PRELIMINARY RESULTS FROM THE NATIONAL CRIME SURVEY (NCS) CATI EXPERIMENT

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I. Introduction

Since the early 1980s, the role of computer-assisted telephone interviewing (CATI) in the collection of data for the U.S. Census Bureau has been ever increasing. The first years mainly involved the establishment of staffs and the design and creation of a CATI system that met the U.S. Census Bureau's particular requirements. In 1985, the U.S. Census Bureau opened a CATI facility in Hagerstown, Maryland. For the first couple of years, the facility was mainly used for production data collection of smaller one-time surveys and for feasibility testing of CATI for larger continuing demographic surveys, such as, the Current Population Survey(CPS) and the National Crime Survey (NCS) (Nicholls II and Groves, 1986a). With basic feasibility established, both CPS and NCS designed and implemented fully controlled CATI experiments in late 1986 and early 1987, respectively. The purpose of these experiments was to evaluate the effect of CATI on major survey estimates. This paper describes the NCS CATI Experiment and some preliminary results.

Section II of this paper describes the scope and the general design features of NCS. In Section III, the NCS CATI Experiment design and procedures are discussed. Section IV contains our findings on the effect of CATI on NCS estimates. A comparison of NCS CATI results to preliminary CPS CATI results is made in Section V. Our conclusions are discussed in Section VI.

II. NCS Background

The NCS is a household based sample survey that collects data on the amount and types of crime occurring in the United States. The NCS measures rape, robbery, assault, burglary, personal and household larceny and motor vehicle theft. The NCS includes both crimes reported and not reported to police. Crimes such as murder, kidnapping, commercial burglary, commercial robbery, drug abuse, prostitution, and fraud are not measured in the NCS.

In the NCS, each criminal incident is classified once according to the most serious criminal act that took place. A personal crime incident involving more than one criminal act can be committed against an individual, for example, a rape may be associated with a robbery. The order of seriousness for crimes against persons is rape, robbery, assault, and larceny. Consequently, if a person is both robbed and assaulted, the incident is classified as a robbery; if the victim suffers physical harm, the crime is categorized as robbery with injury. Personal crimes of contact take precedence over household offenses. Within household offenses, burglary is the most serious offense and larceny the least.

The NCS uses a two-stage stratified cluster sample of addresses to select households for interviewing. The NCS, a rotating panel of approximately 60,000 sample households, is conducted in approximately 10,000 households on a monthly basis every month of the year. Each household is interviewed seven times over a period of three and a half years. The first time a household appears in sample, a Census interviewer makes a personal visit to establish a household roster and to collect various demographic information. This information is updated on subsequent interviews. Each person, twelve years of age and over, living in that household is asked questions about personal crimes, while only the first respondent is asked questions about household crimes. The reference period for these questions is the six months before the interview month. Each interview provides a point of reference in time called a bound. A bound is designed to prevent the reporting of the same incidents in consecutive reference periods by eliminating in the present interview reports of incidents which were reported in the previous interview. Since the first interview has no such bound it is not used in the crime rate estimation. The second through seventh interviews are bounded. (Note, crime rates are significantly higher for first interview households than for the second through seventh interview households.) Most of these subsequent interviews are conducted by local telephone by the same interviewer who conducted the first personal interview. The exception is the fifth interview, which is conducted in person to reestablish personal contact with the household. Some special interviewing situations also require a personal interview. These situations are discussed in Section III.B.1.

It should be noted that prior to 1980 nearly all interviews were conducted in person. Since then the proportion of local telephone interviews has increased to its present level. While some effects were noted, the increase in the use of telephone interviews did not appear to significantly effect the major survey estimates (Roman and Sliwa, 1982).

III. NCS CATI Experiment

To assess whether the quality of the data would be maintained, one objective of the NCS CATI Experiment was to measure the impact of CATI on NCS estimates in a production environment. This objective is reflected in both the sample design and the procedures for the experiment.

A. Sample Design

The sample design has two basic components. One is the selection of sample areas to be included in the experiment. The other is the selection of the experimental sample cases within those areas.

