TELEPHONE INTERVIEWS OF ADOLESCENTS PROBLEMS AND PROSPECTS IN A SUBSTANCE ABUSE PREVALENCE SURVEY

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Introduction

Over the past two years we have been conducting a household survey of the Washington State population for the purpose of establishing baseline measures of prevalence of substance use and abuse. The overall purpose of the surveys is to produce prevalence and incidence information on the Washington State population as a whole, and of various population subcategories including Blacks, Whites, Asians, Native American Indians, Hispanics, Women, Men, and Adolescents. Washington state was one of thirteen states funded by the Center for Substance Abuse Treatment in 1993 to conduct studies of the incidence and prevalence of substance abuse and dependence under a federal contract entitled "State Demand and Needs Assessment Studies: Alcohol and Other Drugs." From these studies, each state is to generate reliable estimates of substance abuse prevalence and the need and demand for treatment for the state and for substate planning units. Survey information will be used to establish lifetime and annual prevalence rates of substance abuse and dependence, estimates of the number of persons who have ever used treatment, and estimates of the number of persons "at risk" of substance abuse or dependency.

Interviews were conducted over a twelve month period, from September 1993 through August 1994, so that seasonality of substance use and abuse could be assessed. The sample size for the study was quite large, with 7,326 interviews of adults completed, and 860 adolescents conducted.

A major purpose of this study was to provide separate estimates of rates for different subgroups, including the below and above poverty populations, male and female populations, urban and rural populations, and five separate ethnic/racial groups: Whites, Blacks, American Indians, Asians, and Hispanics. Minority populations were oversampled to increase their proportions in the survey. A complete description of the sampling plan and survey procedures is provided in the Research Protocol for the project (Kohlenberg, et al., 1993), pages 14 to 32. The sample design called for twice as many female respondents as male respondents, because females use alcohol and drugs at a lower rate than males. The goal was to have a minimum of 100 completed interviews for all male sample strata, and 200 completed interviews for all female strata, in order to have enough respondents who used alcohol and drugs. Sample replicates were created weekly, for the duration of the survey. This resulted in a total of 52 replicates, plus an additional 9 supplemental sample replicates which were needed to achieve the desired number of completed interviews. Table 1 describes the sampling plan in terms of the stratum populations.

Another major objective of this study was to identify substance use and abuse among adolescents aged 12 to 17 years. The sample of adolescent respondents are identified by a similar approach to that taken in the National Household Survey on Drug Abuse. Households interviewed for the needs assessment survey are included in the survey of children if the household contains one or more child between the ages of 12 and 17. In the telephone interview of household residents those households with children are requested to provide the name of one randomly selected child, using the most recent birthday method if there is more than one eligible child.

The inclusion of adolescents and the oversampling of minority populations in this study provides a unique opportunity to examine the effectiveness of recruiting adolescents by telephone and of obtaining interviews with adolescents on the fairly sensitive topic of substance use and abuse. Interviewing adolescents requires getting parental permission prior to the interview. In the present study this was done by asking the respondent in the adult household survey (if they were the parent, and if there were adolescents living in the household), for permission to conduct a telephone interview with a child. This approach has several advantages. First, since the parent has just completed an interview they are in a good position to provide informed consent for a child's participation. Second, obtaining permission in this way solves some human subjects concerns about getting informed

consent from parents. Third, obtaining interview data on both adult and adolescent members of the same household allows for an analysis of the correlation of substance use within households.

Table 1 Sample Design and Population Totals for Washington State by Sample Strata

Estimated Population*	Male				Female				
	Above Poverty		Below Poverty		Above Poverty		Below Poverty		
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Total
White	900309	311270	186294	105502	874592	297310	270512	140768	3086557
Am Indian	8260	4916	5137	5019	8320	4475	7038	6232	49397
Hispanic	18957	11046	8136	22689	18783	8796	8832	18216	115455
Black	27214	2332	14021	1211	21763	1504	17251	1273	86569
Asian	38722	4423	16431	2127	47054	5432	21249	3155	138593
Total	993462	333987	230019	136548	970512	317517	324882	169644	3476571

*Estimated Population: Figures provided by ORDA:DSHS for Washington State population age 18+.

