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ABSTRACT

This is an experimental 2-phase study which focuses upon perceived respondent burden (PRB), that is, upon negative feelings which may be experienced by people who participate in household surveys. For phase 1 of the study, whose results are reported here, the effects of two variables-- interview length and interview effort--upon PRB were assessed. Length was varied by using either a 25 or a 75-minute interview. The "effort" variable was also separated into two treatments, in which some respondents were asked to check their records for the answers to household expenditure items, and others were asked to provide estimates based on memory. Respondent attitudes were assessed via a self-administered "reaction form" which was handed to the respondent at the conclusion of the treatment interview. Findings suggest that: (1) persons exposed to the longer interview were less likely to express willingness to participate in future surveys; (2) willingness to complete the interview, item response rates, and self-perceived accuracy of responses were not affected by length; and (3) varying the level of effort did not affect PRB. (Author/RL)

MEASUREMENT OF RESPONDENT BURDEN: STUDY DESIGN AND EARLY FINDINGS

by Joanne Frankel

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Washington, D.C. 20036

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Prepared for

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SUMMARY

The Study Design and Its Limitations

The Measurement of Respondent Burden is an experimental 2-phase study being conducted for the Department of Housing and Urban Development by the Bureau of Social Science Research. The study focusses upon perceived respondent burden, that is, upon negative feelings which may be experienced by people who participate in household surveys. For Phase I of the study, whose results are reported here, the effects of two variables--interview length and interview effort--upon respondent burden were assessed. Length was varied by using either a 25 or a 75-minute interview. The "effort" variable was also separated into two treatments, in which some respondents were asked to check their records for the answers to household expenditure items, and others were asked to provide estimates based on memory. The two variables were crossed to produce four different "treatment" interviews. Respondent attitudes were assessed via a self-administered "reaction form" which was handed to the respondent at the conclusion of the treatment interview. Negative attitudes reported through this form as well as item non-response rates during the treatment interview and interviewer reports of respondent behavior were used as indicators of respondent burden.

In Phase II, the effect of another treatment--repeat administration of identical interview instruments of varying length--will be studied.

The study findings should be interpreted with two factors in mind:

1. The interviews were conducted in households located in a predominantly white middle class suburb (of Philadelphia). Therefore, the study findings may not be applicable to other populations, for example, persons living in rural areas or in inner cities, or to other types of interview situations. (In Section III of the report, "External Validity Issues," we have tried to address this problem, as far as our data allow, by analyzing the study results for demographic subgroups.)

2. The treatment interviews dealt with topics such as housing and neighborhood conditions, energy costs, and transportation. The results might have been quite different if more (or less) respondent-pertinent topics had been discussed.

Key Findings

Differences Between Respondents and Refusers

- To achieve 500 interviews a total of 886 household were contacted; in 184 cases no contact could be established, and in 202 cases, the householder refused to be interviewed. No attempt was made in this study to convert initial refusals, but a brief interview was conducted with those refusers who cooperated (N=107). The 202 persons refusing to be interviewed constituted 29 percent of those contacted for the survey. Although respondents were younger than refusers, no other significant differences were found in terms of demographic characteristics, or for those variables which might have affected the interview situation (i.e., time of day of the attempted interview, or experience of the interviewer involved). However, refusers and respondents differed in their general attitudes towards the usefulness of surveys, and in their past participation in interview situations, with refusers less likely to rate surveys as useful, and less likely to have participated in surveys in the recent past.

- While the time required for an interview was frequently the reason given for the refusal, the actual length of time when announced to the respondent at the door--i.e., 25 or 75 minutes--did not seem to contribute in any appreciable way to the tendency to refuse. The percentage of refusals occuring after the specific time was mentioned was virtually identical (about 38%) for both the long and short interview groups.

- Moreover, the interviewers' prior knowledge of the length of the interview to be attempted was not related to the overall percentage of refusals obtained, which was 27 percent for the short vs. 30 percent for the long form.

General Reactions to the Survey

- Among the 500 persons consenting to be interviewed, reactions to the survey were overwhelmingly positive. Only two of these respondents broke off the interview prior to completion. Large majorities felt that the interview was at least somewhat interesting (87%) and important (88%), and that their time and effort were at least somewhat well spent (90%). Eighty percent said that they would be willing to be reinterviewed next year.

Relationship of Respondent Burden to Interview Length, and Effort

- No relationship was found between interview length and overall item nonresponse. On the average, both the long and short interview groups failed to answer only about three percent of the questions they were asked.

- However, interview length was associated with willingness to be interviewed, with 14 percent more of the people given the short as opposed to the long interview stating that they would be willing to allow the interviewer to return next year. (The actual figures were 87 percent and 73 percent for the two respective groups.)

- Interview length also affected attitudes towards the interview, but only to the point of eliciting more negative responses to questions which asked specifically about length. The longer questionnaire was not seen as being more of an overall nuisance, or as being more uninteresting, unimportant, or difficult than was the shorter interview.

- In general, increasing the effort required to complete the respondent's task (retrieval of records) had no effect on behavioral or attitudinal indicators of respondent burden. For example, there were no significant differences between the recall and retrieval groups in item nonresponse rates (which were 2.89% and 2.82% respectively), in willingness to be reinterviewed (80% of both groups agreed), or in porportions of respondents within each group who felt that the interview was uninteresting, unimportant, not time well spent, etc. In short, asking respondents to retrieve records neither created a burden (as is assumed by some researchers) nor did it generate a more positive reaction by conveying to the respondents the suggestion that the survey was very important.

- When effort was examined as a behavioral rather than as a manipulated variable--that is, when respondents were grouped by the percentage of times they actually checked their records--no significant relationships between effort and indicators of burden were found. However, in both the recall and the record retrieval groups, persons who never referred to their records at all expressed negative attitudes more frequently than did other respondents. Therefore, there may be some association between feelings of burden, unwillingness to exert efforts in the interview situation, and data quality which this particular study was not designed to probe.

Interview Length and Respondent Burden with Other Factors Considered

- The relationship between respondent burden and interview length was examined with other variables (both attitudinal and demographic) held constant. Men indicated less willingness to be reinterviewed than women if given the long form; the same was true of employed persons and of those with more education (high school diploma or more).

- However, the key finding emerging from this analysis was that a general belief in the efficacy of survey is an important factor influencing the extent to which interviews of various lengths will be perceived as burdensome. That is, among respondents agreeing that "answering surveys is of direct benefit to the people who answer," the relationship between length and key indicators of burden is weakened. For example, for this group, the percentage refusing to be reinterviewed was generally low, no matter if the short (8%) or the long (10%) treatment had been applied. In contrast, for respondents who did not agree that surveys are beneficial, the relationship between length and burden became much stronger. For this group, the percents refusing to be reinterviewed were 19 percent for the short and 44 percent for the long interview groups (a difference of 25%).

Length, Effort, and Data Quality

- Based on the limited measures available in this study, no relationship was found between interview length and data accuracy (as perceived by respondents and reported in answer to an item in the reaction form), or completeness (based on item nonresponse to the treatment interview). Contrary to commonly held assumptions, item nonresponse did not increase during the course of the long interview; income questions asked at the beginning and end of that interview elicited a comparable relatively high level of nonresponse.

- Similarly, no general relationship between record checking and data quality was found. Although, on the average, retrieval respondents did refer to records more frequently than those asked to rely on memory, differences in perceived accuracy of response between the two groups, while in the expected direction, were not statistically significant. Only among persons favorably predisposed toward surveys, did a significantly greater proportion of retrieval than of recall respondents perceive their responses as "very accurate."

Implications of The Early Study Findings

The findings obtained to date suggest that varying the level of effort entailed by an interview as operationalized for this study does not affect self-perceived respondent burden. They also suggest that the disclosed length of an interview does not affect refusal decisions.

Persons exposed to the longer interview were less likely to express willingness to participate in future surveys, suggesting indeed some relationship between length and self-perceived burden. This finding will be empirically tested in Phase II of the study. Willingness to complete the interview, item response rates, and self-perceived accuracy of responses were not affected by length, nor was the generally favorable assessment of the interview.

Belief in the efficacy of surveys clearly emerged as an important element affecting feelings of burden, perhaps even overshadowing actual interview length. This finding suggests that to reduce self-perceived burden in long interviews, it is most important to convey to the respondent the importance and usefulness of the survey method and the likelihood that the survey data will in fact be used by the research sponsors.

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I. BACKGROUND OF THE STUDY

Introduction

This report describes Phase I of the Measurement of Respondent Burden, an experimental study conducted by the Bureau of Social Science Research for the Department of Housing and Urban Development. The focus of the study is upon correlates of self perceived respondent burden, that is factors associated with the presence of negative feelings such as annoyance, frustration or inconvenience which may be experienced by survey participants. The study is limited to survey situations in which face-to-face interviews are conducted in respondents' homes.

The issues addressed by this research are of interest to HUD in connection with its sponsorship of the Annual Housing Survey (AHS), a face-to-face household survey which is the primary source of information about the condition of the nation's housing supply. The level of refusal rates in the AHS, reports from field observers, and occasional complaints by individual respondents have caused concern within HUD with the burden which the survey may be imposing upon AHS respondents.

The issue of respondent burden is also of interest to a wider audience of survey and evaluation researchers, who are concerned with maintaining or improving response rates in their data collection activities, and to government personnel charged with managing or regulating Federally-sponsored data collection efforts. The present research is intended to provide information which will be useful both to HUD staff and to this broader research community.

Common Assumptions About Respondent Burden

According to the Report of the Commission on Federal Paperwork,[1] "individuals complete well over 500 million Federal forms each year on matters related to their personal lives." If we define "paperwork" in its broadest sense to include personal interviews, we can argue that the Annual Housing Survey certainly contributes to this load; to carry out the survey, Census interviewers conduct approximately 180,000 interviews yearly.

Limiting the number of information requests which may be sponsored by Federal agencies is a function carried out, in part, by the Office of Management and Budget (OMB). OMB's guidelines require that special consideration be "given to the burden on individuals. . ." and that "individuals . . . should not be called upon to spend more than one-half hour in responding to a request . . . ."[2] Activities requiring, on on the average, more than one-half hour of response time per person must be explained by a "special justification" before an OMB clearance allowing the activity to be fielded will be granted. Implicit in this procedure is the assumption that "less is better," i.e., that long interviews will overly burden respondents.

This same assumption surfaces again in suggestions which have been made for revisions to the Annual Housing Survey. At an invitational conference convened during January, 1978, several possible causes of respondent burden in the AHS were identified, among them interview length. Consideration of this factor led to suggestions that the AHS

[1] A Report of the Commission on Federal Paperwork: Final Summary Report, Washington, D.C., 1977, p. 64.

[2] Office of Management and Budget, Federal Statistics: Coordination, Standards, Guidelines. Washington, D.C.: GPO, 1976, p. 46.

be redesigned by shortening the questionnaire through the use of core questions (to be administered yearly) and of rotating supplements (to be administered on a less frequent basis.)

A second factor flagged as a possible cause of burden for AHS respondents is the panel design of the study. The Annual Housing Survey consists of two parts; a national longitudinal survey in which occupants of a nationwide sample of housing units are interviewed each year, and an SMSA longitudinal survey, in which occupants of housing units in selected metropolitan areas are interviewed once every four years. A recent review of the fixed panel design feature of the AHS concluded that a rotating design would not necessarily lower refusal rates. Despite this conclusion, however, the review went on to state that "additional research should be done to examine other reasons for rotating the survey, i.e., whether the respondent burden needs to be spread among a larger portion of the population."[3] [Emphasis added.] It was thus assumed that there is some relationship between frequency of being interviewed and perceived respondent burden.

The basic stimulus for the research described in this report is that the assumptions outlined above are based primarily on intuition. Few empirical studies have been done exploring the relationship of interview length and frequency of interview to perceived burden. This conclusion is based both on a formal literature review conducted as part of this project, and upon our contacts with approximately 45 prominent survey research organizations from whom we requested unpublished

[3]Malmuth, M. The Advantages and Disadvantages of Rotating the Annual Housing Survey, National Sample from a Non-Response Point of View. Paper presented at the American Statistical Association Annual Meeting, Aug., 1978, p. 26.

work in this area. We found that much of the literature, both published and unpublished, has focussed on data quality or response rates, not on perceived burden. Further, much of the tangentially related work has treated independent variables outside of the scope of the present project, such as promises of confidentiality, use of incentives, etc. Finally, most of the studies involving the length variable have been limited to mail or phone questionnaires.[4]

Although it is thus without strong empirical underpinnings, our understanding of the topic of respondent burden does have a theoretical basis. A "theory of respondent burden" has been presented by Norman Bradburn, director of the National Opinion Research Center (NORC).[5] Bradburn's theory targets four factors which may be related to perceived burden on the part of respondents: interview length, required respondent effort, frequency of being interviewed, and the stress of psychologically disturbing questions which may be asked. The theory suggests that length. effort, or frequency of being interviewed do not by themselves constitute a burden; burdensomeness is the product of an interaction between the nature of the task and the way in which it is perceived by the respondent. Thus, by enhancing the importance of the study for the respondent, longer interviews may even result in a

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[4]Much of this work is summarized in Marquis, K. Survey Response Rates: Some Trends, Causes, and Correlates. Health Survey Research Methods: Second Biennial Conference, Williamsburg, Va., May 4-6, 1977. DHEW Pub. (PHS) 79-3207, 1979. Other useful references in the general topic of survey nonresponse are: Hawkins, D. A Bibliography of Studies of Non-Response in Survey Research. UNC, Chapel Hill: Institute for Research on Social Science, 1978, and Nonresponse and Characteristics of Non-Respondents, Washington, D.C.: Bureau of the Census, undated SMIS Bibliography.

[5]Bradburn, N. Respondent Burden. Health Survey Research Methods. DHEW Publication No. PHS 79-3207, 1978, pp. 49-53. See also Sudman, S. and Bradburn, N. Response Effects in Surveys; Chicago, Illinois: Aldine Publishing Co., 1974.

reduction in perceived burden. Questions requiring some special effort on the part of respondents--such as asking them to check records for expenditure data--may serve a similar function.

To test the latter assertion, and to examine interactions between interview length and interview situations requiring special effort, "record-checking" was included as a variable in the present research effort.

Coincidentally, the one empirical study most directly related to the topic of respondent burden also comes from NORC.[6] The study is relevant because, unlike others, it does focus directly upon perceived burden, albeit among a rather select population, farmers asked to participate in USDA crop and livestock surveys. The principal findings of the NORC researchers do not support the commonly accepted truisms. The researchers concluded that actual interview length, or frequency of interview are poor predictors of perceived burden. As stated in their report:

> In their assessment of survey burden, farmers and ranchers are not so much influenced by the number or length or type of surveys as they are by their perception of the quality of the surveys and the effects of surveys upon their lives. Operators who are convinced that surveys produce useful and accurate information that serves primarily their own economic interests tend not to feel burdened by even large number of surveys. Those who are not so convinced are likely to feel that even one survey request is too many. (p. 69)

Clearly, then, the commonly accepted assumptions about respondent burden required some further exploration.

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[6] Jones C. et al. Dakota Farmers and Ranchers Evaluate Crop and Livestock Surveys. Chicago, Illinois: National Opinion Research Center, 1979.

