Excessive Reliance on Telephone Interviews and Short-Form Questionnaires in the 1992 National Election Study: Assessing the Consequences for Data Quality

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Abstract

Implementation of the 1992 National Election Study data collection departed from expectations in two ways. First was an excessive reliance on interviews conducted by telephone: 11.2 percent of the pre-election interviews were taken by phone as were 21.0 percent of the post-election re-interviews. The overwhelming majority of these phone interviews were not envisioned by the study design. The second departure from expectations was the inappropriate use of short-form questionnaires: 6.2 percent of the pre-election interviews and 8.4 percent of the post election interviews employed short-form questionnaires. Most of these short-form interviews were also not envisioned by the study design. Taken altogether, 86 percent of the 1992 interviews were administered as originally envisioned by study design; 14 percent were not.

This technical report assesses the practical consequences for the quality of the 1992 NES data that result from these two deviations from study specifications. Our analysis is organized around two central questions.

- Did the administration over the telephone of questions designed for face-to-face interviewing reduce the quality of the 1992 data?

- Are data for questions that appear on the full-length questionnaire, but not on the short-form, biased because a non-random set of respondents were administered the short-form questionnaire?

Our findings can be summarized as follows:

- 1992 NES respondents questioned over the telephone were for the most part indistinguishable on political grounds from those questioned face-to-face. In scores of tests, phone respondents proved to be neither more nor less Democratic; neither more nor less conservative; neither more nor less preoccupied with political matters; neither more nor less active in public affairs. Telephone respondents were distinctive on demographic grounds, however: they were better-educated, more affluent, and of higher status.

- The same conclusion applies to the contrast between those interviewed with the short-form and those interviewed with the full-length questionnaire. Short-form respondents were politically indistinguishable from respondents interviewed with the full-length questionnaire, though short-form respondents were better-educated and more affluent.

- The missing data introduced by the excessive use of the short-form questionnaire produced a very slight increase (less than .05 percentage points) in the standard errors of the questions that did not appear on the short-form questionnaire. In addition, because the wealthy were more likely to be administered the short-form questionnaires, the missing data are not random with respect to income. Responses to questions included only on the full-length questionnaire have a small (.2 to .3 percentage point) downward class bias.

- The main determinants of respondents being interviewed by telephone instead of face-to-face, and with the short-form questionnaires instead of the full-length questionnaires, had to do with indications of recalcitrance on the part of respondents and aspects of field administration of the study. Initial refusals, broken appointments, multiple contacts all increased the probability that interviewers abandoned in-person interviews and full-length questionnaires. Over and above these effects, as the interviewing period drew to a close, interviewers grew more and more likely to turn to the telephone and the short-form. Finally, some supervisors permitted many more phone and short-form interviews than did others. In contrast, the political and social attributes of respondents (their trust, altruism, social connectedness, engagement in politics or the campaign, their demographic characteristics) proved quite irrelevant to predicting which would be interviewed over the phone or with the short-form. The assignment process was certainly not random, but it was random with respect to characteristics of respondents that we care the most about: their political views, interests, and activities.

- Some questions work differently over the phone than face-to-face. Most significantly, phone respondents were more likely than those interviewed face-to-face to respond "don't know" to the Congressional vote question, to report voting for a Republican congressional candidate, to evaluate political figures less warmly, and to offer less verbose answers to open-ended questions. All these mode effects are significant, but because *only* 11.2 percent of the pre-election and 21.0 percent of the post-election interviews were conducted by telephone, their impact on the total sample is small.

- Responses to questions asked over the telephone without benefit of showcards are sometimes different from those obtained from questioning the respondent face-to face with showcards in hand. Different, but not necessarily worse: use of the telephone did not lead to systematic deterioration in data quality.

Excessive Reliance on Telephone Interviews and Short-Form Questionnaires in the 1992 National Election Study: Assessing the Consequences for Data Quality

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Introduction

Following the traditional design, the 1992 National Election Study (NES) consisted of two parts: a pre-election interview and a post-election re-interview. Approximately half the cases were comprised of empaneled respondents to the 1990 NES (most of whom had also been interviewed in the summer of 1991). The other half were drawn from a fresh cross-section sample. The study design called for face-to-face interviews (as in every NES Pre-/Post-Election Study conducted since 1952), and the NES Board and Staff prepared questionnaires with this in mind.

Study specifications permitted interviews to be conducted by telephone under two circumstances: with panel respondents no longer residing in current interviewing areas; and with respondents who needed to be interviewed in Spanish, but who could not be interviewed face-to-face. NES created short-form questionnaires to be used over the phone under these special circumstances. The short-form questionnaires asked a subset (about three-quarters) of the items that appeared on the full-length questionnaires. Items dropped for the short-form questionnaires tended to be questions new to the 1992 data collection (and not part of the "core" time-series); questions difficult to administer over the phone (where showcards could not be used); and questions measuring social background characteristics that were unlikely to have changed for panel respondents since their 1990 interview.

Implementation of the 1992 data collection deviated from design specifications in two ways. First was over-reliance on the telephone. As shown in Table 1, 11.2 percent of the pre-election interviews were conducted by telephone; 21.0 percent of the post-election interviews were taken by phone. The overwhelming majority of these phone interviews were not envisioned by the study design (84 percent in the

pre-election; 90 percent in the post-election).[1] Although respondents interviewed by telephone in the first wave tended to be interviewed by phone in the second wave, a good number of respondents (12 percent of the panel and 45 percent of the cross-section) interviewed by phone prior to the election were interviewed face-to-face afterwards (Table 2).

A second departure from design specifications was the inappropriate use of short-form questionnaires. Fully 11.0 percent of the pre-election interviews and 14.9 percent of the post election interviews conducted with panel respondents employed short-form questionnaires. Only .4 percent of cross-section respondents were interviewed with the short-form questionnaires. Three-quarters of the short-form interviews were not envisioned by the study specifications. Twenty-eight percent of the panel respondents questioned with the short-form prior to the election were interviewed with the full-length questionnaire in the post (Table 3).

Taken altogether, 86 percent of the 1992 interviews were administered as envisioned by study design; 14 percent of the interviews were not.

The purpose of this technical report is to assess the practical consequences for the quality of the 1992 NES data of the inappropriate substitution of telephone for face-to-face interviewing and the inappropriate use of short-form questionnaires.[2] We take up two potential problems:

1. Did the administration over the telephone of questions designed for face-to-face interviewing reduce the quality of the 1992 data?

2. Are data for questions appearing on the full-length questionnaire, but not on the short-form, biased because a non-random set of respondents were administered the short-form questionnaire?

Our analysis is organized as follows: First, we want to ascertain the extent to which respondents differ across conditions. Do respondents interviewed by telephone differ systematically from those interviewed in person? Likewise, are there consistent differences between those questioned with the full-

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[1] In previous election studies, NES has allowed telephone interviews to be substituted for face-to-face questioning under rare circumstances: neighborhoods too dangerous for interviewers to conduct face-to-face interviews after dark; gatekeepers who prevent interviewers from entering apartment buildings; elderly people who live alone and are reluctant to let a stranger into their living rooms. Although machine readable data are not available, our estimate is that in the past only 10 to 15 such cases turned up in a typical election year study.

[2] Our analysis was being carried out at the same time the NES data were being cleaned in preparation for release to the Inter-university Consortium for Political and Social Research. As a consequence, some of the estimates that appear in this report may differ slightly from estimates that might be made from the clean dataset deposited with the Consortium.

length as against those questioned with the short-form -- differences that would make us worry about the representativeness of the data that come from the long-form alone? In both cases, we will of course be especially interested in political differences. Second, we investigate how respondents were "selected" into condition. What factors contributed to interviewers substituting a telephone for an in-person interview? Or the short-form for the full-length questionnaire? And what biases, if any, resulted from this selection process? Third, we examine in a variety of fine-grained ways how responses provided over the phone differed from those given face-to-face and whether the differences mean compromises in the quality of the 1992 National Election Study data.

Descriptive Differences I: Comparing Respondents Interviewed by Phone and Respondents Interviewed in Person

The first thing we want to do is find out whether respondents interviewed by phone differ from those questioned in person. We have three general kinds of differences in mind to explore: differences in political outlook, in political engagement, and in social location. The many comparisons are displayed in Table 4, organized around these three general categories. The table presents results separately for panel and cross-section respondents, and for the pre-election and post-election waves of the 1992 study.

Political Outlook

As Table 4 indicates, respondents interviewed over the phone appear to express roughly the same political views, allegiances, and choices as those who were interviewed face-to-face. Phone respondents are not consistently more liberal (or conservative) than those interviewed face-to-face. Some small political differences do emerge, but few are significant. Of the 80 statistical tests reported in Table 4, just 15 are significant at the .10 level and only 6 of these are significant at the .05 level -- barely more than would be expected by chance.[3] More important, there does not seem to be a consistent pattern to the few differences

[3] Because many of the comparisons examined in this technical report involve groups of only 200 to 300 cases, we report tests at both the .05 and .10 significance levels to ensure that even small differences are detected.

that do appear. Those that show up in the pre-election wave are usually not replicated in the post-election wave. Meanwhile, differences that show up among panel respondents usually do not re-appear in the cross-section.

On a wide range of political variables, then, there are no consistent differences between respondents interviewed by telephone and those interviewed face-to-face. Phone and face-to-face respondents are just as likely to:

- vote for Clinton
- approve Bush's handling of job as president
- score high on the Clinton feeling thermometer
- have a Democratic party identification
- express high trust in government
- identify as a liberal
- favor more government spending on social welfare programs
- favor the government providing jobs and a standard of living
- favor a government family leave policy
- favor a decrease in defense spending
- favor government programs to help blacks
- feel civil rights is moving too slowly
- favor laws to protect homosexuals against discrimination; and
- favor government funding of abortion.

Admittedly, differences in political outlook do emerge. Phone respondents are slightly more likely to:

- report voting for the Republican candidate for the U.S. House
- rate Bush higher on the feeling thermometer
- rate Perot higher on the feeling thermometer
- favor a government health insurance plan
- favor affirmative action for blacks in hiring; and
- oppose the death penalty.

These differences are small, however, and although they occasionally attain statistical significance, they do not add up to a coherent picture.

Political Engagement

Nor are there clear and consistent differences in political engagement between respondents interviewed by telephone and those interviewed face-to-face. Phone respondents are not consistently more (or less) involved in politics than those interviewed face-to-face. Once again, though some small differences do emerge, few are statistically significant. Of 40 statistical tests, 9 are significant at the .10 level and 5 of these

at the .05 level. As in our first set of analyses, here too, differences between phone and face-to-face respondents in the pre-election wave are rarely replicated in the post-election wave; differences that appear for panel respondents usually do not show up for cross-section respondents. In short, on a wide range of measures of political engagement and competence, respondents interviewed by telephone are indistinguishable from those interviewed face-to-face. Where differences do emerge, they do not form a consistent pattern.

Social Location

If political differences are small, differences in social location are not. Phone respondents tend to be of higher socio-economic status than respondents interviewed face-to-face. Table 4 presents 52 separate comparisons between phone and face-to-face respondents on demographic characteristics. Twenty-one of the differences are statistically significant ($p < .05$). Phone respondents are more likely than face-to-face respondents to be:

- college educated
- in the top fifth of the income distribution
- employed
- employed as professionals
- residentially mobile
- better off financially than a year ago
- under the age of 65; and
- residents of the western states.

Descriptive Differences II: Comparing Panel Respondents Interviewed with the Short-Form Questionnaire And Panel Respondents Interviewed with the Full-Length Questionnaire

As we saw in Table 1, use of the short-form questionnaire was confined almost exclusively to panel respondents. Within the panel sample, roughly two-thirds of the respondents interviewed over the telephone were questioned with the short-form. Within the freshly drawn cross-section, however, with just a handful of exceptions, respondents questioned over the telephone were taken through the long-form (68 of 73 in the pre-election; 171 of 175 in the post). In this part of the analysis, we are interested in seeing the extent to which those interviewed by short-form differ systematically from those interviewed by long-form. For that purpose

we restrict our attention to the panel respondents. As in the preceding analysis, we take up differences in outlook, engagement, and social location.[4]

Political Outlook

On nearly every measure of political outlook, respondents interviewed using the short-form questionnaire are indistinguishable from those interviewed using the full-length questionnaire (Table 5). There are a few exceptions, but they do not paint a clear picture. Respondents interviewed with the short-form rated both Clinton and Perot higher on the feeling thermometer and also tended to be less likely to identify with the Democratic party. Those receiving the short-form questionnaire were slightly more supportive of government funding of abortion than those interviewed with the full-length questionnaire. Of the 40 statistical tests of political differences between respondents interviewed using the short-form and those interviewed with the full-length questionnaire, just 8 were significant at the .10 level and only 5 of these at the .05 level. About half of these "significant" differences suggest that the short-form respondents are more conservative than those given the full-length questionnaire; about half suggest the opposite. We conclude that respondents interviewed by telephone do not have different political outlooks than respondents interviewed face-to-face.

Political Engagement

This pattern is repeated within the domain of political engagement. On four measures of engagement,

- attentiveness to the political campaign (as reported in the pre-election interview),
- propensity to discuss politics with friends and family,
- tendency to follow government and public affairs, and
- reported sense of political competence,

panel respondents interviewed using the short-form questionnaire are indistinguishable from those interviewed with the full-length questionnaire. On six other indicators differences emerge, but again, without painting any clear picture. Respondents interviewed using the short-form appear to be *less* politically engaged than those

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[4] The descriptive analyses we are about to present are of course not independent from those reported in the preceding section. The two conditions of the 1992 interview under examination here -- telephone versus face-to-face; short-form versus long-form -- are correlated. It would be surprising, indeed disconcerting, if the two sets of descriptions turned out to be quite different from one another. As we will see momentarily, they are not; the results are in fact reassuringly similar.

interviewed with the full-length questionnaire as measured by

- attention to the political campaign (post-election report),
- number of television programs about the campaign watched, and
- level of political information.

On three other measures,

- concern about who wins the presidency,
- voter turnout, and
- participation in electoral politics (beyond voting),

respondents interviewed using the short-form appear to be *more* politically engaged. Of the 20 statistical tests possible in Table 5, 8 are significant at the .10 level; 5 of these at the .05 level. But half point in the direction of the short-form respondents being less politically engaged; half show the short-form respondents being more politically engaged. Overall, the data do not suggest systematic differences in political engagement.

Social Location

Echoing our earlier results, panel respondents interviewed with the short-form questionnaire did differ demographically from respondents interviewed with the full-length form. Short-form respondents were more likely to be:

- college educated
- in the top fifth of the income distribution
- employed
- employed as a professional
- residentially mobile
- better off financially than a year ago
- under the age of 65; and
- residents of the Midwest and western states.

