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Testing Methodologies to Recruit Adult Drug-Using Couples

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Abstract

Given the increased reliance on caller id, caller blocking, and answering machines, random digit dialing has become a less successful recruiting technique, especially among younger individuals. This pilot study tested the feasibility of using multi-step mailed survey methodology to obtain a random sample of adult, substance-using couples. Feasibility was assessed in terms of response rates and generalizability of the sample. A sample of 1000 names and addresses was purchased from a professional survey company. Half of the sample received a \$1 incentive and the rest did not receive the incentive. There were no other differences between the other procedures used. The response rate for the incentive group was significantly higher compared to the non-incentive group (66% vs. 47%, $p < .001$). Past month marijuana use was 4.6% compared to estimates from the US National Survey on Drug Use and Health for this region of 5.0%. Similarly, rates of heavy drinking and attitudes about drug use were also similar to other estimates. There were no differences on substance use for the incentive group compared to the non-incentive group. This pilot study demonstrated the feasibility of using a multi-step mailed survey to recruit a representative sample of adult, substance-using couples.

Keywords

participant recruiting; mailed surveys; adult couples; illicit drugs; alcohol use

One of the critical issues in public health and epidemiologic research is the successful recruitment of an appropriate sample. This challenge can be particularly problematic when the population of interest is relatively small and based on characteristics that the potential participants may be unwilling to acknowledge such as illegal drug use. Traditionally, methods for identifying and recruiting drug using adults have focused on four key methods. The first approach is the large, nationally representative survey samples commissioned by the US

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Federal Government. Although very representative, this resource is extremely expensive and not usually feasible for individual researchers or even teams of researchers. A second approach relies on advertising to recruit participants; however, this may introduce several sources of bias (e.g., volunteer bias). Additionally, it is not possible to know the characteristics of the “non-responders.” A third common method for recruiting adult, substance-using individuals is treatment-based recruiting but these samples often identify more severe cases (e.g., Berkson Bias, 1946). A final strategy relies on random digit dialing to identify and recruit a generalizable sample. The use of random digit dialing reduces the bias that is created compared to participants responding to ads; however, over time the value of this approach has diminished for several reasons (e.g., caller id, call screening, Xu, Bates, Schweitzer, 1993). Further, an increasing proportion of individuals rely solely on cell phones, especially in the 18–35 age range (Keeter, 2006).

The objective of this pilot study is to assess the feasibility of the Total Design Method (TDM, Dillman, 2000, 2007), a methodology that relies on a series of steps to obtain a random survey sample using mailed questionnaires, as a method of recruiting couples in which one or both members used illicit drugs in the past year. In order to assess feasibility, we will examine: 1. If the response rates for using the TDM with a non-conditional monetary incentive were higher compared to a no incentive group while not creating group differences; 2. If the current sample and national estimates of drug use attitudes were similar; 3. If the current sample and national estimates of the prevalence of heavy drinking and marijuana use were similar.

2.0 Methods

A list of 1000 names, telephone numbers, and addresses of individuals residing in Erie County, NY was purchased from a commercial survey company (Survey Sampling, Inc.). Survey Sampling, Inc. is able to provide these listings based on targeted age ranges for the head of household. We targeted married or cohabiting couples in households with the head of household aged 18–35 years old. Our proposed methodology follows guidelines suggested by the Total Design Method (TDM) described by Dillman (2000; 2007). The Institutional Review Board of the State University of New York at Buffalo approved the research protocol. Individuals received a letter in the mail informing them of an upcoming second mailing with a brief questionnaire. They were told that the questionnaire would ask about their general health and health-behaviors (including tobacco use, alcohol use, and recreational drug use) and leisure activities. This “prenotice letter” approach has been found to be an effective way to increase recruiting efforts (Dillman, 2000). All mailings provided project contact information for individuals who had questions or wanted to opt out of participating. Further, for one group, the letter mentioned that a small, monetary incentive would be included in the next mailing and that this incentive was for them to keep regardless of whether or not they returned the questionnaire.

One week later, targeted individuals received the questionnaire and a letter describing the study. Only one person of the couple needed to complete and return the questionnaire. In this mailing, half of the sample was provided with a one dollar bill as an incentive to return the survey. The other half did not receive the monetary incentive. Individuals were asked to complete the questionnaire and return it in a postage paid envelope. Postage was directly metered onto the envelopes (i.e., business reply envelopes were not used) on both the outgoing and return questionnaires.

One week after the questionnaires were mailed, a third mailing was sent to all participants. This third mailing was a reminder/thank you postcard. For participants who did not return their questionnaire within one week of the reminder postcard, a duplicate questionnaire was mailed to them. This has been consistently shown to increase response rates in mailed surveys (for a

review, see: Edwards, 2002). A final mailing, number five, was sent one week after a non-response from the previous mailings. The final attempt was simply a reminder letter encouraging the individuals to return their surveys. It did not include another questionnaire, but provided a phone number and email address to request a duplicate questionnaire.

3.0 Results

To assess the feasibility of the TDM to recruit a community sample of adult, drug using couples, this pilot study examined three key issues: 1. Did the response rate improve with the addition of a non-conditional monetary response without creating group differences; 2. Was our sample similar to the larger community in terms of attitudes about heavy drinking and drug use; 3. Was the prevalence of heavy drinking and drug use similar to estimates from larger surveys. The overall response rate was 57.4% (569/992). Eight mailings were returned by the US Postal Service as non-deliverable. The response rate for the incentive group was significantly higher compared to the non-incentive group, (66.7%; 331/496; vs. 49.2%; 244/496; $p < .001$). The overall refusal rate was quite low (1.5%) with no differences in refusal rates between the two groups. There were also no differences between the two groups in terms of drug or alcohol use. In the total sample, 83.9% ($n = 454$) were married and an additional 3.9% ($n = 31$) reported that they were not married but “currently living with a partner as if married.” Thus, our targeting of adult couples was successful.