II. DESCRIPTION OF THE EXPERIMENT

The Study Design

The respondent burden study is being implemented in two phases. During the first phase of the experiment, both interview length and the effort required of the respondent to answer certain questions were manipulated, and their effect upon perceived burden assessed. Length was operationally defined as "number of minutes of interview time," with 35 and 75-minute treatments used. The "effort" variable was also separated into two treatments: recall, in which respondents were asked to provide estimates based on memory for answers to selected expenditure questions, and retrieval, in which respondents were asked to consult checkbooks or other records to answer these questions.

The length and effort variables were crossed to create four treatment groups, each of which received a different version of the interview: a short recall interview (Group 1), a long recall interview (Group 2), and short and long retrieval interviews (Groups 3 and 4). (See Figure 1.)

Respondent burden was measured by direct questioning of the respondent through a self-administered reaction form, which was given at the conclusion of each "treatment" interview. (For 100 of the respondents in Group 1 and 100 in Group 2, the reaction form was not used, since these respondents will be reinterviewed for the second phase of the study.) Respondent burden was also behaviorally assessed by examining various types of response rates among treatment groups.

FIGURE 1

STUDY DESIGN

	Group 1		Group 2		Group 3	Group 4
	25 Minute Instrument, Recall Effort Only		75 Minute Instrument, Recall Effort		25 Minute Instrument, Record Retrieval Required	75 Minute Instrument Record Retrieval Required
	Group 1A	Group 1B	Group 2A	Group 2B		
N =	75	100	75	100	75	75
Phase I Interview	✓	✓	✓	✓	✓	✓
Phase I Debriefing	✓		✓		✓	✓
Phase II Interview		✓		✓		
Phase II Debriefing		✓		✓		

For the second phase of the study, the effort variable will be eliminated, and the third manipulated variable--single vs. repeat administration of identical questions over time--will be introduced. The "repeat" treatment will be applied approximately nine months after the first data collection cycle (i.e., in November, 1980) by conducting a second round of interviews with a portion of the Phase I sample. The effects of the "administration" variable will be assessed by comparing the single administration groups (Groups 1A and 2A in Figure 1) and the repeat administration groups (Groups 1B and 2B) in terms of overall nonresponse rates and by comparing their responses to the reaction form.

Sampling Procedures

The interviews were conducted in the suburban area of Philadelphia; field work was subcontracted to the Institute of Survey Research, Temple University. The study area can be characterized as relatively prosperous and predominantly white.

A multi-stage sampling procedure was used to select respondents from this area. At the first stage, 50 clusters of 12 households and 25 clusters of 16 households were randomly selected from all clusters in the suburbs of interest; clusters were formed by grouping adjacent addresses in the Coles City Directory. For each selected cluster, a lister was sent to the field to obtain a complete and up-to-date listing of households.

At the second stage of sampling, subsets of six households within the clusters of 12 and subsets of eight households within the clusters of 16 were selected for a total of 500 households (50 x 6 plus 25 x 8). The remaining subsets were held in reserve to be used as

substitutes for the original households in the event that an interview could not be obtained. In addition, 15 "reserve" clusters were also selected to be used in case additional substitutes were needed.

At the final stage of sampling, one respondent "knowledgeable about household expenditures" was selected at each household. A treatment was assigned to each selected respondent, and within each cluster all treatments were used. In that way, the full experiment was replicated in every cluster.

Questionnaire Design

All versions of the treatment questionnaires incorporate selected items from the Annual Housing Survey. For the longer instrument, additional items were created or adapted from other sources to achieve the desired interview length. The questionnaires were arranged in segments by topic area, with "stop points" at the end of each segment instructing the interviewer to end the interview if 25 (or 75) minutes had elapsed. The topics included in the short and long forms are shown in Figure 1.

Every effort was made to keep the interest level constant between the short and long instruments. A mix of open and closed questions was included in each. Equivalency of interest was assessed by BSSR staff who rated each subsection of all versions of the questionnaire on a five-point "interest" scale. No appreciable differences in interest level were found.

FIGURE II

TOPIC AREAS INCLUDED IN TREATMENT QUESTIONNAIRES[a]

Area	Questionnaire Type	
	Short	Long
Household composition/demographic information[b]	Yes	Yes
General information about house/apartment[b]	Yes	Yes
Energy-related questions (household heating, cooling, insulation, etc.)[b]	Yes	Yes
Household repairs[b]	No	Yes
Electrical appliances, use of electricity, electricity bills[b]	Yes	Yes
Other fuel, bills[b]	Yes	Yes
Neighborhood services[b]	Yes	Yes
Neighborhood crime	No	Yes
Description of neighbors (race, education, social interaction)	No	Yes
Previous residences[b]	Yes	Yes
Transportation: number and types of vehicles owned	Yes	Yes
Transportation: gas purchases, attitudes toward shortages	Yes	Yes
Transportation: method used to get to work[b]	No	Yes
Specific sources of household income[b]	Yes	Yes

[a]For most topic areas, the longer questionnaire contained more items than did the short one. Recall and retrieval versions of the instrument were identical, except that different versions of expenditures items were used.

[b]Indicates topic areas included in past or present versions of the Annual Housing Surveys, or proposed for AHS use. Most questions within these areas were taken verbatim or adapted from the AHS; in some cases additional non-AHS items were used to achieve the desired interview length.

The reaction form, administered at the conclusion of the treatment interview, contains items used in earlier studies of interview participants as well as some especially created for the present effort. A telephone questionnaire to obtain information about persons refusing to be interviewed was also developed.

All data collection instruments were pretested in a Northern Virginia suburb of Washington, D.C.

Data Collection Procedures

The study's data collection procedures were patterned after those used in the Annual Housing Survey. As in the AHS, an advance letter was sent to each of the 500 "original" households selected for participation in the study. The letter described the general subject matter to be covered and informed respondents that the results would be used to improve the design of the Annual Housing Survey. Respondents were further informed that their participation was voluntary, and that the results would be reported in aggregate form only. The fact that respondents would be asked to complete a reaction form at the conclusion of the interview was not revealed to them either in the letter or during the interview.

Up to four call-backs were allowed at each household to complete an interview with a respondent "knowledgeable about household finances." Several restrictions were placed on the timing of calls: the first attempt had to be made after 3 P.M. on a weekday, or at a reasonable weekend time; if other attempts were necessary, at least one call had to be made on a weekend or after 6 P.M. on a weekday. If, after four calls, an interview was not obtained, the interviewer was given a substitute assignment at which to administer the selected treatment.

Upon arriving at the household, the interviewer read an introduction in which she repeated the confidentiality provision and told the respondent how long the interview would last. Reaction forms were handed to all persons consenting to the interview--except those targeted for Phase II of the study--at the conclusion of each session. Interviewers were instructed not to assist the respondent in completing this form. The respondent was instructed to seal the envelope containing the form and to give it to the interviewer. The option of mailing it directly to the survey organization was also available. As detailed in the next section of this report, a special effort was made to follow up those persons refusing to be interviewed, so that the reason for the refusal could be determined.

III. PHASE I RESULTS

The results of Phase I of the experiment are presented in terms of several major research questions:

1. How do survey respondents and refusers differ?

2. Looking at the respondents only, can we detect a relationship between the length of the interview and the burden perceived by the persons interviewed? Similarly, is there an association between the effort required in the interview situation and the perceived burden?

3. Under what conditions do the observed relationships appear to "hold up?"

In addition, the final part of this section looks at issues of data quality and flags specific questions reported as problems by study respondents.

A technical note on the validity of the findings to be reported is appropriate here. Strictly speaking, in analyzing the data, we will be operating at the level of what Cook and Campbell[7] have called "statistical conclusion validity." That is, we will be looking at interview length, effort, and perceived burden as operationally defined and measured in this experiment to determine if length (or effort) and the indicators of burden are statistically associated. In looking for associations, it will also be important to determine if there are consistencies across the various indicators of burden, so that the specific elements of respondent burden related to length or effort may be pinpointed.

[7]Cook, T. and Campbell, D. Quasi - Experimentation Design and Analysis Issues for Field Settings. Chicago, Illinois: Rand McNally, 1979.

If any significant associations are observed, we must look for alternative explanations (i.e., ways in which the experimental groups differ other than in the length or effort of the interview situation) to explain the observed relationships. If no alternatives are found, the "internal validity" of the experiment--i.e., the plausibility of inferring that length or effort and perceived burden as we have defined and measured them are causally related--is strengthened. Finally, to increase the "external validity" of the experiment--i.e., the extent to which its findings can be generalized to different settings, types of people, historical times, etc.--it will be important both to determine the extent to which any results we find hold up for specific subgroups of respondents within this study, and to compare our findings with other research along these lines which has been done or may be done in the future.

Factors Affecting Willingness to Respond: A Comparison of Respondents and Refusers

To complete the required number of interviews, interviewers entered a total of 80 clusters and attempted contact at 886 addresses. Seventy percent of the attempted interviews took place during the day, and 26 percent during the evening (after 5 P.M.). Fifty-eight percent were done on weekdays and 40 percent on weekends or during a February holiday. Thirty-three interviewers were used, 24 of whom had more than one year of interviewing experience. Altogether 498 interviews were actually completed. (See Table 1 for a summary of the field work effort and its results.)

TABLE 1

SUMMARY OF FIELD WORK EFFORT AND FINAL RESULTS

	(N)	%
A. Type of Address Used	(505)	
Original address	(378)	57
Substitute address[a]	(3)	43
Unknown		0
B. Day of Attempted Interview[b]	(350)	
Weekend/holiday	(521)	40
Weekday	(15)	58
Not determined		2
C. Time of Attempted Interview[b]	(620)	
Day (up to 5:00 pm)	(230)	70
Evening (5:00 pm and later)	(36)	26
Not determined		4
D. Final Interview Result		
Contact made	(702) (498)	79
Completed interview	(202)	56
Refusal	(2)	33
Breakoff		0
No contact made	(184) (12)	21
Language barrier	(93)	1
Could not contact after 4 calls	(16)	10
Eligible respondent away	(35)	2
Vacant	(14)	4
Not a housing unit	(14)	2
Other		2
Total (N) of Addresses Used	(886)	100

[a]Twenty of these addresses were from reserve clusters. The remainder were obtained from substitute households within the originally sampled clusters.

[b]Refers to day and time in which final interview attempt was made.

Since one of the motives underlying the concern with respondent burden is its presumed connection with refusal decisions, it is important in a study of this phenomenon to look for characteristics which distinguish respondents and refusers, and to establish the exact circumstances under which the refusal occured. An understanding of the differences in characteristics of these two groups also yields important clues to the biases in data that may result from refusals. The refusal rate for this survey was 23 percent of all addresses (N=886), or 29 percent of all "good addresses" (N=702), i.e., those which were occupied by survey-eligible residents, so that an interview could have taken place.[8] These refusal rates are somewhat higher than rates experienced in other household surveys. However, the refusal rate may have been inflated by the data collection procedures which were used to meet a rigid dealine.[9] If interviewers encountered a refusal, an ineligible respondent, etc., they were provided with substitute assignments. This practice may have encouraged them to accept refusals more readily than is usually the case. Also, we did not, in this survey, follow the common practice of attempting to "convert" refusers via telephone follow-up calls.

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[8] In some cases, the distinction between refusals and ineligible respondents is not clear-cut. Twelve households were classified as ineligible because the interviewer was unable to communicate initially with the resident ("language barrier"). In a few other cases, the resident claimed that he did not want to participate because he was sick, barely spoke English etc.; these were classified as refusals.

[9] All interviews need to be completed in one month so that, in accordance with OMB regulations, no field work would take place during a 4-month period surrounding the 1980 census.

Data on refusers was obtained by asking interviewers to code the sex and approximate age of the refuser and the point at which the refusal took place. Supervisors then attempted to administer a short refuser follow-up questionnaire by phone for the 135 cases for which phone numbers were found. Contact was actually established with 115 of these individuals; eight could not be interviewed because of a language barrier, 48 terminated the interview after the first or second question, and only 59 went through the entire sequence of questions. Therefore, much of the information available to describe refusers is based on a small number of individuals.

Three types of data distinguishing respondents and refusers are presented in the tables: demographic characteristics (Table 2); past experience with and general attitudes towards surveys (Tables 3 and 4); and characteristics of the interview situation itself (Table 5). (Complete responses to the refuser follow-up form are shown in Appendix A.)

Significant differences between the two groups were found for age ($p. < 05$), past experience with surveys ($p. < .001$) and attitudes towards surveys (with p.'s ranging from $< .01$ to $< .001$ depending upon the attitude measure used). Respondents were younger than refusers; a greater proportion reported participating in surveys in the past; and they had more positive attitudes towards surveys in general. The difference in attitudes between the groups is evident both for several of the specific items used as attitudinal measures (as shown in Table 3) and for the overall attitude score created when the items were combined into an index (shown in Table 4).

TABLE 2

CHARACTERISTICS OF RESPONDENTS AND REFUSERS: DEMOGRAPHIC VARIABLES

	Respondents (N)	Respondents %	Refusers (N)	Refusers %	TOTAL (N)	TOTAL %
ale	(179)	36	(64)	34	(243)	36
nder 40*	(210)	43	(61)	33	(271)	40
ccupational status						
Full-time worker	(217)	44	(22)	40	(240)	44
Part-time worker	(75)	15	(3)	5	(78)	14
Homemaker.	(134)	27	(19)	34	(153)	28
Retired.	(41)	8	(9)	16	(50)	9
Other.	(28)	6	(2)	4	(30)	5

*$p < .05$.

TABLE 3

CHARACTERISTICS OF RESPONDENTS VS. REFUSERS: PAST EXPERIENCE WITH AND ATTITUDES TOWARD SURVEYS IN GENERAL

Characteristic	Respondents (N)	%	Refusers (N)	%	TOTAL (N)	%
Participated in a survey during the past 12 months	(103)**	37	(8)	11	(207)	60
Strongly agreed or agreed with the following statements about surveys:						
Positive Statements						
Answering surveys is of direct benefit to the people who answers.	(154)	58	(26)	52	(180)	57
Taking part in surveys can give me a chance to talk about interesting topics	(174)*	66	(22)	45	(196)	63
By taking part in surveys I can effect the government's decisions.	(160)	60	(22)	48	(182)	58
The most important way to improve the quality of life in America is by taking surveys frequently	(147)	54	(16)	38	(163)	52
Negative Statements						
Too many surveys are being conducted these days	(95)**	36	(39)	78	(134)	43
Surveys ask questions that are too personal	(86)**	32	(35)	73	(121)	38
Number Responding	(263-277)		(42-74)			
Missing Cases	(19-33)		(33-65)			
Total (N)	(296)[a]		(107)[b]			

*p < .01. **p < .001.

[a]296 is the number of people responding to the reaction form.

[b]107 is the number of persons answering at least the first question on the refuser form. 59 people went through the entire refuser follow-up interview.

TABLE 4

MEAN "NEGATIVE ATTITUDE TOWARD SURVEYS"[a] SCORE OF RESPONDENTS VS, REFUSERS

	(N)	Mean	Standard Deviation	T Value	2-Tailed Probability
People Answering the Entire "Attitude" Question					
Respondents.	(248)	1.86	1.56	4.49	.000
Refusers	(28)	3.25	1.43	-	-
People Answering One or More Parts of the Question					
Respondents.	(279)	1.77	1.53	3.47	.001
Refusers	(59)	2.52	1.48	-	-

[a]The negative attitude toward surveys scale was computed by counting the number of times persons agreed or strongly agreed with negative statements about surveys (e.g., "Too many surveys are being conducted these days) and the number of times they disagreed or strongly disagreed with positive statements (e.g., "Answering surveys is of direct benefit to people who answer"). Statements a-e in Q. 5 of the reaction form were used in constructing the scale. Scores could range from 0 (no negative attitudes expressed) to 5 (five negative attitudes expressed).