1. Sample Area Selection

In an area where the CATI experiment is implemented, a large number of the sample cases are removed from the field interviewers' assignments because eligible telephone interviews are be transferred to the CATI facility. To avoid interviewer workload inefficiencies, only multi-interviewer areas, where assignments can be consolidated, are eligible for selection. This also applies beyond this experiment to full scale CATI implementation.

Not all sample multi-interviewer areas were eligible for the test. It was deemed to be of greater interest to test CATI in areas that were identified by the field staff as hard-to-

enumerate. Hard-to-enumerate areas are typically large multi-interviewer areas, in which it is difficult to hire and retain qualified interviewers. This decision was based on results of previous Census Bureau studies (e.g., the 1982 Census of Agriculture Experiment (Ferrari, 1986) did not indicate that significant differences existed between CATI and non-CATI interviewing modes) and from the belief that CATI would have its greatest benefit in hard-to-enumerate areas. So, if CATI did have any effects on NCS it would more likely be observed in these hard-to-enumerate areas. Given the CATI experiment area selection criteria, a limitation to the study exists. Strictly speaking, the results are applicable only to the hard-to-enumerate areas included in the experiment because the sample areas were not randomly selected. However, we believe that we can generalize the results to all hard-to-enumerate areas. Restricting the test to hard-to-enumerate areas also corresponds to the most likely initial uses of CATI. Even if there was no evidence that CATI improved data quality, its use would be beneficial in areas where interviewers were hard to recruit locally.

Starting in January 1987, six areas from three regional offices were included in the experiment. Four more areas from two additional regional offices were included in April 1987. In both January 1988 and April 1988, four more areas were included in the experiment. However, our preliminary results do not include the data collected in 1988.

2. Within Area Sample Selection

The statistical analysis of the possible effects of CATI on NCS crime rates requires two comparable subsamples. In order to achieve this goal, the sample cases in the areas in the experiment were randomly divided into two subsamples: Experimental Group (EG) and Control Group (CG). The sample cases assigned to EG are interviewed at the CATI facility, whenever possible. The sample cases assigned to CG are interviewed using the standard NCS procedures; that is, by telephone from the local interviewer's home. The comparison of EG to CG is sometimes referred to as a comparison of centralized telephone interviewing to decentralized telephone interviewing.

The EG and CG have to represent the same population, as closely as possible. Accordingly, the basic technique for assigning sample cases to treatment groups is to sort the sample cases in the order that reflects the original order of selection. This order of selection results from sorting the universe of households according to relevant variables and selecting a systematic sample in order to give a statistically efficient sample. The sorted sample cases were then alternately assigned to EG and CG. For better field control, the assignment of sample cases was conducted at the segment level. A segment typically consists of four adjacent housing units.

3. Sample Size

From January to March 1987, a monthly sample of approximately 370 housing units was designated for each treatment group (EG and CG). From April to December 1987, a monthly sample of approximately 650 housing units was designated for each treatment group. Overall, in 1987, there were approximately 7,000 housing units assigned to be interviewed for each group.

B. Procedures

The method of assigning a household to CATI or to regular field interviewing is covered in the following sections, along with procedures and guidelines controlling the flow of recycle cases (defined in Section III.B.3) from the telephone facility to the regional offices.

1. Assigning Households to CATI

The households that are eligible for interview by CATI interviewers at the Hagerstown facility are the households in EG within the selected CATI experiment areas. Within EG, a household is not interviewed using CATI if the household is scheduled for its first or fifth interview. The first and fifth interviews are conducted in person by a local interviewer who visits the household. This same procedure is used for CG. In terms of interviews used for estimation, this is one-sixth of the EG sample. Of the remaining housing units in the EG, approximately one-third are not eligible for CATI for various reasons and remain in field. The following are reasons a household is not eligible for CATI:

- if the household does not have a phone
- if the household does not agree to be interviewed by telephone.
- if there are any language problems.
- if the household was vacant at the time of the previous interview.
- if the field supervisor believes that a case should be kept in the field; for example, a borderline refusal or handicaps like hearing impairment.

