A Comparison of Telephone and Personal Interviewing

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Tom W. Smith

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National Opinion Research Center
University of Chicago

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In our review of telephone-personal interviews we examined approximately 80 pieces of literature (see bibliography) and corresponded with six colleagues about their experience using both modes. Approximately 32 studies have compared telephone and personal interviewing. These include 21 complete or partial experimental comparisons of telephone and personal cross-sections, two experimental comparisons of reinterviews, two laboratory experiments, three examinations of telephone and non-telephone households on personal surveys, and four miscellaneous non-experimental studies. Nine were national studies, 14 communities or states, 7 special populations and sub-communities, and two convenience samples. Health care (11) was the most frequently investigated topic, followed by crime (3), mental states (3), city services (2), politics (2), and miscellaneous (11 - unions, cafeteria, racial attitudes, paper readership, etc.)

In the following section we will compare the relative strengths and weaknesses of personal and telephone interviewing, focusing on the themes of quality and comparability.

1. A telephone survey would not cover the sample population covered by personal household surveys. About 7-9% of households are without telephones. While this number has been declining steadily over the last several decades, there is some speculation that the trend may not continue because of saturation. Also, some concern has been raised that the divestiture of AT&T will actually lower the telephone penetration rate, because of higher costs and limited service. Telephone coverage is not uniform across subpopulations and is especially low among blacks, the poor, rural residents, Southerners, and the transient. Because of the incomplete and disproportionate coverage by telephone, a switch to telephone surveys would mean that one would either have to 1) redefine

the sample population and either a) restrict analysis of previous personal surveys to telephone households only or b) adjust the telephone sample through some type of post stratification weight to attempt to represent the general household population or 2) adopt a dual frame design with a personal interviewing component among non-telephone households to supplement the telephone survey. (This would however negate cost savings gained from telephone interviewing.)

2. Response rates are lower on the telephone than in person. In eight studies the personal response rate was clearly higher, in six cases personal response rates were slightly higher, in five cases no differences were reported and in two cases response rates were slightly higher on the telephone. The best estimate based primarily on the experience of the SRC is that a telephone GSS would have a response rate of five to ten percent points lower on the telephone. This is basically due to higher refusal and break-off rates on telephone surveys. Likewise in all ten surveys that compared refusal levels on an income question telephone refusals were substantially higher. It is also harder to judge non-response bias in telephone surveys since attributes of the household, neighborhood, etc. can not be known for nonrespondents.

3. Telephone RDD surveys have smaller design effects than multistage, clustered personal surveys. The design effects from more cases per interviewer leads to a greater interviewer design effect on telephone interviewing, but the elimination of area clustering leads to a lower design effect overall on the telephone and therefore to greater sampling efficiency.

4. Because it is much easier to monitor interviewers on a telephone survey, the level of standardization is much higher. On the other hand, because interviews are interviewing "blindly" from usually one locality, it is difficult or impossible to match respondents racially or regionally. In addition, because the telephone interviewing staff is more homogeneous than a national field staff there may be more potential for interviewer bias as opposed to interviewer variance.
5. Because of the more limited flow of communication in the telephone mode, respondent/interviewing feedback and clarifications are more difficult. Likewise, probing is found to work more easily and flow more naturally in personal settings. This restricted communication exchange may contribute to certain differences in response as covered below.
6. Certain types of complex interviewing can be handled better on the telephone while others are more difficult. Questions strings involving a long series on complicated filters and skips can be handled virtually error free on CATI telephone interviews. It is more difficult, however, for respondents to understand and follow complex response tasks on the phone such as rankings, random response questions, magnitude measurement scaling, or long questions. There are also certain problems with listing events and behaviors and with open ended questions that will be covered below. Also, designs that call for the respondent checking certain records (e.g. check stubs, brand of appliances, etc.) are considered more difficult on the telephone. Finally, interviewer observations of respondents, their household, or their neighborhood are not possible.
7. Telephone interviews tend to be more cursory, less cognitively stimulating, and more burdensome to respondents than personal