TABLE 5

CHARACTERISTICS OF RESPONDENTS VS. REFUSERS: VARIABLES RELATED TO THE INTERVIEW SITUATION

	Respondents (N)	%	Refusers (N)	%	TOTAL (N)	%
Time Interview was Attempted						
Daytime	(361)	74	(133)	69	(494)	72
Evening	(130)	26	(60)	31	(190)	28
Day Interview was Attempted						
Weekend/holiday	(193)	39	(81)	41	(274)	39
Weekday	(305)	61	(116)	59	(421)	61
Experience of Interviewer						
Inexperienced	(93)	19	(42)	21	(135)	19
Experienced	(405)	81	(160)	79	(565)	81
Total (N) of cases for which information was available	(491-498)		(193-202)			
Missing cases	(0-7)		(0-9)			
Total (N)	(498)		(202)			

It is also informative to note ways in which the two groups do not differ. No significant differences were found in terms of sex, or occupational status, or for those variables which we used to describe the interview situation, i.e., time or day of the attempted interview, or experience of the interviewer involved (Table 5). This latter finding was unexpected since we had hypothesized that a larger proportion of refusers than respondents would have encountered inexperienced interviewers.

An examination of the reasons mentioned by refusers for declining the interview does not provide a clearcut indication that time requirements, from the point of view of the respondent, are a major factor (Table 6). While one-fifth of the refusers said that the interview would take too much time, the actual time required--i.e., 25 vs. minutes--did not seem to contribute in any appreciable way to the tendency to refuse. The percentage of refusals occuring after the specific interview length was mentioned (as opposed to refusals occuring earlier during the introduction) is virtually identical for both the long and short questionnaire forms (38.1 and 37.4 percent respectively). It may be that any amount of time is "too much" for someone who is not predisposed to participate in an interview, or that basing one's refusal on lack of time is a convenient explanation.

We thought it possible that "time" might also be important from the point of view of the interviewer, that is, that her a priori knowledge of the length of the interview to be completed might subtly influence her behavior toward the respondent. For example, we hypothesized that interviewers who encountered difficult respondents might be less persistent when they knew they would have to administer the long form.

TABLE 6

REASONS MENTIONED BY REFUSERS FOR DECLINING TO PARTICIPATE IN INTERVIEW

Reason	(N)	%[a]
Interview would take too much time, respondent was too busy	(24)	21
Couldn't do interview (too old, sick, language barrier, death in family, other personal problems)	(21)	18
Didn't want to be bothered, didn't feel like it, not interested	(21)	18
Didn't want privacy invaded, didn't want to divulge information	(10)	9
Time was inconvenient	(9)	8
Didn't want to take part, participate in surveys	(9)	8
Felt that surveys are disguised sales pitches	(5)	4
Disapproved of interviewer behavior	(4)	3
Sponsorship of survey	(3)	3
Nothing to say, couldn't answer	(2)	2
Didn't feel survey would be useful	(1)	1
Other reason, or reason not determined	(10)	9

[a]Percents based on 115 refusers for whom some initial contact was made (i.e., phone number were found and someone answered the phone). Multiple responses were allowed.

But the information shown in Table 7 suggests that this hypothesis is not true; 30 percent of the good addresses with long assignments resulted in refusals, vs. 27 percent for the short form. These data suggest that a priori knowledge of interview length did not have an appreciable effect upon interviewer behavior, and, thus, upon response rates.

Finally, to check for other subtle uncoded differences in interviewer behavior which might be related to refusal rates, the percent of cases handled by each interviewer which resulted in refusals was tabulated (Table 8). The mode is between 21 to 30, an interval which includes the overall percentage of all cases resulting in refusals (23% as shown earlier in Table 1). Moreover, no interviewer accounted for more than 8 percent of the 202 refusals. With these facts in hand, it seems safe to conclude that interviewer differences are not an important factor in understanding refusals.

The findings from this experiment are consistent with other research that has been done on the characteristics of refusers. For example, Wiseman,[10] in a paper presented at the 1980 annual meeting of the American Association for Public Opinion Research (AAPOR), showed converging findings from his own and earlier studies which indicated that refusers tend to be older than respondents and socially less active and more isolated. It is worth noting, however, that our findings do not support the hypothesis occasionally advanced by survey researchers that refusers are persons who suffer from survey fatigue because they have been interviewed too many times in the recent past.

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[10] Wiseman, F. The Nonresponse Problem in Consumer Surveys. Unpublished paper presented at the annual meeting of the American Association of Public Opinion Research, Cincinnati, Ohio, 1980.

TABLE 7

FINAL SURVEY RESULTS BY LENGTH OF INTENDED INTERVIEW

	Short		Long	
	(N)	%	(N)	%
Completed interview	(250)	58	(248)	55
Refusal	(94)	22	(108)	24
Breakoff	(0)	0	(2)	0
Language barrier	(9)	2	(3)	1
Could not contact after 4 calls	(50)	12	(43)	10
Eligible-respondent away	(6)	1	(10)	2
Vacant	(17)	4	(17)	4
Not a housing unit	(5)	1	(9)	2
Other	(2)	1	(13)	3
Total N of Addresses Used	(433)	100	(453)	100
Refusals as a Percent of All Addresses		22		24
Total N of "Good" Addresses	(344)		(358)	
Refusals as a Percent of "Good" Addresses		27		30

*"Good addresses" are addresses where an interview could have been obtained, i.e., the first three categories in the table.

TABLE 8

DISTRIBUTION OF INTERVIEWERS BY PERCENTAGE OF THEIR ASSIGNMENTS WHICH RESULTED IN REFUSALS

Percentage of Assignments Resulting in Refusals	Interviewers (N)	%
0 percent	(0)	0
1 - 10 percent	(6)	18
11 - 20 percent	(8)	24
21 - 30 percent	(12)	36
31 - 40 percent	(4)	12
41 - 50 percent	(2)	6
51 + percent	(1)[a]	3
Total	(33)	100

[a]This interviewer was given only one assignment which resulted in a refusal.

Do Length and Effort Make a Difference? An Analysis of Perceived Respondent Burden

It is frequently assumed by survey researchers and their sponsors, that, on balance, the role and tasks which the respondent is asked to perform in the course of the interview have a negative impact, i.e., that these activities are burdensome. It has also been argued, however, that on balance, the experience might be a positive one, since the interview might be an enjoyable interpersonal experience, an opportunity to gain new insights or learn about new products or ideas, or a source of gratification because the respondent performs an altruistic act. The purpose of our study was to assess the way in which negative and positive feelings about survey participation are affected by characteristics of the interview ("the treatment") and to make judgments about the total experience under various treatment conditions, which might enable us to describe the experience as having various degrees of burdensomeness or enjoyment. To measure respondents' feelings during the interview, we used various indicators suitable for administration in a large scale survey. Three major types of indicators were examined:

- Overt behavioral indicators, including interview break-offs, the percent of *all applicable questions which went unanswered* by the respondent during the "treatment" interview, and reports from interviewers that the respondent seemed bored or preoccupied during the interview. The assumption being made in using these indicators is that, if the respondent chooses to terminate the interview, is not answering the questions asked, or is looking at his watch, asking the number of questions left, etc., it is because he or she feels burdened by the situation.

- Softer behavioral indicators, including the stated unwillingness of the respondent to continue the interview for an additional 15 or 30 minutes given a hypothetical opportunity to do so, or unwillingness to be reinterviewed at a later date.

- Attitudinal indicators measured through the reaction form. These include statements that the interview was too long, uninteresting, unimportant, not time well spent, etc. Again, the assumption being made is that if the respondent makes negative statements of this type the treatment interview was to some extent burdensome, i.e., provided few rewards.

In this section, each of the burden indicators is examined to determine if there are relationships between perceived burden and the length of the interview, the effort required, or the overall treatment, involving the four combinations of length and effort.

An overview of reactions to the interview is presented in Table 9. In general, reactions were overwhelmingly positive. Only two of the 500 respondents who had agreed to be interviewed broke off the interview prior to completion. (Both of these were in the long recall group.) For those persons completing the interview, the average item refusal rate was less than one percent, and the average item nonresponse rate (counting both refusals and "don't know" responses) was less than three percent.[11] Relatively few respondents (9%) were reported by interviewers as preoccupied with the length of the interview. Large majorities felt that the interview was at least somewhat interesting (87%), and important (88%), and that their time and effort were at least somewhat well spent (90%); 80 percent said that they would be willing to be reinterviewed next year.

[11] Interviewers were asked to distinguish between cases where the respondent refused to answer a question ("refusals") and cases where the respondent did not have the information requested ("don't knows.") In many cases, the distinction was undoubtedly very difficult to make.

TABLE 9

OVERALL REACTIONS TO THE INTERVIEW

Behavioral Indicators	
Number of breakoffs	2
Average item refusal rate	.51%
Average item non-response rate (refusals and "don't knows")	2.87%
Percent reported by interviewers as preoccupied with the length of the interview	9%
Percent willing to be reinterviewed one year from now to find out if housing conditions had changed	80%
Percent who would have been willing to continue with the interview for at least another 15 minutes	57%
Attitudinal Indicators	
Percent feeling that the interview was:	
Very or somewhat interesting	87%
Very or somewhat important	88%
Percent finding questions easy or very easy to answer	95%
Percent feeling that time and effort put into answering the questions was very well or somewhat well spent	90%
Percent feeling that the length of the interview was about right	70%

Finally, the respondents tended to rate the "nuisance" or "burden" of participating in this survey as being considerably less than that for the performance of other common tasks, such as filling out income tax forms, balancing a checkbook, responding to political opinion polls, or getting a car inspected (see Table 10).

Because of this favorable reaction, we are left, for many indicators, with the task of examining responses from a rather small minority of respondents to determine if length or effort had any bearing on their negative behavior or attitudes toward the interview.

Behavioral indicators are reported in Tables 11 and 12 and attitudinal indicators in Tables 13 and 14. (Detailed responses to questions from which these tables are taken are shown in Appendix B.) There are statistically significant associations between many of these measures and the length of the interview. Specifically:

- Fewer long interview respondents would have been willing to continue with the interview for an additional 15 or 30 minutes given the hypothetical chance to do so (39 vs. 75 percent); and more declined to be reinterviewed next year (27 vs. 13 percent) (Table 12).

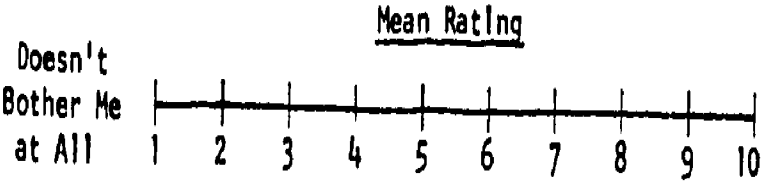
- Long interview respondents were more frequently described by interviewers as "preoccupied with the length of the interview" (14 vs. 5 percent for the short interview group). (Table 12.) Fourteen percent of the long interview group vs. only five percent of the others said that "the time and effort put into answering the questions was not well spent." (Table 13.)

- Nearly one-half of the long interview respondents vs. 13 percent of the others said the interview was "too long." Over one-half recommended the use of shorter questionnaires as a way of improving surveys. (However, one-third of the short interview group also made this recommendation.) (Table 13.)

TABLE 10

HOW RESPONDENTS RATED THE "NUISANCE VALUE" OF THIS SURVEY
IN COMPARISON TO OTHER COMMON TASKS .

Question: From time to time, we are all called upon to do various things which we may not particularly enjoy. In fact, some of these may be a downright "nuisance." We would like to know how much taking part in this survey bothered you as compared to doing other common tasks. (FOR EACH TASK PUT DOWN THE NUMBER ON THE SCALE--1 THROUGH 10--WHICH BEST DESCRIBES HOW MUCH THE TASK BOTHERS YOU.)



	Standard Deviation
Answering the interviewer's questions during this survey. . .	2.3
Filling out income tax forms. . . .	3.5
Balancing checkbook against bank statement	3.1
Answering a public opinion survey about which political candidate you like better	3.2
Going to the polls to vote on election day.	2.6
Getting your car inspected by the state	3.4

[a]Based on responses from 267-280 participants or 90-95% of those completing the reaction form.

TABLE II

AVERAGE ITEM REFUSAL AND ITEM NON-RESPONSE RATES TO TREATMENT INTERVIEW, BY INTERVIEW LENGTH, EFFORT, AND TREATMENT

	Number of Respondents Completing Treatment Interview	Item Refusal Rate[a]				Item Non-Response Rate			
		Mean	Standard Deviation	T or F Value	2-Tailed Probability	Mean	Standard Deviation	T or F Value	2-Tailed Probability
Length									
Short	250	.67	3.11	1.54	.124	2.70	4.54	.94	.350
Long	248	.34	1.41			3.04	3.29		
Effort									
Recall	348	.48	2.63	.33	.74	2.89	4.16	.20	.845
Retrieval	150	.55	1.87			2.82	3.48		
Treatment									
Short Recall	175	.69	3.48	.43[b]	.43	2.84	5.01	.63[b]	.598
Long Recall	173	.28	1.27			2.94	3.09		
Short Retrieval	75	.63	2.04			2.39	3.16		
Long Retrieval	75	.48	1.70			3.25	3.73		
Overall Results	498	.51	2.42			2.87	3.97		

[a]See footnote p. 24 for definition of "Item refusal" and "Item non-response."

[b]Since the variances among treatment groups were not homogeneous, the use of the F ratio is not strictly appropriate. Therefore, the exact significance level is not known.

TABLE 12

RESPONDENT BEHAVIOR DURING INTERVIEW AND WILLINGNESS TO PARTICIPATE IN LONGER OR FUTURE INTERVIEWS, BY INTERVIEW LENGTH, EFFORT, AND TREATMENT (In Percentages)[a]

Indicator	Length		Effort		Treatment				TOTAL	
	Short	Long	Recall	Retrieval	Short Recall	Long Recall	Short Retrieval	Long Retrieval	(N)	%
Interviewer Question										
Did the respondent seem preoccupied with the length of the interview--that is, did the respondent keep looking at a watch, asking how many questions were left, etc?										
Yes	5	14	10	8	6	14	4	12	(46)	9
No	95	86	90	92	94	86	96	88	(445)	91
Significance	p < .01		n.s		p < .05					
Respondent Questions										
We had time to ask our important questions during this interview, but it would have been useful for our study to ask some additional questions. On the other hand, we could have left some out to make the interview shorter. Please circle the number of the one answer below which comes closest to your feelings:										
I would have been willing to continue with the interview for another 30 minutes	9	12	12	9	11	12	7	12	(29)	10
I would have been willing to continue with the interview for another 15 minutes	66	27	45	50	65	22	67	32	(132)	47
I would have preferred the interview to be 15 minutes shorter	25	43	34	33	24	46	26	39	(94)	34
I would have preferred the interview to be 30 minutes shorter[b]	b	18	9	8	b	19	b	17	(25)	9
Significance			n.s							
Would you be willing to be interviewed a year from now so that we could find out whether your housing conditions had changed?										
Yes	87	73	80	80	86	74	89	71	(224)	80
No	13	27	20	20	14	26	11	29	(56)	20
Significance	p < .01		n.s		p < .05					
Number Answering Respondent Questions	141-144	136-139	139	141	70-72	67-69	71-72	69-70	280	
Missing Cases	5-8	8-11	9	7	3-5	4-6	2-3	4-5	16	

[a]Percents on this and on subsequent tables may not equal 100 because of rounding.