Summary of Descriptive Analysis

Respondents to the 1992 NES questioned over the telephone are for the most part indistinguishable on political grounds from those questioned face-to-face. They are neither more nor less Democratic; neither more nor less conservative; neither more nor less preoccupied with political matters; neither more nor less active in public affairs. The same conclusion applies, and with equal force, to those respondents interviewed

with the short-form compared to those interviewed with the full-length questionnaire. There too, it is hard to build a case for systematic political differences. For reasons that must be obvious, we are deeply grateful that the results turned out this way. Heading into the analysis, large and systematic political differences were our worst nightmare.

Differences there were, of course, but they were confined for the most part to measures of social location. Telephone respondents (like short-form respondents) were demographically distinctive: they were better educated, more affluent, of higher status. When the short-form questionnaire was used, it generated missing data on those items that were dropped from the full-length questionnaire to construct the short-form. This produced a very slight increase (less than .05 percentage points) in the standard errors of the affected variables. And, because those interviewed with the short-form were of higher socio-economic status, it also injected a small but detectable class bias into the 1992 NES -- a topic that we will take up more rigorously in the next section.

Explaining the Assignment of Respondents to Interview Condition I: Factors Contributing to the Substitution of a Telephone for a Face-to-Face Interview

Another and complementary perspective on the 1992 NES data problem begins with the question of how respondents were "assigned" to a telephone interview rather than the face-to-face interview specified by study design. Here we examine a variety of factors that might lead interviewers to decide that a respondent should be interviewed over the telephone: those having to do with the political and social characteristics of respondents themselves; those having to do with the difficulty of locating respondents and persuading them to participate; and finally, those having to do with features of study administration.

With respect to attributes of the respondents, our strategy is to assess whether personal characteristics associated with reluctance to be interviewed are also associated with the likelihood of receiving what might be thought to be the less intrusive, less burdensome, phone interview (Groves, Cialdini and Couper 1992; Brehm 1990; Goyder 1987; Downes-Le Guin 1990). Specifically, we examine whether people who fear or distrust

others, who are not well socially connected, or who do not feel much sense of social responsibility were more likely to have been questioned over the phone. Following Brehm's (1990) discovery that people who are politically engaged or informed are more willing to be interviewed, we also see whether those with little interest in politics ended up being interviewed over the phone. Finally, we consider whether respondents with the fewest personal resources, who frequently end up not being interviewed at all, were more likely to be switched from face-to-face to the phone.

A second category of factors pertain to features of respondents as well, but here the emphasis is upon direct manifestations of reluctance stemming from interactions between respondents and interviewers. We see, for example, interviewers tended to turn to the phone when respondents initially refused to be interviewed, or broke appointments, or were suspicious or uncooperative.

Finally, we look at attributes of the field administration of the study: whether the respondent had moved outside of the current interviewing area; whether the interviewer could obtain the respondent's telephone number; the proximity of the interview to the end of the field period; the performance of individual field supervisors; and whether in the pre-election survey the respondent was part of the subsample released on September 1, 1992 or the subsample released on October 1, 1992.

The analysis is presented in three parts. First are bivariate relationships between each variable and the likelihood of being interviewed by phone. These results are summarized in Table 6. The table entry there is the percentage of respondents interviewed over the phone. Consistent with previous analysis, the table presents percentages separately for panel and cross-section respondents, and separately for the pre- and post-election components of the 1992 study. Second, we used probit analysis to estimate the marginal effect of each variable on the probability of being interviewed by phone, holding constant the other variables under consideration. The probit estimates are displayed in Table 7. We converted the probit coefficients to probabilities and report those numbers as percentages in Table 8. Variables that appear in Table 6, but either do not appear in Tables 7 and 8 or have blank cells in Tables 7 and 8 have coefficients that are

indistinguishable from zero.[5]

Social and Political Characteristics of Respondents

Summarizing these results, we find that the social and political characteristics of the respondents had little to do with interviewer reliance on the telephone (Tables 6, 7, and 8). Altruistic respondents were just as likely to be interviewed by phone as the unaltruistic. The socially connected were just as likely to be interviewed by phone as the socially isolated. Those most engaged in politics were just as likely to be interviewed by phone as those least interested. The most politically active were just as likely to be interviewed by phone as the inactive. The most politically informed were just as likely to be interviewed by phone as the least knowledgeable. Those with the highest sense of personal political competence or who were most trusting of the government were just as likely to be interviewed by phone as the inefficacious and untrusting. In short, interviewers were no more likely to resort to a phone interview with respondents who might be reluctant to participate because of their lack of interest, information, or competence. These null findings hold not only in the multivariate analysis reported in Table 7, but in the bivariate analysis reported in Table 6 and in multivariate analysis that includes the social and political characteristics of respondents alone (analysis not shown).

Likewise, most demographic characteristics of respondents -- gender, race, level of education, occupation, or employment status -- had no effect on the mode of interview. But a few did. Among panel respondents, for example, the young were 6 percentage points more likely than the elderly to be interviewed by phone in the pre-election study and 15 points more likely to get questioned by phone in the post-election wave (Tables 7 and 8). The wealthiest panel respondents were 11 percentage points more likely than the poorest respondents to be interviewed by phone in the pre-election study (but not in the post-election study). Similarly, the wealthiest cross-section respondents were 11 percentage points more likely to be interviewed by

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[5] We translated each probit coefficient into the effect of the variable on the probability of being interviewed by telephone averaged across all the respondents in the analysis. To do so, for each variable, we calculated the probability that each respondent would be interviewed by phone under two conditions: first assuming that the variable takes its lowest value, then assuming that the variable takes its highest value, allowing all other variables to take the values observed for each case. The reported effect is the difference between the two probabilities, averaged across all respondents.

phone in the post-election (but not in the pre-election study).

In summary, the political and social characteristics of respondents do not take us very far in explaining interviewer reliance on the telephone in the 1992 NES. People who are generally thought to be the most willing to take part in political surveys -- the socially connected, the altruistic, those who trust others, who are politically informed, engaged, and competent, and who command ample personal resources -- were just as likely to have ended up being interviewed by phone as those people commonly thought to be reluctant to take part in political surveys.

Recalcitrant Respondents

In contrast, interviewers were much more likely to move to the phone when they ran into difficulties obtaining a face-to-face interview. In the pre-election study, panel respondents with the most unsuccessful contacts were 18 percentage points and cross-section respondents were 29 percentage points more likely to be interviewed by telephone (Tables 7 and 8). Panel respondents protected by gatekeepers were 15 percentage points more likely to be interviewed by phone; cross-section respondents 6 points more likely. An initial refusal to be interviewed boosted the likelihood of a phone interview by 7 percentage points among panel respondents and 6 points among cross-section respondents. For panel respondents, a broken appointment increased the probability of a phone interview by 11 points.

Comparable effects show up in the post-election wave. Those cross-section respondents eventually interviewed after many post-election contacts were 30 percentage points more likely to end up being interviewed by phone than those interviewed after a single contact. Broken appointments in the weeks following the election led to a 11 point rise in the probability of a phone interview among panel respondents and a 9 point rise among cross-section respondents.

The evidence also suggests that interviewers based their decision to substitute a telephone for a face-to-face interview in the *post*-election study not only on the information gleaned through their interactions with respondents in the weeks following the election, but also upon coversheet information from the *pre*-election study to which interviewers had access. Even after interviewers' experiences with the respondents in the

post-election wave have been taken into account, panel respondents who were interviewed after many contacts in the *pre*-election study were still 24 percentage points more likely to get a phone interview in the *post*; cross-section respondents 11 percentage points. Regardless of the interviewer's interactions with the respondent following the election, panel respondents who initially refused the *pre*-election interview were 10 percentage points more likely to get a phone interview in the *post*; cross-section respondents 9 points more likely.[6]

Thus considerable evidence indicates that the likelihood of moving to the phone grew with signs that an interview might be difficult to complete. It is worth emphasizing, however, that many respondents who showed no sign of reluctance were *also* interviewed by phone. As Table 6 illustrates, among panel respondents, 12 percent of those not protected by gatekeepers were interviewed by phone before the election; 22 percent afterwards. Fully 15 percent of the panel respondents interviewed on the third or fourth try were interviewed by phone in the pre-election survey; 22 percent in the post-election. Thirteen percent of those panel respondents who did *not* initially refuse a pre-election interview were interviewed by phone; 24 percent in the post-election study. And 13 percent of those panel respondents who never broke an appointment on the pre-election survey were interviewed by phone as were 21 percent who never broke an appointment for a post-election interview. Among cross-section respondents the same pattern holds: respondents *not* protected by gatekeepers, who did *not* initially refuse a pre-election interview, who *never* broke an appointment, or who were interviewed on the third or fourth try, still had a 5 to 6 percent chance of being interviewed by phone in the pre-election study and a 13 to 17 percent chance of being interviewed by phone in the post-election wave.[7]

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[6] Indicators of respondent recalcitrance are not nearly as correlated with each other as one might think. The auxiliary R-squared for the entire set of 13 measures of recalcitrance from the pre- and post- election studies combined range between .07 and .54 with a median auxiliary R^2 of .43.

[7] Not all indicators of recalcitrance were associated with use of the telephone. Interviews that involved converting initial refusers, or that took place after a persuasion letter had been sent, or that required the use of a financial incentive to obtain compliance, were just as likely to be completed face-to-face as by telephone.

Field Administration

The last set of variables characterizes field administration of the 1992 NES. Two of these results are utterly unsurprising. Respondents for whom phone numbers could be obtained, naturally, were more likely to be interviewed by phone.[8] And panel respondents who had moved outside the interviewing area were nearly certain to be interviewed by phone, again as one would expect.

But date of the interview also had a substantial effect, and this holds even after controlling for all the other variables. Interviews taken with panel respondents in the final weeks of the pre-election study period were 15 percentage points more likely to have been taken by phone than interviews conducted in the initial weeks of the study (Tables 7 and 8). Pre-election interviews taken with cross-section-respondents in the final weeks of the study period were 9 points more likely to have been taken by phone than those taken in the initial weeks of the study period. An even more dramatic pattern appears in the post-election field period: panel respondents interviewed in the final weeks of the post-election study field period were 36 points more likely to have been interviewed by phone than respondents interviewed in the initial weeks after the election; cross-section respondents were 30 percentage points more likely to receive phone interviews.

As the end of the field period neared, interviewers evidently grew more and more likely to turn to the phone even with unrecalcitrant respondents. A glance back to the simple bivariate relationships displayed in Table 6 shows how readily interviewers abandoned the face-to-face mode of interviewing in the final weeks of the field period. By the seventh week into the nine week pre-election field period, 6 percent of the cross-section and 16 percent of the panel respondents were being interviewed by phone. A week later, the rate of telephone interviewing doubled. The numbers are even more dramatic in the post-election study. In the first two weeks following the election, less than 10 percent of the interviews were taken over the phone; by the

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[8] We considered conducting this analysis only on those respondents who have telephones -- i.e. those respondents at risk of receiving a phone interview -- but decided against it on several grounds. First, there are no reliable data on whether the respondent has a phone, only on whether the interviewer obtained a phone number. And whether a phone number was obtained, to some extent, depended on how assertive the interviewer was. When a respondent couldn't be located, interviewers often tried to get the respondent's phone number from neighbors. And in some instances, the phone number obtained was not a home phone, but a work number or a number of a relative or friend. Second, even those respondents for whom phone numbers were not obtained were at risk to be interviewed over the phone at work, or at the home of a relative or friend. A bit more than 4 percent of the respondents for whom a phone number was not obtained were nevertheless interviewed by telephone. In short, the population at risk is not fixed, but endogenous to the actions of the interviewers.

fifth week, 20 percent were; by the ninth week, more interviews were conducted over the phone than in person.

Interviewers were instructed not to conduct an interview by telephone without supervisor permission. And, our results also show that use of the telephone varied by supervisor. As the data in Table 6 indicate, some supervisors permitted phone interviews with panel respondents as little as 6 percent of the time on the pre-election study and 9 percent on the post-election wave; other supervisors permitted nearly *four times* as many phone interviews to be taken. Some of these differences are undoubtedly due to differences in the kinds of respondents that fell under each supervisor's purview. But as the probit estimates make clear (Tables 7 and 8), even when all other variables have been taken into account, some supervisors were between 10 and 20 percentage points more likely to permit phone interviews than were others.

Explaining the Assignment of Respondents to Interview Condition II: Factors Contributing to the Substitution of the Short-Form for the Full-Length Questionnaire

Our analysis of the causes of the short-form being substituted for the full-length questionnaire exactly parallel the procedures followed in the previous section. We consider the identical set of possible causes. As before, Table 9 displays the bivariate relationship between each potential explanatory variable and the likelihood of being interviewed with the short-form instead of the full-length questionnaire. For reasons made clear earlier, this and all subsequent analysis of the short-form is restricted to panel respondents, distinguishing, as before, between pre- and post-election studies. We again use probit analysis to isolate the marginal effect of each variable on the probability of being interviewed with the short-form, holding constant the other variables in the analysis. These probit estimates are displayed in Table 10; the coefficients converted to probabilities are reported as percentages in Table 11. Variables that appear in Table 9, but either do not appear in Tables 10 and 11 or have blank cells in Tables 10 and 11 have coefficients that are indistinguishable from zero.

A first result worth underscoring in Table 9 has to do with the characteristics of those respondents who were legitimately interviewed with the abbreviated version of the questionnaire. Notice that the table distinguishes among those who received the short-form version of the questionnaire because they had moved out of sample segments ("legitimate" short-form), all the rest who received the short-form, and all those who were questioned with the full-length version. It turns out that those panel respondents who moved outside of the current interviewing area, and were thus legitimately interviewed by telephone using the short-form questionnaire (columns one and four in Table 9) resemble other panel respondents in almost every detail. Whether one looks at the social or political characteristics of the respondents (trust in others, social connectedness, sense of social responsibility, or personal resources), their apparent recalcitrance, or aspects of field administration, there is little to distinguish these people from other panel respondents. The only difference is that panel respondents legitimately interviewed by telephone using the short-form questionnaire had resided less time at their current address -- exactly what one would expect in a study design that mandated phone interviews for those panel respondents who moved outside of the current area of interviewing.

More generally, as we will see momentarily, results from our analysis of reliance on the short-form essentially repeat the results reported in the previous section on reliance on the telephone. These are not, after all, independent tests: all panel respondents interviewed using the short-form questionnaire were interviewed over the phone. Because of this dependence, we will move through the findings expeditiously.

