

EFFECTS OF EXPERIMENTAL AUDIO COMPUTER-ASSISTED SELF-INTERVIEWING (ACASI) PROCEDURES ON REPORTED DRUG USE IN THE NHSDA: RESULTS FROM THE 1997 CAI FIELD EXPERIMENT

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Key Words: Surveys, Methods, Drug Use, Field Experiments, ACASI, CAPI

The 1997 computer-assisted interviewing (CAI) field experiment evaluated the impact on reported drug use of using alternative versions of an audio computer-assisted self-interviewing (ACASI) version of the National Household Survey on Drug Abuse (NHSDA). Alternative versions of the ACASI questionnaire were examined using a factorial design conducted during the fourth quarter of 1997. A subsample of the Quarter 4 national NHSDA, which used a combination of a paper-and-pencil interview (PAPI) version and self-administered questionnaire (SAQ) answer sheets, comprised the control group for the study. A fuller description of the design can be found in Lessler, Witt, and Caspar (1998) in this volume. In this paper, we examine reported drug use and compare the experimental ACASI factors to each other and to the control group. We also present information on overall differences between ACASI and the control group. The following experimental factors are discussed.

Factor 1: Structure of the contingent questioning in the CAI interview. Under a contingent questioning strategy, respondents are skipped over detailed questions if they indicate they have not used the substance in earlier questions. Two versions were tested: a **single gate question** and **multiple gate questions**. In the single gate question version, respondents were first asked if they had ever used a substance and were skipped immediately to the next section if they had not. Under the multiple gate question version, every respondent answered three gate questions for each substance: use in the past 30 days, use in the past 12 months, and lifetime use. Only those respondents who answered "No" to each of the three questions were skipped to the next section.

Factor 2: Data quality checks within the ACASI interview. We examined the potential for improving data quality by having a random half of the respondents resolve inconsistent and questionable data during the interview. For these respondents, the ACASI program included additional questions that followed up on inconsistent answers and questionable reports, such as a suspiciously low age of first use for a substance.

Factor 3: Number of Chances to Report 30 Day

and 12 Month Use. This factor was included at two levels: a single opportunity to report use and multiple opportunities to report use. Under the single opportunity to report use, regardless of the skip version, respondents were only asked once to indicate use during the past 30 days or during the past 12 months.¹ With the multiple opportunities, respondents who indicate at least lifetime use of a substance were routed through the additional follow-up questions even though they had not indicated use in the particular time period. For example, respondents who reported that their last use was more than 30 days ago were asked to report the number of days they had used a substance in the past 30 days in spite of this report. Similarly, respondents who reported that their most recent use was more than 12 months ago but within the past 3 years were routed to the question on frequency of 12 month use. In addition, respondents who reported no cocaine use were asked about crack in spite of their denial of using any form of cocaine.

PAPI/SAQ Comparison Group. A subsample of the 1997 NHSDA Quarter 4 respondents served as the PAPI/SAQ control group. This comparison group was restricted to those 1997 NHSDA respondents who were in the same primary sampling units (PSUs) that contained the experimental field test sample. Details of the design can be found in Lessler, Witt, and Caspar (1998).

Analysis Methods. We used SAS 6.12 to create weighted estimates of the lifetime, past 12 month and past 30 day prevalence of drug use. Two sets of estimates were produced: one based on raw variables and another based on edited variables. The estimates based on raw variables only used the answers to the explicit questions on use within a particular period. The edited variables take into account the respondents' answers to other questions. For example, a respondent may report that he had used in the past 30 days and indicate that he had used on zero days in the past 30 days in a later question. In half of the versions, such respondents completed a set of inconsistency resolution questions. In the edited variables, we used all of this information to classify

¹Because of the structure of the questionnaire in which respondents first indicate the time period of their most recent use and then indicate the number of days used in that period, there are some implicit multiple use questions in every interview and these were analyzed as well.

respondents. There were a small number of indeterminate cases at the end of this process.

We also used statistical models that assessed the effect of:

1. ACASI experimental factors on prevalence of drug use
2. Effect of ACASI vs. PAPI on prevalence of drug use
3. Effect of ACASI experimental factors on break-off rates and time to complete the interview.