Determining whether a household is to be interviewed using CATI is, for the most part, an objective process. If a household has a telephone and has agreed to be eligible for a phone interview, it is, in most cases, interviewed using CATI.

2. CATI Procedures and Timing

NCS field procedures allow approximately 14 days at the beginning of the month to complete interviewing. CATI cases are allotted approximately 7 days at the beginning of the month to be completed. CATI interviewing is conducted 7 days a week. Cases requiring field follow-up are recycled back to the field from the CATI telephone center on the fourth and seventh day of interviewing.

3. Recycles

Cases are recycled back to the field from the telephone facility for numerous reasons. All incomplete cases are recycled to the field after the seventh day. Although, in certain situations an incomplete case is recycled after the fourth day.

A case is recycled after the fourth day for the following reasons:

- all original household members are deceased
- the household has moved out since the last interview
- the entire household is ill, hospitalized, or institutionalized

- o the phone number has changed and the new number is unlisted or unpublished, or the phone number is incorrect.
- o there is a language barrier
- o refusal
- o hostile breakoff

A case is recycled after the seventh day for the following reasons:

- o unable to contact on callback
- o never contacted/ring no answer
- o partial interview/callback planned or never tried

Overall, approximately 20% of the EG sample cases originally sent to the CATI facility are recycled back to the field for interviewing.

IV. Results

The results from the first year of the NCS CATI Experiment have been surprising. Going into the experiment the general consensus was that CATI would not have a substantial effect on the crime rates since the same questionnaire is used. Some believed that CATI might even lower the crime rates somewhat because of less rapport between the interviewer and the respondent. However, our analysis of the experimental data indicates that the crime rates from the experimental group (EG) are 29% greater for personal crimes and 13% greater for household crimes than crime rates from the control group (CG). Our analysis beyond this basic result has been to determine if any particular source or reason for these differences can be deduced from the data. Other than confirming the foregone conclusion that the differences are due to telephone interviews and not personal interviews, we were generally unable to isolate a particular source or reason for the differences. The results of this work are presented in this section.

A. Overall Results

Table 1 presents the differences between CG and EG for personal and household crimes. In general, the estimation for both groups' are based on about 6,100 household interviews each with approximately one-third personal interview and two-thirds telephone interview. The mode of interview, i.e., telephone or personal, of the household is determined by the interview mode of the reference person. The various reasons for personal interviews are discussed in Section III.B.1. Of the telephone interviews in EG about 75% were conducted using CATI.

1. Personal Crimes

For personal crimes, there is a significant difference between CG and EG. The personal crime rates are 87.9 (rate per 1,000 population age 12 and over) and 113.4 for CG and EG, respectively. (Unless otherwise stated, all estimates were computed from "weighted" data.) The ratio of EG to CG is 1.29, a 29% higher crime rate comparing EG to CG. This difference is being completely driven by the difference observed in telephone interview crime rates; 73.9 from CG and 115.5 from EG for a ratio (EG/CG) of 1.56. No significant difference exists in the personal interviews. This fits our general expectation because the assigning and interviewing procedures for personal interviews are basically the same for CG and EG. (Note the difference between the personal interview and the telephone interview crime rates in CG. This difference is generally expected because some types of households (replacement households (unbounded), previous noninterview households (unbounded), and non-telephone households) assigned for personal interview are known to be associated with higher crime rates.) Within the EG telephone interviews, the CATI crime rate is 131.7 while the field crime rate is 66.9. Direct comparisons of CATI to CG are not appropriate because the sample cases assigned to CATI are not randomly assigned and we are unable to identify an appropriate comparable subset of CG. However, CATI clearly appears to be the source of the higher EG telephone interview crime rate.