Social and Political Characteristics of Respondents

Social and political characteristics of respondents had little to do with the likelihood of being interviewed with the short-form as against the full-length questionnaire. Neither altruism, trust, social connectedness, engagement in the campaign or politics, level of political information, age, race, gender, level of education, occupation, nor employment predicted who ended up being questioned with the short-form. Moderate income differences did emerge in both the pre-election and post-election studies, with the wealthiest respondents being more likely to be interviewed using the short-form questionnaire -- 8 percentage points

more likely in the pre-election study, 10 points more so in the post-election interview (Tables 10 and 11). But apart from this income difference, and a scattering of small differences that show up in one wave of the study but not the other, there is little indication that use of the short-form was determined by the social and political characteristics of respondents. These null findings hold not only in the multivariate analysis reported in Table 10, but in the bivariate analysis reported in Table 9 and in multivariate analysis that includes only the social and political characteristics of respondents (not shown).

Recalcitrant Respondents

In contrast, signs of recalcitrance had a lot do to with respondents receiving the short-form. Among pre-election panel respondents, as the number of contacts with the household grew, when gatekeepers were encountered, when initial refusals occurred, and when appointments were broken, interviewers tended to give up on the full-length questionnaire and turn to the short-form. In the post-election study, however, such recalcitrance had *no* detectable effect on the likelihood that the interviewer turned to the short-form. No variable measuring the post-election interactions between the respondent and the interviewer had an effect distinguishable from zero. The coefficients suggest, instead, that interviewers relied on the record of interactions with respondents from the *pre*-election study in deciding whether a short-form questionnaire would be used in the *post*. Many contacts, a broken appointment, or a persuasion letter in the *pre*-election study all increased the chances the interviewer would turn to a short-form questionnaire in the *post*-election study.

These various effects are important, but as the bivariate data in Table 9 make clear, many panel respondents who showed no signs of being difficult to interview were nevertheless administered the short-form questionnaire in the post-election study. Thus, 9 percent of those unprotected by gatekeepers were interviewed with the short-form in the pre-election study; 13 percent after the election. Fully 10 percent of the panel respondents interviewed on the third or fourth try were interviewed using the short-form before the election; 15 percent afterwards. Nine percent of those panel respondents who did not initially refuse a pre-election interview were interviewed with the short-form; 15 percent in the post-election study. And 10

percent of those who never broke an appointment on the pre-election study were interviewed with the short-form as were 14 percent who never broke an appointment in the post-election study.

Field Administration

As we found in our analysis of reliance on the telephone, attributes of study administration had huge effects on whether respondents were interviewed with the short-form questionnaire. Respondents for whom phone numbers could be obtained were more likely to be questioned using the short-form (which was administered over the phone). Respondents who had moved outside of the interviewing area were almost certain to have been given the short-form questionnaire over the phone, as called for in the study design. But other attributes of the field administration also came into play. Interviews taken in the closing weeks of the pre-election study field period were 11 percentage points more likely to be taken using the short-form than the full-length questionnaire (Tables 10 and 11). Interviews taken in the closing weeks of the post-election study period were 15 percentage points more likely to be taken using the short-form. As pressure mounted to complete the study, interviewers apparently increasingly substituted the short-form for the full-length questionnaire. This effect holds even after all other variables have been taken into account. We find an effect associated with supervisor here as well. Once the differences among respondents falling within each supervisor's domain have been taken into account (see Tables 10 and 11), some supervisors were still between 10 and 16 percentage points more likely to permit short-form interviews than were others.

Summary and Conclusions

Recalcitrant respondents and various aspects of field administration are the chief determinants of how respondents were questioned in the 1992 NES. A gatekeeper, an initial refusal, a broken appointment, or multiple contacts with the household all increased the propensity of interviewers to abandon face-to-face interviews and to forego the full-length questionnaire. Independent of these effects, as the field period wore on, interviewers grew more and more likely to turn to the telephone and to the short-form questionnaire.

In contrast, political and social characteristics of respondents had little to do with the kind of interviewing carried out in 1992. Altruism, trust, social connectedness, engagement in the campaign or politics, political information, age, race, gender, education, occupation, and employment status proved irrelevant to the chance that respondents would be interviewed over the telephone or with the short-form questionnaire. Similarly, when we add to the equations reported in Tables 8 and 10 measures of candidate preference, partisanship, liberal/conservative self placement, or support for affirmative action, none has any impact on the propensity of respondents to be interviewed over the telephone or with the short-form questionnaire. The selection process is most certainly not random. But it does appear to be random with respect to social and political characteristics of respondents. This means that in structural models of political processes the contamination to parameter estimates due to non-random assignment to the telephone and to the short-form is likely negligible.

One possible exception to this conclusion is the moderate effect of income in both the pre-election and post-election selection equations. After taking all other variables in the analysis into consideration, the wealthy were more likely than the poor to have been interviewed using the short-form questionnaire. As a consequence, the wealthy were more likely than the poor to have missing data on questions that did not appear on the short-form. This means that population estimates for variables excluded from the short-form questionnaire are downwardly biased by class. We think, however, that the amount of bias must be small. For a pre-election question, the bias is given roughly by: [.10 * .062 * the relationship between income and the variable of interest], where .10 is how much more wealthy the short-form respondents are than respondents questioned with the full-length questionnaire; and .062 is the proportion of the pre-election respondents -- panel and cross-section combined -- interviewed using the short-form. On a post-election question, the bias is slightly larger: [.09 * .084 * the relationship between income and the variable of interest]. In round numbers, if a pre-election study variable not appearing on the short-form questionnaire were to have a perfect relationship to income, its population estimate would be biased by about .6 percent; a comparable question located in the post-election study would be biased by about .8 percent. Because income

is only moderately associated with questions that were dropped from the short-form questionnaire, the bias due to missing data is surely less, probably closer to .2 percentage points for a pre-election question and .3 percentage points for a post-election question.

On the Possibility of Interview Mode Effects: Quality of Data Elicited by Face-to-Face versus Telephone Interviews

In this final section, we will investigate how responses to questions were affected by the shift to the telephone. We take up three questions in particular, each a potential concern about the telephone as a mode of interviewing. First, we determine through a variety of tests whether the quality of data gathered over the telephone deteriorates when, as here, interviewing proceeds without benefit of the showcards that typically accompany questions in face-to-face interviews. Second, we see the extent to which data collected over the telephone is affected by social desirability in greater (or lesser) degree than data collected in-person. Third and finally, we ascertain whether telephone interviews yield less elaborate responses from open-ended questions than do interviews carried out face-to-face. These analyses are carried out on the entire sample: on respondents interviewed by phone and face-to-face, in person, and by telephone.

Quality of Telephone Data in the Absence of Showcards

Questions asked in face-to-face interviews are often accompanied by "showcards." These visual aides serve several purposes: they remind respondents of the range of available response options; provide respondents the text for response options that are complicated or long-winded; label various points along scales; supply visual cues for scales that may be difficult for the respondent to envision; provide response options when none are actually read by the interviewer. Fully 35 percent of the questions asked in the 1992 NES Pre-/Post-Election Study employed showcards.[9]

When face-to-face questions that rely on showcards are administered over the telephone, the questions are often rewritten to make use of an "unfolding" technique in which respondents are first asked to place

[9] Many of the showcards created over the years have been adopted at the behest of interviewers who have suggested their use at pretest debriefings.

themselves on one side of the issue, and then asked, through follow-up questions, to locate their positions more precisely. Most comparisons between phone and face-to-face interviewing are between the optimal use of the two modes of interviewing where deliberate efforts have been made to design the phone questions to be comparable in use to those asked face-to-face (e.g., Groves and Kahn 1979). That did not happen in the 1992 NES. Questions were not rewritten in a format more conducive to the telephone because the study design presumed they would be asked face-to-face. Few interviewers reported that they had dropped off the respondent booklet to the respondent's home before conducting the phone interview. And even when the booklet was dropped off, we cannot be sure that the respondent actually made use of the booklet during the interview. Nor do we know whether the interviewer read to the respondent the information contained on the showcard. These considerations lead us to assess what measurement error, if any, was introduced when these questions were asked over the phone instead of face-to-face.

Four kinds of NES survey questions that rely on showcards may have been especially vulnerable when asked over the telephone:

- Questions that introduce continua the respondents might find hard to envision or remember without showcards.
- Questions where response options are presented on showcards only (not in the question themselves).
- Questions with five or more response options for which showcards are designed to remind respondents of the available responses.
- Questions with elaborate response options where showcards are designed to help respondents keep track of the alternatives.

We examined nearly every question on the 1992 Pre-/Post-Election Study that falls into one of these four categories, performing as many as six tests (not all tests were appropriate for each of the questions). We assessed whether phone respondents are more likely than those interviewed face-to-face to answer "don't know" (Table 12). We examined whether the distribution of responses differed when elicited over the telephone by comparing means (Table 13), standard deviations (Table 14), and frequencies (Table 15). We also compared the reliability of scales created from items asked over the phone rather than face-to-face (Table

16).[10] And finally, we examined whether relationships between answers to potentially affected questions and other political variables differ when the questions were asked over the phone (Table 17).[11] Our discussion of results from these various tests is organized around the four kinds of questions that we think are most susceptible to error when asked over the telephone without benefit of showcards.

Continua That Might be Hard to Envision or Remember Without a Showcard. At various points in the 1992 NES interview, respondents were asked to place themselves and other political figures on left-right continua represented by 7-point scales. Elsewhere on the questionnaire, respondents were also asked to make judgments of blacks, Asians, and Hispanics on 7-point scales representing various stereotypical qualities. In the typical (face-to-face) case, showcards are provided to make it easier for respondents to bring such dimensions to mind. What happens in their absence?

It turns out that there are significant differences between the way that certain 7-point scales perform over the phone and the way they work face-to-face, but the differences do not appear to be systematic. Phone respondents are not more likely than those questioned face-to-face to respond "don't know" when asked such questions. If anything, the results run slightly the other way (Table 12). Phone respondents end up slightly to the left of those interviewed face-to-face on a variety of 7-point scales, but they do not claim a more liberal identification nor do they report more liberal (or more conservative) views towards blacks, Asians, and Hispanics (Table 13). Next, in Table 14, we see that standard deviations of the 7-point scales asked over the phone are virtually identical to the corresponding statistics when the questions were asked face-to-face. The data displayed in Table 15 show that on some of the 7-point scales, some response categories are significantly more likely to be used than others, but that no clear pattern emerges for the analysis as a whole. Next, the ethnic stereotype questions were designed to form scales; the analysis reported in Table 16 suggests that the

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[10] For each set of items, we conducted two confirmatory factor analyses: one for respondents interviewed face-to-face and one for respondents interviewed over the phone. Each analysis was carried out on the variance-covariance matrix among the items to permit comparisons of the scales across the two interview modes. We have not derived a statistical test for differences in the reliability across the two modes of interviewing; differences less than .05 we treat as too small to worry about.

[11] For this analysis, we recoded all variables to the 0-1 interval; we report unstandardized regression coefficients, holding constant education, income, and level of political information.

questions about Asians and Blacks produced more reliable scales when administered face-to-face, while the questions about Hispanics produce a more reliable scale when administered over the phone. Finally, our analysis of relationships between questions asking respondents to place themselves on 7-point continua and a variety of other political variables reveals few differences between the estimates obtained for phone and face-to-face respondents, once education, income, and level of political information have been held constant (Table 17). Of 30 pairs of coefficients, 4 show weaker associations for questions asked over the phone; 6 show slightly stronger associations for phone respondents; the rest (20) show no difference at all.

In short, although individual items occasionally work differently across the two modes, there is little evidence to suggest that as a group, 7-point scales perform significantly worse over the phone than face-to-face.

Questions Where Response Options are Displayed Only on Showcards. In a few instances in the 1992 NES interviews, response options were not included in the text of the question the interviewer was instructed to read, but appeared, instead, only on the showcard. We examined two here: reported vote for the U.S. House of Representatives, and expressions of "closeness" to a list of social groups. When respondents were asked whether they had voted for the U.S. House of Representatives, and if so for whom, phone respondents who did not have the benefit of the show card to remind them of the candidates that ran in their district were much more likely to say "don't know" (Table 12). However, for the question asking respondents to name those groups that they felt closest to, there was no difference in the number of "don't know" responses. The Congressional vote question produced a huge mode difference. Phone respondents were 8.9 percentage points more likely to say they voted for the Republican candidate for the House than were respondents interviewed face-to-face with the showcard (Table 13). This difference, which persists after income, education, and political information have been held constant, will be familiar to most Congressional election scholars. We know from other analyses of this question that the showcard prompts respondents to over-report votes for the incumbent -- a result consistent with the mode differences reported here (Bloom 1991; Wright 1993; Jacobson and Rivers 1993). Assuming that interviewers did not read the contents of the showcard to respondents

interviewed by phone, then the data displayed in (Table 13) should be interpreted as replicating these earlier results.

Questions With Five or More Response Options. Many questions on the 1992 NES survey used showcards to remind respondents of the various responses available in answering a battery of questions asked in the same format. For questions on equality, for example, the showcard displayed the response alternatives common across questions ("agree strongly, agree somewhat, neither agree nor disagree, disagree somewhat, disagree strongly"). The feeling thermometers, to take another example, were administered with a showcard containing a picture of a thermometer with various points labeled (such as "Quite Warm or Favorable Feeling" or "Fairly Cold or Unfavorable Feeling").

Neither the questions employing the 5-point, "strongly agree" to "strongly disagree" response categories nor the 100-point feeling thermometers elicited more "don't know" responses when asked over the phone (Table 12). The mean values on items asked using the 5-point scales were also the same across the two modes (Table 13). This holds across a wide range of questions measuring equality of opportunity, racial prejudice, and moral traditionalism. The phone did introduce a small, but significant difference in the responses given to the feeling thermometer questions, however. Phone respondents rated political figures and groups 2 points lower than did respondents interviewed face-to-face. These differences are small, but they remain statistically significant after controlling for income, education, and level of political information.

Questions asked in the 5-point "strongly agree" to "strongly disagree" format elicit slightly more variation over the phone compared to face-to-face (Table 14). The reason is clear and given in Table 15: phone respondents were significantly less likely than those questioned face-to-face with the show card to use the middle category -- "neither agree nor disagree." In contrast, variation in response to the feeling thermometer questions is slightly lower over the phone than face-to-face. The big mode difference in the feeling thermometer scores is that face-to-face respondents were substantially more likely to select a response option that appeared as a labeled point on the feeling thermometer showcard than were respondents interviewed over the phone. On the 14 feeling thermometers from the pre-election interview, face-to-face

respondents were 24 percentage points more likely to chose a labeled response than were respondents interviewed over the phone. On the 40 feeling thermometers that appeared in the post-election interview, face-to-face respondents were 17 percentage points more likely to respond with one of the responses labeled on the showcard than were respondents interviewed over the phone (Table 15). These results of labelling are consistent with those reported by Groves and Kahn (1979).

