was not presented on-screen and respondents were instructed at the start of the survey to skip a question to indicate "Don't Know," the percentage of "Don't Know" respondents in KN's experiment was similar to that in the in-person GSS survey (Smith and Dennis, 2005). The study also showed that, with the exception of a few items that are sensitive to social desirability, the differences on the substantive findings between KN and GSS are fairly small. The general pattern was that respondents of the in-person GSS survey were consistently more likely to indicate "Too little" than were KN's respondents.

The current study seeks to continue and expand the research on this topic. The year 2002 KN experiment had only one mode of data collection: the Internet. The current study added one mode of data collection to the design: telephone. Specifically, KN administered the same questionnaire to two independent, nationally representative samples drawn from KnowledgePanelSM, one over the Internet and the other by phone. The questionnaire was primarily composed of the national priority spending questions from the latest General Social Survey (GSS). Due to budgetary limits, only the standard wording of the national priority spending questions was included in the questionnaire. The variant wording was dropped from the current research.

METHODS

The online mode of data collection began on March 29, 2006 and ended on May 15, 2006. A total of 1,689 KnowledgePanelSM panelists were invited to participate in the survey and 1,428 (84%) completed the survey. The “Don’t Know” option was not shown on the screen. Respondents were given an instruction at the beginning of the survey that they should skip the question to indicate “Don’t Know” or “No opinion.” This treatment of the “Don’t Know” response option was tested and previously reported (Smith and Dennis, 2005).

The phone mode of data collection underwent two stages. First, due to the agreement between KN and its panelists, an explicit consent from the respondent had to be obtained before a phone survey could be initiated. Between May 4, 2006 and June 30, 2006, a total of 1,383 KnowledgePanelSM panelists were asked whether they would be interested in participating in a short survey on the phone. Of the 1,208 (87%) panelists who responded, 839 (70%) agreed to participate in the phone survey. The consented panelists were subsequently contacted for the phone survey. In the end, 600 (71%) phone interviews were completed, and each case received \$10 as an incentive.

The following table summarizes the three modes of data collection:

Table 2: Summary of Modes of Data Collection

Survey	Sample Frame	Mode of data collection	N Interviews
GSS In Person	Area probability sample	In person	1,428–2,990
GSS Online	RDD KnowledgePanel SM	Internet	1,428
GSS Phone	RDD KnowledgePanel SM	Phone	600

Table 3 shows the unweighted demographic characteristics of those who completed the online and the phone surveys, as compared with the CPS benchmarks. With a few exceptions, the respondents of the two modes of data collection are similar to each other. Phone respondents are slightly underrepresented in men, younger, less educated, and ethnic minorities. However, the respondents of the online mode are more similar to the CPS benchmarks than the respondents of the phone mode.

Table 3: Sample Demographics (Unweighted)

	CPS	Phone (N=600)	Online (N=1,428)
Male	48%	43%	47%
Female	52%	57%	53%
18–29	22%	15%	22%
30–44	31%	26%	29%
45–59	26%	34%	28%
60+	21%	26%	21%
Less than high school	17%	12%	16%
High school	32%	29%	32%
Some college	27%	27%	27%
Bachelor's degree or higher	24%	32%	26%
White, Non-Hispanic	70%	79%	71%
Black, Non-Hispanic	11%	7%	11%
Other, Non-Hispanic	3%	2%	2%
Hispanic	13%	9%	13%
2+ Races, Non-Hispanic	3%	3%	3%
NorthEast	19%	21%	19%
MidWest	23%	26%	21%
South	36%	30%	37%
West	23%	23%	23%
Non-metro	16%	21%	17%
Metro	84%	79%	83%
Non-Internet	39%	40%	39%
Internet	61%	60%	61%

ANALYSIS

All of the analyses presented in this paper are weighted using post-stratification weights that incorporate the probabilities of selection. Both the phone and online mode respondents are weighted to the latest CPS benchmarks.

“Don’t Know” Rates

Table 4 on the next page shows the percentage of respondents who indicated “Don’t Know” in KN’s experiments in 2002 and 2006, compared with the 2002 and 2006 GSS results. The “Don’t Know” rates of GSS stayed fairly the same between 2002 and 2006, while the “Don’t Know” rates of KN’s online experiments showed a slight decline from 2002 to 2006. For 15 of the 17 spending items, this decline was between 1–2 percentage points. For the remaining 2 spending items, the decline was 3–4 percentage points.