Both adult and adolescent questionnaires are similar in content. The questionnaires are organized into five main groups of questions. After a brief introductory section, the first set of questions consist of items dealing with individual substance use. The second section of the questionnaire is on other substance use and abuse. The third section of the questionnaire asks about experiences with treatment for substance abuse, and need for treatment. A fourth section of the questionnaire is an assessment of the extent to which individuals are "at risk" of becoming dependent on alcohol and other drugs. A final section of the questionnaire obtains basic demographic characteristics of survey respondents. The length of the adult interview varies from 20 minutes to 40 minutes, depending on extent of substance use. The adolescent questionnaire takes approximately 20 to 30 minutes to complete.

Research Questions

Conducting random sample surveys of children has never been easy, because of the difficulties in obtaining suitable sample frames. Many surveys of children are conducted in school settings because this is generally the easiest and most cost-effective means of surveying large numbers of children. However this method may produce questionable results if the randomly selected school districts and classrooms don't all agree to participate, which is often the case. There are generally additional requirements for obtaining parental permission to survey children as well. Surveys conducted using federal funds must be reviewed by Institutional Review Boards, and must conform to guidelines for the protection of human subjects published in 45 CFR 46.

The procedure we used to obtain a random sample of adolescents, was to use the sample of completed interviews from the adult household survey as the sample frame for the survey of adolescents. This has several advantages. First, it should yield a more representative sample of adolescents, since it is derived at least in part from an RDD sample frame that represents all telephone households in Washington State. Second, it satisfies the need to obtain parental permission, since respondents in the adult survey who are parents can be asked to give permission as part of the adult survey. Third, it satisfies IRB concerns about getting informed consent. Parents who participated in the adult survey are thoroughly informed about the content of the questionnaire, having just completed the interview prior to their being asked for permission to interview the child. Fourth, obtaining survey data from both a parent and a child enables analyses of within household effects on drug and alcohol use.

We used Census data from STF1A (short form 100% count) to determine the number of households with teens 12 to 17 years of age (376,191). We then used STF3A (long form sample) to find the percent of population who were teens for each ethnic category. These percents were applied to the total number of households with teens to estimate the number of teen households for each ethnic category. Table 2 below presents for White, Asian, Black, Hispanic, and Native American Indians, the percent of teens based on various census sources.

Table 2 Various Census Estimates of Percent of Teens in Washington State by Ethnic Category

	White	Asian	Black	Hisp	Nat Am
Percent of Families with Children 6 to 17	35%	45%	45%	49%	46%
Est. percent of Families with Children 12 to 17	17%	22%	22%	24%	23%
Teens as a percent of Population (STF3A)	8%	10%	5%	11%	11%
Teens as a percent of Households (STF1A)	19%	35%	14%	40%	36%

For the present study, we were interested in answering four questions: (1) What percent of households in the state have teenage children between 12 and 17 years? (2) What percent of parents and guardians in these households would give consent to have a child interviewed? (3) What response rates would we achieve with a telephone survey of these adolescents? (4) What differences are there in these rates by ethnicity?

Results

Question 1: What percent of households have children between 12 and 17 years of age? Table 3 presents results to answer this question. For the entire survey, we found that 49% of households interviewed had no children in the household. This is the identical percent of family households without children reported by the 1990 Census. Seventeen percent of households had one child, and 34% of households had more than one child. Seventy-five percent of households had no teenage children, fifteen percent had one teenage child, and ten percent of households had more than one teenage child.

There was variation among the ethnic groups in the number of teenage children in households, as shown in Table 4. In the white, as well as the Black sample, 82% of households did not have any eligible children. Households in the Hispanic and Native American Indian strata were twice as likely to have more than one teenage child in the household.

On the whole, the percent of households with teenagers in the survey corresponds closely to the percent of households with teens reported by the Census. The only major deviation is for the Asian stratum, where the survey under-reports teens by 10% compared to the Census estimate. We are unable to explain this difference at this time.

Question 2: What percent of households with eligible children gave consent to have a teenage child interviewed? Table 5 presents the data needed to answer this question. Of the 1,839 households with teenage children, only 80% identified a parent or guardian who could provide permission. Of these, only 72% were available and could be contacted for permission. And, only 64% actually gave permission to contact the teenager for an interview.