Table 16 shows that scales constructed from questions asked over the phone in the 5-point "strongly agree" to "strongly disagree" format are no less reliable than scales constructed from the same items asked face-to-face with show cards. Racial prejudice, political competence, assessments of Bush's character, as well as assessments of Clinton's character were equally reliable across the two modes of interviewing. Questions measuring commitment to American values, equality of opportunity, and moral traditionalism, on the other hand, all produced *more* reliable scales over the phone than face-to-face.

Our final analysis here focuses on whether interview mode conditions the strength of relationship between answers to questions with five or more response options and various other political views. The results are summarized in Table 17. The pattern varies across items, to be sure, but there is a reasonably consistent tendency for relationships to be stronger when the respondents were interviewed over the phone than when they were questioned face-to-face.[12]

Questions With Elaborate Response Options. Two questions on the post-election questionnaire -- one on abortion rights and one on prayer in the schools -- contained very detailed response options that respondents may have had difficulty remembering without the assistance of the showcards.[13] It turns out, however, that administering these questions over the phone had little or no effect on the quality of the data. Phone respondents were no more likely to say "don't know" to these questions than respondents interviewed face-to-face (Table 12). The distribution of responses -- given by the mean (Table 13), the standard deviation (Table

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[12] This analysis controls for education, income, and political information, but it may be that a better specification is that the strength of the relationship varies with the level of education. This is easy to capture in a structural equation, but we do not have enough cases to allow a reliable test of both the interaction effect and whether the interaction effect varies across mode of interview.

[13] For the abortion rights question, a mean score was computed for respondent's placement of self and the two presidential candidates.

14), and the frequency with which the various response alternatives were used (Table 15) -- are about the same across the two modes. When administered over the phone, the abortion rights question produced slightly stronger relationships to other political variables than when asked face-to-face, but no such effects were detectable in the case of the school prayer question.

Telephone Interviewing and Socially Desirable Responses

Our next test concerns social desirability. One possibility is that the greater veil of anonymity that telephone interviews seem to provide might reduce the tendency of respondents to generate socially desirable responses. We see a hint of that in Table 18. On some questions, interviews conducted over the phone produced slightly less socially desirable responses than those conducted face-to-face. Questions asked about political leaders, the political parties, and minority groups using the feeling thermometer all displayed slightly lower mean values over the phone than face-to-face (consistent with the proposition that phone interviews reduce socially desirable responses). But on other questions, the evidence is consistent with prior studies that have shown that mode of interview has little to do with social desirability (Groves 1989). Over-reporting of voter registration and turnout were not reduced over the phone. Questions that measured ethnic stereotypes, equality of opportunity, and racial prejudice showed no significant differences. On policy questions, phone respondents were more likely than those interviewed face-to-face to express support for the rights of homosexuals and to express favorable opinions about increasing the number of Hispanic and Asian immigrants. All in all, of the 16 separate tests, 10 show no difference between responses elicited over the phone and those gathered face-to-face; 5 show less social desirability elicited over the phone; only 1 shows greater social desirability over the phone.

Telephone Interviewing and the Amount of Information Elicited by Open-ended Questions

According to previous research, phone respondents report being more uneasy than those interviewed face-to-face. Respondents are more uncomfortable discussing income, racial attitudes, voting behavior, and political opinions when questioned over the phone. Rapport seems generally better when interviews are conducted in person (Groves and Kahn 1979). As a result, respondents might produce more elaborate

responses to open-ended questions in a face-to-face interview. This tendency does appear in the 1992 NES. Our analysis finds that in five of the seven open-ended questions on the NES survey, slightly more responses were elicited when questions were asked face-to-face than when they were asked over the phone. This pattern persists when controlling for differences in education, income, and political information (Table 19).

Summary

Though no one would seriously entertain abandoning the use of showcards in face-to-face interviews, the evidence from our analysis of what happened when questions were asked over the phone without benefit of showcards suggests that the damage is slight. With the (important) exception of Congressional vote, we generally find small differences, or no differences at all. Nor do we see much indication that the telephone produced fewer socially desirable responses. Telephone interviews yield less elaborate responses to open-ended questions than do the same questions asked face-to-face, but the differences are small. All this is quite reassuring on the overriding point of the quality of the 1992 NES data.

The most disconcerting feature of our analysis is the evidence that some questions clearly work differently over the phone than they do face-to-face: they produce different means; they have different associations with other political variables; they scale differently.[14] We are not yet in possession of a theory of survey response to permit us to understand the circumstances under which mode effects will emerge. In the 1992 data collection, the mode differences that do show up are, for the most part, relatively small. Moreover, they affect just 11.2 percent of the pre-election and 21.0 percent of the post-election respondents. This means that even when differences between phone and face-to-face respondents produce coefficients that differ by .10 in magnitude (the largest differences found in Table 17), the potential contamination of pre-election analysis is still only about 1 percent (.10 * the proportion of the pre-election sample interviewed by telephone); by the same logic, post-election analysis is biased by no more than about 2 percent.

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[14] Similar results were found in two experiments NES conduced in 1982 and 1984 to assess the comparability of data gathered over the phone to that gathered face-to-face. The 1982 National Election Studies method comparison project is described in detail in Shanks, et al. (1984), with results reported in Shanks, Sanchez and Morton (1983) and Brehm (1987). The 1984 comparisons are analyzed in several technical reports (NES Staff 1985a 1985b; Morchio, Sanchez, and Traugott 1985; Brehm 1987c).

Conclusions

Implementation of the 1992 National Election Study data collection departed from expectations in two ways. First was an excessive reliance on interviews conducted by telephone: 11.2 percent of the pre-election interviews were taken by phone as were 21.0 percent of the post-election re-interviews. The overwhelming majority of these phone interviews were not envisioned by the study design. The second departure from expectations was the inappropriate use of short-form questionnaires: 6.2 percent of the pre-election interviews and 8.4 percent of the post election interviews employed short-form questionnaires. Most of these short-form interviews were also not envisioned by the study design. Taken altogether, 86 percent of the 1992 interviews were administered as originally envisioned by study design; 14 percent were not.

This technical report assesses the practical consequences for the quality of the 1992 NES data that result from these two deviations from study specifications. Our analysis is organized around two central questions.

- Did the administration over the telephone of questions designed for face-to-face interviewing reduce the quality of the 1992 data?

- Are data for questions that appear on the full-length questionnaire, but not on the short-form, biased because a non-random set of respondents were administered the short-form questionnaire?
Our findings can be summarized as follows:

- 1992 NES respondents questioned over the telephone were for the most part indistinguishable on political grounds from those questioned face-to-face. In scores of tests, phone respondents proved to be neither more nor less Democratic; neither more nor less conservative; neither more nor less preoccupied with political matters; neither more nor less active in public affairs. Telephone respondents were distinctive on demographic grounds, however: they were better-educated, more affluent, and of higher status.

- The same conclusion applies to the contrast between those interviewed with the short-form and those interviewed with the full-length questionnaire. Short-form respondents were politically indistinguishable from respondents interviewed with the full-length questionnaire, though short-form respondents were better-educated and more affluent.

- The missing data introduced by the excessive use of the short-form questionnaire produced a very slight increase (less than .05 percentage points) in the standard errors of the questions that did not appear on the short-form questionnaire. In addition, because the wealthy were more likely to be administered the short-form questionnaires, the missing data are not random with respect to income. Responses to questions included only on the full-length questionnaire have a small (.2 to .3 percentage point) downward class bias.

- The main determinants of respondents being interviewed by telephone instead of face-to-face, and with the short-form questionnaires instead of the full-length questionnaires, had to do with indications of recalcitrance on the part of respondents and aspects of field administration of the study. Initial refusals, broken appointments, multiple contacts all increased the probability that interviewers abandoned in-person interviews and full-length questionnaires. Over and above these effects, as the interviewing period drew to a close, interviewers grew more and more likely to turn to the telephone and the short-form. Finally, some supervisors permitted many more phone and short-form interviews than did others. In contrast, the political and social attributes of respondents (their trust, altruism, social connectedness, engagement in politics or the campaign, their demographic characteristics) proved quite irrelevant to predicting which would be interviewed over the phone or with the short-form. The assignment process was certainly not random, but it was random with respect to characteristics of respondents that we care the most about: their political views, interests, and activities.

- Some questions work differently over the phone than face-to-face. Most significantly, phone respondents were more likely than those interviewed face-to-face to respond "don't know" to the Congressional vote question, to report voting for a Republican congressional candidate, to evaluate political figures less warmly, and to offer less verbose answers to open-ended questions. All these mode effects are significant, but because *only* 11.2 percent of the pre-election and 21.0 percent of the post-election interviews were conducted by telephone, their impact on the total sample is small.

- Responses to questions asked over the telephone without benefit of showcards are sometimes different from those obtained from questioning the respondent face-to face with showcards in hand. Different, but not necessarily worse: use of the telephone did not lead to systematic deterioration in data quality.

References

Bloom, Joel D. 1991. "Sources of Pro-Incumbent Bias in NES Survey Estimates for U.S. House Races Since 1978: A Second Look." NES Technical Report, March 20, 1991.

Brehm, John. 1987. "Sample Mode Bias in the National Election Studies: A Report on the 1982 Method Comparison Project." Presented at the International Conference on Telephone Survey Methodology, Charlotte.

Brehm, John. 1990. *Opinion Surveys and Political Representation*. Ph.D. Dissertation, University of Michigan.

Downes-Le Guin, Theodore. 1990. "Nonresponse in the 1988 National Election Studies." Unpublished Paper, Institute for Social Research.

Goyder, J. 1987. *The Silent Minority: Nonrespondents on Sample Surveys*. Boulder, CO: Westview.

Groves, Robert M. 1989. *Survey Errors and Survey Costs*. New York: John Wiley and Sons.

Groves, Robert M., Robert B. Cialdini, and Mick P. Couper. 1992. "Understanding the Decision to Participate in a Survey." *Public Opinion Quarterly* 56: 475-495.

Groves, Robert M., and Robert L. Kahn. 1979. *Surveys by Telephone: A National Comparison with Personal Interviews*. New York: Academic Press.

Jacobson, Gary, and Douglas Rivers. 1993. "Explaining the Overreport of Vote for Incumbents in the National Election Studies." Paper presented at the Annual Meeting of the Western Political Science Association, Pasadena, CA. March 19-20, 1993

National Election Studies Staff. 1985a. Memo to the National Election Studies Board of Overseers on Rolling Cross-Section. February.

National Election Studies Staff. 1985b. Unpublished Analysis of Mode Differences in 1984 Pre/Post National Election Study. Ann Arbor: Center for Political Studies, Institute for Social Research, July.

Shanks, Merrill J., Maria Sanchez, and Betsy Morton. 1983. "Alternative Approaches to Survey Data Collection for the National Election Studies: A Report on the 1982 National Election Studies Method Comparison Project." Report to the National Election Studies Board of Overseers, 15 March, 1983.

Shanks, Merrill J., Maria Sanchez, Betsy Morton, Giovanna Morchio, Alice Hayes, and Southward Swede. 1984. "Study Description and Analysis Codebook for the 1982 National Election Studies Method Comparison Project." Inter-University Consortium for Political and Social Research Study #8233, Spring 1984.

Wright, Gerald C. 1993. "Errors in Measuring Vote Choice in the National Election Studies, 1952-1988." *American Journal of Political Science* 37: 291-316.

Appendix: Coding of Variables

I. VARIABLES USED IN THE BIVARIATE AND MULTIVARIATE ANALYSES (TABLES 1-11)

Mode and Questionnaire Used in Interview

Pre-Election

Panel

Mode	Questionnaire	Variables
FTF	Full	(v3011=1 and v3031=1) or (v3011=6 and v3031=1)
Phone	Short	(v3011=3 and v3031=2) or (v3011=6 and v3031=2)
Phone	Full	(v3011=1 and v3031=2)

Fresh Cross-Section

Mode	Questionnaire	Variables
FTF	Full	(v3011=2 and v3031=1) or (v3011=7 and v3031=1)
Phone	Short	(v3011=4) or (v3011=7 and v3031=2)
Phone	Full	(v3011=2 and v3031=2)

Post-Election

Panel Respondents

Mode	Questionnaire	Variables
FTF	Full	(v5002=1 and v5003=1)
Phone	Short	(v5002=3 and v5003=2)
Phone	Full	(v5002=1 and v5003=2)

Fresh Cross-Section

Mode	Questionnaire	Variables
FTF	Full	(v5002=2 and v5003=1)
Phone	Short	(v5002=4 and v5003=2)
Phone	Full	(v5002=2 and v5003=2)

For some of the analyses, the phone interviews conducted using the short form questionnaire are divided between those that are "legitimate short-form" (those permitted by the study design) and "other short-form" (those not envisioned by the study design). In the Pre-Election study, phone interviews are considered legitimate under two circumstances: with panel respondents who have moved outside of current interviewing areas, and with respondents who needed to be interviewed in Spanish, but could not be interviewed face to face.