Despite these small declines, the average “Don’t Know” rates remained fairly similar across the different experiments in these two years. The average “Don’t Know” rates for the in-person GSS were around 4%, compared to an average of 2%–3.5% of KN’s online and phone experiments.

These data show a successful replication of the 2002 findings from the “Don’t Know” experiments. By not displaying the “Don’t Know” on screen but instructing respondents to skip a question to indicate “Don’t Know,” we were able to produce “Don’t Know” rates similar to those of the in-person interviews for most spending items.

Table 4: “Don’t Know” Rates in 2002 and 2006

	GSS 2002 (N=1,364 -2,762)	KN Online 2002 (N=655)	GSS 2006 (N=1,480 -2990)	KN Online 2006 (N=1,428)	KN Phone 2006 (N=600)
The space exploration program	6%	4%	5%	3%	3%
Improving and protecting the environment	2%	3%	3%	2%	1%
Improving and protecting the nation’s health	1%	2%	2%	2%	0%
Solving the problems of the big cities	9%	5%	9%	3%	5%
Halting the rising crime rate	3%	3%	2%	2%	2%
Dealing with drug addiction	3%	3%	4%	2%	1%
Improving the nation’s education system	1%	1%	1%	1%	2%
Improving the conditions of Blacks	7%	8%	8%	4%	5%
The military, armaments and defense	2%	4%	3%	2%	0%
Foreign aid	3%	2%	4%	2%	2%
Welfare	3%	2%	3%	2%	2%
Highways and bridges	3%	3%	3%	2%	1%
Social Security	4%	3%	4%	2%	3%
Mass transportation	6%	6%	7%	3%	3%
Parks and recreation	3%	3%	2%	2%	1%
Assistance for childcare	6%	3%	8%	3%	2%
Supporting scientific research	6%	5%	7%	3%	2%
Average “Don’t Know” Rates	4.0%	3.5%	4.4%	2.3%	2.0%

SUBSTANTIVE FINDINGS

Respondents were presented with a list of 17 national spending priority items and were asked whether they felt we were spending too much, too little, or about the right amount on each item.

Figure 1 shows the percentage of respondents who think we are spending “Too little” on each of the national priority items. The x-axis shows the percentage of respondents from the 2006 GSS survey. The blue diamond-shaped dots show the comparison between GSS and phone, while the red square-shaped dots show the comparison between GSS and Internet. The distance from the diagonal line shows the magnitude of the differences. The farther the dots from the diagonal line, the more different the results are from the GSS survey. Should three modes produce identical results, the dots would align perfectly on the diagonal line. If a dot lies above the diagonal line, more people from the Internet or phone mode than GSS indicated “Too little” on the national priority item represented by this dot. On the contrary, if a dot lies below the diagonal line, more people from GSS than the Internet or phone mode indicated “Too little” on the national

priority item. For example, on “Improving the condition of Blacks,” 36% of respondents indicated “Too little” in-person and 26% indicated “Too little” online.

The results show that the blue diamond-shaped dots are generally located very closely to the diagonal line. This suggests that the results from phone mode are very similar to the in-person mode. To the contrary, the red square-shaped dots are generally located below the diagonal line and the blue dots, which suggests that respondents from the in-person GSS survey and KN’s phone survey are consistently more likely to say the nation spent “Too little” on the national priority items. Although the phone and Internet modes have the same sample source, the results from phone mode are more similar to the results from the in-person mode than to the Internet mode. The chart highlighted the spending items that had the greatest differences between the in-person and online modes: “Dealing with drug addiction” (14 percentage points), “Improving the conditions of Blacks” (11 percentage points), “Solving the problems with big cities” (10 percentage points), “Assistance for childcare” (10 percentage points), and “Supporting scientific research” (10 percentage points).