To answer this question we also examined the results of a sequence of three questions in the survey which asked for several permissions. The first question asked the respondent for their social security number so that we could match the survey data to state record data. The second question asked the respondent for permission to conduct a followup interview with them a year later. The third question asked for permission to interview a teenage child 12 to 17 who lived in the household. The script for these questions is listed below.

Script: *Because of the importance of this study in helping the Department of Social and Health Services plan for better services in your county, two additional follow-up studies are planned. The FIRST is to add the answers obtained in THIS interview to information on services people may have received from the state. These would include such services as welfare, Medicaid, drug and alcohol treatment, and unemployment benefits. The SECOND FOLLOW-UP is to call people in six months or a year to see if they would be willing to participate in a follow-up interview.*

Question 1: *For the first follow-up study, information will be obtained from state records. To get this information, we would need your permission to search the state's administrative records.*

Table 3 Number of Households Interviewed by Total Number of Teenagers and Total Number of Children in the Household.

Total Teenage Children in HH	Total Number of Children in HH			
	Zero	One	More than One	Total
Zero	3606	740	1141	5487
One	0	497	631	1128
More than One	0	0	711	711
Total	3606	1237	2483	7326

Any information we get would be kept confidential, and no one except authorized research staff would be allowed to see your records. We would also need your name and social security number. Could we get this information from you?

Question 2: *To be able to call you back for another interview in six to 12 months, we would need to get your name and address and your permission to keep your name, address and telephone number. Would you be willing to give us this information and to let us call you back later?*

Question 3: *The State of Washington is trying to learn more about teenage drinking and drug use in order to find better ways to prevent it. As part of this study, we need to talk with teenagers across the state. Earlier, you told me there (is/are) _____ teenagers between 12 and 17 years old in your household. We would very much like to interview the teenager with the most recent birthday. May we have your permission to call _____ within the next few weeks to conduct an interview on teenage alcohol and drug use.*

All adult respondents to the survey were asked questions one and two. Only those respondents with eligible children were asked question three. We felt fairly certain that question one would be the most onerous of the three, and would get the smallest percent agreement. We were uncertain about questions two and three. Of the three questions, however, the third was the most important since a high permission rate was necessary to have a representative sample of adolescents.

The results for all three questions are presented in Table 6 below, by ethnicity of household as determined by the ethnic status of the adult respondent. As we predicted, we got the lowest rate of permission for the social security number question, and the highest rate for the adolescent interview question. There are few differences among the ethnic groups, although the American Indian and Hispanic ethnic samples were the most cooperative, with higher rates of giving permission than the other ethnic groups. Only the Asian sample showed a significant difference from the other ethnic groups in the percent giving permission to interview an adolescent.

Question 3: What response rates did we achieve with a telephone survey of adolescents? Table 7 presents data on the number of households with teenagers for each ethnic category, and the number of teenagers actually interviewed. Of the 1,839 households with eligible teenagers, only 859 teens actually completed interviews for a 47% response rate. Asians had the lowest rate of participation, and Whites the highest.

Question 4: What differences are there in these rates by ethnicity? There are substantial differences among the ethnic groups with respect to the number of teens living in the household. Hispanic and Native American Indian households had the highest rate, with over a third of households having teenagers. Black households had the fewest teenagers, at 18%, along with White households at between 16% and 20%. There was substantial consistency in the rates at which ethnic groups gave permission to interview teenagers. For all but the Asian category, rates were 85% to 89%.

Asians as a group were the least likely to give permission to interview teenagers, with only 70% of households giving permission. This led also to the lowest response rate among all the ethnic groups. Only 37% of Asian households with teenagers had an interview completed. Black households were also low, with only 40% of these households having a teenage interview completed. The highest rate of participation was for the White sample, at a 59% response rate.