[b]This response did not appear on short interview.

TABLE 13

REACTIONS TO SELECTED ATTITUDINAL QUESTIONS CONCERNING THE LENGTH OF THE INTERVIEW, BY LENGTH, EFFORT, AND TREATMENT
(In Percentages)

Question	Length		Effort		Treatment				TOTAL
	Short	Long	Recall	Retrieval	Short Recall	Long Recall	Short Retrieval	Long Retrieval	(N)
How do you feel about the length of the interview which you just completed? (CIRCLE ONE NUMBER ONLY.)									
Too short	1	1	1	1	1	0	0	1	(2)
About right	86	52	69	71	88	49	85	56	(200)
Too long	13	47	31	29	11	51	15	42	(85)
Significance	p < .0001		n.s		p < .0001				
We have had a number of suggestions about ways in which our surveys could be improved. How do you feel about each of these:									
Use shorter questionnaires:									
Would be an improvement	34	57	45	46	33	57	35	57	(122)
Would not be an improvement	66	43	55	54	67	43	65	43	(147)
Significance	p < .001		n.s		p < .01				
Overall, do you feel that the time and effort you put into answering the questions was:									
Very well spent	33	28	32	28	37	27	28	28	(86)
Somewhat well spent	62	58	59	62	59	59	66	58	(172)
Not very well spent	5	14	9	10	4	14	6	14	(27)
Significance	p < .05		n.s		n.s				
Number Responding	135-146	134-141	133-144	136-143	66-74	67-70	69-72	67-71	269-287
Missing Cases	3-14	6-13	4-15	5-12	1-9	3-6	2-5	3-7	9-27

However, the length of the interview was not related to either the item refusal or item nonresponse rate. Nor was interview length related to attitudinal measures which did not ask specifically about the notion of length. For example, contrary to our expectations based on the theory of respondent burden presented earlier in this report, increasing the length of the interview did not seem to enhance the importance of the study. In fact, slightly more of the long vs. short interview respondents (15 vs. 10 percent) said that the survey was "not important," and the percentage saying that the survey was "very important" was higher for the short than the long group (60 vs. 40 percent). (These differences are not statistically significant, however.) Similarly, there were no significant differences between the long and short interview groups in feelings about the interest level or difficulty of the interview (see Table 14).

It bears repeating that for those behavioral and attitudinal indicators where we did find differences based on length, the negative reactions reported here are based on a minority of respondents. For example, using the same data, we could also report that almost three-quarters of the long interview group is willing to be reinterviewed next year, that over half felt that the interview length was "about right," and that about 85 percent felt that their time was at least somewhat well spent. What is important is that such favorable reactions were generally experienced by even more respondents in the short interview group.

TABLE 14

PERCENT OF RESPONDENTS EXPRESSING NEGATIVE REACTIONS TO THE INTEREST LEVEL, IMPORTANCE, AND DIFFICULTY OF THE INTERVIEW, BY LENGTH, EFFORT, AND TREATMENT

Negative Attitude	Length		Effort		Treatment				TOTAL	
	Short	Long	Recall	Retrieval	Short Recall	Long Recall	Short Retrieval	Long Retrieval	(N)	%
verall, interview was "not very interesting" or not at all interesting"	13	13	14	13	11	17	16	10	(38)	13
Significance[a]	n.s		n.s				n.s			
rvey was "not important".	10	15	14	10	10	20	10	11	(36)	12
Significance	n.s		n.s				n.s			
the whole, answering the questions was "hard" or ery hard"	4	6	5	6	4	6	4	7	(15)	5
Significance	n.s		n.s				n.s			
Number Responding	145-147	141-143	145-146	141-144	74	71-72	71-73	70-71	286-290	
Missing Cases	2-4	4-6	2-3	4-7	1	1-2	1-3	3-4	6-10	

[a]Significance based on chi-square test on collapsed variables, e.g., not very/not at all interesting vs. very/somewhat interesting.

In examining these tables, it is also noteworthy that the effort variable (i.e., the recall vs. retrieval treatment) is not associated with any of the indicators of respondent burden as defined and measured in this experiment. That is, there are no significant differences between the recall and retrieval groups in terms of overall item refusal or non-response, reported preoccupation with the length of the interview, willingness to continue the interview or to be reinterviewed next year, or in general attitudinal indicators. This finding is true despite the fact that the percent of applicable items for which records were actually checked is significantly greater ($p. < .001$) for the retrieval than for the recall group (39 vs. 21 percent as shown in Table 15).

Using tests of statistical significance as a criterion, this same finding emerges when effort is examined as a behavioral, rather than as a treatment variable, that is, when respondents are grouped by the percentage of times they actually checked their records for the answers to expenditure items. (See Table 16). In other words, while in both the recall and retrieval groups, a larger proportion of people who never referred to their records expressed negative attitudes towards the survey than did the record-checkers, these differences generally are not statistically significant. However, the tests of significance are based on very small N's; given the pattern of distributions in the table, it seems reasonable to hypothesize that failure to check records may in itself be another manifestation of respondent burden, i.e., of negative feelings towards the interview situation. Therefore, there may also be some relationship between respondent burden and data quality.[12]

[12]This thought will be explored further in a separate BSSR paper which is also based on the data produced by this study.

TABLE 15

PERCENTAGE OF APPLICABLE ITEMS FOR WHICH RECORDS WERE CHECKED, BY LENGTH, EFFORT, AND TREATMENT

	Number of Persons Completing the Treatment Interview	Mean Percentage of Applicable Qs. for Which Records Were Checked	Standard Deviation	T or F Value	2-Tailed Probability
Length					
Short	(250)	26.06	33.01	.38	.704
Long	(248)	27.20	34.00		
Effort					
Recall.	(348)	21.21	29.62	5.13	.001
Retrieval	(150)	39.21	38.30		
Treatment					
Short recall. . . .	(175)	21.98	29.90	11.43[a]	.0001
Long recall	(173)	20.43	29.39		
Short retrieval . .	(75)	35.60	37.83		
Long retrieval. . .	(75)	42.82	38.68		
Overall Results	(498)	26.63	33.47		

[a]Since the variances among treatment groups are not homogeneous, use of the F statistic is not strictly appropriate. Therefore, the exact significance level is not known.

TABLE 16

INDICATORS OF RESPONDENT BURDEN BY PERCENTAGE OF ITEMS FOR WHICH RECORDS WERE CHECKED, RECALL AND RETRIEVAL GROUPS
(In Percentages)

Indicator	Recall Group					Retrieval Group				
	Respondents Checking:			TOTAL		Respondents Checking:			TOTAL	
	0 Items	1-50% of Items	51-100% of Items	(N)	%	0 Items	1-50% of Items	51-100% of Items	(N)	%
Preoccupied with the interview.	12	7	6	(33)	10	13	9	2	(11)	7
Unwilling to be reinterviewed next year	23	16	11	(26)	19	29	16	14	(28)	20
Felt survey was unimportant	14	9	20	(20)	14	20*	3*	7*	(15)	10
Felt answering questions was "hard" or "very hard".	4	6	7	(7)	5	4	9	5	(8)	6
Felt survey was uninteresting	17	6	13	(19)	13	17	21	5	(18)	13
Felt time and effort were not very well spent . . .	10	3	14	(13)	9	16	9	5	(14)	10
Felt interview was "too long"	32	35	17	(42)	30	34	26	25	(41)	29
Would have preferred interview to be 15-30 minutes shorter	45	46	38	(59)	43	46	41	37	(58)	41
Recommended use of shorter questionnaire.	46	53	31	(58)	45	53	52	36	(62)	46

*p $\angle$.05

Finally, no interaction effects between length and effort and the various burden indicators are apparent. While significant differences among the four treatment groups do appear for some indicators (e.g., preoccupation with the length of the interview, willingness to be reinterviewed, and feelings about the length of the interview), visual inspection of the tables reveals that these differences again reduce to differences between groups based on the length variable. In fact, when three-way tables were generated with length held constant (so that, for example, the short recall group is compared only to the short retrieval group and the long groups are compared only with each other), no significant differences in indicators remained.

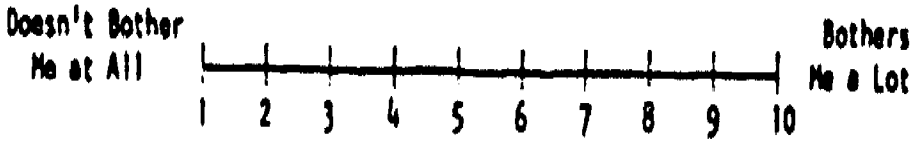
As a check on the consistency of these findings, the overall burden or nuisance rating of the survey may be used. The average rating given by respondents in the various groups is reported in Table 17. No significant differences based on any of the variables manipulated in this experiment are evident.

Upon reflection, this finding is consistent with those presented earlier; it appears that the behavioral indicators as opposed to some of the attitudinal indicators and the nuisance scale are tapping into different aspects of respondents' reactions or feelings toward the interview situation. This finding implies that the phenomenon of "respondent burden" is multi-faceted and multi-dimensional. Specifically, when asked about length, respondents will say that a questionnaire is too long or that in general shorter questionnaires would be preferable.

TABLE 17

AVERAGE "NUISANCE VALUE" OF THIS SURVEY BY LENGTH, EFFORT, AND TREATMENT

Question: From time to time, we are all called upon to do various things which we may not particularly enjoy. In fact, some of these may be a downright "nuisance." We would like to know much taking part in this survey bothered you as compared to doing other common tasks. (FOR EACH TASK PUT DOWN THE NUMBER ON THE SCALE--1 THROUGH 10--WHICH BEST DESCRIBES HOW MUCH THE TASK BOTHERS YOU.)



	(N)	Mean	Standard Deviation	T or F Value	2-Tailed Probability	Missing Cases (N)
Length						
Short	(141)	2.65	2.30	.83	.408	(8)
Long	(139)	2.88	2.39			(8)
Effort						
Recall	(138)	2.85	2.50	.61	.541	(10)
Retrieval	(142)	2.68	2.19			(6)
Treatment						
Short recall	(69)	2.68	2.40			(6)
Long recall	(69)	3.03	2.60	.405	.749	(4)
Short retrieval	(72)	2.62	2.22			(2)
Long retrieval	(70)	2.74	2.18			(4)
Overall Results	(280)	2.77	2.34			(16)

In the course of a long interview, a few respondents will show outward signs of their concern with time (check their watch, appear impatient etc.). Yet these feelings about the length of the interview do not necessarily mean that the respondent resents the time spent, or feels unduly burdened by it, since on the nuisance scale, where respondents compared the interview with other onerous tasks, long and short groups did not differ. Under the circumstances with attitudinal items yielding ambiguous data, it would appear that the most satisfactory overall indicator of respondent burden is stated willingness to be re-interviewed. This question yielded a more clear-cut division between the long and short groups, suggesting that length was indeed equated with burdensomeness by a minority of respondents.

Validity of the Study Findings

We have shown that there is a relationship between interview length and several behavioral and attitudinal indicators of respondent burden. This section examines the validity of that major study finding. Two of the validity issues raised earlier are considered:

- Internal Validity: the issue here is to determine if the association between interview length and respondent burden represents a causal relationship.
- External Validity: this issue concerns the stability of the findings, i.e., the extent to which they appear to be stronger for specific subgroups of respondents vs. the extent to which they can be generalized across all subgroups.

Interview Length and Respondent Burden: The Problem of Causal Attribution

The association between interview length and respondent burden means that, for this group of respondents, it is possible to predict one

variable from knowledge of the other. That is, if we know the interview length group to which a respondent was assigned, we can predict his or her willingness to be reinterviewed, his or her attitudes toward the length of the interview, etc. more accurately than if information about length were not available. However, prediction and causation are not synonymous. Rather, interview length and respondent burden may vary together by virtue of their link with a third variable, e.g., "prior attitudes towards surveys."[13] To explore this possibility, it is important to determine if the short and long interview groups differ in terms of other important variables which may provide an alternative explanation for the observed relationships.

Differences between the groups for three categories of variables were examined: demographic variables; experience with and attitudes towards surveys in general; and characteristics of this particular interview experience. The relevant data are presented in Tables 18-20.

No significant differences between the groups for any one of these variables were found. Therefore, the differences in perceived respondent burden between the groups can not be "explained away" by other differences which might have existed before the "treatment interview" was applied. Thus, the likelihood of a causal relationship between interview length and various aspects of respondent burden is greatly strengthened.

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[13] It should be pointed out, however that these attitudes were measured after the interview and might therefore be "contaminated" by the most recent interview experience.

TABLE 18

DIFFERENCES BETWEEN THE SHORT AND LONG INTERVIEW GROUPS: DEMOGRAPHIC CHARACTERISTICS

	Short		Long		Total		Significance
	(N)	%	(N)	%	(N)	%	
Characteristic							
Male	(84)	34	(95)	39	(179)	36	n.s
Under 40	(102)	42	(108)	44	(210)	43	n.s
White	(232)	93	(229)	94	(461)	93	n.s
Education							
Less than high school graduate	(43)	17	(47)	19	(90)	18	n.s
High school graduate	(109)	44	(94)	38	(203)	41	
Some college	(36)	14	(44)	18	(80)	16	
College graduate +	(61)	24	(60)	24	(121)	24	
Employed full or part-time	(141)	57	(151)	61	(292)	59	n.s
Income							
Under $15,000	(75)	34	(82)	37	(157)	35	n.s
$15-24,999	(77)	34	(66)	30	(143)	32	
$25,000 +	(71)	32	(75)	34	(146)	33	
Homeowners	(174)	70	(166)	68	(340)	69	n.s
Total (N) Responding	(223-249)		(223-246)				
Missing Cases	(1-27)		(2-25)				

TABLE 19

DIFFERENCES BETWEEN SHORT AND LONG INTERVIEW GROUPS: PAST EXPERIENCE WITH AND ATTITUDES TOWARDS SURVEYS IN GENERAL

	Short		Long		Total		Significanc
	(N)	%	(N)	%	(N)	%	
Characteristic							
Participated in a survey in the past . . .	(96)	70	(100)	72	(196)	71	n.s
Strongly Agreed or Agreed with the Following Statements about Surveys:							
Positive Statements							
Answering surveys is of direct benefit to the people who answer . .	(79)	58	(75)	57	(154)	58	n.s
Taking part in surveys can give me a chance to talk about interesting topics	(91)	68	(83)	64	(174)	66	n.s
By taking part in surveys I can affect the government's decisions	(84)	61	(76)	58	(160)	60	n.s
The most important way to improve the quality of life in America is by taking surveys frequently.	(81)	58	(66)	50	(147)	54	n.s
Negative Statements							
Too many surveys are being conducted these days	(54)	40	(41)	32	(95)	36	n.s
Surveys ask questions that are too personal	(45)	34	(41)	31	(86)	32	n.s
Number Responding	(134-138)		(130-139)		(264-277)		
Missing Cases	(11-15)		(8-17)		(19-32)		

TABLE 20

DIFFERENCES BETWEEN THE SHORT AND LONG INTERVIEW GROUPS: CHARACTERISTICS OF THE INTERVIEW SITUATION

	Short		Long		Total		Significance
	(N)	%	(N)	%	(N)	%	
Time Interview was Done							
Daytime	(186)	76	(175)	71	(361)	74	n.s
Evening	(60)	24	(70)	29	(130)	26	
Day Interview was Done							
Weekend/holiday	(102)	41	(91)	37	(193)	39	n.s
Weekday	(148)	59	(157)	63	(305)	61	
Experience of Interviewer							
Inexperienced	(47)	19	(46)	19	(93)	19	n.s
Experienced	(203)	81	(201)	81	(404)	81	
Total (N)	(246-250)		(245-248)				
Missing Cases	(0-4)		(0-3)				

Stability of the Study Findings:
External Validity Issues

To examine the stability of the study findings, the association between interview length and various indicators of respondent burden was analyzed for specific subgroups of respondents. Three indicators were used:

1. Unwillingness to be reinterviewed next year;

2. Unwillingness to continue the interview for an additional 15-30 minutes given the hypothetical opportunity to do so; and

3. Recommending the use of shorter questionnaires as a way of improving surveys.

The first indicator was chosen under the assumption that unwillingness to be reinterviewed is the ultimate response to the feeling that the interview was an unpleasant, burdensome experience. The remaining indicators, while not representing as strong a rejection of the interview situation, were chosen because of the relatively large number of respondents expressing these reactions.