Logistic regression was used to evaluate the various ACASI experimental factors and ACASI vs. PAPI on binary and time-to-event responses. Due to the complex sample design, we used *SUDAAN Release 7.5* (Shah, Barnwell, and Bieler, 1998) to account for stratification, clustering, and unequal weighting, where appropriate. Statistical models for evaluating the ACASI experimental factors also included the following covariates:

1. **FI's rating of interview privacy:** a three-level categorical variable describing how often the respondent let the field interviewer (FI) know their answers, coded 1=none of the time, 2=some of the time, and 3=all of the time
2. **FI's rating of the degree of non-privacy/distraction during the interview:** coded 1-9, with Level 1 being the most private level and 9 being the highest degree of non-privacy
3. Respondent **age:** 12-17 vs. 18+
4. Respondent **sex:** male vs. female
5. Respondent **education:** less than high school, high school, greater than high school
6. Respondent **ethnicity:** Hispanic, black, and white

In addition to evaluating the main effects of skip pattern, multiple use, consistency checks, and the covariates, we also evaluated all 2-way and 3-way interactions among the three ACASI experimental factors:

ACASI 2-Way Interaction Effects:

1. Skip * Multiple Use
2. Skip * Consistency Checks
3. Multiple Use * Consistency Checks

ACASI 3-Way Interaction Effect:

1. Skip * Multiple Use * Consistency Checks

To compare the ACASI experimental factors on prevalence of drug use, a model with all main effects, covariates, and interactions was fit first:

Model 1: Main Effects + Covariates + Interactions

ACASI Main Effects (3 degrees of freedom):

Skip Pattern, Multiple Use, and Consistency Checks

Covariates (9 degrees of freedom):

Sex, Age group, Race/ethnicity, Education, Letting

FI Know Answers, and Degree of Distraction/Non-privacy

Interactions (4 degrees of freedom):

Skip * Multiple Use, Skip * Consistency Checks, Multiple Use * Consistency Checks, and Skip * Multiple Use * Consistency Checks

Wald chi-square tests were used to evaluate the main effects, covariates, and interactions of interest. This interaction model was used to determine if the global 4 degree-of-freedom interaction effect (containing all 2-way and 3-way interactions among the ACASI factors) was statistically significant. If the global interaction effect was not significant ($p>0.05$), all 2-way and 3-way interactions were removed, and a new main effects model (Model 2 below) was fit containing only ACASI main effects and covariates.

Model 2: Main Effects + Covariates

ACASI Main Effects (3 degrees of freedom):

Skip Pattern, Multiple Use, and Consistency Checks

Covariates (9 degrees of freedom):

Sex, Age group, Race/ethnicity, Education, Letting FI Know Answers, and Degree of Distraction/Non-privacy.

The ACASI experimental factors were then evaluated in the reduced main effects model. In the reduced model, each main effect is automatically adjusted for all other main effects and covariates present in the model.

However, if a significant global interaction effect (4 degrees of freedom) was detected ($p<0.05$) in Model 1, further modeling was done to evaluate specifically which 2- and/or 3-way interaction effect(s) were statistically significant. In situations where we determined that a particular ACASI experimental factor X was significantly interacted with another ACASI factor Y , then factor X was evaluated *separately* within each level of Y (these are sometimes called *simple effects* or *effect slices*).

Comparing ACASI Treatments to PAPI. To compare the ACASI treatments to PAPI, we fit a model with the main effects of treatment group (Levels 1-8 represent the 8 ACASI experimental combinations used in the study, and Level 9 is PAPI) and the covariates (sex, age, ethnicity, and education, as specified above).

Model: Treatment Group + Covariates

Treatment Group:

- 1 = Single Gate, No QC Checks, No Multiple Use
- 2 = Single Gate, No QC Checks, Multiple Use
- 3 = Single Gate, QC Checks, No Multiple Use
- 4 = Single Gate, QC Checks, Multiple Use
- 5 = Multiple Gate, No QC Checks, No Multiple Use
- 6 = Multiple Gate, No QC Checks, Multiple Use
- 7 = Multiple Gate, QC Checks, No Multiple Use
- 8 = Multiple Gate, QC Checks, Multiple Use

9 = 1997 Quarter 4 PAPI

Covariates: Sex, Age group, Race/ethnicity, and Education.