In the Post-Election Study, legitimate phone interviews consist of panel respondents who had moved outside of current interviewing areas in the Pre-Election study, as well as respondents who had moved outside of range between the Pre and Post. Overall, there are six cases in which respondents were interviewed face to face in the pre, but who received the short-form of the questionnaire over the phone in the post because they had moved. After examining the coversheets of these six cases, we determined that five of the six cases had indeed moved outside of current interviewing areas and were therefore legitimate phone interviews. Legitimate telephone interviews are identified as follows:

Panel -- Pre-Election
Phone Short
Legitimate Short Form (v3071=2,3 and v3031=2 and v3011=3) or
(v3071=0 and v3031=2 and v3011=6)

Other Short Form (v3071=0,1 and v3031=2 and v3011=3)

Panel -- Post-Election
Phone Short
Legitimate Short Form (v3071=2 and v5003=2 and v5002=3) or
(v3004=2238,2243,2497,2773,3204)

Other Short Form (v3071=0 and v5003=2 and v5002=3 and v3004 ne 2243 and v3004 ne 2773) or
(v3071=1 and v5003=2 and v5002=3 and v3004 ne 2238 and v3004 ne 2497 and v3004 ne 3204)

Political Outlook

Presidential Vote: v5609
Vote for the House of Representatives: v5623
Respondents who said "don't know" to v5621 were recoded as "don't know" in v5623
Thermometer Rating of Bush: v3305
Thermometer Rating of Clinton: v3306
Thermometer Rating of Perot: v3307
Party Identification: v3634
Trust in Government: v6120 to v6123
Items were recoded in the same direction, and a scale was created by calculating the mean score of each respondent on the four items.
Liberal/Conservative Self Placement: v3513
Opinion on Government Services: v3701
Opinion on Government Spending on Social Welfare Programs: v3725, v3726,v 3730, v3811, v3813, v3816 to v3819
For each item, respondents were coded '1' if they favored an increase in spending, and '0' otherwise. A scale was created by calculating the mean score of each respondent on the nine items.
Opinion on Government Providing Jobs and a Standard of Living: v3718
Opinion on Government Health Insurance Plan: v3716
Opinion on Defense Spending: v3707
Opinion on Government Helping Blacks: v3724
Opinion on Affirmative Action in Hiring: v5936
Opinion on Pace of Civil Rights: v5929
Opinion on Laws to Protect Homosexuals Against Discrimination: v5924
Opinion on Death Penalty: v5934
Opinion on Government Funding of Abortion: v3738

Political Engagement

Attention to Political Campaigns (Pre-Election): v3101
Attention to Political Campaigns (Post-Election): v5102
Frequency of Following Government and Public Affairs: v5721

Number of Programs About Campaigns Watched on TV: v5103,v5104
Frequency of Discussing Politics with Family and Friends: v5105, v5106
Care Who Wins the Presidential Election: v3106
Turnout in November Elections: v5601
Electoral Participation Scale: v5807, v5810, v5812, v5815, v5817
For each item, respondents were coded '1' if they reported participating in the activity and '0' otherwise. A scale was created by computing the mean score of each respondent to the five items.
Political Information Scale: v5916 to v5921, v5951, v5952
For each item, respondents were coded '1' if they gave the correct response, and '0' if they gave either a wrong response or said "Don't Know." A scale was created by computing the mean score of each respondent on the eight items.
Political Competence Scale: v6104 to v6108
Items were recoded in the same direction, and a scale was created by computing the mean score of each respondent on the five items.

Other Political and Social Characteristics of Respondents

Trust in People: v6139
Helpfulness of People: v6140
Altruism Scale: v6138, v6143, v6145
For each item, respondents were coded '1' if they reported engaging in the altruistic behavior and '0' otherwise. A scale was created by computing the mean score of each respondent on the three items.
Social Connectedness Scale: v6141, v6144
For each item, respondents were coded '1' if they reported being socially connected, and '0' otherwise. A scale was created by computing the mean score of each respondent on the two items.

Social Location

Gender: v4201
Education: v3908
Family Income: v4104
Employment Status: v3915
Occupation: v3922
Number of Hours Worked at Job: v3927
Years Lived at Current Address: v4134
Financial Situation Compared to One Year Ago: v3426
Age: v3903
Race: v4202
Region: v3017

Recalcitrant Respondents (Pre-Election)

Refusal Conversion Required: v3047
Respondent Payment Paid: v3051
Persuasion Letter Requested: v3048
Total Number of Contacts: v3032
Gatekeeper Cooperation Necessary for Access to Housing Unit: v3045
Initial Refusal by Respondent: v3052
Respondent Broke Appointment: v3053

Respondent's Level of Suspicion about Study Before Interview: v4207
Respondent's Interest in Interview: v4208

Recalcitrant Respondents (Post-Election)

Refusal Conversion Required: v5023
Respondent Payment Paid: v5026
Persuasion Letter Requested: v5024
Total Number of Contacts: v5011
Initial Refusal by Respondent: v5027
Respondent Broke Appointment: v5028
Respondent's Cooperation: v6249

Field Administration

Release Date of Pre-Election Sample: v3024
Number of Weeks into Field Period
  Pre-Election: v3025, v3026
  Post-Election: v5005, v5006
Respondent Telephone Number Obtained
  Pre-Election: v3038
  Post-Election: v5018
Respondent Moved Outside of Interviewing Area: v3071
  Respondents living at sample label address (originally coded '0') were recoded as within range ('1')
Supervisor Identification
  Pre-Election: v3084
  Post-Election: v5037

General Notes

-- "Don't Know" and "NA" response categories are treated as missing data, with the exception of the Political Information Scale and the analysis comparing use of "Don't Know" across modes.

-- For each scale described above, respondents who are missing on half or more of the individual items are excluded from the analysis.

-- For the multivariate analysis, all variables were coded on the zero-to-one interval, with the exception of age, years lived at current address, total number of contacts, and number of weeks into field period -- which were left in their natural metric.

II. ADDITIONAL VARIABLES USED IN ASSESSING THE QUALITY OF THE DATA ACROSS MODES (TABLES 12-19)

Seven Point Scales

Liberal/Conservative Placement of Self, Presidential Candidates and Political Parties: v3509, v3514 to v3518
Placement of Self on 6 other scales: v3701, v3707, v3716, v3718, v3724, v3801
Stereotypes of Blacks: v6222, v6226, v6230

Stereotypes of Asians: v6223, v6227, v6231
Stereotypes of Hispanics: v6224, v6228, v6232

Response Options Only Displayed on the Showcard

Vote for the House: v5623
Respondents who said "don't know" to v5621 were recoded as "don't know" in v5623
Social Groups Respondent Feels Close To: v6201 to v6216
Social Group Feels Closest To: v6218

Five or More Response Options

Equality of Opportunity Items: v6024 to v6029
Racial Prejudice Items: v6126 to v6129
Moral Traditionalism Items: v6115 to v6119
Feeling Thermometers:
14 Political Leaders/Parties (Pre-Election): v3305 to v3318
40 Political Leaders/Groups (Post Election): v5301 to v5340
American Values: v3520 to v3523
Political Competence: v6104 to v6108
Bush's Character: v3635 to v3643
Clinton's Character: v3644 to v3652

Elaborate Response Options

Abortion Rights Placement of Self and Presidential Candidates: v3732, v3733, v3734
Prayer in the Schools: v5945

Strength of Relationship Between Potentially Affected Questions and Other Political Variables

Feels U.S. Should Maintain Position as World's Leading Military Power: v3603
Opinion on Affirmative Action in Hiring: v5936
Opinion on Homosexuals Serving in the Military: v5926

Social Desirability

Plans to Vote: v3804
Reported Voting: v5601
Reported Registered to Vote: v5602
Respondents who reported voting in v5601 were recoded as "registered" in v5602
Six Minority Groups: v5318, v5323, v5327, v5331, v5335, v5339
Supports Rights of Homosexuals: v5924, v5926, v5928
Opinion on the Increasing Number of Asians and Hispanics: v6236 to v6241
Opinion on Sexual Harassment: v3741

Open-Ended Questions

Presidential Candidate Likes/Dislikes: v3110 to v3114, v3116 to v3120, v3122 to v3126, v3128 to v3132, v3134 to v3138, v3140 to v3144
Party Likes/Dislikes: v3402 to v3406, v3408 to v3412, v3414 to v3418, v3420 to v3424
House Candidate Likes/Dislikes: v5402 to v5406, v5408 to v5412, v5414 to v5418, v5420 to v5424
Most Important Issues in House Campaign in Respondent's District: v5425 to v5427
Most Important Problem Facing the Country: v5722 to v5724
Differences Between the Political Parties: v5903,v5905, v5907, v5909, v5911, v5913
Meanings of the term Liberal and Conservative: v6109 to v6114

For the analysis on open-ended questions, the number of valid responses was counted across each of the seven sets of variables

Table 1

Use of Telephone Interviews and Short-Form Questionnaires in the 1992 National Election Study

Panel Respondents

Mode	Questionnaire	Pre-Election		Post-Election	
Face-To-Face	Full	1155#	84.8%	951	76.1%
Phone	Short	149*	11.0%	186*	14.9%
Phone	Full	57	4.2%	113	9.0%
subtotal		1361	100.0%	1250	100.0%

Cross-Section Respondents

Mode	Questionnaire	Pre-Election		Post-Election	
Face-To-Face	Full	1053##	93.6%	830	82.6%
Phone	Short	5**	.4%	4	.4%
Phone	Full	68	6.0%	171	17.0%
subtotal		1126	100.0%	1005	100.0%

Total Respondents

Mode	Questionnaire	Pre-Election		Post-Election	
Face-To-Face	Full	2208	88.8%	1781	79.0%
Phone	Short	154	6.2%	190	8.4%
Phone	Full	125	5.0%	284	12.6%
total		2487	100.0%	2255	100.0%

* Included here are 42 pre-election and 46 post-election respondents who no longer resided in current interviewing areas and 1 respondent in the pre-election who needed to be interviewed in Spanish over the phone.

** Included here is 1 respondent interviewed face-to-face with the short-form questionnaire and 1 respondent interviewed in Spanish over the phone.

\# Included here are 16 respondents interviewed face-to-face in Spanish.

Included here are 4 respondents interviewed face-to-face in Spanish.

Table 2

Use of Telephone and Face-to-Face Interviews in the Pre-Election and Post-Election Studies for Panel and Cross-Section Respondents

Mode of Interview Used in Pre-Election Interview	Mode of Interview Used in Post-Election Interview: Face-to-Face	Telephone	
Panel Respondents			
Face-to-Face	87%	13%	100% (1073)
Telephone	12%	88%	100% (177)
Cross-Section Respondents			
Face-to-Face	85%	15%	100% (947)
Telephone	45%	55%	100% (58)

Table 3

Use of Short-Form and Full-Length Questionnaires in the Pre-Election and Post-Election Studies for Panel Respondents

Form of Questionnaire Used in Pre-Election Interview	Form of Questionnaire Used in Post-Election Interview		
	Full-Length	Short-Form	
Full-Length	92%	8%	100% (1122)
Short-Form	28%	72%	100% (128)

Table 4

Comparing Respondents Interviewed by Telephone and Respondents Interviewed Face-to-Face

	PANEL RESPONDENTS				CROSS-SECTION RESPONDENTS			
	Pre-Election		Post-Election		Pre-Election		Post-Election	
	Face-to-Face	Phone	Face-to-Face	Phone	Face-to-Face	Phone	Face-to-Face	Phone
POLITICAL OUTLOOK								
Voted for Clinton	49	48	48	49	47	46	47	47
Voted for a Democrat for the House	62	48**	63	51**	55	56	56	50
Disapproves of Bush Handling of Job as President	57	59	57	59	57	57	56	60
High Thermometer Rating of Bush	19	21*	19	20	18	25	18	21
High Thermometer Rating of Clinton	22	25*	23	22	20	19	20	18
High Thermometer Rating of Perot	20	22*	20	24*	21	22	20	27
Democratic Party Identification	54	52	54	52	50	43	48	52*
High Trust in Government	25	25	24	28	24	22	23	25
Identifies as Liberal	34	38	33	41*	37	32**	36	41
Favors More Government Services	36	47	35	43	36	39	37	36
Favors More Government Spending on Social Welfare Programs	28	23**	27	22*	25	26	26	22
Favors Government Providing Jobs and a Standard of Living	29	29	29	30	30	40	31	31
Favors Government Health Insurance Plan	50	52	50	54	53	61	52	55
Favors Decrease in Defense Spending	47	50	47	47	47	46	48	49
Favors Government Helping Blacks	23	24	23	25	22	21*	22	20
Favors Affirmative Action in Hiring	22	20	22	19	19	9	19	15
Feels Civil Rights is Moving Too Slowly	16	23*	16	20	18	22	18	16
Favors Laws to Protect Homosexuals Against Discrimination	57	61	56	61	64	60	65	60
Opposes Death Penalty	21	18	21	20	21	13	21	18
Favors Government Funding of Abortion	48	54**	48	57**	52	55	54	46*

Note: The cell entry is the percentage of respondents for each mode of interviewing (appearing as columns) that had the characteristic displayed in that row of the table. For example, of the pre-election panel respondents, 49 percent of those interviewed face-to-face voted for Clinton as did 48 percent of those interviewed by telephone.

* $p < .10$
** $p < .05$

Table 4 (Continued)

	PANEL RESPONDENTS				CROSS-SECTION RESPONDENTS			
	Pre-Election		Post-Election		Pre-Election		Post-Election	
	Face-to-Face	Phone	Face-to-Face	Phone	Face-to-Face	Phone	Face-to-Face	Phone
POLITICAL ENGAGEMENT								
Paid a Lot of Attention to Political Campaign (Pre-Election Measure)	37	37	37	37*	40	52	42	42
Paid a Lot of Attention to Political Campaign (Post-Election Measure)	50	42**	50	44	49	49	49	48
Follows Government and Public Affairs Most of the Time	26	21**	26	23	28	27	28	26
Watched Many TV Programs About the Campaign	34	27	35	26**	31	32	32	27
Discussed Politics at Least Three Times a Week	28	32	29	26	30	19*	30	28*
Cared a Good Deal Who Wins Presidency	74	78	74	78	76	80	77	77
Voted	74	77	74	77	76	83	76	80
High on Electoral Participation Scale	9	13	9	12	11	8	10	15*
High on Political Information Scale	29	24**	30	25	33	29	33	29
High on Political Competence Scale	11	10	11	9	11	8	11	13
SOCIAL LOCATION								
Men	46	47	47	44	46	51	46	49
College Educated	27	30**	26	30**	33	34	32	42**
Top-Fifth of Income Distribution	20	32**	19	29**	29	34	27	37**
Employed	58	73**	58	70**	63	70	61	75**
Professional Occupation	17	25**	17	22**	21	20	20	25**
Lived in House 4 or More Years	66	47**	67	54**	58	59	59	50
Better Off Financially Than One Year Ago	29	34	29	34	31	29**	30	36
Aged 65+	22	9**	24	8**	18	17	19	10**
White	85	83	84	87	85	84	85	86

* $p < .10$
** $p < .05$

Table 4 (Continued)

	PANEL RESPONDENTS				CROSS-SECTION RESPONDENTS			
	Pre-Election		Post-Election		Pre-Election		Post-Election	
	Face-to-Face	Phone	Face-to-Face	Phone	Face-to-Face	Phone	Face-to-Face	Phone
SOCIAL LOCATION (Con't)								
East	19	19**	17	24**	19	22**	18	19
Midwest	27	32	29	24	25	40	29	21
South	36	25	38	25	37	19	35	39
West	18	24	16	27	19	18	18	21

* $p < .10$
** $p < .05$

Table 5

Comparing Respondents Interviewed with the Short-Form Questionnaire and Respondents Interviewed with the Full-Length Questionnaire (Panel Respondents only)

	Pre-Election		Post-Election	
	Full-Length	Short-Form	Full-Length	Short-Form
POLITICAL OUTLOOK				
Voted for Clinton	49	45	49	49
Voted for a Democrat for the House	62	47**	62	50**
Disapproves of Bush Handling of Job as President	58	53	58	55
High Thermometer Rating of Bush	18	25	19	23
High Thermometer Rating of Clinton	22	26*	23	25
High Thermometer Rating of Perot	20	24**	21	26
Democratic Party Identification	54	52	54	52**
High Trust in Government	25	27	24	30
Identifies as Liberal	34	38	34	42
Favors More Government Services	37	48	35	46
Favors More Government Spending on Social Welfare Programs	28	22	28	19
Favors Government Providing Jobs and a Standard of Living	29	29	30	29
Favors Government Health Insurance Plan	49	54	50	52
Favors Decrease in Defense Spending	47	52	47	49
Favors Government Helping Blacks	23	25	23	23*
Favors Affirmative Action in Hiring	22	23	22	18
Feels Civil Rights is Moving Too Slowly	17	24	17	21
Favors Laws to Protect Homosexuals Against Discrimination	57	62	56	62
Opposes Death Penalty	21	18	22	18
Favors Government Funding of Abortion	49	51*	48	57**
POLITICAL ENGAGEMENT				
Paid a Lot of Attention to Political Campaign (Pre-Election Measure)	37	37	37	38*
Paid a Lot of Attention to Political Campaign (Post-Election Measure)	50	38**	50	44*
Follows Government and Public Affairs Most of the of the Time	26	22	25	27
Watched Many TV Programs About the Campaign	34	26	35	23**

Note: The cell entry is the percentage of respondents for each form of the questionnaire (appearing as columns) that had the characteristic displayed in that row of the table. For example, of the pre-election panel respondents, 49 percent of those interviewed with the full-length questionnaire voted for Clinton as did 45 percent of those interviewed with the short-form.