2. Household Crimes

For household crimes, there is some evidence of a difference between CG and EG. The household crime rates are 172.4 (rate per 1,000 households) and 194.8 for CG and EG, respectively. The ratio of EG to CG is 1.13, a 13% higher crime rate comparing EG to CG. As with personal crimes, the difference in household crimes is being completely driven by the significant difference in telephone interview crime rates; 161.1 from CG and 198.9 from EG for a ratio of 1.23. Again, as expected, there is no significant difference between the personal interview crime rates. Within the EG telephone interviews, the CATI household crime rate (229.5) again appears to be the source of the higher EG telephone interview rate as opposed to the field crime rate (114.7).

B. Type of Crime

One possible explanation is that the differences between CG and EG may be due to an increase in the reporting of "less important" or even "trivial" crimes. This comes from the hypothesis that important crimes are subject to less "recall loss" and would be reported regardless of interview mode, so that EG telephone interview crime rates would be similar to CG telephone interview crime rates for important crimes. Conversely, the hypothesis is that trivial crimes are subject to greater recall loss and that somehow CATI elicits more trivial crimes. In addition, some of the results from a NCS reference period study indicate that the effect on crime rates of changing the reference period length can vary by type of crime (Kobilarcik, et al, 1983). This suggests that the amount of recall loss may vary by type of crime. An example from the NCS reference period research is that crimes of theft showed greater recall loss than crimes of violence when the reference period was lengthened.

1. Personal Crimes

This hypothesis would suggest that smaller differences should exist for crimes of violence than for crimes of theft because violence is perceived as more important than theft and therefore would suffer less recall loss. The comparison of rates for crimes of violence, crimes of theft, and robbery and assault within crimes of violence are displayed in Table 2. The striking result is the nearly constant ratio

of EG to CG for each crime category (1.28 for crimes of violence, 1.28 for robbery, 1.26 for assault, and 1.30 for crimes of theft). Based on this, we see no evidence supporting the hypothesis that the higher EG crime rate is due to less important or trivial crimes because the EG to CG ratios do not vary by type of personal crime.

2. Household Crimes

The comparison of rates for burglary, larceny, and motor vehicle theft (MVT) are in Table 3. The ratios of EG to CG for burglary (1.19) and larceny (1.16) appear to be similar, while there is some evidence the ratio for MVT (0.93) is smaller. In particular, the difference within household crimes appears to be in the ratios for telephone interviews. Significant differences between CG and EG telephone interview crime rates exist for burglary and larceny with ratios of 1.36 and 1.27, respectively. However, no such differences are observed for MVT. One possible explanation for this may be that MVTs are relatively more important and therefore more memorable to people. This is supported by the fact that MVT has a higher percent reported to police than the other types of crime and by the correlated fact of greater monetary loss associated with MVT. (Bureau of Justice Statistics, 1987)

C. Comparisons by Whether Reported to Police

Pursuing the same line of reasoning discussed in the previous section, we compared the personal and household crime rates by reported to police and not reported to police. Again, this analysis is to determine if particular crimes account for the observed differences between CG and EG, where the important crimes are reported to police and the less important crimes are not reported to police. The comparisons of personal and household crime rates between CG and EG for crimes reported to police are in Table 4. For personal crimes there is some evidence that the telephone interview crime rate is greater for EG than for CG (ratio of 1.31). No differences exist for household crimes reported to police.

The comparisons for crimes not reported to police are given in Table 5. For both personal and household crimes, the crime rates for EG are significantly higher than for CG (personal crimes ratio of 1.34 and household crimes ratio of 1.25).

The general result appears to be that crimes both reported and not reported to police contribute to the overall difference between CG and EG for personal crimes. For household crimes, however, the overall difference between CG and EG only comes from the difference in crimes not reported to police. Household crimes appear to confirm the hypothesis that less important crimes, those not reported to police, are responsible for the difference between the two groups. Possibly, memorability of household crimes are linked more to whether the crime was reported to police than to the type of crime.