The following single degree-of-freedom contrasts were constructed from the 9-level treatment effect and evaluated:

1. ACASI as a whole vs. PAPI
2. Single Gate Skip vs. PAPI
3. Multiple Gate Skip vs. PAPI
4. Multiple Use Absent vs. PAPI
5. Multiple Use Present vs. PAPI
6. Consistency Checks Absent vs. PAPI
7. Consistency Checks Present vs. PAPI

Since there are no interaction effects in this model, all contrasts are automatically adjusted for other covariates present in the model. Again, Wald chi-square tests were used to evaluate each of these effects.

Results. Considering respondent burden, we preferred to use a single gate question and to avoid having respondents answer multiple questions on their drug use unless this had an adverse effect on the prevalence estimates. In addition, we had a preference for including the consistency checks if we found that they resulted in neither a greater number of break-offs or a much longer interview. Therefore, we first examined the affect of the ACASI treatment groups on the prevalence estimates.

Prevalence Ratios: Exhibits 1A through 1F show the ratio of prevalence estimates for the two levels of Factor 1: Contingent Questioning Strategy. We show the results for the total sample, 12-17 year olds and 18+ year olds. Exhibits 2A-2F and Exhibits 3A-3F present, respectively, the prevalence ratios for Factor 2: Data Quality and Factor 3: Number of Chances to Report Use. Each exhibit shows both the ratios of raw and edited variables. Also note that any illicit drug and any illicit drug but marijuana were not computed for raw variables and are shown in separate tables.

Contrary to our expectations, using a single gate question rather than a multiple gate question in general led to increased reporting of drug use particularly for the illicit substances: marijuana, cocaine, any illicit, and any illicit but marijuana. This is especially true for use during the past 30 days. In addition, any illicit drug shows higher prevalence ratios (>1.00) for all three reference periods in all three age categories (see Exhibits 1B, 1D, and 1F) except for 12 month use of any illicit drug use but marijuana for 12-17 year olds.

On the whole, when inconsistency checks were present, respondents gave somewhat higher reports of drug use across all drugs, for all reference periods, and all age groups (Exhibits 2A-2F). In addition, when we compare the two levels of Factor 3, the multiple chances

to report use, we noted that 12-17 year olds show an overall tendency toward higher reporting when multiple use questions are absent (Exhibits 3C and 3D). The exhibits for the total sample and 18+ year olds do not show any steady pattern in favor of either treatment group (Exhibits 3A, 3B, 3E, and 3F).

Modeling Results: Among all drugs, there were a total of 8 instances in which a treatment group was found to be significant at the 0.1 level. There is no inclination toward any particular treatment group based on significance. Cocaine did show the highest number of significant tests (4), but these were across all three recency periods and within no particular experimental group. Furthermore, three of four of the significant effects were interaction effects.

We examined the effect of the three factors on the time required to complete the ACASI sections of the interview by looking at:

- Total Core Time: Tobacco through Sedatives
- Core Treatment: Tobacco through Inhalants
- Remaining ACASI: All ACASI After Inhalants

There were significant differences in the time required to complete the interview across the treatments with, as could be expected, multiple gate questions, multiple use questions, and inconsistency resolution resulting in longer interviews. The absolute times were not very different, however. If the prevalence estimates had shown that either multiple gate questions or multiple use questions had other advantages, moreover, we felt that the differences in required time, although significant, were not large enough to be the determining factor in deciding which approach to use. For example, the median time to complete the core treatment sections was 10.27 minutes when consistency checks were present and 9.97 minutes when they were absent.

Based on these results, we felt that using a single gate question, no multiple use questions, and including inconsistency checks was the best ACASI approach for future rounds of the NHSDA.

ACASI vs. PAPI. We next compared the ACASI treatments to the PAPI and the combined ACASI results to the PAPI results. Here we show the results of the combined comparison. Examining the prevalence ratios (Exhibits 4A-4F), we note overall tendency for ACASI to yield higher reports of drug use. This is especially evident in the 12-17 year olds (Exhibits 4C and 4D) where the differences are quite dramatic, with a mean ratio of ≈ 1.53 across all three reference periods for any illicit drug and greater than 1.80 for any illicit drug but marijuana for all three reference periods.

There were several significant results. In Exhibit 5A, for the total sample the difference between the ACASI and the PAPI was significant at the 0.1 level for cocaine

and any illicit drug. When we ran this analysis for the 12-17 year olds (Exhibit 5B) every drug but cocaine showed some significant differences at the 0.05 level. Any illicit drug was significant at 0.05 for all three references periods. Modeling of the three factors individually against the PAPI did produce significant results, but no pattern or trend for any particular group was established. Thus, we expect that ACASI will yield significantly higher reports of drug use for youths when it is adopted for the NHSDA. There is some indication that this will also be true for the older age groups.