interviews. Administration of the same instrument on the telephone takes less time than in person. This is true even though temporary interruptions (e.g. by phone calls, people in household) are more frequent in personal interviews. The brisker pace of telephone interviews seems to result from 1) less exchange between respondent and interviewer and 2) briefer or less complete answers on the telephone. Open ended responses are longer on personal interviews and more events or behaviors tended to be mentioned. Respondents tend to rate the telephone interview experience more negatively (less enjoyable, less likely to do again, more suspicious, etc.) than personal interviews. This difference is especially large when it comes to evaluating the length of the interview. While the telephone interview actually ran 20 minutes shorter than the personal interview in the Groves & Kahn study, 36 percent rated the telephone interview as too long while only 10 percent rated the personal interview as too long. This greater respondent burden in a major factor contributing to much higher break-off rates on telephone than in person.

8. The greater anominity of the telephone interview is often assumed to reduce social desirability effects. Experimental results are equivocal at best. Studies of race of interview/respondent interactions indicate that the effect is as large in telephone surveys as in person. (This was true both in studies that tried to make racial identification clear to respondents and in natural situations.) Studies that compared levels of socially desirable responses across mode showed no clear differences. When leanings are considered, six studies reported more socially desirable responses in personal interviews, two studies with no differences, and four studies with more socially desirable responses to telephone surveys. However, when we look at only clear and significant

differences, in only one survey did personal interviews obtain more socially desirable responses, in seven cases there were no differences, and in four cases telephone surveys showed more socially desirable responses. Of some special interest is the finding of Bradburn, Sudman, et al. that all modes and methods of asking sensitive questions produced large biases.

9. Comparisons across modes have usually been very limited, frequently restricted to analyses of a few univariate distributions. Comparisons involving multivariate effects, validity, and reliability have been very scarce.

   A. When comparisons are made between telephone households interviewed by telephone and in person, distributions are frequently comparable. In eleven studies no differences were found, four studies found small and limited differences, and six studies found large or widespread differences. There appears to be a tendency for differences to be less common on factual items and demographics and more frequent on attitudes and some types of behavior.

   B. In only six studies were any more elaborate or complex comparisons carried out. Three studies looked at scale reliability or inter-item correlations. One study found a clear superiority for personal interviews (less agreement bias, evasiveness, and extremeness) while the other found no difference in the reliability coefficient or extremeness. In a third study the inter-item correlations on a number of satisfaction items were judged comparable across modes. Two studies compared test/retest coefficients. In one very small study, education responses were more consistent on telephone reinterviews than on personal reinterviews (in all cases the initial

interview was in person). The differences do not appear significant, however. In the second study reliability coefficients were highest in the personal-personal mode, (.83, .88) intermediate on the telephone-telephone mode (.82, .86) and lowest on switched modes (.71, .75, .75, .81). The differences between the two consistent modes were not significant. Finally, one study found that telephone interviews underrepresented the less educated and that this bias increased significantly among the elderly. These six studies using three scales and five other variables are a very sparce basis for generalizing about reliability and multivariate differences across modes. Four show no significant differences, but two find better performance from personal interviews.

C. Validity checks were carried out in nine instances. Personal surveys had more accurate responses in three cases, in five cases no differences were detected, and in one case telephone did better. On four studies that assumed higher validity based on theoretical anticipation of under or over reporting, more complete reports were found on telephone in two cases and in two cases for personal.

In very general terms the investigators' summary conclusions on data quality can be classified as follows:

Personal superior to telephone	8
Personal equal to or superior to telephone	3
No important differences	12
Telephone equal to or superior to personal	2
Telephone superior to personal	2
Telephone and personal should be combined (mixed mode)	3
Both should be improved	1
	32

The tilt of the individual research findings towards better quality data from personal interviews is shared by our summary of differences. On the 25 standards listed in Table 1, we find personal superior in thirteen cases, telephone in six cases, insufficient data in four cases, and no difference in two instances. Among the nineteen areas on which differences were detected, twelve are considered of importance to the GSS. On these twelve, personal interviews had the advantage in nine cases while telephone interviews lead in three areas.