* $p < .10$

** $p < .05$

Table 5 (Continued)

	Pre-Election		Post-Election	
	Full Length	Short-Form	Full-Length	Short-Form
POLITICAL ENGAGEMENT (Con't)				
Discussed Politics at Least Three Times a Week	28	30	28	29*
Cared a Good Deal Who Wins Presidency	75	77	74	82**
Voted	74	77	74	77
High on Electoral Participation Scale	9	15	9	14*
High on Political Information Scale	29	26*	29	27
High on Political Competence Scale	11	8*	11	8
SOCIAL LOCATION				
Men	46	47	46	46
College Educated	27	30**	26	32**
Top-Fifth of Income Distribution	20	32**	20	30**
Employed	59	73**	59	73**
Professional Occupation	18	24**	17	25**
Lived in House 4 or More Years	66	44**	67	45**
Better Off Financially Than One Year Ago	29	33	29	37
Aged 65+	22	10**	23	7**
White	85	82	83	9
East	19	19**	19	17**
Midwest	28	22	28	24
South	35	31	37	22
West	18	28	16	37

* $p < .10$
** $p < .05$

Table 6

Factors Associated with Being Interviewed by Telephone

	Phone Interviews with Panel Respondents		Phone Interviews with Cross-section Respondents	
	Pre-Election	Post-Election	Pre-Election	Post-Election
POLITICAL AND SOCIAL CHARACTERISTICS OF RESPONDENTS				
Trust in People				
Can't be too careful	13	21*	5	15*
Most people can be trusted	15	27	7	20
Helpfulness of People				
People just look out for themselves	14	22	5	15
People try to be helpful	14	25	6	19
Altruism Scale				
Low	11	21	5	12
2	15	24	7	17
3	16	25	5	18
High	12	24	7	20
Social Connectedness Scale				
Low	18	29	8	18
Medium	13	22	5	16
High	12	24	6	20
Attention to Political Campaigns (Pre-Election)				
Not much interested	12	18	6*	15
Somewhat interested	16	26	5	18
Very interested	15	24	8	18
Frequency of Following Government and Public Affairs				
Hardly at all	12	24**	6	14
Only now and then	12	24	6	17
Some of the time	18	25	6	19
Most of the time	12	22	6	16
Attention to Political Campaigns (Post Election)				
Not much interested	12*	22	8	13
Somewhat interested	17	27	5	19
Very interested	12	22	6	17

Note: The cell entry is the percentage of respondents within each category of the row variable interviewed by telephone. For example, among panel respondents in the pre-election who said "can't be too careful" to the question asking whether they trusted other people, 13% were interviewed by telephone; the remaining 87 percent were interviewed face-to-face.

* $p < .10$

** $p < .05$

Table 6 (Continued)

	Phone Interviews with Panel Respondents		Phone Interviews with Cross-section Respondents	
	Pre-Election	Post-Election	Pre-Election	Post-Election
Number of Programs about Campaigns Watched on TV				
None	14	24*	4	18
Just one or two	16	29	9	20
Several	16	26	5	18
A good many	12	18	6	15
Frequency of Discussing Politics with Family and Friends				
Never	10	22*	7*	21**
Less than once or twice a month	13	26	5	13
Once or twice a month	16	26	8	20
3 or 4 times a week	16	23	6	20
Every Day	15	21	1	11
Care Who Wins the Presidential Election				
Don't care very much	14	20*	6	17
Care a good deal	16	25	7	17
Turnout in November Elections				
Did not vote	13	22	4	15
Voted	15	25	6	18
Electoral Participation Scale				
Low	13	24	5	17**
Medium	14	22	8	15
High	19	29	5	25
Political Information Scale				
Low	11	24	4	17
Medium	16	26	7	19
High	12	21	5	15
Political Competence Scale				
Low	14	26	4	14
2	12	21	7	17
3	17	26	6	18
High	13	20	4	21
Trust in Government Scale				
Low	13	22	5	16
Medium	15	23	7	18
High	14	27	6	19

* $p < .10$
** $p < .05$

Table 6 (Continued)

	Phone Interviews with Panel Respondents		Phone Interviews with Cross-section Respondents	
	Pre-Election	Post-Election	Pre-Election	Post-Election
Gender				
Women	15	25	6	16
Men	15	23	7	18
Education				
Less than high school degree	10	15**	5	10**
High school degree	17	26	6	16
College or advanced degree	17	26	6	21
Family Income Distribution				
Bottom fifth (1)	9**	16**	1*	8**
(2)	14	21	6	12
(3)	13	24	5	20
(4)	14	23	8	19
Top fifth (5)	21	32	6	22
Employment Status				
Not employed	10**	18**	5	12**
Employed	18	28	7	21
Occupation				
Unemployed	10**	17**	5*	11**
Service	20	32	3	17
Machine operators/laborers	17	22	11	20
Technicians/sales/admin. support	15	30	7	22
Professional	21	28	6	21
Number of Hours Worked at Job				
51 +	22**	30**	6	19**
41-50	13	24	7	26
40	20	30	8	18
20-39	18	25	7	19
1-19	15	27	4	20
0	10	17	5	11
Length of Time Lived at Current Residence				
Less than 6 months	27**	34**	4	22
6-12 months	30	40	9	21
2-3 years	14	22	6	18
4+ years	11	20	7	15

* $p < .10$
** $p < .05$

Table 6 (Continued)

	Phone Interviews with Panel Respondents		Phone Interviews with Cross-section Respondents	
	Pre-Election	Post-Election	Pre-Election	Post-Election
Financial Situation Compared to 1 Year Ago				
Worse off	14**	23*	7**	17
Same	14	22	6	15
Better off	17	27	6	20
Age				
18-29	25**	35**	7	18
30-44	17	26	6	20
45-64	12	24	6	18
65+	7	10	6	10
Race				
Other	18	20	0	12
Black	16	20	8	18
White	15	25	6	18
Region				
East	15**	31**	8**	18
Midwest	18	21	10	13
South	11	17	4	19
West	19	34	6	20
RECALCITRANT RESPONDENTS (PRE-ELECTION)				
Refusal Conversion Required				
Yes	29*	34	36**	30
No	15	24	6	17
Respondent Payment Paid				
Yes	26**	32	22**	17
No	14	23	5	17
Persuasion Letter Requested				
Yes	28**	32**	23**	24
No	14	23	5	17
Total Number of Calls				
7+	31**	32**	19**	28**
5, 6	20	32	8	22
3, 4	15	27	5	16
1, 2	5	14	1	12

\# Less than 0.5%
* $p < .10$
** $p < .05$

Table 6 (Continued)

	Phone Interviews with Panel Respondents		Phone Interviews with Cross-section Respondents	
	Pre-Election	Post-Election	Pre-Election	Post-Election
Gatekeeper Cooperation Necessary for Access to Housing Unit				
Yes	27**	32*	17**	22
No	12	22	6	17
Initial Refusal by Respondent				
Yes	27**	34**	18**	26**
No	13	22	5	16
Respondent Broke Appointment				
Yes	30**	37**	17**	25
No	13	22	5	17
Respondent's Level of Suspicion About Study Before Interview				
Very suspicious	40	44	30**	29
Somewhat suspicious	17	19	7	16
Not at all suspicious	15	24	6	17
Respondent's Interest in Interview				
Low	17	24*	14**	20
Average	18	26	8	18
High	13	23	4	16
Respondent's Cooperation in the Study				
Poor	22**	29	0**	24
Fair	24	29	12	16
Good	14	24	6	17
RECALCITRANT RESPONDENTS (POST-ELECTION)				
Refusal Conversion Required				
Yes	-	43	-	47**
No	-	24	-	17
Respondent Payment Paid				
Yes	-	30*	-	22**
No	-	22	-	16
Persuasion Letter Requested				
Yes	-	33	-	48**
No	-	24	-	17

* $p < .10$
** $p < .05$

Table 6 (Continued)

	Phone Interviews with Panel Respondents		Phone Interviews with Cross-section Respondents	
	Pre-Election	Post-Election	Pre-Election	Post-Election
Total Number of Calls				
7+	-	43**	-	40**
5,6	-	30	-	32
3,4	-	22	-	13
1,2	-	17	-	7
Initial Refusal by Respondent				
Yes	-	28	-	26**
No	-	24	-	16
Respondent Broke Appointment	-			
Yes	-	41**	-	33**
No	-	21	-	15
FIELD ADMINISTRATION				
Release Date of Pre-Election Sample				
Release 1 (Sept. 1)	13	-	4**	-
Release 2 (Oct. 1)	18	-	9	-
Number of Weeks Into Field Period				
10/11	-	38**	-	53**
9	41**	52	22**	50
8	34	51	11	43
7	17	49	6	34
6	8	34	6	16
5	11	23	3	15
4	15	31	0	12
3	7	16	4	10
2	3	9	0	8
1	0	5	0	1
Respondent Telephone Number Obtained				
Yes	16	25**	7	18**
No	7	5	1	4
Respondent Moved Outside Interviewing Area				
Yes	93**	100**	-	-
No	12	21	-	-

* $p < .10$
** $p < .05$

Table 6 (Continued)

	Phone Interviews with Panel Respondents		Phone Interviews with Cross-section Respondents	
	Pre-Election	Post-Election	Pre-Election	Post-Election
Supervisor				
Supervisor 3	24**	39**	10**	20**
Supervisor 8	26	28	7	20
Supervisor 4	17	47	2	28
Supervisor 10	20	20	16	10
Supervisor 1	17	20	5	11
Supervisor 5	14	23	12	18
Supervisor 2	12	30	9	17
Supervisor 6	16	25	6	21
Supervisor 7	11	9	8	0
Supervisor 9	9	13	2	19
Supervisor 11	6	21	3	13

\# Less than 0.5%
* $p < .10$
** $p < .05$

Table 7

Determinants of Being Interviewed by Telephone
(Probit Coefficients and Standard Errors in Parentheses)

	Pre-Election Study		Post-Election Study	
	Panel	Cross-Section	Panel	Cross-Section
Political and Social Characteristics of Respondents				
Age	-.007 (.004)		-.010 (.003)	
Income	.91 (.26)			.60 (.25)
Years at current address (log)				-.12 (.05)
Trust others			.32 (.10)	.29 (.12)
Resides in the Midwest			-.47 (.14)	
Recalcitrant Respondents (Pre-Election)				
Number of contacts (log)	.37 (.11)	.61 (.12)	.31 (.08)	.15 (.08)
Gatekeeper	.85 (.28)	.49 (.27)		
Initial refusal	.48 (.15)	.55 (.16)	.42 (.14)	.39 (.17)
Broken appointment	.67 (.26)			
Recalcitrant Respondents (Post-Election)				
Number of contacts (log)				.37 (.11)
Broken appointment			.46 (.20)	.38 (.23)

Table 7 cont'd	Pre-Election Study		Post-Election Study	
	Panel	Cross-Section	Panel	Cross-Section
Field Administration				
Telephone number obtained for respondent	.29 (.32)	.95 (.49)	1.10 (.30)	.75 (.40)
Respondent moved outside interviewing area	2.53 (.35)		5.00 (2.54)	
Number of weeks into the field period (log)	.79 (.16)	.69 (.20)	.73 (.09)	.71 (.14)
Supervisor 1	.55 (.19)			
Supervisor 2		.56 (.21)	.31 (.17)	
Supervisor 3	.70 (.18)	.53 (.20)	1.03 (.15)	.33 (.18)
Supervisor 4			.83 (.23)	.61 (.25)
Supervisor 5	.53 (.20)	.97 (.24)	.60 (.15)	
Supervisor 6	.34 (.25)			.44 (.20)
Supervisor 8	.75 (.26)			
Supervisor 9				.59 (.15)
Supervisor 10	.72 (.29)	.66 (.34)		
Constant	-4.30	-4.97	-3.30	-4.11
Number of Cases	1163	1053	1191	873
R^2	.44	.51	.48	.50

Table 8

Determinants of Being Interviewed by Telephone (Probit Coefficients Converted to Probabilities and Expressed as Percentages)

	Pre-Election Study		Post-Election Study	
	Panel	Cross-Section	Panel	Cross-Section
Political and Social Characteristics of Respondents				
Age	-6%		-15%	
Income	11%			11%
Years at current address (log)			- 9%	
Trust others			7%	6%
Resides in the Midwest			- 9%	
Recalcitrant Respondents (Pre-Election)				
Number of contacts (log)	18%	29%	24%	11%
Gatekeeper	15%	6%		
Initial Refusal	7%	6%	10%	9%
Broken Appointment	11%			
Recalcitrant Respondents (Post-Election)				
Number of contacts (log)				30%
Broken Appointment			11%	9%
Field Administration				
Telephone number obtained for respondent	3%	5%	16%	11%
Respondent moved outside interviewing area	61%		80%	
Number of weeks into the field period (log)	15%	9%	36%	30%