Figure 1: Scatter plots of “Too Little” Respondents

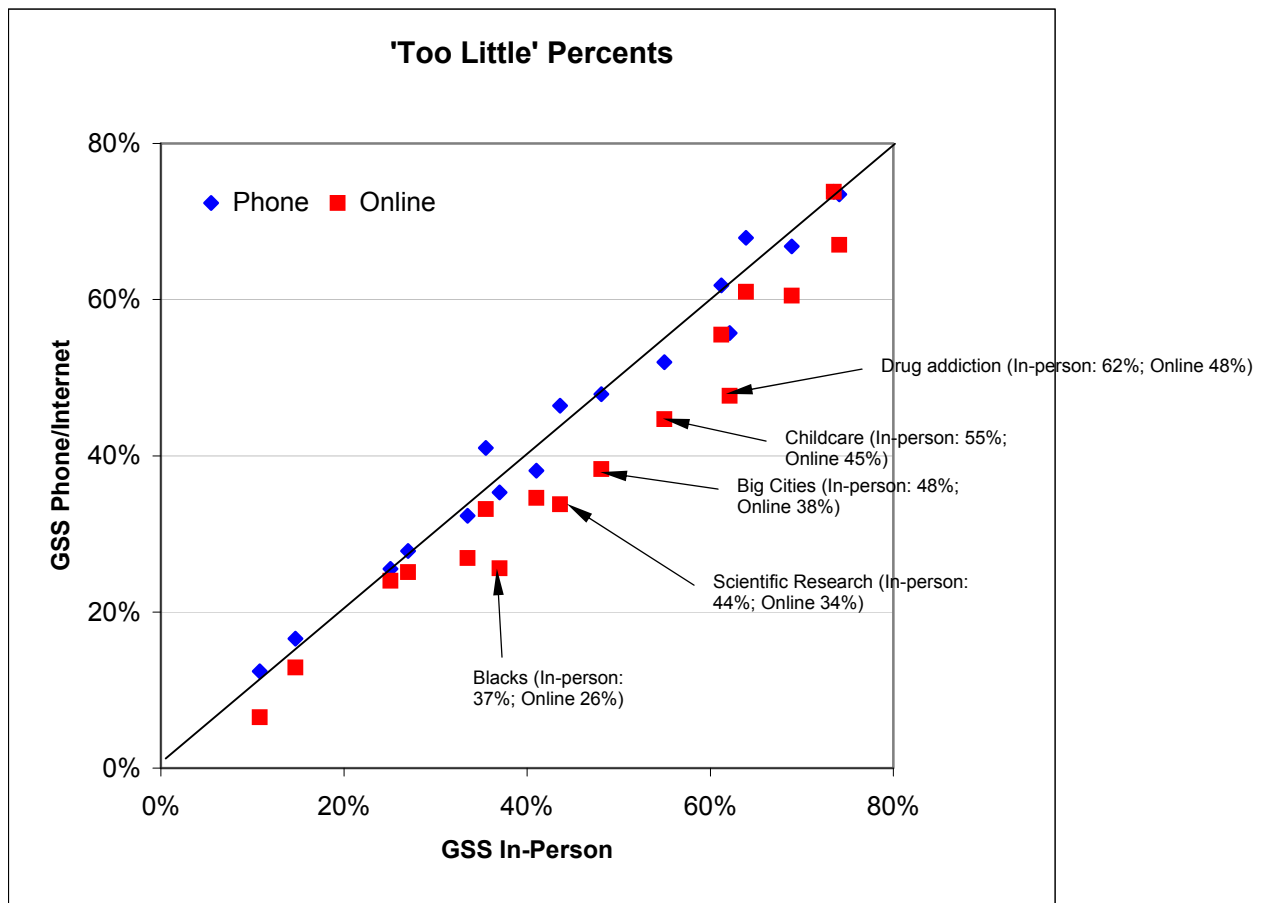


Figure 2 shows the percentage of respondents who think we are spending “Too much” on each of the national priority items. Again, the x-axis shows the percentage of respondents from the 2006 GSS survey. The blue diamond-shaped dots show the comparison between GSS and phone, while the red square-shaped dots show the comparison between GSS and Internet. If a dot lies above the diagonal line, more people from the Internet or phone mode than GSS indicated “too much” on the national priority item represented by this dot. If a dot lies below the diagonal line, more people from GSS than the Internet or phone mode indicated “Too much” on the national priority item.