Interviewing Environment. ACASI increases reported prevalence among youths and has a minimal impact on reporting of adults. This is due in part to the respondents' perception to their interviewing environment.

All respondents to the ACASI interview in the 1997 field experiment were asked to complete a debriefing questionnaire using ACASI. In addition, a subsample of the Quarter 4 respondents from the 1997 NHSDA completed an ACASI debriefing questionnaire. This latter group served as a comparison group from which querying of preferences between computer and paper and pencil and the perception about privacy can be examined. Of the total 1,982 field experiment respondents, 1,953 (99%) completed the debriefing section, and a total of 584 (85%) of an original 713 in the comparison group completed the debriefing.

Respondent's Ease of Answering Questions: Exhibit 6 shows the results of respondents' answers when asked to rate their ability to record their answers using their particular interview mode, ACASI vs. PAPI, without the help of the FI. Overall, a large percentage of both groups reported not needing the FI's help when entering answers; however, there was a tendency for the ACASI respondents to indicate a larger percentage of No Help (88.3% vs. 73.5%). This difference was even larger for the youths with 20% fewer of the ACASI respondents indicating that they required help from the FI. We also note a 15% difference for adults with less than a high school education.

Level of Comfort in Answering Questions: Respondents also were asked if they were comfortable using their interview mode to respond to questions concerning use of both licit and illicit drugs (Exhibit 7). Overall, ACASI respondents were 12% more likely to report that they were comfortable (73.9% vs. 62.3%). Under both modes, youths were less comfortable than adults but showed an increase of 15% between ACASI and PAPI. Additionally, about 65% of ACASI respondents who reported any illicit drug use in the past 30 days indicated that they felt comfortable using the computer. This compares to 59.6% PAPI respondents

who reported using any illicit drugs and feeling comfortable using paper and pencil, indicating a preference for the ACASI interview mode among illicit drug users.

Computer vs. Paper and Pencil: Since the comparison group had experience using both the answer sheets and the computer to enter their responses, they made an ideal group to query their preference among the two modes. Exhibit 8 focuses on the mode preference and the respondent's computer experience. In all categories of computer experience, computer preference always outweighs the preference for PAPI. Of special note, nearly ½ of all non-first-time users who used a computer less than once a week said they would rather use the computer than PAPI. Also a range of 25% to 50% of categories indicated that neither mode made a difference as to what they preferred.

Recorded Voice: Exhibit 9 examines the use of the recorded voice for the ACASI respondents with various self-evaluated reading abilities. In support of ACASI, use of the recorded voice was negatively associated with the respondent's self-rating of reading ability. Only 14.7% of the respondents with excellent reading ability felt that the voice helped them a lot, whereas 48.7% of the fair to poor readers indicated that it helped them a lot.

Privacy: ACASI is a major factor in increasing the respondent's perception that the interview is private. Exhibits 10 through 12 present information on the respondents' perception of privacy. Exhibit 10 presents the information on the respondents' opinion as to whether the FI saw their answers. In all demographic groups, nearly twice as many of the ACASI respondents reported that the FI saw none of their answers—overall 82.6% for ACASI vs. 41.3% for PAPI. Nearly 40% of PAPI respondents indicated that the FI saw some of their answers, whereas only 13.1% of the ACASI respondents indicated such.

When asked which interview mode provided the best privacy protection (see Exhibit 11), the Quarter 4 comparison group responded with a range of ≈ 40% to 50% in favor of the computer and a range of ≈ 10% to 13% in favor of the answer sheet. Nearly ¼ of respondents indicated that either method would protect equally. Furthermore, as shown in Exhibit 12, users of illicit substances were more likely to say that ACASI provided better privacy protection.

Conclusion: The prevalence data indicate that ACASI will yield higher estimates of drug use particularly for youths. The debriefing data indicate that this is due to the privacy-enhancing features of the method.