10. Telephone surveys (and especially CATI surveys) can be done more quickly than personal interviews. While personal interviews have been designed, fielded, and completed within a week, this represents a extraordinary and usually especially costly effort. Given anticipated levels of physical equipment and personnel, it would probably be possible to reduce the design to data processing stage from 6 months to four-five months. Advantages to the GSS of this reduction, other than those that are part of the cost savings listed below, are minimal however.

11. All studies have shown telephone surveys to be significantly less expensive than comparable personal interviews. Cost advantages diminish and/or disappear, however, when dual frames are adopted and in designs that use some type of personal follow up (e.g. matching hospital records) on scattered telephone samples (e.g. national RDD). NORC estimates that the total reduction in data collection and processing cost (i.e. from questionnaire construction to production of a clean, raw data tape) would be 25 percent.

What should be the course of action for 1985? On one hand we would expect that with adjustments for non-telephone households most items would not significantly vary by mode. On the other hand, in general the quality of personal interviews seems higher than telephone interviews and comparative analyses of multivariate differences and comparative reliability and validity are too sparce for firm conclusions. Therefore, an experimental comparison should focus on these underexamined areas.

To adequately assess the comparative reliability of personal and telephone interviewing a test/retest design should be adopted. Following our experience with earlier test/retest designs, we suggest a single reinterview about four to six weeks after the initial interview. This retest should involve both same mode and cross mode administrations. The following table illustrates this design:

		Reinterview			
		None	Telephone	Personal	
Initial Interview	Telephone	0	250	250	500
	Personal	500	250	250	1000
		500	500	500	1500

This design would maximize our ability to study the almost totally ignored area of comparative reliabilities, but would be costly and necessitate additional resources. On the retest only a subsample of questions would be readministered. These would be chosen to represent six classes of items: 1) unchanging demographics, current status, 2) unchanging demographics, past status, 3) changeable demographics, 4) steady attitudinal items, 5) one or two attitudinal scales, and 6) episodic and mood items. In addition, to check the

quality and reliability of the data, items should be added including 1) self-validating factual items (e.g., Who is the Secretary of State?), 2) items with a high degree of both positive and negative social desirability (e.g., registered to vote/have library card vs. driving after drinking/late paying bills). Serious consideration should be given to including record checks to validate reports on voting, etc. In addition, we should replicate the findings that telephone interviews produce shorter and less complete answers to open-ended questions.

Since both the personal reinterview of initial telephone respondents and any record checks necessitate having an interviewer in the vicinity and would be especially expensive if scattered, it would probably be best to cluster telephone interviews in the same PSUs as the personal interviews.

Also, both the rotation of GSS items (which means that roughly a third of our attitude items will not appear on the 1985 survey) and our experience with our full probability/block quota experiments in 1975 and 1976 argue that the mode comparisons would have to be replicated in 1986.

There is, however, a serious question whether the GSS could be administered on the telephone. Due to respondent burden, success can not be predicted for a telephone survey the length of the GSS (approximately 75 minutes).[1]

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[1]Examples of the administration of general topic surveys to a national or heterogeneous population lasting over an hour are extremely rare. Most telephone surveys are very short. Observe the following reports on length of telephone surveys:

	Source	Surveys Studied	Length
1.	Wiseman & McDonald, 1979	Market research	Less than 10 minutes-40.3% greater than 10 mins. 49.7%
2.	Dillman, 1978	Mostly various populations, Washington	

Our best estimate is that a reasonable expectation of success could be expected only if the survey schedule was reduced by 50-60 percent (and a few questions dropped or substantially reformatted to make them workable on the telephone).

There are certain radical changes in the GSS design that could accommodate such a drastic reduction in the survey instrument. These would include 1) continuous cross-sections (ala CNS), 2) multi-wave panels, 3) and the sampling of items across time. While these designs each have certain attractions, it is disquieting to see them considered primarily to cater to limitations of telephone interviewing. In addition, it is doubtful that any of these designs would better monitor historical developments and help explain generation-to-generation social change than the annual cross-sectional design of the current GSS.