D. Comparisons by Seriousness

Another way we attempted to determine if particular crimes were the source of the differences between CG and EG was to analyze the data by the "seriousness" of the crime. For personal crimes, we somewhat arbitrarily define serious to mean completed crimes of violence and crimes of theft value of $50 or more. Serious household crime is defined as completed burglary, larceny $50 or more, and completed motor vehicle theft. Here we associate important with serious and less important with non-serious. For serious personal crimes (Table 6), EG crime rates are significantly higher than CG crime rates (ratio of 1.24), which is due to the differences in telephone interview crime rates (ratio of 1.41). For household crimes, the same general results were observed for the total crime rate (ratio of 1.21) and telephone interview crime rates (ratio of 1.32). However, for non-serious crimes (Table 7), differences only exist for personal crimes (ratio of 1.33). Some of these results are surprising, especially when compared to the whether reported to police results. For personal crimes, the results for whether reported to police and seriousness do not appear to contradict the general belief that non-serious crimes are reported to police less often than serious crimes. The household crimes, though, do not appear to have the same relationship between whether reported to police and seriousness. While the whether reported to police results were consistent with the hypothesis that the less important crimes were the main source of the observed differences between CG and EG, the seriousness results indicate just the opposite is true. We plan to investigate this further to determine if the differences in household crime rates is entirely due to serious crimes not reported to police or if some other form of interaction is the explanation.

V. Comparison to CPS CATI Results

Even with some sources of the differences having been isolated, we are still left with the basic question of why does the CATI mode of interviewing result in higher crime rates. Perhaps examining the preliminary evaluation of the Current Population Survey (CPS) CATI Study will provide some explanations. The CPS CATI Study design is similar to the NCS CATI Experiment in many aspects, so most design and procedural effects should generally be controlled in comparing the basic results.

While some differences in coverage and labor force estimates between the experimental group and control group for particular demographic groups have been observed for CPS, the overall unemployment rate and civilian labor force rates have not been shown to be different (Walsh, et al, 1988). These results are quite different from the overall NCS results.

Exactly what differences in the two experiments or more likely, the two surveys, that would cause such different results are unclear. One possibility is the very different kinds of information CPS and NCS try to collect. The CPS interview consists of fairly straight forward factual type questions about employment status and labor force participation, which generally take eight minutes to complete. On the other hand, the NCS interview asks about

relatively rare events, so the questions are designed to cue the respondent as to what events are considered crimes and to probe their memory for such crimes. These questions may often seem redundant to the interviewers, especially since they must be asked of all persons age 12 and over in the household. However, CATI requires an explicit response to each question, which probably reduces the tendency of interviewers to skip questions. (The NCS interview averages about sixteen minutes.) Thus, with CATI providing a high degree of control over the interviewing procedures, it seems possible that the effect of CATI would be greater for surveys more difficult to administer, such as NCS, than for surveys less difficult to administer, such as CPS. Note, we did select hard-to-enumerate areas for the NCS CATI Experiment, where these effects may be more pronounced. Our intentions are to explore the above and other possible explanations in future work.

VI. Conclusions

The results from the first year of the NCS CATI Experiment were quite different from our initial general expectations. The personal crime rate for EG was 29% greater than the rate for CG. For household crimes, EG was 13% greater than CG.

Our investigation of possible sources or reasons for these differences provided some enlightenment. As expected, given these overall differences between CG and EG, the telephone interviews were the source of the overall differences. For telephone interviews, the personal crime rate for EG was 56% greater than for CG, and the household crime rate for EG was 23% greater than for CG. Beyond this we found little else to isolate any particular source or reason for these differences for personal crimes.

We did observe some variation of results for household crimes. Motor vehicle thefts, with no difference between CG and EG rates, showed some evidence of being different from burglary and larceny, which did show a difference for telephone interviews. Since MVTs have the highest proportion of incidents reported to police, the above result is probably correlated to the result of no difference between CG and EG for household crimes reported to police. In addition, we observed the surprising result of differences between CG and EG for serious household crimes, while there was no difference for non-serious crimes. (We hope to investigate this apparent inconsistency further by examining crime rates crosstabulated on whether reported to police by seriousness.)