References:

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Exhibit 1A: Total Sample Ratio of Prevalence Estimates for ACASI, Single Gate / Multiple Gate

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	0.97	0.97	0.91	0.90	0.92	0.94
Cigarettes	1.06	1.07	0.83	0.87	0.96	1.03
Marijuana	1.02	1.01	1.45	1.63	1.32	1.45
Cocaine	1.90	1.93	3.10	2.64	0.73	1.13
Inhalants	1.23	1.25	1.13	1.33	1.07	1.00
Hallucinogens	0.96	0.96	1.33	2.34	1.36	4.30

Exhibit 2A: Total Sample Ratio of Prevalence Estimates for ACASI, Inconsistency Checks: Absent / Present

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	0.96	0.97	0.89	0.91	0.94	0.85
Cigarettes	0.92	0.94	0.82	0.84	0.76	0.77
Marijuana	0.99	0.99	0.89	0.94	0.86	0.64
Cocaine	0.62	0.62	0.59	0.75	0.97	1.09
Inhalants	0.73	0.71	1.33	1.05	1.00	1.20
Hallucinogens	1.16	1.18	1.37	2.67	1.89	5.63

Exhibit 3A: Total Sample Ratio of Prevalence Estimates for ACASI, Multiple Use: Absent / Present

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	1.00	1.01	0.94	0.94	0.99	1.07
Cigarettes	1.06	1.06	0.88	0.88	0.72	0.70
Marijuana	0.90	0.90	1.05	0.80	1.20	1.31
Cocaine	0.67	0.68	1.84	1.47	0.64	0.98
Inhalants	0.64	0.63	1.13	0.77	1.07	1.00
Hallucinogens	0.68	0.68	1.04	0.48	1.05	0.27

Exhibit 1B: Total Sample Ratio of Prevalence Estimates for ACASI, Single Gate / Multiple Gate

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	1.14	1.29	1.45
Any Illicit but MRJ	1.32	1.16	1.30

Exhibit 2B: Total Sample Ratio of Prevalence Estimates for ACASI, Inconsistency Checks: Absent / Present

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	0.99	0.92	0.64
Any Illicit but MRJ	0.94	0.85	0.97

Exhibit 3B: Total Sample Ratio of Prevalence Estimates for ACASI, Multiple Use: Absent / Present

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	0.90	0.92	1.30
Any Illicit but MRJ	0.87	1.25	1.33

Exhibit 1C: 12-17 Year Old Ratio of Prevalence Estimates for ACASI, Single Gate / Multiple Gate

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	0.98	1.00	0.98	1.00	0.98	1.05
Cigarettes	0.93	0.94	0.78	0.99	0.81	1.07
Marijuana	1.19	1.18	1.12	1.12	1.09	1.32
Cocaine	1.81	1.92	1.94	1.86	1.59	3.77
Inhalants	1.12	1.19	0.90	0.90	1.14	0.95
Hallucinogens	1.10	1.08	1.12	1.25	1.27	1.22

Exhibit 2C: 12-17 Year Old Ratio of Prevalence Estimates for ACASI, Inconsistency Checks: Absent / Present

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	0.98	1.03	0.98	1.03	0.94	0.89
Cigarettes	0.98	1.05	1.01	1.09	0.82	0.92
Marijuana	1.04	1.02	0.91	0.94	0.86	0.85
Cocaine	0.69	0.74	0.80	0.96	1.61	4.68
Inhalants	1.10	1.07	1.18	1.21	0.84	1.08
Hallucinogens	0.80	0.83	1.55	1.70	2.32	2.26

Exhibit 3C: 12-17 Year Old Ratio of Prevalence Estimates for ACASI, Multiple Use: Absent / Present

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	1.04	1.09	1.05	1.07	1.06	1.12
Cigarettes	1.12	1.14	1.31	1.48	1.16	1.16
Marijuana	1.09	1.12	1.13	1.04	1.31	1.39
Cocaine	0.92	0.93	1.00	0.98	0.14	0.19
Inhalants	1.25	1.23	1.79	1.42	1.40	1.15
Hallucinogens	1.51	1.63	0.93	0.81	1.72	1.80

Exhibit 1D: 12-17 Year Old Ratio of Prevalence Estimates for ACASI, Single Gate / Multiple Gate

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	1.18	1.06	1.23
Any Illicit but MRJ	1.29	0.98	1.28

Exhibit 2D: 12-17 Year Old Ratio of Prevalence Estimates for ACASI, Inconsistency Checks: Absent / Present

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	0.98	0.84	0.76
Any Illicit but MRJ	0.86	0.82	0.61

Exhibit 3D: 12-17 Year Old Ratio of Prevalence Estimates for ACASI, Multiple Use: Absent / Present