In conducting the analysis, the strength of the association between interview length and the various indicators was measured using gamma.[14] The strategy used was to compare the gammas for subgroups with the original gamma obtained for these same respondents without consideration

[14] Gamma--which can range between -1.00 and +1.00--is based on the extent to which an individual's value on one variable can be predicted based on his/her value on another variable. For example, by knowing that a respondent was assigned to the long interview group, to what extent can we accurately predict his/her willingness to be reinterviewed? A gamma of, say, +.74 means that we would do 74% better than chance if we always predict that a long interview respondent is unwilling to be reinterviewed.

of their subgroup characteristic. Large differences between the subgroup gamma and the original statistic would suggest that the association between length and respondent burden is stronger for one subgroup as opposed to others. Small differences, or no differences, on the other hand, would suggest that the main relationship holds regardless of subgroup.

The analysis for demographic groups is presented in Table 21. The information indicates that:

- For all subcategories, the percentage of "burdened" individuals is higher for the long than for the short interview. In most cases, the differences between the length groups are still statistically significant, based on Chi Square tests.
- However, the relationship between length and unwillingness to be reinterviewed appears to be much stronger for certain subgroups as opposed to others, specifically for men, for employed persons, and for those with at least a high school diploma. (The differences between subgroups are not as pronounced for the other indicators.)

As might be expected, these demographic variables--i.e., sex, education, and employment--are also associated. For example, a smaller proportion of males than females are "not employed" (21 vs. 51 percent), and have household incomes of less than $15,000 (28 vs. 39 percent). Similarly, age is associated with occupation, income, and education, with persons 40 or older falling disproportionately into the not-employed, lower income, and lower education categories.

Since these variables are all associated, the effects of one may be confounded with the effects of the others. It is therefore of some interest to split the demographic subgroups into finer categories. In Table 22 the relationship between interview length and unwillingness to be reinterviewed is shown for various subgroups of males and females.

TABLE 21

DIFFERENCES IN RESPONDENT BURDEN INDICATORS BETWEEN SHORT AND LONG INTERVIEW GROUPS, WHEN DEMOGRAPHIC CHARACTERISTICS ARE CONTROLLED

Demographic Characteristic	Respondent Burden Indicators																	
	Unwilling to be Reinterviewed Next Year					Unwilling to Continue Additional 15-30 Minutes					Recommends Use of Shorter Q'res to Improve Surveys							
	Short	Long	Signifi-cance	Gamma		Short	Long	Signifi-cance	Gamma		Short	Long	Signifi-cance	Gamma				
	% (Base N)	% (Base N)		(Zero partial)	Interpre-tation	% (Base N)	% (Base N)		(Zero partial)	Interpre-tation	% (Base N)	% (Base N)		(Zero partial)	Interpre-tation			
Sex			(p<)	.42	S[a]			(p<)	.64	S			(p<)	.42	R			
Male	7 (45)	32 (50)	.01	.74		13 (46)	59 (51)	.0001	.81		29 (41)	57 (47)	.05	.53				
Female	16 (94)	23 (86)	n.s	.23		31 (96)	61 (83)	.0001	.56		37 (92)	56 (84)	.05	.37				
Age				.41	S				.64	R				.42				
Under 40	15 (59)	18 (66)	n.s	.10		27 (56)	57 (66)	.01	.55		33 (58)	55 (65)	.05	.44				
40 +	11 (79)	34 (71)	.01	.59		24 ([illegible])	65 (68)	.0001	.65		35 (74)	56 (67)	.05	.41				
Education				.41	S				.64	R				.42	R			
Less than H.S.	23 (22)	29 (21)	n.s	.15		18 (22)	62 (21)	.01	.76		21 (19)	35 (20)	n.s	.34				
H.S. +	11 (118)	26 (116)	.01	.48		26 (121)	60 (113)	.0001	.62		36 (115)	60 (112)	.001	.44				
Employment				.41	S				.64	R				.42	R			
Employed	9 (85)	27 (85)	.01	.56		24 (87)	52 (84)	.0001	.67		32 (81)	55 (86)	.01	.44				
Not employed	18 (55)	25 (52)	n.s	.20		27 (56)	58 (50)	.01	.58		38 (53)	59 (46)	n.s	.40				
Income				.34	R				.66	R				.41	R			
Under $15,000	11 (44)	20 (45)	n.s	.32		23 (43)	58 (45)	.01	.64		32 (41)	56 (41)	.05	.46				
$15,000 +	13 (86)	23 (82)	n.s	.35		23 (86)	60 (81)	.0001	.67		36 (81)	55 (80)	.05	.36				

[a] S = Specification, i.e., the gamma values indicate that the original relationship is stronger for a particular subgroup. A difference of at least .1 in gamma values was needed before the "S" interpretation was used.

R = Replication, i.e., the gamma values suggest that the original relationship is about the same across all subgroups.

TABLE 44

UNWILLINGNESS TO BE REINTERVIEWED BY INTERVIEW LENGTH, FOR DEMOGRAPHIC SUBGROUPS

Subgroup	Unwilling to be Reinterviewed				Gamma
	Short		Long		
	%	(Base N)	%	(Base N)	
Employed					
Male	3	(33)	30	(44)	.86
Female	14	(51)	25	(40)	.35
Not Employed					
Male	17	(12)[a]	50	(6)[a]	.67
Female	19	(43)	22	(46)	.10
Under 40 Years Old					
Male	13	(15)[a]	30	(27)	.46
Female	16	(44)	10	(39)	.24
40 Years or Older					
Male	3	(30)	35	(23)	.87
Female	17	(48)	34	(47)	.44
Household Income Under $15K					
Male	18	(11)[a]	27	(15)[a]	.24
Female	9	(32)	17	(30)	.32
Household Income $15K or More					
Male	3	(33)	26	(31)	.83
Female	19	(53)	22	(50)	.10

[a]Note small "n's."

For most categories, the relationship between length and burden remains stronger for men than for women. (In fact, for women under 40 the relationship is reversed, with more persons in the long interview group than in the short group willing to be reinterviewed. This difference is not statistically significant however.) This preliminary evidence indicates that the sex differences shown in the earlier table can probably be generalized across many categories of men and women. Similar tables might be used to determine the "generalizability" of the survey findings for various age, income, occupational, etc. categories.

The analysis for attitudinal subgroups is presented in Table 23. The table clearly shows that interview length has a much weaker effect upon respondent burden for those persons favorably predisposed toward surveys. Among people who agree that answering surveys is beneficial, the percent refusing to be reinterviewed is virtually identical for the short and long interview groups (8 and 10 percent respectively).

For those who disagree, the spread between the long and short groups is much greater, with 19 percent in the short group unwilling to be reinterviewed vs. 44 percent in the long group. A similar pattern is found for the other indicators, with, again, the differences in respondent burden between length groups more exaggerated for those persons with negative attitudes.

TABLE 31

DIFFERENCES IN RESPONDENT BURDEN INDICATORS BETWEEN SHORT AND LONG INTERVIEW GROUPS, WHEN ATTITUDES TOWARDS SURVEYS ARE CONTROLLED

Attitudinal Characteristic	Respondent Burden Indicators																	
	Unwilling to be Reinterviewed Next Year					Unwilling to Continue Additional 15-30 Minutes					Recommends Use of Shorter Q'res to Improve Surveys							
	Short		Long	Significance	Gamma		Short		Long	Significance	Gamma		Short		Long	Significance	Gamma	
	%	(Base N)	%	(Base N)		(Zero partial)	Interpretation	%	(Base N)	%	(Base N)		(Zero partial)	Interpretation	%	(Base N)	%	(Base N)		(Zero partial)	Interpretation
					(p. <)													(p. <)			
Answering surveys is of direct benefit to the people who answer:						.41	S[b]						.65	R						.42	S
Strongly agrees/agrees	8	(78)	10	(71)[a]	n.s	.14		22	(76)	54	(71)	.001	.60		37	(73)	51	(71)	n.s	.27	
Strongly disagrees/ disagrees	19	(53)	44	(57)	.01	.54		26	(57)	69	(55)	.0001	.72		31	(55)	63	(54)	.01	.58	
By taking part in surveys I can affect the government's decisions:						.43	S						.62	S						.46	S
Strongly agrees/agrees	11	(82)	17	(75)	n.s	.26		21	(82)	50	(72)	.001	.58		32	(79)	52	(74)	.05	.39	
Strongly disagrees/ disagrees	16	(50)	40	(55)	.01	.16		29	(52)	76	(54)	.0001	.77		37	(49)	67	(52)	.01	.56	

[a]The distribution for those who agreed strongly (N=22) was as follows:

Short interview group (N=12); long interview group (N=10). All of these persons were willing to be reinterviewed.

[b]See Table 21 for an explanation of "S" and "R."

This finding is in line with the data from the NORC study of farmers, referenced earlier, in which NORC researchers concluded that the respondent's views of the quality and usefulness of surveys are a better predictor of respondent burden than are either interview length or number of interviews. And, in fact, in the current survey, no one in either the long or short groups who strongly agreed with the idea that surveys are beneficial (n=22) was unwilling to be reinterviewed.

Data Quality

No attempt was made in this study to validate the accuracy of the information given during the treatment interview. (For example, we did not verify amounts given for utility bills by checking with utility companies.) However, two rough proxy measures of data quality are presented here.

The most direct measure comes from a reaction form item in which respondents were asked their opinion of the accuracy of their responses to questions concerning utility bills and household expenses. (These were generally the items used for the recall and retrieval treatments.) As reported in Table 24, 99 percent of the people answering this item felt that their responses were "very" or "fairly" accurate with two-thirds of them choosing the first category. Only two respondents in all characterized their responses as "inaccurate." (We have no way of knowing, of course, whether this consensus means that the responses were indeed accurate, or if it implies that the respondents' standards for accuracy are low.)

TABLE 24

PERCEIVED ACCURACY OF RESPONSE, BY LENGTH, EFFORT, AND TREATMENT
(In Percentages)

Question	Length		Effort		Treatment				TOTAL	
	Short	Long	Recall	Retrieval	Short Recall	Long Recall	Short Retrieval	Long Retrieval	(N)	%
You were asked to tell us the amounts of some of your utility bills and household expenses. How accurate do you feel your answers were? (CIRCLE ONE NUMBER ONLY.)										
Probably very accurate	69	64	61	72	67	55	72	72	(186)	67
Probably fairly accurate or inaccurate[a].	31	36	39	28	33	45	28	28	(93)	33
Significance	n.s		n.s		n.s					
Number Responding	143	136	139	140	72	67	71	69	(279)	
Missing	6	11	9	8	3	6	3	5	(17)	

[a]In the original question, "fairly accurate" and "inaccurate" were separate categories. Only two persons--one in the short recall, the other in the long recall category--used the "inaccurate category."

A larger percentage of short (69%) than long interview (64%) and of retrieval (72%) than recall (61%) respondents characterized their responses as "very accurate." These differences between length groups and between effort groups are not statistically significant, however, although, for the effort variable, they are in the expected direction. Furthermore, the retrieval treatment group also fared better than the recall treatment group among people favorably predisposed toward surveys (i.e., among those agreeing that surveys are "beneficial"). Seventy-nine percent of those individuals asked to check their records felt that their responses were "very accurate", as opposed to 62 percent asked to rely on memory alone, a difference significant at the .05 level. (See Table 25.)

A second measure which may be used to assess data quality is item nonresponse. By using this criterion, we are examining a slightly difference aspect of data quality, i.e., the completeness of the data set. It is, of course, clear that data may be complete, and thus in one sense qualitatively "high", while still being inaccurate, and thus in another sense qualitatively "low."

The criterion of completeness is used in Table 26, which examines the effect of the recall/retrieval treatment upon item nonresponse. The table shows the percent of persons responding with "don't know" or refusing to respond at all for the recall/retrieval expenditure items. (Appendix C shows the percent of respondents who actually checked their records for each of these items.) In general, the "effort" variable does not seem to affect item nonresponse; the percents of "don't know's" and refusals are similar for both the recall and retrieval groups and for the four treatments, involving the various combinations of effort and interview length.