If we make the assumption that there is a general underreporting of criminal victimization because of the inherent difficulty of recalling and reporting rare events, then one can say that CATI has made a marked improvement in the quality of NCS crime data. Preliminary results from models to predict the cost of conducting NCS with CATI indicate that CATI would most likely cost 4 percent more than the current procedures (McCarthy, Montagliani, and McGinn, 1988). Thus, given the magnitude of improvement in NCS crime estimates (29% for personal crimes and 13% for household crimes), CATI clearly appears to be a cost effective methodology of conducting NCS.

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TABLE 1 RESULTS OF NCS CATI EXPERIMENT FOR QUARTERS 1-4 1987

PERSONAL CRIME
(rate per 1,000 population age 12 and over)

	Control	Experimental	Exp./Control
Total	87.9	113.4	1.29 **
Personal Interviews	116.4	108.6	0.93
Telephone Interviews	73.9	115.5	1.56 **
CATI	NA	131.7	
Field	73.9	66.9	

HOUSEHOLD CRIME
(rate per 1,000 households)

	Control	Experimental	Exp./Control
Total	172.4	194.8	1.13 *
Personal Interviews	194.8	185.8	0.95
Telephone Interviews	161.1	198.9	1.23 **
CATI	NA	229.5	
Field	161.1	114.7	

* Significant at the 90 percent level (alpha = 0.10)
** Significant at the 95 percent level (alpha = 0.05)
(12219 household interviews)

TABLE 3 RESULTS OF NCS CATI EXPERIMENT FOR QUARTERS 1-4 1987

HOUSEHOLD CRIME (rate per 1,000 households)

BURGLARY

	Control	Experimental	Exp./Control
Total	59.5	70.8	1.19
Personal Interviews	70.4	65.1	0.92
Telephone Interviews	54.1	73.4	1.36 **
CATI	NA	83.5	
Field	54.1	45.7	

LARCENY

	Control	Experimental	Exp./Control
Total	84.4	97.6	1.16
Personal Interviews	96.4	93.1	0.97
Telephone Interviews	78.4	99.6	1.27 **
CATI	NA	116.9	
Field	78.4	52.2	

MOTOR VEHICLE THEFT

	Control	Experimental	Exp./Control
Total	28.4	26.4	0.93
Personal Interviews	28.0	27.7	0.99
Telephone Interviews	28.6	25.9	0.91
CATI	NA	29.2	
Field	28.6	16.8	

* Significant at the 90 percent level (alpha = 0.10)
** Significant at the 95 percent level (alpha = 0.05)
(12219 household interviews)

TABLE 5 RESULTS OF NCS CATI EXPERIMENT FOR QUARTERS 1-4 1987

NOT REPORTED TO POLICE

PERSONAL CRIME
(rate per 1,000 population age 12 and over)

	Control	Experimental	Exp./Control
Total	57.2	76.8	1.34 **
Personal Interviews	76.9	66.1	0.86
Telephone Interviews	47.5	80.8	1.70 **
CATI	NA	91.1	
Field	47.5	50.0	

HOUSEHOLD CRIME
(rate per 1,000 households)

	Control	Experimental	Exp./Control
Total	91.1	113.7	1.25 **
Personal Interviews	101.1	102.9	1.02
Telephone Interviews	86.1	118.6	1.38 **
CATI	NA	136.7	
Field	86.1	68.8	

* Significant at the 90 percent level (alpha = 0.10)
** Significant at the 95 percent level (alpha = 0.05)
(12219 household interviews)

TABLE 7 RESULTS OF NCS CATI EXPERIMENT FOR QUARTERS 1-4 1987

NON-SERIOUS CRIME

PERSONAL CRIME
(rate per 1,000 population age 12 and over)

	Control	Experimental	Exp./Control
Total	47.7	63.6	1.33 **
Personal Interviews	67.7	60.5	0.89
Telephone Interviews	37.9	64.9	1.71 **
CATI	NA	75.0	
Field	37.9	35.0	

HOUSEHOLD CRIME
(rate per 1,000 households)

	Control	Experimental	Exp./Control
Total	74.7	76.1	1.02
Personal Interviews	78.8	63.1	0.80
Telephone Interviews	72.6	82.0	1.13
CATI	NA	100.9	
Field	72.6	30.2	

Non-serious personal crime is defined as attempted crimes of violence and crimes of theft excluding thefts $50 or more.