Thus, in attempting to implement an experimental comparison between the telephone and personal interviewing on the 1985 GSS we are left with three choices 1) attempt a GSS interview on the telephone despite concerns about its practicality, 2) radically redesign the GSS to make it functional within telephone limitations, and 3) contaminate the telephone/personal comparison on the experiment by administering a short form on the telephone (as in the 1982

	State	0-5 mins	-14
		5-10	-12
		11-15	- 1
		20-30	- 4
3.	Survey Research, 1973	Academic research	Longest ever done: 5-60, average of longest: 26 mins.

Similarly, in the twelve experimental studies, which mentioned length of interview, covered here in only one case did the time exceed 50 minutes on the telephone. In addition, most practioners are wary about long telephone interviews. Survey Research, in its poll of 14 academic survey organization, found only one practioner who thought that a survey over 45 minutes was possible. (He actually said there was not limit if the survey was interesting). Many authors in the experimental studies also expressed concern about long telephone interviews.

ANES experiment). (This last choice presumes that a full GSS is not practical on the telephone and indirectly argues for ultimate adoption of the second option.)

Why carry out a telephone/personal experiment? Certainly there are many methodological questions about personal/telephone interviewing that the design we proposed would greatly clarify. Yet it is doubtful that such an expensive and extensive methodological experiment should be carried out without the serious intention of moving the GSS to the telephone mode. Since there are no conceptual or theoretical reasons for this shift, it all comes down to money. Our best estimate is that after our two experimental years (which would necessitate an increase in our budget of some unknown amount), the telephone survey would save us 25 percent in collection and processing costs. This would mean that the told project savings (including codebook preparation, analysis, user support, etc.) would be on the order of 18 percent. If the GSS survey could be carried out intact with as high a degree of quality in the telephone mode as in the personal mode, we would be foolish to ignore these savings. Unfortunately the feasibility of doing the necessary experimental comparison to determine the relative reliability, validity, and replicability of the two modes is questionable.

TABLE 1

Comparison of Telephone and Personal Interviews

Topic	Advantage	Magnitude of Advantage	Important to GSS?	Comments
I. SAMPLING				
A. Complete Coverage	P	Strong	Yes	7-9% of households without phones undercoverage much high in some subpopulation
B. Selecting Respondent	N	--	--	Different techniques are used, but R can be selected
C. Nonresponse	P	Strong	Yes	
D. Design Effect	T	Strong	Yes	
II. INTERVIEWING				
A. Interviewer Standardization	T	Strong	Yes	
B. Interviewer x Respondent Interactions	U	--	--	Race of interviewer/ respondent interactions happen on both T and P, but race matching not attempted on T regional/linguistic matches difficult on T
C. Respondent Feedback/ clarifications	P	Strong	Yes	
D. Probing	P	Slight	Yes	
E. Complex Questions	P	Strong	Yes	
1. Visual aids	P	Strong	Yes	In some, but not all instances, different T techniques can handle without visual aids
2. Complicated filters	T	Strong	No	T advantage if CATI only; given current GSS content manual filterings works well
3. Open ended	P	Strong	No	
4. Lists of events, experiences	P	Strong	Slight	
5. Possible consulting of records, family	P	Strong	No	
F. Respondent Privacy	T	Slight	Slight	

TABLE 1

(Continued)

	Topic	Advantage	Magnitude of Advantage	Important to GSS?	Comments
III.	RESPONSES				
	A. General (nonthreating)	N	--	--	Distributions usually not significantly different
	B. Social Desirability	U/N	--	--	
	C. Validation	P	Slight	Slight	
	D. Reliability	U	--	--	Virtually unexamined
	E. Item Nonresponse	U/N	--	Unsure	T gets slightly higher DKs, difficult to judge as positive or negative development
	1. Income Refusals	P	Strong	Yes	
IV.	OTHER DESIGN ISSUES				
	A. Questionnaire Length	P	Strong	Yes	T interview runs faster but lower acceptance of long interviews
	B. Respondent Burden	P	Strong	Yes	R prefers P to T and rates T as too long and more of burden
V.	SPEED	T	Strong	No	
VI.	COST	T	Strong	Yes	Dual frame designs often negate T savings

P = Personal N = No difference

T = Telephone U = Unknown

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