TABLE 25

PERCEIVED ACCURACY OF RESPONSE AMONG PERSONS WHO AGREE THAT "ANSWERING SURVEYS IS OF DIRECT BENEFIT," BY EFFORT
(In Percentages)

	Effort		Total	
	Recall	Retrieval	(N)	%
Very accurate.	62	79	(106)	70
Fairly accurate or inaccurate. . . .	38	21	(45)	30
Significance	$p < .05$			
Number Responding	(76)	(75)	(151)	
Missing Cases	(2)	(1)	(3)	

TABLE 26

ITEM NONRESPONSE ("DON'T KNOWS" AND "REFUSALS") TO EXPENDITURE QUESTIONS BY EFFORT AND TREATMENT

Question	Effort				Treatment							
	Re...		Retrieval		Short Recall		Long Recall		Short Retrieval		Long Retrieval	
	(Base N)	%	(Base N)	%	(Base N)	%	(Base N)	%	(Base N)	%	(Base N)	%
Rent Payment												
Don't know	(107)	1	(44)	0	(51)	0	(56)	2	(21)	0	(23)	0
Refusal		3		7		4		2		10		4
Premium for Renters Policy												
Don't know	(39)	8	(15)	20	(21)	14	(18)	0	(6)	17	(9)	22
Refusal		3		0		5		0		0		0
Mortgage Payment												
Don't know	(131)	2	(60)	2	(66)	3	(65)	2	(31)	3	(29)	0
Refusal		7		8		6		8		6		10
Premium for Home Insurance												
Don't know	(212)	8	(75)	13	(108)	0	(104)	17	(39)	0	(36)	28
Refusal		2		1		0		5		0		3
Water Bill												
Don't know	(118)	8	(52)	4		*	(118)	8		*	(52)	4
Refusal		3		2		-		3		-		2
Oil Bill												
Don't know	(102)	3	(44)	3	(45)	7	(57)	0	(21)	5	(23)	0
Refusal		4		3		7		2		0		4
Gas Bill												
Don't know	(178)	5	(66)	5	(87)	6	(91)	4	(30)	3	(36)	6
Refusal		2		3		1		3		3		3
Trash Bill												
Don't know	(76)	10	(28)	11	(22)	4	(54)	13	(6)	0	(22)	14
Refusal		5		4		4		6		0		5

TABLE 26--(continued)

Question	Effort				Treatment			
	Recall		Retrieval		Short Recall	Long Recall	Short Retrieval	Long Retrieval
	(Base N)	%	(Base N)	%	(Base N) %	(Base N) %	(Base N) %	(Base N) %
Car Insurance Premium								
Don't know	(243)	7	(94)	8	(128) 8	(115) 6	(50) 8	(44) 9
Refusal		1		2	2	1	0	4
Auto Registration Fee								
Don't know	(243)	8	(94)	6	(128) 8	(115) 9	(50) 6	(44) 7
Refusal		0		0	0	0	0	0
Electric Bill Last Month								
Don't know	(319)	2	(139)	2	(162) 1	(157) 2	(70) 1	(69) 3
Refusal		2		2	2	2	1	3
Electric Bill: Month 2								
Don't know	(319)	2	(137)	1	(162) 2	(157) 3	(70) 1	(67) 0
Refusal		3		1	4	2	1	2
Electric Bill: Month 3								
Don't know	(318)	4	(137)	4	(161) 4	(157) 4	(70) 4	(67) 5
Refusal		3		1	3	2	1	1
Phone Bill: Last Month								
Don't know	(332)	1	(142)	1	(160) 1	(172) 1	(69) 3	(73) 0
Refusal		2		1	2	2	1	1
Phone Bill: Month 2								
Don't know	(334)	2	(142)	5	(162) 2	(172) 3	(69) 4	(73) 5
Refusal		2		1	2	2	1	1
Phone Bill: Month 3								
Don't know	(333)	6	(141)	8	(161) 5	(172) 8	(68) 7	(73) 10
Refusal		2		1	2	2	1	1

[a]Question not asked in short interview.

In Table 27, the completeness criterion is used again, this time in examining the effect of interview length upon data quality. Table 27 focusses specifically on the long interview group; it presents the pattern of nonresponse occuring during the interview by showing the percent of "don't know's" and refusals for the first and last set of items asked.

The table indicates that item nonresponse did not increase as the interview proceeded. In fact, the only items eliciting a nonresponse rate of at least five percent are those involving income. For these items, nonresponse is relatively high both at the beginning (Q. 7) and at the end of the interview (Qs. 301, 302, and 304). It appears, then, that the sensitivity of the question, rather than its time placement in the interview, was the key factor contributing to item nonresponse.

In summary, the information available from this study suggests few differences in data quality (accuracy or completeness) based solely on interview length or effort. To reiterate, however, the measures used were poor proxies for independent checks of quality, at least from the standpoint of data accuracy.

Reactions to Specific Questions

As part of the follow-up questionnaire, respondents were asked to react to specific questions during the interview, by indicating if "most people" would find each item "too personal" or "hard" to answer. The items selected included some of the Annual Housing Survey questions of particular interest to HUD, as well as those items which were varied as part of the recall/retrieval treatment.

TABLE 27

ITEM NON-RESPONSE AT VARIOUS POINTS IN THE LONG INTERVIEW
(In Percentages)

	Recall			Retrieval		
	OK	Refusal	(Base N)	OK	Refusal	(Base N)
First 10 Questions						
1. Household enumeration	-[a]	0	(173)	-	0	(75)
2. Date of birth/age of household members	0	1	(173)	0	1	(75)
3. Race/ethnic descent	-	1	(173)	-	0	(75)
4. Highest grade of school completed	0	1	(173)	0	0	(75)
5. Highest grade of school - Spouse	-	1	(112)	0	0	(50)
6. Employment status	-	0	(173)	-	0	(75)
7. Income range	1	8	(173)	1	11	(75)
8. Residence (city, state) in 1970	1	0	(173)	0	0	(75)
9. Residence in city or town	2	0	(173)	3	0	(75)
10. In Armed Forces in 1970	-	0	(173)	-	0	(75)
Last 15 Questions[b]						
277. Price paid for gallon of gas	4	0	(115)	2	0	(44)
278. Enough gas	1	0	(114)	2	0	(44)
280. Was R. employed last week	-	0	(88)	-	0	(33)
283. One-way distance to work	4	0	(74)	0	0	(27)
284. Objections to commute	0	0	(42)	0	0	(16)
289. Principal transportation to work	0	0	(74)	0	0	(28)
291. Why car is used	0	0	(61)	0	0	(22)
292. Does R. drive along	0	0	(61)	0	0	(22)
295. Where car is parked	0	0	(51)	0	0	(18)
296. Does employer provide parking	0	0	(44)	0	0	(17)
301a. Amount earned by respondent in last 12 months	1	8	(72)	12	23	(26)
301b. Amount earned by 2nd H.H. member	0	17	(48)	11	22	(18)
302. Amount earned from business/ partnership	0	7	(73)	4	19	(26)
303. Was money received from various sources	0	0	(74)	0	4	(27)
304. Amount earned from interest on savings/bonds	19	12	(43)	8	25	(12)

[a]DK not allowed as a response option.

[b]Skip questions with a small base N are not included.

Respondents' reactions, which are shown in Table 28, are consistent with those reported earlier in connection with item nonresponse. That is, those items asking about income or expenditures were tagged as personal or difficult by a larger proportion of respondents than were other items on the list. For example, the question concerning household income was flagged as at least "somewhat too personal" by 70 percent of respondents and as at least "somewhat hard" to answer by 49 percent. The mortgage payment question was labelled as at least "somewhat too personal" by 58 percent of respondents and as at least "somewhat hard" to answer by one-quarter of the group. One-half of the respondents stated that "most people" would find questions about welfare payments "too personal." Not surprisingly, questions about number of rooms elicited far less negative reaction.

Table 29 shows the differences in reactions to income and expenditure questions between the length and the effort groups and among the four treatment groups. Significant differences were found for two items: the income question (which, interestingly, was asked in the same way for all groups), and the "mortgage payment" question. One-third of respondents in the long retrieval group found this latter item at least somewhat hard to answer. Under the given cell sizes, no other differences shown in the table are statistically significant.

TABLE 28

PERCENT OF RESPONDENTS EXPRESSING NEGATIVE REACTIONS TO SPECIFIC ITEMS IN THE INTERVIEW

Questions: Now, I'd like to get your ideas about some of the questions you may have been asked. For each of the questions below, please show whether you feel that most people would find the question much too personal, somewhat too personal, or not too personal. (CIRCLE ONLY ONE NUMBER FOR EACH QUESTION.)

X X X X

Now, please look at these same items again. This time, show whether you feel that most people would find the question very hard, somewhat hard, or easy to answer. (CIRCLE ONLY ONE NUMBER FOR EACH QUESTION.)

	Much Too Personal		Somewhat Too Personal		Very Hard to Answer		Somewhat Hard to Answer	
	(N)	%	(N)	%	(N)	%	(N)	%
Total household income.	(67)	24	(131)	46	(29)	10	(108)	39
Mortgage payment.	(40)	18	(92)	40	(17)	8	(36)	16
Rent payment.	(2)	5	(8)	19	(1)	2	(4)	9
Last utility bill	(7)	2	(44)	16	(8)	3	(71)	26
Number of bathrooms	(6)	2	(13)	5	(2)	1	(7)	2
Number of bedrooms.	(5)	2	(14)	5	(2)	1	(6)	2
Presence of open cracks/holes in walls/ceiling	(7)	2	(38)	14	(5)	2	(37)	14
Money received from welfare/public assistance.	(64)	26	(65)	26	(22)	9	(43)	18

[a]This table is based on responses from 245-283 individuals or 83-96% of the 296 people filling out the reaction form.

TABLE 29

PERCENT OF RESPONDENTS STATING THAT "MOST PEOPLE" WOULD FIND SPECIFIC EXPENDITURE ITEMS "VERY HARD" OR "SOMEWHAT HARD" TO ANSWER, BY LENGTH, EFFORT, AND TREATMENT

Item	Length		Effort		Treatment				TOTAL	
	Short	Long	Recall	Retrieval	Short Recall	Long Recall	Short Retrieval	Long Retrieval	(N)	%
tal Household Income[a]										
Very hard	6	14	6	15	4	8	8	21	(29)	10
Somewhat hard	37	41	46	32	48	45	27	37	(108)	39
Significance[b]	p < .05		p < .01				p < .01			
rtgage Payment										
Very hard	4	10	4	11	4	4	6	17	(17)	8
Somewhat hard	17	15	18	14	23	13	11	17	(36)	16
Significance	n.s		n.s				p < .05			
nt Payment										
Very hard	0	5	4	0	0	9	0	0	(1)	2
Somewhat hard	13	5	9	9	18	0	8	10	(4)	9
Significance	n.s		n.s				n.s			
t Utility Bill										
Very hard	1	4	2	4	2	1	1	7	(8)	3
Somewhat hard	23	28	24	27	22	26	24	30	(71)	26
Significance	n.s		n.s				n.s			
ney Received from Welfare[a]										
Very hard	7	11	7	11	6	7	8	14	(22)	9
Somewhat hard	13	22	17	19	13	22	13	23	(43)	18
Significance	n.s		n.s				n.s			
Number Responding	123-139	122-138	122-137	123-140	62-69	60-67	61-71	62-71		
Missing cases	10-26	9-25	11-26	8-25	6-13	6-13	3-13	3-12		

[a]These items were not varied for the recall, retrieval treatment.

[b]Tests of significance based on Chi-Square using three response options, i.e., "very hard," "somewhat hard," and "easy."

IV. IMPLICATIONS OF THE FINDINGS FROM PHASE I

Phase I of the Respondent Burden Study attempted to test some of the assumptions inherent in Federal policies as well as those made by survey research professionals concerning the correlates of respondent burden. As reported in this document, the data available from the first phase of the study validate some of these assumptions in part, while leaving others open to serious question. We believe that these findings have a number of theoretical and practical implications for researchers and survey sponsors:

1. Before entrance to the household is gained, the disclosed length of an interview does not appear to affect refusal decisions. Moreover, refusers are much less likely than cooperative respondents to have been recent survey participants. As demonstrated by this and by other current research, burden concerns do not appear to be the primary reason for most refusals.

2. However, based on our findings, the conventional wisdom about the burdensomeness of lengthy interviews is partially borne out with respect to those persons who have agreed to be interviewed, at least for a "general interest" survey which does not deal with matters highly germane to the interests of the respondent. (The burdensomeness levels for interviews dealing with highly respondent-pertinent issues, for example, certain types of health interviews, may be very different.)

3. Although it would no doubt be appropriate to test other "effort" treatments, the findings suggest that effort as operationalized for this study (i.e., asking respondents to provide estimates vs. asking them to check records) may not affect perceived burden as postulated in the Bradburn model.

4. Belief in the efficacy of surveys clearly emerged as an important factor in feelings of burden, perhaps even overshadowing the actual length of the interview. The findings suggest that it is not a question so much of the importance of the specific survey itself, as of a more general belief in the efficacy of surveys (or perhaps in the efficacy of individuals to affect the actions of decision-makers) which is operative.

It follows, therefore, that to reduce self-perceived burden, it is important to convey to potential respondents the importance and usefulness of the survey method, and the likelihood that survey data will be used by survey sponsors. Our findings suggest the need not only for careful and convincing explanations to persons being contacted for surveys, but also for continuous attention to the reporting of surveys in the media and other "image creating" and public relations mechanisms. They also suggest that the survey profession would be well-advised to emphasize the importance and direct utility of its work when contacting respondents, rather than putting the emphasis on minimizing burden or inconvenience as they relate to questionnaire length.

5. This study has focussed on sources of respondent burden and factors which may contribute or alleviate the degree of burdensomeness which respondents experience when participating in household surveys.

The relationship between perceived burden and the quality of the data obtained during the interview is a complex and important issue, but one which this research has only addressed tangentially. Our early findings suggest that interview length is not a major factor affecting quality, but, if this topic is to be addressed fully, experimental research targetted specifically to this issue is required.

APPENDIX A

RESPONSES TO THE REFUSER FOLLOW-UP FORM

1. We're interested in finding out the main reasons you didn't want to take part in this survey. Can you tell me why you didn't wish to participate?

	(N)	%[a]
Interview would take too much time, respondent was too busy.	(24)	21
Couldn't do interview (too old, sick, language barrier, death in family, other personal problems)	(21)	18
Didn't want to be bothered, didn't feel like it, not interested.	(21)	18
Didn't want privacy invaded, didn't want to divulge information	(10)	9
Time was inconvenient	(9)	8
Didn't want to take part, participate in surveys.	(9)	8
Felt that surveys are disguised sales pitches . .	(5)	4
Disapproved of interviewer behavior	(4)	3
Sponsorship of survey	(3)	3
Nothing to say, couldn't answer	(2)	2
Didn't feel survey would be useful.	(1)	1
Other reason, or reason not determined.	(10)	9

[a] Percents based on 115 refusers for whom some initial contact was made (i.e., phone numbers were found and someone answered the phone). Multiple responses were allowed.

2. We'd like to know about people's past experience with surveys. By survey, we do not mean interviews with personnel officers, credit investigators, social workers and the like, or so-called "polls" or "research" which are really sales pitches. Rather, by survey, we mean research conducted to find out about how people are getting along, their homes, what they like or how they feel.

Thinking about surveys in that way, have you been asked to take part in a survey during the past two years? (DON'T INCLUDE THIS SURVEY.)

		(N)	%
YES (ASK Q. 3)		(15)	20
NO	(SKIP TO Q. 5)	(51)	69
DON'T KNOW		(8)	11
	Number Responding	(74)	100
	Missing	(33)	
	TOTAL	(107)[a]	

3. How long ago was that? (IF MORE THAN ONE SURVEY, DETERMINE MOST RECENT DATE.)

	(N)	%
0 TO LESS THAN SIX MONTHS AGO	(4)	27
SIX MONTHS TO LESS THAN ONE YEAR AGO	(4)	27
ONE TO TWO YEARS AGO	(3)	20
DON'T KNOW	(4)	27
Number Responding	(15)	100
Missing	(0)	
TOTAL	(15)	

[a]As explained in the text, the N of 107 is the number of refusers with whom contact was established and who spoke English. This N is used in subsequent tables although only 59 persons went through the entire refuser interview.