Table 8 cont'd

	Pre-Election Study		Post-Election Study	
	Panel	Cross-Section	Panel	Cross-Section
Field Administration (cont'd)				
Supervisor 1	6%			
Supervisor 2		6%	6%	
Supervisor 3	9%	5%	24%	6%
Supervisor 4			19%	13%
Supervisor 5	6%	12%	13%	
Supervisor 6	4%			9%
Supervisor 8	9%			
Supervisor 9				12%
Supervisor 10	9%	7%		

Table 9

Factors Associated with Being Interviewed with the Short-Form Questionnaire (Panel Respondents Only)

	Pre-Election			Post-Election		
	Legimate Short-Form	Other Short-Form	Other Full-Length	Legimate Short-Form	Other Short-Form	Other Full-Length
POLITICAL AND SOCIAL CHARACTERISTICS OF RESPONDENTS						
Trust in People						
Can't be too careful	2	7	4	3	11	7*
Most people can be trusted	4	8	4	4	12	10
Helpfulness of People						
People just look out for themselves	3	7	4	4	11	8
People try to be helpful	3	8	4	4	12	9
Altruism Scale						
Low	1	6	4	3	8	10
2	3	9	4	4	13	8
3	3	7	5	4	10	10
High	4	7	1	4	11	8
Social Connectedness Scale						
Low	6	8	4	6	11	12
Medium	2	7	4	3	11	8
High	3	7	3	3	11	9
Attention to Political Campaigns (Pre-Election)						
Not much interested	4	4	4	2	8	9
Somewhat interested	3	9	4	4	13	10
Very interested	3	8	4	4	11	8
Frequency of Following Government and Public Affairs						
Hardly at all	4	5	3	3	9	13**
Only now and then	2	7	3	1	11	12
Some of the time	3	9	5	4	13	9
Most of the time	3	6	2	5	11	5
Attention to Political Campaigns (Post Election)						
Not much interested	3	8	2*	3	9	10
Somewhat interested	3	10	4	4	14	9
Very interested	3	5	4	4	10	9

Note: The cell entry is the percentage of respondents within each category of the row variable that fell into a particular mode and form of interviewing. For example, among panel respondents who said "can't be too careful" to the question asking whether they trusted other people, 2 percent of the pre-election respondents had moved outside of the current interviewing area and were interviewed by phone using the short-form questionnaire ("Legitimate Short-Form"); 7 percent had not moved out of the current interviewing area but were interviewed by telephone with the short-form questionnaire ("Other Short-Form"); 4 percent had not moved out of the current interviewing area, but were interviewed by telephone with the long-form questionnaire ("Other Full-Length"). The remaining 87 percent of the pre-election panel respondents were interviewed face-to-face with the full-length questionnaire.

* $p < .10$

** $p < .05$

Table 9 (Continued)

	Pre-Election			Post-Election		
	Legimate Short-Form	Other Short-Form	Other Full-Length	Legimate Short-Form	Other Short-Form	Other Full-Length
Number of Programs about Campaigns Watched on TV						
None	2	8	4	2	11	10*
Just one or two	3	10	3	4	13	12
Several	4	8	5	4	14	8
A good many	2	6	3	3	8	8
Frequency of Discussing Politics with Family and Friends						
Never	1	7	2	1	9	12*
Less than once or twice a month	3	7	4	4	12	10
Once or twice a month	2	9	4	4	14	8
3 or 4 times a week	6	6	4	6	9	8
Every day	3	6	6	4	12	5
Care Who Wins the Presidential Election						
Don't care very much	2	8	3	2	9	10*
Care a good deal	3	8	4	4	12	9
Turnout in November Elections						
Did not vote	3	6	3	4	9	8
Voted	3	8	4	3	12	9
Electoral Participation Scale						
Low	3	7	4	3	11	10
Medium	4	6	4	5	10	8
High	2	13	3	2	19	7
Political Information Scale						
Low	3	4	4	3	10	11
Medium	3	9	4	4	12	10
High	2	7	3	3	11	6
Political Competence Scale						
Low	4	6	4	4	12	10
2	2	7	2	2	11	8
3	4	9	4	4	13	9
High	2	6	5	4	8	8
Trust in Government Scale						
Low	2	8	3	2	10	10
Medium	3	7	5	4	11	8
High	4	7	3	4	14	9
Gender						
Women	3	8	4	3	12	10
Men	4	7	4	4	11	8

* $p < .10$
** $p < .05$

Table 9 (Continued)

	Pre-Election			Post-Election		
	Legimate Short-Form	Other Short-Form	Other Full-Length	Legimate Short-Form	Other Short-Form	Other Full-Length
Education						
Less than high school degree	2	4	3	3	6	7**
High school degree	3	9	4	4	12	10
College or advanced degree	4	9	5	4	14	8
Family Income Distribution						
Bottom Fifth (1)	3	1	4**	4	6	8**
(2)	4	7	2	4	9	8
(3)	2	8	2	3	12	9
(4)	2	7	4	3	12	7
Top Fifth (5)	3	13	6	4	16	12
Employment Status						
Not employed	3	5	3**	3	8	8**
Employed	3	10	5	4	14	10
Occupation						
Unemployed	3	4	2**	3	6	8**
Service	5	8	8	7	14	12
Machine operators/laborers	3	10	5	3	11	7
Technicians/sales/admin. Support	2	10	3	3	15	13
Professional	4	10	6	4	16	8
Number of Hours Worked at Job						
51 +	3	17	2**	5	18	7**
41-50	4	5	4	5	14	6
40	3	10	8	4	15	11
20-39	3	11	4	3	10	12
1-19	2	8	6	0	15	12
0	3	4	2	3	6	8
Length of Time Lived at Current Address						
Less than 6 months	10	9	8**	8	11	14**
6-12 months	15	8	8	20	12	9
2-3 years	2	10	2	3	15	4
4 + years	1	7	4	#	10	10
Financial Situation Compared to 1 Year Ago						
Worse off	3	8	3**	4	10	8*
Same	3	7	4	3	10	10
Better off	3	9	5	4	14	9

* $p < .10$
** $p < .05$

Table 9 (Continued)

	Pre-Election			Post-Election		
	Legimate Short-Form	Other Short-Form	Other Full-Length	Legimate Short-Form	Other Short-Form	Other Full-Length
Age						
18-29	8	11	7**	9	14	13**
30-44	3	10	4	3	13	10
45-64	2	6	4	2	12	9
65+	1	4	1	1	4	5
Race						
Other	3	15	0	0	7	13
Black	2	10	4	2	9	10
White	3	8	4	4	12	9
Region						
East	2	10	4**	3	11	17**
Midwest	2	7	9	2	11	8
South	4	6	1	4	5	8
West	5	11	3	5	24	5
RECALCITRANT RESPONDENTS (PRE-ELECTION)						
Refusal Conversion Required						
Yes	3	16	10*	3	14	17
No	3	8	4	4	11	9
Respondent Payment Paid						
Yes	3	18	6**	3	17	12
No	3	7	4	4	11	9
Persuasion Letter Requested						
Yes	3	16	9**	2	22	7**
No	3	7	4	4	10	9
Total Number of Calls						
7+	4	17	10**	4	17	10**
5, 6	2	13	5	2	18	13
3, 4	4	6	4	5	12	10
1, 2	2	2	1	2	5	6
Gatekeeper Cooperation Necessary for Access to Housing Unit						
Yes	4	13	9**	8	15	10*
No	2	7	3	2	11	9
Initial Refusal by Respondent						
Yes	3	14	9**	2	16	15**
No	3	6	3	4	10	8

\# Less than 0.5%
* $p < .10$
** $p < .05$

Table 9 (Continued)

	Pre-Election			Post-Election		
	Legimate Short-Form	Other Short-Form	Other Full-Length	Legimate Short-Form	Other Short-Form	Other Full-Length
Respondent Broke Appointment						
Yes	4	16	11**	4	23	10**
No	3	7	3	4	10	9
Respondent's Level of Suspicion About Study Before Interview						
Very suspicious	0	30	10	0	22	22
Somewhat suspicious	4	6	7	0	8	10
Not at all suspicious	3	8	4	4	11	9
Respondent's Interest in Interview						
Low	1	10	6	1	9	14*
Average	4	9	5	4	14	9
High	3	7	3	4	10	8
Respondent's Cooperation in the Study						
Poor	0	11	11**	0	7	21
Fair	0	16	8	0	14	15
Good	3	7	4	4	11	8
RECALCITRANT RESPONDENTS (POST-ELECTION)						
Refusal Conversion Required						
Yes	-	-	-	0	29	14
No	-	-	-	4	11	9
Respondent Payment Paid						
Yes	-	-	-	2	17	11*
No	-	-	-	4	10	8
Persuasion Letter Requested						
Yes	-	-	-	0	18	15
No	-	-	-	4	11	9
Total Number of Calls						
7+	-	-	-	5	18	20**
5,6	-	-	-	4	11	15
3,4	-	-	-	3	12	7
1,2	-	-	-	3	9	5
Initial Refusal by Respondent						
Yes	-	-	-	1	13	13
No	-	-	-	4	11	9
Respondent Broke Appointment						
Yes	-	-	-	7	14	19**
No	-	-	-	3	11	7

* $p < .10$
** $p < .05$

Table 9 (Continued)

	Pre-Election			Post-Election		
	Legimate Short-Form	Other Short-Form	Other Full-Length	Legimate Short-Form	Other Short-Form	Other Full-Length
FIELD ADMINISTRATION						
Release Date of Pre-Election Sample						
Release 1 (Sept. 1)	2	6	5**	-	-	-
Release 2 (Oct. 1)	4	10	4	-	-	-
Number of Weeks Into Field Period						
10/11	-	-	-	0	15	23**
9	6	21	13**	8	15	30
8	6	20	7	4	29	18
7	4	8	4	5	19	25
6	4	4	1	4	13	17
5	2	6	3	4	14	6
4	3	5	7	6	17	8
3	1	3	3	3	10	4
2	1	1	1	4	3	2
1	0	0	0	0	4	1
Respondent Telephone Number Obtained						
Yes	3	8	4*	4	12	9**
No	0	3	3	1	1	3
Respondent Moved Outside of Interviewing Area						
Yes	78	0	15**	85	0	15**
No	#	8	4	#	12	9
Supervisor						
Supervisor 3	5	11	9**	4	26	10**
Supervisor 8	4	21	0	0	22	5
Supervisor 4	0	12	6	0	20	27
Supervisor 10	2	2	16	0	5	15
Supervisor 1	1	16	0	3	15	3
Supervisor 5	2	3	9	3	14	6
Supervisor 2	2	5	6	3	4	23
Supervisor 6	9	6	1	10	6	8
Supervisor 7	3	5	3	4	5	0
Supervisor 9	3	5	1	3	3	7
Supervisor 11	3	3	0	5	6	10

* $p < .10$
** $p < .05$

Table 10

Determinants of Panel Respondents Being Interviewed With the Short-Form Questionnaire (Probit Coefficients and Standard Errors in Parentheses)

	Pre-Election	Post-Election
Political and Social Characteristics of Respondents		
Income	.85 (.28)	.66 (.23)
Years at current address (log)		-.13 (.05)
Political competence		-.40 (.26)
Resides in the Midwest	-.47 (.20)	
Resides in the West		.87 (.14)
Recalcitrant Respondents (Pre-Election)		
Number of contacts (log)	.35 (.12)	.24 (.09)
Gatekeeper	.49 (.30)	
Initial refusal	.55 (.17)	
Broken appointment	.33 (.28)	.63 (.25)
Persuasion letter requested		.46 (.21)
Field Administration		
Telephone number obtained for respondent	.29 (.37)	.87 (.39)
Respondent moved outside interviewing area	2.35 (.30)	2.51 (.28)
Number of weeks into the field period (log)	.79 (.18)	.42 (.10)

Table 10 cont'd	Pre-Election	Post-Election
Field Administration (cont'd)		
Supervisor 1	.67 (.19)	.81 (.17)
Supervisor 3	.74 (.21)	.98 (.15)
Supervisor 4		.95 (.26)
Supervisor 5		.66 (.18)
Supervisor 6	.43 (.24)	
Supervisor 8	.81 (.25)	
Constant	-4.57	-3.67
Number of Cases	1163	1150
R^2	.43	.64

Table 11

Determinants of Panel Respondents Being Interviewed with the Short-Form Questionnaire (Probit Coefficients Converted to Probabilities and Expressed as Percentages)

	Pre-Election	Post-Election
Political and Social Characteristics of Respondents		
Income	8%	10%
Years at current address (log)		- 8%
Political competence		- 6%
Resides in the Midwest	- 4%	
Resides in the West		16%
Recalcitrant Respondents (Pre-Election)		
Number of contacts (log)	14%	14%
Gatekeeper	6%	
Initial refusal	7%	
Broken appointment	4%	12%
Persuasion letter requested		8%
Field Administration		
Telephone number obtained for respondent	2%	9%
Respondent moved outside interviewing area	54%	66%
Number of weeks into the field period (log)	11%	15%
Supervisor 1	7%	13%
Supervisor 3	8%	16%
Supervisor 4		16%
Supervisor 5		10%
Supervisor 6	4%	
Supervisor 8	9%	

Table 12

Likelihood of Responding "Don't Know" to Showcard Items by Mode of Interview

Questions	Face to Face	Phone	Probability of no Difference
Continua that might be difficult to envision or remember without the showcard			
7-Point Scales:			
Liberal/conservative placement of self, presidential candidates, and political parties	20%	15%	.02
Placement of self on 6 other scales	12%	9%	.01
Stereotypes of blacks, Asians and Hispanics	6%	4%	.19
Response options displayed only on the showcard			
Vote for the House	4%	20%	<.01
Social group feels closest to	1%	2%	.28
Five or more response options			
Equality of opportunity items	1%	1%	.97
Racial prejudice items	1%	1%	.72
Moral traditionalism items	1%	1%	.07
Feeling Thermometers:			
14 political leaders / parties (pre-election)	12%	9%	.01
40 political leaders / groups (post-election)	7%	6%	.30
Elaborate response options			
Abortion rights placement of self and presidential candidates	11%	12%	.90
Prayer in the schools	1%	1%	.23