Non-serious household crime is defined as attempted forcible entry, attempted motor vehicle theft and household larceny excluding larcenies $50 or more.

* Significant at the 90 percent level (alpha = 0.10)
** Significant at the 95 percent level (alpha = 0.05)
(12219 household interviews)

TABLE 2 RESULTS OF NCS CATI EXPERIMENT FOR QUARTERS 1-4 1987

PERSONAL CRIME (rate per 1,000 population age 12 and over)

VIOLENT CRIME

	Control	Experimental	Exp./Control
Total	28.3	36.3	1.28 **
Personal Interviews	44.4	42.5	0.96
Telephone Interviews	20.5	33.5	1.63 **
CATI	NA	39.9	
Field	20.5	14.6	

ROBBERY

	Control	Experimental	Exp./Control
Total	7.5	9.6	1.28
Personal Interviews	16.6	10.2	0.61
Telephone Interviews	3.0	9.3	3.10 **
CATI	NA	10.6	
Field	3.0	5.5	

ASSAULT

	Control	Experimental	Exp./Control
Total	20.9	26.3	1.26 *
Personal Interviews	27.9	30.9	1.11
Telephone Interviews	17.5	24.2	1.38 *
CATI	NA	29.3	
Field	17.5	9.1	

THEFT

	Control	Experimental	Exp./Control
Total	59.5	77.1	1.30 **
Personal Interviews	72.0	66.0	0.92
Telephone Interviews	53.4	81.9	1.53 **
CATI	NA	91.8	
Field	53.4	52.4	

* Significant at the 90 percent level (alpha = 0.10)
** Significant at the 95 percent level (alpha = 0.05)
(12219 household interviews)

TABLE 4 RESULTS OF NCS CATI EXPERIMENT FOR QUARTERS 1-4 1987

REPORTED TO POLICE

PERSONAL CRIME
(rate per 1,000 population age 12 and over)

	Control	Experimental	Exp./Control
Total	30.7	36.6	1.19
Personal Interviews	39.5	42.5	1.08
Telephone Interviews	26.4	34.7	1.31 *
CATI	NA	40.6	
Field	26.4	16.9	

HOUSEHOLD CRIME
(rate per 1,000 households)

	Control	Experimental	Exp./Control
Total	81.3	81.1	1.00
Personal Interviews	93.7	82.9	0.88
Telephone Interviews	75.0	80.3	1.07
CATI	NA	92.8	
Field	75.0	45.9	

* Significant at the 90 percent level (alpha = 0.10)
** Significant at the 95 percent level (alpha = 0.05)
(12219 household interviews)

TABLE 6 RESULTS OF NCS CATI EXPERIMENT FOR QUARTERS 1-4 1987

SERIOUS CRIME

PERSONAL CRIME
(rate per 1,000 population age 12 and over)

	Control	Experimental	Exp./Control
Total	40.2	49.8	1.24 **
Personal Interviews	48.7	48.1	0.99
Telephone Interviews	36.0	50.6	1.41 **
CATI	NA	56.9	
Field	36.0	31.9	

HOUSEHOLD CRIME
(rate per 1,000 households)

	Control	Experimental	Exp./Control
Total	97.7	118.7	1.21 **
Personal Interviews	116.0	122.7	1.06
Telephone Interviews	88.5	116.9	1.32 **
CATI	NA	128.6	
Field	88.5	84.5	

Serious personal crime is defined as completed crimes of violence and crimes of theft $50 or more.

Serious household crime is defined as completed burglary, household larceny $50 or more, and completed motor vehicle theft.

* Significant at the 90 percent level (alpha = 0.10)
** Significant at the 95 percent level (alpha = 0.05)
(12219 household interviews)