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	1.11	1.10	1.21
Any Illicit but MRJ	1.20	1.22	0.93

Exhibit 1E: 18+ Year Old Ratio of Prevalence Estimates for ACASI, Single Gate / Multiple Gate

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	0.97	0.97	0.91	0.90	0.92	0.94
Cigarettes	1.07	1.08	0.84	0.87	0.98	1.03
Marijuana	1.01	1.00	1.53	1.76	1.37	1.48
Cocaine	1.91	1.94	3.23	2.73	0.65	1.00
Inhalants	1.24	1.26	7.50	16.00	--	--
Hallucinogens	0.95	0.96	1.48	3.17	1.43	8.00

Exhibit 2E: 18+ Year Old Ratio of Prevalence Estimates for ACASI, Inconsistency Checks: Absent / Present

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	0.96	0.97	0.89	0.90	0.94	0.85
Cigarettes	0.92	0.93	0.81	0.82	0.75	0.76
Marijuana	0.99	0.99	0.88	0.94	0.86	0.59
Cocaine	0.62	0.63	0.57	0.74	0.90	0.95
Inhalants	0.67	0.66	2.00	0.46	--	--
Hallucinogens	1.20	1.21	1.21	3.24	1.43	8.20

Exhibit 3E: 18+ Year Old Ratio of Prevalence Estimates for ACASI, Multiple Use: Absent / Present

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	0.99	1.00	0.93	0.92	0.98	1.06
Cigarettes	1.05	1.05	0.84	0.84	0.69	0.67
Marijuana	0.88	0.88	1.05	0.76	1.19	1.31
Cocaine	0.66	0.66	1.94	1.51	0.75	1.18
Inhalants	0.57	0.57	--	--	--	--
Hallucinogens	0.64	0.64	1.19	0.39	0.42	0.11

Exhibit 1F: 18+ Year Old Ratio of Prevalence Estimates for ACASI, Single Gate / Multiple Gate

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	1.13	1.34	1.51
Any Illicit but MRJ	1.33	1.13	1.30

Exhibit 2F: 18+ Year Old Ratio of Prevalence Estimates for ACASI, Inconsistency Checks: Absent / Present

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	0.99	0.93	0.60
Any Illicit but MRJ	0.95	0.85	1.12

Exhibit 3F: 18+ Year Old Ratio of Prevalence Estimates for ACASI, Multiple Use: Absent / Present

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	0.89	0.90	1.35
Any Illicit but MRJ	0.85	1.27	1.58

NOTE: Any Illicit includes Marijuana, Cocaine, Crack, Heroin, Inhalants, Hallucinogens, Painkillers, Sedatives, Stimulates, and Tranquilizers.

Exhibit 4A: Total Sample Ratio of Prevalence Estimates ACASI / PAPI

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	1.02	1.01	1.11	1.05	1.14	0.93
Cigarettes	1.03	1.02	1.03	0.93	0.97	0.86
Marijuana	1.03	1.01	1.12	1.09	1.29	0.90
Cocaine	1.56	1.49	2.43	1.64	2.36	0.97
Inhalants	1.70	1.63	0.91	0.80	0.76	0.33
Hallucinogens	1.16	1.10	0.71	0.50	0.38	0.29

Exhibit 4B: Total Sample Ratio of Prevalence Estimates ACASI / PAPI

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	1.17	1.47	1.09
Any Illicit but MRJ	1.62	1.75	1.11

Exhibit 4C: 12-17 Year Old Ratio of Prevalence Estimates ACASI / PAPI

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	1.22	1.18	1.31	1.11	1.74	0.91
Cigarettes	1.30	1.23	1.18	0.91	1.42	0.87
Marijuana	1.32	1.28	1.58	1.29	1.72	1.15
Cocaine	0.95	0.91	0.85	0.70	1.20	0.61
Inhalants	2.71	2.31	1.95	1.71	1.56	0.62
Hallucinogens	1.44	1.34	0.89	0.85	1.56	0.40

Exhibit 4D: 12-17 Year Old Ratio of Prevalence Estimates ACASI / PAPI

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	1.52	1.58	1.50
Any Illicit but MRJ	1.97	1.85	1.83