Table 13

Mean Response to Showcard Items by Mode of Interview

Questions	Face to Face	Phone	Probability of No Difference: Without Controls	Probability of No Difference: With Controls*
Continua that might be difficult to envision or remember without the showcard				
7-Point Scales:				
Liberal/conservative placement of self, presidential candidates, and political parties	52.3	52.7	.63	.43
Placement of self on 6 other scales	44.1	42.2	.08	.01
Ethnic Stereotypes:				
Positive stereotypes of blacks	47.9	49.3	.08	.23
Positive stereotypes of Asians	60.1	61.2	.21	.39
Positive stereotypes of Hispanics	50.4	50.5	.90	.77
Response options displayed only on the showcard				
Vote for Republican for the House	39.3	48.2	.01	.06
Percentage of groups R feels close to	28.1	29.5	.19	.10
Five or more response options				
Supports equality of opportunity	64.2	64.3	.92	.88
Not racially prejudiced	41.8	42.7	.44	.84
Moral Traditionalism	64.8	62.8	.04	.14
Feeling Thermometers:				
Bush and Clinton (pre-election)	54.4	52.1	<.01	.03
Bush and Clinton (post-election)	59.8	57.5	<.01	<.01
14 political leaders / parties (pre-election)	51.7	50.0	.01	.03
40 political leaders / groups (post-election)	57.8	55.5	<.01	<.01
Elaborate response options				
Supports right to abortion (placement of self and presidential candidates)	58.0	58.9	.56	.66
Supports prayer in schools	45.8	43.9	.29	.33

* Controlling for Education, Income, and Political Information

Table 14

Standard Deviation of Showcard Items by Mode of Interview

Questions	Face to Face	Phone
Continua that might be difficult to envision or remember without the showcard		
7-Point Scales:		
Liberal/conservative placement of self, presidential candidates, and political parties	25.2	24.8
Placement of self on 6 other scales	28.0	28.0
Ethnic Stereotypes:		
Positive stereotypes of blacks	20.7	20.3
Positive stereotypes of Asians	21.5	21.8
Positive stereotypes of Hispanics	19.7	20.3
Response options displayed only on the showcard		
Vote for Republican for the House	48.5	49.4
Percentage of groups R feels close to	40.1	41.5
Five or more response options		
Supports equality of opportunity	30.1	31.5
Not racially prejudiced	31.7	33.0
Moral Traditionalism	29.7	30.6
Feeling Thermometers:		
Bush and Clinton (pre-election)	25.4	25.0
Bush and Clinton (post-election)	25.2	23.5
14 political leaders / parties (pre-election)	23.8	23.1
40 political leaders / groups (post-election)	20.8	19.6
Elaborate response options		
Supports right to abortion (placement of self and presidential candidates)	32.2	32.3
Supports prayer in schools	27.3	27.5

Table 15

Frequency of Response to Showcard Items by Mode of Interview
(Phone figures in Bold are significantly different from those for face-to-face)

		Percentage of Time the Response Category Was Used									
Continua that might be difficult to envision or remember without the showcard											
7-Point Scales:		1	2	3	4	5	6	7			
Liberal/conservative placement of self, presidential candidates, and political parties	F-t-F:	6	15	16	21	15	20	8			
	Phone:	7	**12**	16	21	**17**	18	8			
Placement of self on 6 other scales	F-t-F:	18	11	13	25	13	9	10			
	Phone:	**22**	10	14	**21**	14	10	9			
Ethnic stereotypes of blacks, Asians, and Hispanics	F-t-F:	4	9	18	40	18	8	4			
	Phone:	4	7	16	41	18	9	4			
Response options displayed only on the showcard		Dem	Rep	Indep							
Vote for House	F-t-F:	60	39	1							
	Phone:	50	**47**	2							
Five or more response options		1	2	3	4	5					
Equality of opportunity items	F-t-F:	30	30	11	18	12					
	Phone:	28	30	**9**	18	**14**					
Racial prejudice items	F-t-F:	23	33	12	21	11					
	Phone:	23	34	**9**	22	**12**					
Moral traditionalism items	F-t-F:	39	31	10	12	8					
	Phone:	36	35	**7**	13	**9**					
Feeling thermometers:		100	85	70	60	50	40	30	15	0	Total
14 political leaders / parties (pre-election)	F-t-F:	5	10	13	16	23	10	7	6	8	96
	Phone:	**2**	**3**	**8**	**11**	24	**9**	**7**	**2**	**6**	**72**
40 political leaders / groups (post-election)	F-t-F:	7	12	16	17	24	9	6	3	4	80
	Phone:	**4**	**3**	**10**	**13**	**31**	**8**	**4**	**1**	**3**	**63**
Elaborate response options		1	2	3	4						
Abortion rights (placement of self (and presidential candidate)	F-t-F:	16	31	15	38						
	Phone:	18	29	13	40						
Prayer in the schools	F-t-F:	11	50	27	10						
	Phone:	13	49	26	9						

Table 16

Scale Reliability by Mode of Interview

Scale	Face to Face	Phone	Less Scale Reliability Over the Telephone?
Continua that might be difficult to envision or remember without the showcard			
Hispanic stereotypes (3 items)	.62	.86	no
Asian stereotypes (3 items)	.65	.59	yes
Black stereotypes (3 items)	.86	.74	yes
Five or more response options			
American values (4 items)	.58	.68	no
Equality of opportunity (6 items)	.60	.74	no
Moral traditionalism (5 items)	.68	.74	no
Racial prejudice (4 items)	.73	.78	no
Political competence (5 items)	.81	.82	no
Bush's character (9 items)	.86	.87	no
Clinton's character (9 items)	.87	.85	no

Note: Scale reliabilities were estimated by confirmatory factor analyses of the variance - covariance matrix among the scale items, separately by interview mode.

Table 17

Estimates of Relationships by Mode of Interview

	Difference in Thermometer Ratings of Clinton and Bush		Favor Increased Spending on Social Welfare Programs		Feels U.S. Should Maintain Position as World's Leading Military Power		Difference in Thermometer Ratings of Liberals and Conservatives		Supports Affirmative Action Hiring		Supports Homosexuals Serving in Military	
	Face to Face	Phone	Face to Face	Phone	Face to Face	Phone	Face to Face	Phone	Face to Face	Phone	Face to Face	Phone
Feels government should provide fewer services	-.28	-.30*	-.43	-.47**	.20	.16	-.21	-.22	-.19	-.19	-.38	-.27
Supports increased spending on defense	-.25	-.24*	-.15	-.15	.69	.63**	-.16	-.13	-.12	-.14	-.39	-.25
Supports private insurance plan	-.22	-.20*	-.25	-.29**	.15	.15	-.15	-.12	-.04	-.06	-.22	-.13
Feels government should let each person get ahead on their own	-.20	-.21*	-.33	-.35**	.18	.14	-.14	-.12	-.18	-.16	-.17	-.04*
Feels blacks should help themselves	-.18	-.18	-.27	-.27	.24	.18	-.13	-.11	-.39	-.40**	-.22	-.15
Positive assessment of clinton characteristics	.73	.75**	.38	.39	-.28	-.38**	.32	.36**	.32	.30	.56	.61**
Positive assessment of bush characteristics	-.73	-.72**	-.38	-.38	.50	.44	-.29	-.28	-.30	-.32	-.53	-.45
Supports american values	-.09	-.08	.01	.02	.26	.28	-.12	-.12	-.18	-.25	-.20	-.20
Positive thermometer rating of people on welfare	.17	.18	.34	.33	-.14	-.18	.11	.15**	.27	.25	.14	.21*
Positive thermometer rating of environmentalists	.19	.21*	.32	.32	-.15	-.18*	.21	.24**	.05	.03	.30	.38**
Supports equality of opportunity	.41	.42**	.52	.50**	-.32	-.34**	.30	.32**	.42	.38	.58	.64**
Feels politically competent	.06	.08	.06	-.04	-.04	-.04	.01	.05**	.25	.22	-.08	.01*
Supports traditional values, lifestyles	-.38	-.39**	-.29	-.31**	.38	.38	-.36	-.34	-.36	-.39**	-.76	-.71
Racially prejudiced	-.28	-.28**	-.33	-.35	.32	.32**	-.21	-.19	-.62	-.64**	-.35	-.31
Supports abortion rights	.15	.17**	.10	.10	-.07	-.12**	.13	.16**	.01	-.00	.38	.43*
Supports prayer in schools	-.11	-.10	-.09	-.06	.13	.11	-.10	-.08	-.06	-.07	-.26	-.22

Note: The cell entry is the unstandardized regression coefficient generated by regressing the column variable on the row variable, plus education, income, and level of political information, with all variables coded to the 0-1 interval.

Table 18

Social Desirability by Mode of Interview

	Mean Value		Less Social Desirability Over the Telephone?	Probability of No Difference	
	Face to Face	Phone		Without Controls	With Controls*
Plans to vote (pre-election measure)	84.6	84.7	no	1.00	.63
Reported voting	74.8	77.8	no	.20	.38
Reported registered to vote	82.2	84.8	no	.20	.43
Bush and Clinton (pre-election)	54.4	52.1	yes	<.01	.03
Bush and Clinton (post-election)	59.8	57.5	yes	<.01	<.01
14 political leaders / parties (pre-election)	51.7	50.0	yes	.01	.03
40 political leaders / groups (post-election)	57.8	55.5	yes	<.01	<.01
6 minority groups	52.1	50.3	yes	.02	.01
Positive stereotype of blacks	47.9	49.3	no	.08	.23
Positive stereotype of Asians	60.1	61.2	no	.21	.39
Positive stereotype of Hispanics	50.4	50.5	no	.90	.77
Supports equality of opportunity	64.2	64.3	no	.92	.88
Not racially prejudiced	41.8	42.7	no	.44	.84
Support rights of homosexuals	44.4	47.7	no	.05	.27
Favorable opinion about increasing the number of Hispanics and Asians	42.3	45.3	no	<.01	.01
Considers sexual harassment a problem	54.9	54.3	no	.80	.75

* Controlling for Education, Income, and Political Information

Table 19

Average Number of Responses Given to Open-Ended Questions by Mode of Interview

Open-Ended Questions	Face to Face	Phone	Fewer Responses Over the Telephone?	Probability of no Difference Without Controls	Probability of no Difference With Controls*
Presidential Candidate Likes/Dislikes	7.4	7.5	no	.83	.10
Party Likes/Dislikes	5.0	4.4	yes	.01	.11
House Candidate Likes/Dislikes	2.8	2.5	yes	.11	.20
Most Important Issues in House Campaign in Respondent's District	1.3	1.3	no	.65	.64
Most Important Problem Facing the Country	2.5	2.4	yes	.02	.02
Differences Between the Political Parties	3.0	2.8	yes	.08	.06
Meaning of the Terms Liberal and Conservative	3.7	3.4	yes	.01	.01

* Controlling for Education, Income, and Political Information

Technical Reports and Other Occasional Papers

1. Sanchez, Maria. (July 1982) "7-Point Scales."

2. Shanks, J. Merrill, Maria Sanchez, and Betsy Morton. (March 1983). "Alternative Approaches to Survey Data Collection for the National Election Studies."

3. Lake, Celinda. (September 1983) "Similarity and Representativeness of 1983 Pilot Samples."

4. Lake, Celinda. (November 1983) "Comparison of 3-point, 5-point, and 7-point Scales from the CATI Experiment 1982 Election Study."

5. NES Staff. (December 1983) "1980 Precinct Data Returns Project."

6. Lake, Celinda. (February 1984) "Coding of Independent/Independents and Apoliticals in the Party Identification Summary Code and Apoliticals in the Rolling Cross-Section."

7. Morchio, Giovanna and Maria Sanchez. (February 1984) "Creation of a Filter Variable to be Used When Analyzing Questions about Congressional Candidates in the 1982 Integrated Personal/ISR CATI/Berkeley CATI Dataset: A Report to the Board of Overseers, National Election Studies."

8. Morchio, Giovanna and Maria Sanchez. (March 1984) "Comparison of the Michigan Method of District Assignment on the Telephone with the Personal Interview Simulated Data: A Report to the Board of Overseers, National Election Studies."

9. Traugott, Santa. (June 1984) "Two Versions of the Abortion Question."

10. Sanchez, Maria.(July 1984) "Branching versus 7-point scale measurements." .

11. NES Staff. (August 1984) "Weekly Field Report for the National Election Studies Continuous Monitoring, Jan. 11 - Aug. 3, 1984: A Report to the Board of Overseers, National Election Studies."

12. NES Staff. (August 1984) "Questions and Versions in NES Continuous Monitoring, 1984: A Report to the Board of Overseers, National Election Studies."

13. NES Staff. (n.d) "Years of Schooling."

14. NES Staff. (n.d) "Newspaper Code."

15. Traugott, Santa. (n.d.) "The Political Interest Variable on the 1984 Election Study." Unpublished Staff Memo to NES Planning Committee.

16. Sanchez, Maria and Giovanna Morchio. (n.d.) Probing Don't Know Answers -- Do We Always Want to Do This?"

17. NES Staff. (February 1985) "Progress of the Rolling Cross Section."

18. Traugott, Santa. (February 1985) "Production for the Pre-Post"

19. Traugott, Santa. (February 1985) "Some Analysis of Hard-to-Reach Rolling Thunder Respondents."

20. Traugott, Santa. (April 1985) "Sample Weighting in NES Continuous Monitoring, 1984: A Report to the Board of Overseers, National Election Studies."

21. Traugott, Santa. (April 1985). "Sample Weighting in NES Pre-Post Election Survey,1984: A Report to the Board of Overseers, National Election Studies."

22. Brehm, John. (June 1985) "Report on Coding of Economic Conditions Series in the 1984 Pre-Post Election Study"

23. Brehm, John. (July 1985). "Question Ordering Effects on Reported Vote Choice.

24. Traugott, Santa. (July 1985) "Assessment of Media Measures in RXS."

25. Traugott, Santa. (July 1985) "Assessment of Media Measures in Pre-Post"

26. Brehm, John. (August 1985). "Analysis of Result Code Disposition for Continuous Monitoring by Time in Field: Report to the Board of Overseers, National Election Studies."

27. Morchio, Giovanna, Maria Sanchez and Santa Traugott. (November 1985). "Mode Differences: DK Responses in the 1984 Post-Election Survey: A Report to the Board of Overseers, National Election Studies."

28. Morchio, Giovanna and Santa Traugott. (February 1986) "Congressional District Assignment in an RDD Sample: Results of 1982 CATI Experiment."

29. Brehm, John and Santa Traugott. (March 1986) "Similarity and Representativeness of the 1985 Pilot Half-samples."

30. Gronke, Paul. (September 1986) "NES Question C2: R's Party Registration."

31. Brehm, John. (March 1987) "How Representative is the 1986 Post-Election Survey?"

32. Morchio, Giovanna. (May 1987) "Trends in NES Response Rates."

33. Brehm, John. (December 1987) "Who's Missing? an Analysis of NonResponse in the 1986 Election Study: A Report to the Board of Overseers, National Election Studies."

34. Traugott, Santa. (August 1989) "Validating Self-Reported Vote: 1964-1988."

35. NES Staff. (February 1990) "Possible Bias Due to Attrition and Sample Selection in the 1989 Pilot."