The results on the “Too much” responses are nearly a mirror image of the “Too little” responses. The results from the GSS in-person mode are very similar to those from the KN phone mode. The red square-shaped dots are consistently located above the diagonal line and the blue dots, which suggests that respondents from the Internet mode are consistently more likely to say “Too much” on the national spending items that are respondents from the in-person and phone modes. The greatest differences exist in the following spending items: “Improving the conditions of Blacks” (18 percentage points), “Foreign aid” (8 percentage points), “The space exploration program” (7 percentage points), and “Welfare” (7 percentage points).

Figure 2: Scatter plots of “Too Much” Respondents

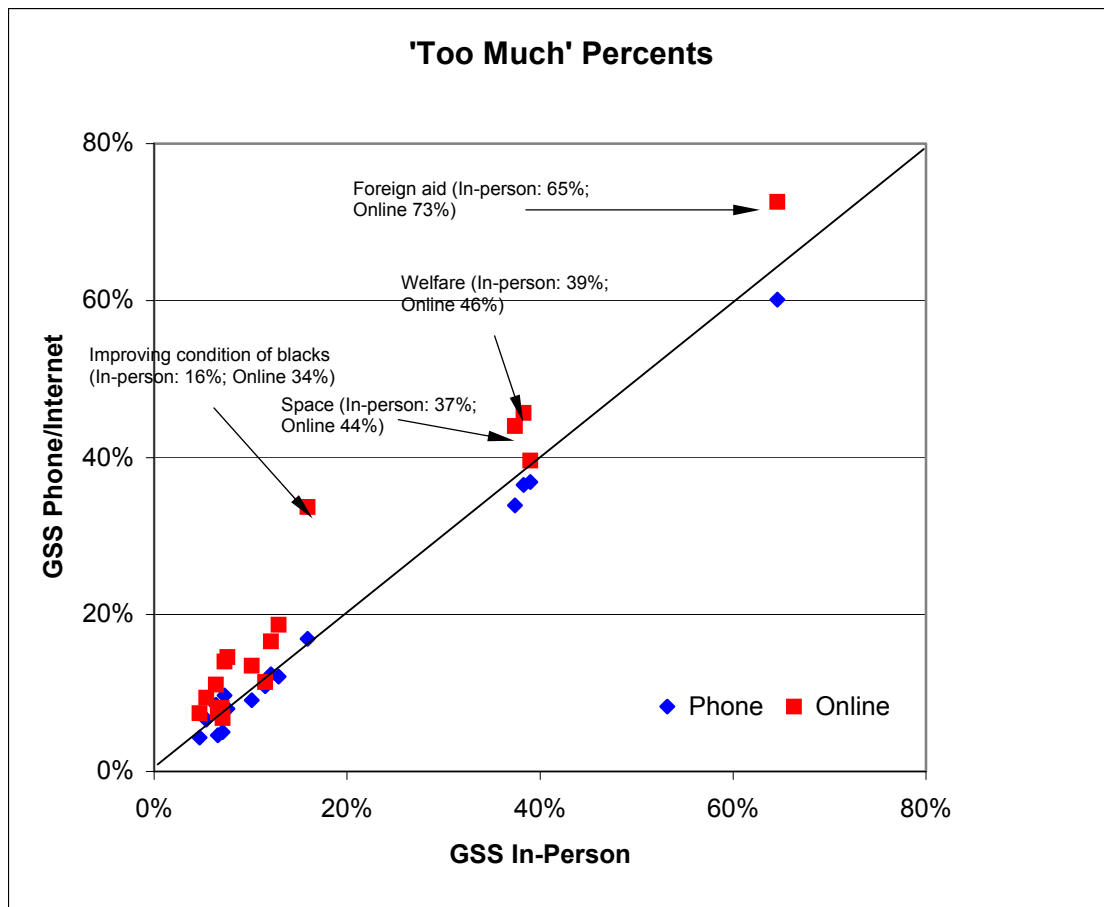


Table 5 shows the detailed substantive findings from the three modes of data collection. The first block of numbers shows the percentage of respondents indicating “Too much”, “Too little”, and “About the same” from the GSS in-person survey. The next block of numbers shows the differences between the online and in-person modes in 2002. The next two blocks show the differences between GSS and KN’s online and phone modes. A positive number indicates that more respondents selected the response in person than on the phone or online, and a negative number indicates that more respondents selected the response on the phone or online than in person.