4. Did you take part in that survey?

	(N)	%
YES	(11)	73
NO	(3)	20
DON'T REMEMBER	(1)	7
Number Responding	(15)	100
Missing	(0)	
TOTAL	(15)	

5. I have some statements about surveys. As I read each one, please tell me if you strongly agree, agree, disagree, or strongly disagree with it. (REPEAT RESPONSE OPTIONS AS NECESSARY.)

a. Answering surveys is of direct benefit to the people who answer:

Strongly agree	(1)	2
Agree	(25)	50
Disagree	(22)	44
Strongly disagree	(2)	4
Number Responding	(50)	100
Missing	(57)	
TOTAL	(107)	

b. Too many surveys are being conducted these days:

Strongly agree	(18)	36
Agree	(21)	42
Disagree	(11)	22
Strongly disagree	(0)	0
Number Responding	(50)	100
Missing	(57)	
TOTAL	(107)	

c. Taking part in surveys can give me a chance to talk about interesting topics:

	(N)	%
Strongly agree	(0)	0
Agree	(22)	45
Disagree	(26)	53
Strongly disagree	(1)	2
Number Responding	(49)	100
Missing	(58)	
TOTAL	(107)	

d. By taking part in surveys, I can affect the government's decisions:

Strongly agree	(2)	4
Agree	(20)	43
Disagree	(20)	43
Strongly disagree	(4)	9
Number Responding	(46)	100
Missing	(61)	
TOTAL	(107)	

e. Surveys ask questions that are too personal:

Strongly agree	(10)	21
Agree	(25)	52
Disagree	(13)	27
Strongly disagree	(0)	0
Number Responding	(48)	100
Missing	(59)	
TOTAL	(107)	

f. The most important way to improve the quality of life in America is by taking surveys frequently:

Strongly agree	(0)	0
Agree	(16)	38
Disagree	(20)	48
Strongly disagree	(6)	14
Number Responding	(42)	100
Missing	(65)	
TOTAL	(107)	

6. Now a question about yourself. Are you currently working full-time, working part-time, a full-time student, a homemaker or what? (CIRCLE ONE RESPONSE ONLY. IF MULTIPLE RESPONSES, CIRCLE RESPONSE WITH LOWEST NUMBER.)

	(N)	%
WORKING FULL-TIME	(22)	40
WORKING PART-TIME	(3)	5
FULL-TIME STUDENT	(1)	2
LOOKING FOR WORK.	(0)	0
HOMEMAKER	(19)	34
UNABLE TO WORK.	(0)	0
RETIRED	(9)	16
OTHER (SPECIFY): _____ .	(1)	2
Number Responding	(55)	100
Missing	(52)	
TOTAL	(107)	

7. Now that we've had a chance to talk, would you be willing to have the interviewer come back to your home to do the interview?

Yes	(9)	15
No.	(44)	74
Don't know.	(6)	10
Number Responding	(59)	100
Missing	(48)	
TOTAL	(107)	

APPENDIX B

RESPONSES TO THE REACTION FORM BY TREATMENT

[6]

OBM NO.:
EXPIRES:

BSSR: 80712 1-5

ID#: _____ 6-10

LA: _____

HU: _____

REACTION FORM

We are asking you to fill out this form because we would like to find out how you feel about surveys in general and about this survey in particular. Most of the questions can be answered simply by circling or writing a number. If you have trouble with any of the questions, please note this on the form, and try to answer as best you can. The interviewer is <u>not</u> permitted to answer questions about this form. When you have finished, the interviewer will return the form to the office in a sealed envelope.

You have just taken part in a survey. The purpose of surveys is to obtain information about how people are getting along, their work, their homes; what they like, or how they feel. This is done by asking questions of a small, but scientifically selected, group of people.

Interviews with social workers, personnel officers, credit investigators, etc. are not surveys, nor are so-called "polls" or "research," which are really sales pitches.

1. Thinking about surveys in this way, had you ever taken part in a survey-either by mail, over the telephone, or in person-before this interview?

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %[a]
Yes (ANSWER Q. 2)	(49) 71	(50) 71	(47) 68	(50) 73	(196) 71
No (SKIP TO Q. 3)	(20) 29	(20) 29	(22) 32	(19) 27	(81) 29
Don't remember/know	(3)	(1)	(1)	(2)	(7)
No answer	(3)	(2)	(4)	(3)	(12)
TOTAL (N)	(75)	(73)	(74)	(74)	(296)

[a]Percents may not always total to 100 because of rounding error. Similarly, percents may differ slightly from those in body of report also because of rounding error.

2. When was the last time you took part in a survey? (CIRCLE ONE NUMBER ONLY.)

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %
Within the past month	(3) 7	(5) 11	(5) 12	(2) 4	(15) 8
Over one month, but less than six months ago.	(9) 21	(12) 26	(8) 19	(11) 23	(40) 22
Six months to less than 12 months ago.	(11) 26	(13) 28	(11) 26	(13) 27	(48) 27
A year ago or more.	(19) 45	(16) 35	(19) 44	(22) 46	(76) 42
Don't remember/know	(7)	(3)	(4)	(2)	(16)
No answer	(0)	(1)	(0)	(0)	(1)
Total	(49)	(50)	(47)	(50)	(196)

3. To what extent do you agree or disagree with each of the following statements about surveys in general? (CIRCLE ONE NUMBER FOR EACH STATEMENT.)

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %
a. Answering surveys is of direct benefit to the people who answer:					
Strongly agree.	(5) 7	(7) 10	(7) 11	(3) 5	(22) 8
Agree	(37) 52	(29) 43	(30) 46	(36) 56	(132) 49
Disagree.	(29) 41	(27) 40	(25) 38	(23) 36	(104) 39
Strongly disagree	(0) 0	(5) 7	(3) 5	(2) 3	(10) 4
Number responding	(71)	(68)	(65)	(64)	(268)
Missing	(4)	(5)	(9)	(10)	(28)
Total	(75)	(73)	(74)	(74)	(296)
b. Too many surveys are being conducted these days:					
Strongly agree.	(4) 6	(4) 6	(4) 6	(4) 6	(16) 6
Agree	(28) 39	(18) 28	(18) 28	(15) 23	(79) 30
Disagree.	(36) 51	(37) 58	(38) 59	(38) 59	(149) 57
Strongly disagree	(3) 4	(5) 8	(4) 6	(7) 11	(19) 7
Number responding	(71)	(64)	(64)	(64)	(263)
Missing	(4)	(9)	(10)	(10)	(33)
Total	(75)	(73)	(74)	(74)	(296)

3--(continued)

	Short Recall (N)	%	Long Recall (N)	%	Short Retrieval (N)	%	Long Retrieval (N)	%	TOTAL (N)	%
c. Taking part in surveys can give me a chance to talk about interesting topics:										
Strongly agree.	(7)	10	(4)	6	(4)	6	(8)	12	(23)	9
Agree	(40)	58	(34)	52	(40)	62	(37)	57	(151)	57
Disagree.	(21)	30	(22)	34	(18)	28	(16)	25	(77)	29
Strongly disagree	(1)	1	(5)	8	(3)	5	(4)	6	(13)	5
Number responding	(69)		(65)		(65)		(65)		(264)	
Missing	(6)		(8)		(9)		(9)		(32)	
Total	(75)		(73)		(74)		(74)		(296)	
d. By taking part in surveys, I can affect the government's decisions:										
Strongly agree.	(5)	7	(3)	5	(6)	9	(6)	9	(20)	7
Agree	(42)	59	(33)	52	(31)	48	(34)	50	(140)	52
Disagree.	(17)	23	(18)	28	(18)	28	(18)	26	(71)	26
Strongly disagree	(8)	11	(10)	16	(10)	15	(10)	15	(38)	14
Number responding	(72)		(64)		(65)		(68)		(269)	
Missing	(3)		(9)		(9)		(6)		(27)	
Total	(75)		(73)		(74)		(74)		(296)	

3--(continued)

	Short Recall (N)	%	Long Recall (N)	%	Short Retrieval (N)	%	Long Retrieval (N)	%	TOTAL (N)	%
e. Surveys ask questions that are too personal:										
Strongly agree.	(4)	6	(5)	8	(3)	5	(4)	6	(16)	6
Agree	(18)	26	(16)	24	(20)	31	(16)	24	(70)	26
Disagree.	(42)	61	(38)	57	(38)	58	(41)	61	(159)	59
Strongly disagree	(5)	7	(8)	12	(4)	6	(6)	9	(23)	9
Number responding	(69)		(67)		(65)		(67)		(268)	
Missing	(6)		(6)		(9)		(7)		(28)	
Total	(75)		(73)		(74)		(74)		(296)	
f. The most important way to improve the quality of life in America is by taking surveys frequently:										
Strongly agree.	(5)	7	(4)	6	(11)	16	(4)	6	(24)	9
Agree	(37)	52	(29)	43	(28)	41	(29)	45	(123)	45
Disagree.	(19)	27	(23)	34	(23)	33	(23)	36	(88)	32
Strongly disagree	(10)	14	(12)	18	(7)	10	(8)	12	(37)	14
Number responding	(71)		(68)		(69)		(64)		(272)	
Missing	(4)		(5)		(5)		(10)		(24)	
Total	(75)		(73)		(74)		(74)		(296)	

4. Overall, how interesting was the interview you just completed? (CIRCLE ONE NUMBER ONLY.)

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %
Very interesting	(22) 30	(25) 35	(19) 27	(17) 24	(83) 29
Somewhat interesting	(44) 60	(34) 48	(41) 58	(46) 66	(165) 58
Not very interesting	(7) 10	(8) 11	(10) 14	(6) 9	(31) 11
Not at all interesting	(1) 1	(4) 6	(1) 1	(1) 1	(7) 2
Number responding	(74)	(71)	(71)	(70)	(286)
Missing	(1)	(2)	(3)	(4)	(10)
Total	(75)	(73)	(74)	(74)	(296)

5. How do you feel about the importance of this survey?
(CIRCLE ONE NUMBER ONLY.)

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %
Not Important	(7) 10	(14) 20	(7) 10	(8) 11	(36) 12
Somewhat Important.	(53) 72	(48) 68	(46) 64	(50) 70	(197) 68
Very Important.	(14) 19	(9) 13	(19) 26	(13) 18	(55) 19
Number responding	(74)	(71)	(72)	(71)	(288)
Missing	(1)	(2)	(2)	(3)	(8)
Total	(75)	(73)	(74)	(74)	(296)

6. How did you feel toward the interviewer's manner, that is, the way in which she conducted the interview? (CIRCLE ONE NUMBER ONLY.)

	Short Recall (N)	%	Long Recall (N)	%	Short Retrieval (N)	%	Long Retrieval (N)	%	TOTAL (N)	%
Disliked it very much	(0)	0	(0)	0	(0)	0	(1)	1	(1)	0
Disliked it somewhat.	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0
Neither liked it nor disliked it.	(6)	8	(6)	8	(7)	10	(5)	7	(24)	8
Liked it somewhat	(17)	23	(18)	25	(14)	19	(13)	18	(62)	22
Liked it very much.	(51)	69	(48)	67	(51)	71	(52)	73	(202)	70
Number responding	(74)		(72)		(72)		(71)		(289)	
Missing	(1)		(1)		(2)		(3)		(7)	
Total	(75)		(73)		(74)		(74)		(296)	

7. How do you feel about the length of the interview which you just completed? (CIRCLE ONE NUMBER ONLY.)

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %
Too short	(1) 1	(0) 0	(0) 0	(1) 1	(2) 1
About right	(65) 88	(34) 47	(61) 85	(40) 56	(200) 70
Too long.	(8) 11	(36) 51	(11) 15	(30) 42	(85) 30
Number responding	(74)	(70)	(72)	(71)	(287)
Missing	(1)	(3)	(2)	(3)	(9)
Total	(75)	(73)	(74)	(74)	(296)

8. We had time to ask our most important questions during this interview, but it would have been useful for our study to ask some additional questions. On the other hand, we could have left some out to make the interview shorter. Please circle the number of the one answer below which comes closest to your feelings:

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %
I would have been willing to continue with the interview for another 30 minutes.	(8) 11	(8) 12	(5) 7	(8) 12	(29) 10
I would have been willing to continue with the interview for another 15 minutes.	(47) 65	(15) 22	(48) 67	(22) 32	(132) 47
I would have preferred the interview to be 15 minutes shorter	(17) 24	(31) 46	(19) 26	(27) 39	(94) 34
I would have preferred the interview to be 30 minutes shorter[a]. .	(0) 0	(13) 19	(0) 0	(12) 17	(25) 9
Number responding	(72)	(67)	(72)	(69)	(280)
Missing	(3)	(6)	(2)	(5)	(16)
Total	(75)	(73)	(74)	(74)	(296)

[a]This response option was not used in the short interviews.

9. On the whole, did you find that answering the questions was:
(CIRCLE ONE NUMBER ONLY.)

	Short Recall (N)	%	Long Recall (N)	%	Short Retrieval (N)	%	Long Retrieval (N)	%	TOTAL (N)	%
Very hard	(1)	1	(0)	0	(0)	0	(1)	1	(2)	1
Hard.	(2)	3	(4)	6	(3)	4	(4)	6	(13)	4
Easy.	(53)	72	(60)	83	(49)	67	(55)	78	(217)	75
Very easy	(18)	24	(8)	11	(21)	29	(11)	16	(58)	20
Number responding	(74)		(72)		(73)		(71)		(290)	
Missing	(1)		(1)		(1)		(3)		(6)	
Total	(75)		(73)		(74)		(74)		(296)	

10. Now, we'd like to get your ideas about some of the questions you may have been asked. For each of the questions below, please show whether you feel that most people would find the question much too personal, somewhat too personal, or not too personal. (CIRCLE ONLY ONE NUMBER FOR EACH QUESTION.)

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %
a. Total household income for 1979 before taxes:					
Much too personal	(13) 18	(20) 29	(14) 19	(20) 28	(67) 24
Somewhat too personal	(40) 56	(30) 44	(30) 42	(31) 44	(131) 46
Not too personal.	(19) 26	(18) 26	(28) 39	(20) 28	(85) 30
Number responding	(72)	(68)	(72)	(71)	(283)
Missing	(3)	(5)	(2)	(3)	(13)
Total	(75)	(73)	(74)	(74)	(296)
b1. (For Homeowners) Total mortgage payment last month:					
Much too personal	(11) 18	(10) 18	(8) 15	(11) 18	(40) 18
Somewhat too personal	(24) 39	(22) 41	(19) 36	(27) 45	(92) 40
Not too personal.	(26) 43	(22) 41	(26) 49	(22) 37	(96) 42
Number responding	(61)	(54)	(53)	(60)	(228)

	Short Recall (N)	%	Long Recall (N)	%	Short Retrieval (N)	%	Long Retrieval (N)	%	TOTAL (N)	%
b2. (For Renters) Amount you paid for rent last month:										
Much too personal	(0)	0	(2)	18	(0)	0	(0)	0	(2)	5
Somewhat too personal	(1)	10	(2)	18	(2)	17	(3)	30	(8)	19
Not too personal.	(9)	90	(7)	64	(10)	83	(7)	70	(33)	77
Number responding	(10)		(11)		(12)		(10)		(43)	
c. Last utility (electricity, gas, or coal) bill:										
Much too personal	(1)	1	(3)	4	(0)	0	(3)	4	(7)	2
Somewhat too personal . . .	(14)	20	(11)	16	(6)	9	(13)	19	(44)	16
Not too personal.	(56)	79	(55)	80	(64)	91	(52)	76	(227)	82
Number responding	(71)		(69)		(70)		(68)		(278)	
Missing	(4)		(4)		(4)		(6)		(18)	
Total	(75)		(73)		(74)		(74)		(296)	
d. Number of complete bathrooms and half bathrooms:										
Much too personal	(1)	1	(2)	3	(1)	1	(2)	3	(6)	2
Somewhat too personal	(6)	9	(1)	1	(1)	1	(5)	7	(13)	5
Not too personal.	(63)	90	(66)	96	(68)	97	(62)	90	(259)	93
Number responding	(70)		(69)		(70)		(69)		(278)	
Missing	(5)		(4)		(4)		(5)		(18)	
Total	(75)		(73)		(74)		(74)		(296)	

	Short Recall (N)	%	Long Recall (N)	%	Short Retrieval (N)	%	Long Retrieval (N)	%	TOTAL (N)	%
e. Number of bedrooms:										
Much too personal	(1)	1	(2)	3	(1)	1	(1)	1	(5)	2
Somewhat too personal . . .	(6)	8	(4)	6	(1)	1	(3)	4	(14)	5
Not too personal.	(64)	90	(63)	91	(68)	97	(66)	94	(261)	93
Number responding	(71)		(69)		(70)		(70)		(280)	
Missing	(4)		(4)		(4)		(4)		(16)	
Total	(75)		(73)		(74)		(74)		(296)	
f. Presence of open cracks or holes in the interior walls or ceiling:										
Much too personal	(3)	4	(1)	1	(1)	1	(2)	3	(7)	2
Somewhat too personal . . .	(12)	17	(6)	9	(8)	11	(12)	17	(38)	14
Not too personal.	(56)	79	(62)	90	(61)	87	(56)	80	(235)	84
Number responding	(71)		(69)		(70)		(70)		(280)	
Missing	(4)		(4)		(4)		(4)		(16)	
Total	(75)		(73)		(74)		(74)		(296)	
g. Money received from welfare payments or public assistance:										
Much too personal	(18)	28	(16)	27	(10)	18	(20)	31	(64)	26
Somewhat too personal . . .	(15)	23	(19)	32	(15)	27	(16)	25	(65)	26
Not too personal.	(32)	49	(25)	42	(31)	55	(28)	44	(116)	47
Number responding	(65)		(60)		(56)		(64)		(245)	
Missing	(10)		(13)		(18)		(10)		(51)	
Total	(75)		(73)		(74)		(74)		(296)	

Now, please look at these same items again. This time, show whether you feel that most people would find the question very hard, somewhat hard, or easy to answer. (CIRCLE ONLY ONE NUMBER FOR EACH QUESTION.)