Exhibit 4E: 18+ Year Old Ratio of Prevalence Estimates ACASI / PAPI

Drug of Interest	Lifetime		12 Month		30 Day	
	Raw	Edited	Raw	Edited	Raw	Edited
Alcohol	1.01	1.00	1.10	1.05	1.12	0.93
Cigarettes	1.02	1.00	1.01	0.93	0.95	0.86
Marijuana	1.01	0.99	1.04	1.06	1.23	0.86
Cocaine	1.58	1.51	2.89	1.84	2.69	1.06
Inhalants	1.60	1.55	0.20	0.26	0.08	--
Hallucinogens	1.15	1.09	0.62	0.43	0.22	0.26

Exhibit 4F: 18+ Year Old Ratio of Prevalence Estimates ACASI / PAPI

Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Any Illicit	1.14	1.46	1.01
Any Illicit but MRJ	1.60	1.74	0.97

Exhibit 5A: Drug Prevalence Modeling Odds Ratio Results Total Sample ACASI vs PAPI			
Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Alcohol	1.09	1.17	0.85
Cigarettes	1.06	0.90	0.81
Marijuana	1.01	1.11	0.90
Cocaine	1.59 *	1.67	0.98
Any Illicit	1.30 *	1.57 *	1.10

* = Significant at 0.1 level

Exhibit 5B: Drug Prevalence Modeling Results 12-17 Year Old Ratio of Prevalence Estimates ACASI / PAPI			
Drug of Interest	Edited Variables		
	Lifetime	12 Month	30 Day
Alcohol	1.35 **	1.19	0.88
Cigarettes	1.43 **	0.89	0.84
Marijuana	1.36 **	1.35 **	1.16
Cocaine	0.91	0.69	0.60
Any Illicit	1.76 **	1.76 **	1.57 **

* = Significant Odds Ratio at 0.1 level
** = Significant Odds Ratio at 0.05 level

Exhibit 6: Respondent Ease of Answering Questions						
Respondent Characteristics	1997 Field Experiment			Comparison Group		
	CAPI/ACASI			1997 Q4 PAPI/SAQ		
	Were you able to enter your answers easily into the computer without having to ask the interviewer for help? (%)			Were you able to complete the answer sheets easily without having to ask the interviewer for help? (%)		
	Yes	No	DK/Ref	Yes	No	DK/Ref
Total	88.3	11.7	0.0	73.5	26.4	0.2
Age Group						
12-17	86.8	13.2	0.0	66.8	33.2	0.0
18+	90.2	9.8	0.0	80.1	19.5	0.3
Education ¹						
< High School	83.2	16.8	0.0	68.1	31.9	0.0
High School	90.8	9.2	0.0	84.0	16.0	0.0
> High School	93.8	6.2	0.0	81.4	17.9	0.7

¹ Education includes only individuals 18 and over.

Exhibit 7: Comparison of Debriefing Interview Respondents on Selected Debriefing Questions: Level of Comfort Answering Questions								
Respondent Characteristics	1997 Field Experiment				Comparison Group			
	CAPI / ACASI				1997 Q4 PAPI/SAQ			
	How comfortable did you feel using the computer to answer questions about your use of cigarettes, alcohol, and other drugs? (%)				How comfortable did you feel using the answer sheets to answer questions about your use of cigarettes, alcohol, and other drugs? (%)			
	Not at				Not at			
	Very	Some	All	DK/Ref	Very	Some	All	DK/Ref
Total	73.9	18.3	7.7	0.1	62.3	25.3	12.2	0.2
Age Group								
12-17	70.7	20.4	8.8	0.1	55.8	30.1	14.0	0.0
18+	78.1	15.6	6.2	0.0	68.8	20.5	10.3	0.3
Education ¹								
< High School	70.6	18.8	10.7	0.0	66.0	19.1	14.9	0.0
High School	76.3	17.4	6.3	0.0	75.0	15.0	10.0	0.0
> High School	84.3	84.3	12.1	3.6	65.5	24.8	9.0	0.7

¹ Education includes only individuals 18 and over.