The average absolute difference between GSS and the phone mode is 2 percentage points. The average absolute difference between GSS and the online mode is between 4–6 percentage points in 2006, which is similar to the average absolute difference of 4 percentage points in 2002. The shaded rows in the table highlights some of the spending items on which the differences between the in-person and online modes were replicated in very similar magnitude.

Table 5: Substantive Results from In-Person GSS and KN Online and Phone Experiments in 2002 and 2006

	GSS 2006			Difference in Percentage Points								
				GSS 2002 – Online 2002			GSS 2006 – Online 2006			GSS 2006 – Phone 2006		
	Too much	Too little	About the same	Too much	Too little	About the same	Too much	Too little	About the same	Too much	Too little	About the same
The space exploration program	37%	15%	48%	-1	0	1	-7	2	5	4	-2	-2
Improving and protecting the environment	7%	69%	24%	-4	-1	4	-1	8	-7	-1	2	-1
Improving and protecting the nation's health	7%	74%	19%	-2	6	-4	0	0	0	2	0	-2
Solving the problems of the big cities	13%	48%	39%	-6	11	-5	-6	10	-4	1	0	-1
Halting the rising crime rate	7%	61%	32%	-1	6	-5	-1	6	-5	2	-1	-2
Dealing with drug addiction	7%	62%	31%	-7	14	-7	-7	14	-8	-2	6	-4
Improving the nation's education system	5%	74%	20%	-1	0	1	-4	7	-3	-1	1	0
Improving the conditions of Blacks	16%	37%	47%	-14	10	4	-18	11	6	-1	2	-1
The military, armaments and defense	27%	39%	34%	-1	-1	2	-1	2	-2	2	-1	-2
Foreign aid	65%	11%	25%	-9	1	8	-8	4	4	5	-2	-3
Welfare	38%	25%	37%	-10	3	7	-7	1	6	2	0	-2
Highways and bridges	12%	36%	53%	0	0	0	0	2	-2	1	-6	5
Social Security	5%	64%	31%	-1	-2	2	-3	3	0	0	-4	4
Mass transportation	10%	41%	50%	-3	-1	3	-3	6	-2	1	3	-3
Parks and recreation	6%	34%	60%	-4	-3	7	-5	7	-2	-2	1	1
Assistance for childcare	8%	55%	37%	-2	6	-4	-7	10	-3	0	3	-3
Supporting scientific research	12%	44%	44%	-2	5	-3	-5	10	-5	0	-3	3
Average absolute difference				4	4	4	5	6	4	2	2	2

* The shaded rows indicate the spending items on which the difference between the in-person and online mode was replicated in both 2002 and 2006.

DISCUSSION AND CONCLUSIONS

This paper continues and expands the research on modes of data collection in 2000 and 2002 using the GSS national priority item battery. In 2002, we compared KN's online experimental treatments of "Don't Know" responses with the actual in-person GSS results. In the current research, we examined the differences between the online, phone, and in-person modes on 17 national spending priority items from the General Social Survey. The results suggest the following findings:

- The results from the year 2002 study were replicated:
 - By not showing the "Don't Know" option on screen but instructing respondents to skip the question to indicate "Don't Know", KN's online data collection can produce similar "Don't Know" rates to those produced by the in-person and phone mode.
 - Similar to the finding in the 2002 study, Respondents from KN's online survey are consistently less likely to select "Too little" and more likely to select "Too much" than are respondents of the in-person survey. Again, these systematic differences are small in magnitude for most spending items.
 - In the 2002 study, spending items dealing with urban underclass (Blacks, big cities, crimes, drugs, and welfare) and foreign aid showed large differences between the online and in-person modes. These large differences continued in the 2006 study for the same spending priority items.
- The fact that the phone and online modes have the same sampling source (i.e., KnowledgePanelSM) did not predetermine the similarities in the results between these two modes. To the contrary, the dissimilarities between the phone and online modes and the similarities between the phone and in-person modes are strong evidence for the effects of modes of data collection:
 - The average difference between the in-person and phone modes is smaller than the average difference between the in-person and online modes.
 - The systematic differences between the in-person and online modes do not exist between the in-person and phone modes.
 - The large differences between the in-person and online modes on the spending items dealing with urban social underclass and foreign aid decreased or disappeared completely between the in-person and phone modes.

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