In terms of substance use attitudes, individuals were asked “how much do people harm themselves physically and in other ways when they use marijuana once a month” and “how much do people harm themselves physically and in other ways when they have five or more alcoholic beverages once or twice a week.” Perceptions of great risk associated with heavy drinking were slightly higher in the pilot study compared to National Household Survey on Drug Use and Health Estimates (NSDUH; SAMHSA, 2004) and perceptions of risk associated with marijuana use were slightly lower in the current report (Table 1). However, the 95% confidence intervals for each estimate overlapped between the current sample and the NSDUH findings indicating that there was not a statistical difference between the estimates at an alpha level of 0.05.

The final analysis compared prevalence of heavy drinking and marijuana use in our sample compared to other estimates. Two sets of comparisons were made for marijuana use and binge drinking. The first comparison was with reports from the NSDUH for the Western NY region for individuals aged 26 or older. The second comparison was with NSDUH National Estimates for 18–49 year olds. The rates of marijuana use and heavy drinking were similar to regional estimates of the NSDUH as well as national estimates reported in the NSDUH. Although the point estimates in the current reported tended to be slightly lower, many of the comparison involved overlapping confidence intervals indicating that there was not a statistically significant difference at the $p < .05$ level (Table 1).

4.0 Discussion

Given the increased reliance on caller id, caller blocking, and answering machines, random digit dialing has become a less successful recruiting technique, especially among younger individuals. Following an approach described by Dillman (2000; 2007) and utilized by many researchers to date (Edwards et al., 2002; Stephen, 2004; Tourangeau, 2004) we tested the effectiveness of the methodology in Erie County, NY to recruit a sample of young adult drug-using couples. Dillman’s (2000; 2007) method outlines a series of steps (e.g., prenotice letter, multiple contacts, personalization of materials, etc.) that are designed to increase the response to mailed surveys compared to traditional methods that do not employ these extra steps.

Our overall response rate of 57.4% exceeds many mailed surveys that did not utilize such an approach. For example, in a meta analysis of 38 studies that used mail surveys, response rates varied from 28.9% to 34.2% (Church, 1993). Thus, our overall response rate exceeds traditional mail survey methods. When the response rate for the incentive group was examined, the response rate was 66.7%, thus far exceeding traditional one-step mailed survey methods. Importantly, there were no differences between the incentive group and no incentive groups with respect to the prevalence of heavy drinking or marijuana use. In a review of studies, Church (1993) found studies that used of non-conditional monetary incentive (without other procedures) had an average response rate of 53.0%. The response rate of the current report approaches response rates of some large-scale national studies that use face-to-face interviews assessing individuals in their homes. For example, in the National Comorbidity Survey Replication (Kessler et al., 2003), the response rate was 73%.

In terms of the representativeness of the current sample, we found that the attitudes about heavy drinking and drug use in the current sample were not significantly different compared to national estimates. For both marijuana use and heavy drinking, the point estimates for the current sample were slightly lower compared to NSDUH for the Western NY region as well as national estimates. However, for most comparisons, the 95% confidence interval for the current report overlapped with the other estimates, suggesting that there was not a statistically significant difference between the samples.

The current study must be evaluated after considering several limitations. First, although the percentages of drug use reported by men and women in the current report were very similar to other estimates, the actual number of individuals associated with these percentages was low. However, this was a one time sampling technique. In order to increase the sample size needed to conduct a research study with adult, drug using couples, the sampling could be done over the course of several months. Another limitation is that the survey was quite brief, and thus, we do not have more detailed estimates of nature of the individuals' drug use. However, the goal of the current report was a feasibility test to determine if individuals would report illicit drug use and heavy drinking in a mailed survey. Findings from the current report suggest that the Total Design Method is a viable technique to identify adult drug-using couples in the community.

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Table 1
Representativeness to General Population

	Current Study	National Survey on Drug Use and Health (NSDUH: WNY region)
Attitudes about Substance Use (% and 95% confidence interval)		
Perceptions of “great risk” associated with drinking 5 or more alcoholic drinks 1–2 times per week	43.9% (39.6%–48.2%)	38.9% (34.6%–43.4%)
Perceptions of “great risk” associated with monthly marijuana use	32.9% (27.1%–35.2%)	39.0% (33.9%–44.2%)
Past Month Substance Use (% , N, 95% Confidence Interval)		
	Current Study	NSDUH: WNY region
Past month binge alcohol use	4.6% (53; 3.5%–6.0)	5.0% (3.5%–7.0%)
Past month marijuana use	17.5% (184; 15.3%–20.0%)	24.3% (20.9–28.2)
Past Month Substance Use: Women (% , N, 95% Confidence Interval)		
	Current Study	NSDUH (US Estimates)
Past month binge alcohol use	16.2% (11.7%–21.7)	22.8% (21.8%–23.8%)
Past month marijuana use	6.2% (3.4%–10.1)	6.6% (6.2%–7.0%)
Past Month Substance Use: Men (% , N, 95% Confidence Interval)		
	Current Study	NSDUH (US Estimates)
Past month binge alcohol use	35.9% (28.7%–43.7%)	41.6% (40.2%–43.0%)
Past month marijuana use	9.6% (5.6%–15.1%)	11.7% (10.9%–12.5%)

Percentage with 95% confidence intervals reported