Exhibit 8: Comparison of Respondent's Preference to Use Computers or Answer Sheets by Respondent's Computer Experience				
Respondent Characteristics	Comparison Group			
	1997 Field Experiment			
	Would you rather use the computer, fill out the answer sheet or wouldn't it matter to you? (%)			
	Would rather use the computer	Would rather fill the answer sheet	Doesn't make any difference	DK/REF
Computer Experience				
First time user	36.5	31.8	31.8	0.0
Every day user	59.4	6.8	33.8	0.0
One-four days/week	47.9	9.4	42.7	0.0
One-few days/month	55.4	18.5	26.1	0.0
Less than once a month	39.2	20.0	41.2	0.0
Currently not using computer	46.2	3.9	50.0	0.0
DK/REF	0.0	0.0	0.0	100.0

Exhibit 9: Comparison of Assistance Provided by the Recorded Voice by Respondent's Rating of Reading Ability					
Respondent Characteristics	1997 Field Experiment				
	CAPI / ACASI				
	Some people believe that having a recorded voice read the questions will help respondents understand the questions better. How much did the recorded voice help you to understand the questions? (%)				
	No Help	Some Help	A lot of Help	Did Not Listen	DK/Ref
Reading Ability					
Excellent	46.0	26.5	14.7	12.8	0.0
Good	30.1	37.1	26.6	5.7	0.1
Fair/Poor	16.8	31.9	48.7	2.7	0.0
DK/Ref	25.0	50.0	0.0	0.0	25.0

Exhibit 10: Comparison of Debriefing Interview Respondents on Selected Debriefing Questions: Did Interviewer See Answers?										
Respondent Characteristics	1997 Field Experiment					Comparison Group				
	CAPI / ACASI					1997 Q4 PAPI/SAQ				
	How many of your answers that you entered into the computer do you think that the interviewer saw?					How many of your answers that you marked on the answer sheets do you think the interviewer saw?				
	DK/Ref					DK/Ref				
	None	Some	A Lot	All	Ref	None	Some	A Lot	All	Ref
Total	82.6	13.1	1.9	1.8	0.6	41.3	42.1	7.0	8.7	0.9
Age Group										
12-17	79.4	16.3	2.2	1.3	0.8	38.7	43.8	8.9	7.5	1.0
18+	86.7	8.9	1.6	2.6	0.1	43.8	40.4	5.1	9.9	0.6
Education ¹										
< High School	78.2	13.2	3.6	5.1	0.0	40.4	36.2	6.4	17.0	0.0
High School	87.0	9.2	1.3	2.2	0.3	50.0	34.0	7.0	9.0	0.0
> High School	91.4	6.2	0.9	1.5	0.0	40.7	46.2	3.4	8.3	1.4

¹ Education includes only individuals 18 and over.

Exhibit 11: Comparison of Debriefing Interview Respondents on Selected Debriefing Questions: Privacy Protection?						
Respondent Characteristics	Comparison Group					
	1997 Field Experiment					
	Which method do you think is best for protecting your privacy while completing the survey?					
	Computer	Answer Sheets	Equally Well	Neither	DK/REF	
Total	49.8	11.0	25.9	13.0	0.4	
Age Group						
12-17	57.2	10.3	23.3	9.2	0.0	
18+	42.5	11.6	28.4	16.8	0.6	
Education ¹						
< High School	46.8	12.8	23.4	14.9	2.1	
High School	43.0	13.0	29.0	15.0	0.0	
> High School	40.7	10.3	29.7	18.6	0.7	

Exhibit 12: Comparison of Debriefing Interview Respondents on Selected Debriefing Questions: Privacy Protection by Respondent's Use Status					
Respondent Use Status	Comparison Group				
	1997 Field Experiment				
	Which method do you think is best for protecting your privacy while completing the survey?				
	Computer	Answer Sheets	Equally Well	Neither	DK/REF
Total	49.8	11.0	25.9	13.0	0.4
Alcohol					
Used in past 30 days	47.1	9.9	25.7	16.6	0.7
Used in past 12 months	49.8	10.2	23.6	15.7	0.7
Used at least once in lifetime	48.5	10.4	24.8	15.8	0.5
Never Used	52.1	12.0	27.7	8.3	0.0
Cigarettes					
Used in past 30 days	46.2	9.0	25.0	19.2	0.7
Used in past 12 months	44.0	9.3	28.0	18.1	0.6
Used at least once in lifetime	47.8	9.2	25.8	16.6	0.6
Never Used	52.2	13.0	25.9	8.9	0.0
Any Illicit Substance					
Used in past 30 days	53.9	3.9	21.2	19.2	2.0
Used in past 12 months	53.4	8.0	21.6	15.9	1.1
Used at least once in lifetime	53.1	7.7	19.1	19.1	1.0
Never Used	48.3	12.3	29.3	10.0	0.0