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %
a. Total household income for 1979 before taxes:					
Very hard to answer	(3) 4	(5) 8	(6) 8	(15) 21	(29) 10
Somewhat hard to answer . . .	(33) 48	(30) 45	(19) 27	(26) 37	(108) 39
Easy to answer.	(33) 48	(32) 48	(46) 65	(30) 42	(141) 51
Number responding	(69)	(67)	(71)	(71)	(278)
Missing	(6)	(6)	(3)	(3)	(18)
Total	(75)	(73)	(74)	(74)	(296)
b1. (For Homeowners) Total mortgage payment last month:					
Very hard to answer	(2) 4	(2) 4	(3) 6	(10) 17	(17) 8
Somewhat hard to answer . . .	(13) 23	(7) 13	(6) 11	(10) 17	(36) 16
Easy to answer.	(42) 74	(46) 30	(46) 84	(40) 67	(174) 77
Number responding	(57)	(55)	(55)	(60)	(227)
b2. (For Renters) Amount you paid for rent last month:					
Very hard to answer	(0) 0	(1) 9	(0) 0	(0) 0	(1) 2
Somewhat hard to answer . . .	(2) 18	(0) 0	(1) 8	(1) 10	(4) 9
Easy to answer.	(9) 82	(10) 91	(11) 92	(9) 90	(39) 89
Number responding	(11)	(11)	(12)	(10)	(44)

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %
c. Last utility (electricity, gas, or coal) bill:					
Very hard to answer	(1) 2	(1) 1	(1) 1	(5) 7	(8) 3
Somewhat hard to answer . . .	(15) 22	(18) 26	(17) 24	(21) 30	(71) 26
Easy to answer.	(52) 76	(50) 72	(53) 75	(43) 62	(198) 72
Number responding	(68)	(69)	(71)	(69)	(277)
Missing	(7)	(4)	(3)	(5)	(19)
Total	(75)	(73)	(74)	(74)	(296)
d. Number of complete bathrooms and half bathrooms:					
Very hard to answer	(0) 0	(1) 2	(0) 0	(1) 1	(2) 1
Somewhat hard to answer . . .	(1) 2	(2) 3	(2) 3	(2) 3	(7) 2
Easy to answer.	(67) 98	(65) 96	(69) 97	(66) 96	(267) 97
Number responding	(68)	(68)	(71)	(69)	(276)
Missing	(7)	(5)	(3)	(5)	(20)
Total	(75)	(73)	(74)	(74)	(296)
e. Number of bedrooms:					
Very hard to answer	(0) 0	(1) 1	(0) 0	(1) 1	(2) 1
Somewhat hard to answer . . .	(1) 2	(3) 4	(0) 0	(2) 3	(6) 2
Easy to answer.	(66) 98	(65) 94	(71) 100	(66) 96	(268) 97
Number responding	(67)	(69)	(71)	(69)	(276)
Missing	(8)	(4)	(3)	(5)	(20)
Total	(75)	(73)	(74)	(74)	(296)

11--(continued)

	Short Recall (N)	%	Long Recall (N)	%	Short Retrieval (N)	%	Long Retrieval (N)	%	TOTAL (N)	%
f. Presence of open cracks or holes in the interior walls or ceiling:										
Very hard to answer	(1)	2	(3)	5	(0)	0	(1)	2	(5)	2
Somewhat hard to answer . . .	(6)	9	(9)	14	(10)	14	(12)	18	(37)	14
Easy to answer.	(61)	90	(53)	82	(60)	86	(55)	81	(229)	84
Number responding	(68)		(65)		(70)		(68)		(271)	
Missing	(7)		(8)		(4)		(6)		(25)	
Total	(75)		(73)		(74)		(74)		(296)	
g. Money received from welfare payments or public assistance:										
Very hard to answer	(4)	6	(4)	7	(5)	8	(9)	14	(22)	9
Somewhat hard to answer . . .	(8)	13	(13)	22	(8)	13	(14)	23	(43)	18
Easy to answer.	(50)	81	(43)	72	(48)	79	(39)	63	(180)	74
Number responding	(62)		(60)		(61)		(62)		(245)	
Missing	(13)		(13)		(13)		(12)		(51)	
Total	(75)		(73)		(74)		(74)		(296)	

12. You were asked to tell us the amounts of some of your utility bills and household expenses. How accurate do you feel your answers were? (CIRCLE ONE NUMBER ONLY.)

	Short Recall (N)	%	Long Recall (N)	%	Short Retrieval (N)	%	Long Retrieval (N)	%	TOTAL (N)	%
Probably very accurate.	(48)	67	(37)	55	(51)	72	(50)	72	(186)	67
Probably fairly accurate.	(23)	32	(29)	43	(20)	28	(19)	28	(91)	33
Probably inaccurate	(1)	1	(1)	2	(0)	0	(0)	0	(2)	1
Number responding	(72)		(67)		(71)		(69)		(279)	
Missing	(3)		(6)		(3)		(5)		(17)	
Total	(75)		(73)		(74)		(74)		(296)	

3. Overall, do you feel that the time and effort you put into answering the questions was: (CIRCLE ONE NUMBER ONLY.)

	Short Recall (N)	%	Long Recall (N)	%	Short Retrieval (N)	%	Long Retrieval (N)	%	TOTAL (N)	%
Very well spent	(27)	37	(19)	27	(20)	28	(20)	28	(86)	30
Somewhat well spent	(43)	59	(41)	59	(47)	66	(41)	58	(172)	60
Not very well spent	(3)	4	(10)	14	(4)	6	(10)	14	(27)	10
Number responding	(73)		(70)		(71)		(71)		(285)	
Missing	(2)		(3)		(3)		(3)		(11)	
Total	(75)		(73)		(74)		(74)		(296)	

14. From time to time, we are all called upon to do various things which we may not particularly enjoy. In fact, some of these may be a downright "nuisance." We would like to know much taking part in this survey bothered you as compared to doing other common tasks. (FOR EACH TASK PUT DOWN THE NUMBER ON THE SCALE--1 THROUGH 10--WHICH BEST DESCRIBES HOW MUCH THE TASK BOTHERS YOU.)

	Short Recall $\bar{X}$	Short Recall SD	Long Recall $\bar{X}$	Long Recall SD	Short Retrieval $\bar{X}$	Short Retrieval SD	Long Retrieval $\bar{X}$	Long Retrieval SD	TOTAL $\bar{X}$	TOTAL SD	Number Responding	Missing Cases
a. Answering the interviewer's questions during this survey . .	2.68	2.40	3.03	2.60	2.62	2.22	2.74	2.18	2.77	2.34	(280)	(16)
b. Filling out income tax forms . .	5.76	3.38	6.03	3.62	6.64	3.53	6.06	3.37	6.13	3.47	(268)	(28)
c. Balancing checkbook against bank statement	3.86	3.00	4.39	3.03	4.44	3.08	4.72	3.38	4.36	3.10	(267)	(29)
d. Answering a public opinion survey about which political candidate you like better. . . .	4.87	3.06	5.12	3.17	4.53	3.40	5.22	3.15	4.93	3.19	(273)	(23)
e. Going to the polls to vote on election day	2.59	2.30	2.64	2.53	2.07	2.27	3.16	2.88	2.41	2.57	(274)	(22)
f. Getting your car inspected by the state	4.82	3.59	4.43	3.02	4.17	3.32	5.12	3.78	4.63	3.44	(267)	(29)

15. Would you be willing to be reinterviewed a year from now so that we could find out whether your housing condition had changed?

	Short Recall (N)	%	Long Recall (N)	%	Short Retrieval (N)	%	Long Retrieval (N)	%	TOTAL (N)	%
Yes	(60)	86	(51)	74	(63)	89	(50)	71	(224)	80
No.	(10)	14	(18)	26	(8)	11	(20)	29	(56)	20
Number responding	(70)		(69)		(71)		(70)		(280)	
Missing	(5)		(4)		(3)		(4)		(16)	
Total	(75)		(73)		(74)		(74)		(296)	

16. We have had a number of suggestions about ways in which our surveys could be improved. How do you feel about each of these? (CIRCLE EITHER "0" OR "1" FOR EACH SUGGESTION.)

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %
a. Set up appointments for interviews:					
Would be an improvement . . .	(52) 74	(53) 77	(55) 81	(58) 87	(218) 80
Would not be an improvement .	(18) 26	(16) 23	(13) 19	(9) 13	(56) 20
Number responding	(70)	(69)	(68)	(67)	(274)
Missing	(5)	(4)	(6)	(7)	(22)
Total	(75)	(73)	(74)	(74)	(296)
b. Explain more about how the answers will be used:					
Would be an improvement . . .	(57) 83	(49) 71	(48) 70	(54) 82	(206) 76
Would not be an improvement .	(12) 17	(20) 29	(21) 30	(12) 18	(65) 24
Number responding	(69)	(69)	(69)	(66)	(273)
Missing	(6)	(4)	(5)	(8)	(23)
Total	(75)	(73)	(74)	(74)	(296)

16--(continued)

	Short Recall (N)	%	Long Recall (N)	%	Short Retrieval (N)	%	Long Retrieval (N)	%	TOTAL (N)	%
c. Explain more about how the confidentiality of the answers is protected:										
Would be an improvement . . .	(39)	57	(43)	63	(45)	66	(43)	63	(170)	62
Would not be improvement. . .	(29)	43	(25)	37	(23)	34	(25)	37	(102)	38
Number responding	(68)		(68)		(68)		(68)		(272)	
Missing	(7)		(5)		(6)		(6)		(24)	
Total	(75)		(73)		(74)		(74)		(296)	
d. Hire better interviewers:										
Would be an improvement . . .	(5)	8	(4)	6	(4)	6	(9)	14	(22)	8
Would not be an improvement .	(61)	92	(61)	94	(64)	94	(55)	86	(241)	92
Number responding	(66)		(65)		(68)		(64)		(263)	
Missing	(9)		(8)		(6)		(10)		(33)	
Total	(75)		(73)		(74)		(74)		(296)	
e. Use shorter questionnaires:										
Would be an improvement . . .	(22)	33	(38)	57	(24)	35	(38)	57	(122)	45
Would not be an improvement .	(44)	67	(29)	43	(45)	65	(29)	43	(147)	55
Number responding	(66)		(67)		(69)		(67)		(269)	
Missing	(9)		(6)		(5)		(7)		(27)	
Total	(75)		(73)		(74)		(74)		(296)	

6--(continued)

	Short Recall (N) %	Long Recall (N) %	Short Retrieval (N) %	Long Retrieval (N) %	TOTAL (N) %
f. Ask fewer personal questions:					
Would be an improvement . . .	(24) 35	(22) 33	(21) 31	(34) 49	(101) 37
Would not be an improvement .	(44) 65	(44) 67	(46) 69	(35) 51	(169) 63
Number responding	(68)	(66)	(67)	(69)	(270)
Missing	(7)	(7)	(7)	(5)	(26)
Total	(75)	(73)	(74)	(74)	(290)
g. Give respondents more chance to talk about their ideas and opinions:					
Would be an improvement . . .	(30) 45	(25) 10	(24) 35	(22) 34	(101) 38
Would not be an improvement .	(37) 55	(38) 14	(44) 65	(42) 66	(161) 62
Number responding	(67)	(63)	(68)	(64)	(262)
Missing	(8)	(10)	(6)	(10)	(34)
Total	(75)	(73)	(74)	(74)	(296)

APPENDIX C

PERCENT OF RESPONDENTS CHECKING RECORDS
FOR VARIOUS EXPENDITURE ITEMS,
BY INTERVIEW EFFORT AND TREATMENT

Item	Effort		Treatment			
	Recall	Retrieval	Short Recall	Long Recall	Short Retrieval	Long Retrieval
	(Base N) %	(Base N) %	(Base N) %	(Base N) %	(Base N) %	(Base N) %
Rent Payment.	(79) 1	(41) 14	(33) 3	(46) 0	(19) 26	(22) 4
Premium for Renters Policy.	(34) 9	(12) 48	(18) 11	(16) 6	(5) 40	(7) 50
Mortgage Payment.	(102) 13	(53) 39	(49) 14	(53) 11	(29) 31	(24) 50
Premium for Home Insurance.	(164) 18	(73) 29	(80) 17	(84) 19	(39) 23	(34) 35
Water Bill.	(116) 27	(49) 43	-[a]	(116) 27	-[a]	(49) 43
Oil Bill, Gas Bill.	(236) 36	(95) 57	(111) 40	(125) 32	(43) 49	(52) 63
Trash Bill.	(73) 14	(28) 21	(21) 14	(52) 14	(6) 17	(22) 23
Car Insurance Premium . . .	(200) 8	(85) 35	(106) 11	(94) 5	(45) 38	(40) 32
Auto Registration Fee . . .	(238) 10	(92) 30	(125) 14	(113) 6	(49) 33	(43) 28
Electric Bill Last Month. .	(315) 33	(139) 50	(160) 34	(155) 32	(70) 41	(69) 58
Electric Bill: Month 2 . .	(313) 29	(137) 52	(159) 28	(154) 29	(70) 43	(67) 61
Electric Bill: Month 3 . .	(313) 26	(136) 46	(159) 26	(154) 26	(70) 36	(66) 56
Phone Bill: Last Month . .	(323) 23	(140) 45	(156) 23	(167) 23	(69) 40	(71) 50
Phone Bill: Month 2. . . .	(319) 19	(142) 40	(158) 18	(161) 20	(69) 35	(73) 44
Phone Bill: Month 3. . . .	(314) 18	(141) 35	(157) 15	(157) 20	(68) 30	(73) 40

[a]Question not asked in short interview.