Table 4 Percent of Households with None, One, and More than One Eligible Adolescent by Sample Stratum

Sample Stratum	Number	Number of Teens in HH				Census % of HH's w/Teens
		None	1 or More	One Only	More than 1	
White, Rural, Above	461	80%	20%	13%	7%	19%
White, Urban, Above	428	84%	16%	10%	6%	
White, Rural, Below	574	80%	20%	12%	8%	
White, Urban, Below	528	84%	16%	10%	6%	
Asian, Above	676	76%	24%	15%	9%	35%
Asian, Below	594	78%	22%	14%	8%	
Black	1186	82%	18%	12%	6%	14%
Hispanic, Rural, Above	862	61%	39%	22%	17%	40%
Hispanic, Urban, Above	407	68%	32%	20%	12%	
Hispanic, Rural, Below	229	64%	36%	17%	19%	
Hispanic, Urban, Below	211	81%	19%	12%	7%	
American Indian, Rural	665	64%	36%	22%	14%	36%
American Indian, Urban	504	72%	38%	17%	11%	
Total Completed Interviews	7325	5486	1839	1128	711	

Table 5 Number and Percent of Households Interviewed Who Gave Permission to Interview a Teenage Child

Total Number of Households	Number	Percent of Households	
		Total HH	Teen HH
Interviewed	7,326	100%	-
With Children	3,720	51%	-
With Teenage Children	1,839	25%	100%
Identified a Parent or Guardian	1,466	20%	80%
Were Available to Request Permission	1,317	18%	72%
Gave Permission to Interview a Teenage Child	1,178	16%	64%
Completed an Interview with a Teenage Child	859	12%	47%

We found that Hispanic and Native American Indian respondents to be the most cooperative in terms of giving permission to interview teenage children. These groups were also the most cooperative for giving their social security numbers to us, and for giving permission to conduct followup interviews.

Conclusions

Obtaining representative samples of teenagers from telephone households and conducting telephone interviews with them is very possible, as demonstrated by this data. However, this procedure is certainly not the most cost effective way of getting a sample of

teenagers. Only 25% of households in Washington State have teenage children. Thus, three-fourths of households would have to be screened out of a telephone sample. Overall, over eight households would have to be contacted in order to obtain one interview with an adolescent. In this study, only 859 interviews with adolescents were conducted out of a possible 1,839 households containing a teenager, and out of 7,326 households actually participating in the survey.

The approach used in this study is similar to that used for the National Household Survey of Drug Abuse (NHSDA) conducted in 1988 by the Research Triangle Institute (RTI). That survey also used telephone and self-administered surveys to interview a sample of teenagers 12 to 17 years of age. They reported an 82% completion rate for interviews of teenagers (Gfroerer & Hughes, 1992).

We believe that one major difference between our study and the NHSDA is the mode of initial contact. For the NHSDA this involved a face-to-face interview of households first, followed by either a telephone or self-administered questionnaire. This approach most likely facilitated greater cooperation from households in getting permission to interview adolescents.

Table 6 Percent of Households Agreeing to Requests for: Social Security Number, a Followup Interview, and Permission to Interview an Adolescent.

Ethnic Category	Question 1: SSN	Question 2: Followup Interview	Question 3: Adolescent Interview
White	45%	61%	85%
Asian	40%	68%	86%
Black	48%	64%	70%
Hispanic	53%	75%	89%
Native American	56%	79%	89%
Total	40%	66%	85%

Table 7 Response Rates for Surveys of Teenagers by Ethnic Category

Ethnic Category	Households with Teens	Number of Teens Interviewed	Response Rate
White	362	212	59%
Asian	289	108	37%
Black	213	86	40%
Hispanic	589	283	48%
Native American	386	170	44%
Total	1,839	859	47%

References

Code of Federal Regulations, 45 CFR 46, 1991. Title 45 - Public Welfare. Publication No. 0-406-756. Federal Policy for the Protection of Human Subjects. Revised as of June 18, 1991

Gfroerer, J. & Hughes, A. (1992) Collecting Data on Illicit Drug Use by Phone, In C. f. Turner, J. T. Lessler, & Gfroerer, J. C. (Eds.) Survey Measurement of Drug Use: Methodological Studies. Washington, D.C.: Public Health Service.

Kohlenberg, E., Estee, S., & Kabel, J. R. (1993) Substance Abuse Prevalence Project: Research Protocol. Olympia, WA: Washington State, Division of Alcohol and Substance Abuse.

NIDA (National Institute on Drug Abuse) (1990) National Household Survey on Drug Abuse: Main Findings, 1988. DHHS Pub. No. (ADM) 90-1682. Washington, D.C.: U.S. Government Printing Office.