

Deviance Disavowal, Interviewer Role, Social Interactions, and Underreporting in a Drug Use Survey

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Introduction

Social research on drug use relies heavily on survey data. Prior studies of the prevalence rate of self-reporting versus urine tests results have generally indicated fair consistency. Despite this, the vulnerability of self-reports to underreporting bias has continuously been noted as an important limitation in many empirical studies using self-report data. While self-reported measures continue to be criticized in terms of response validity, attempts to study the correlates of the inconsistencies are lacking (GAO, 1993; Mieczkowski, 1990; Rouse, Kozel, and Richards, 1985; Single, Kandel, and Johnson, 1975; Turner, Lessler, and Gfroerer, 1992). Moreover, virtually all of these studies have been conducted on the respondent side. To date, no research has been reported on interviewer-respondent interaction effects on the disavowal of drug use.

This study proposes and tests an integrated theoretical framework in which three sources are identified as having influence on individuals' drug use reporting behavior: (1) Respondent characteristics are associated with social tolerance and stigma avoidance, which are correlates of false-reporting of drug use; (2) Interviewers had conditional effects on drug use disavowal; and (3) The social context where the interviewing processes occur pulls members of lower-drug-use-risk groups further away from admitting drug use behavior.

Toward an Interviewer-respondent Interaction Model of False Self-Reporting of Drug Use

1. Social tolerance and stigma avoidance -- respondents' characteristics as correlates of false-reporting of drug use.

When responses are made directly to an interviewer, social desirability bias is enhanced (Tourangeau and Smith, 1996). When being asked sensitive and potentially threatening questions such as drug use in the past, respondents may actively attempt to reduce the negative consequences of being coded as "drug user", to deflect or redefine the stigma, to ameliorate or mitigate the consequences, or to engage in deviance disavowal (Davis, 1961; Nusbaumer, 1990;

Bryant, 1990). Some respondents deny that they have used drugs although the truth is to the contrary. The motivations are probably to avoid negative consequences and legal punishment and conform to social desirability. It is less known whether the extent of these motivations may be differentiated by the respondents' own attributes such as the sociodemographic characteristics.

Empirical evidence addressing gender and ethnic differences in discrepancies of self-reported drug use is sparse. A general impression conveyed by the literature on sex differences in health is that women are more willing to report symptoms of distress and illness than are men (Verbrugge, 1979). Falck et al (1992) examined sociodemographic characteristics of 128 injection drug users and found blacks were significantly more likely to have misrepresented their current drug use status than other groups.

Engaging in drug use is a form of deviance involving violations of legal codes and laws. Tolerance of deviance differs by such sociodemographic factors as gender and race; for example, males and whites are found to be significantly more tolerant of victimless crimes (i.e., Durant and Chan, 1990). In addition, there is greater stigma attached to women who are drug abusers (Lex, 1991). Therefore, we expect that females and blacks would attach higher severity to the negative consequences of drug use and thus be more likely to disavow drugs they actually used them. We hypothesize:

H1a: Females are more likely to underreport drug use than males.

H1b: Blacks and Hispanics are more likely to underreport drug use than whites.

While respondents who deny their deviant behaviors may be motivated by a variety of factors including stigma avoidance and social desirability, it is also likely that they deny because of concerns with social or family responsibilities. We would expect that married arrestees to be less willing to reveal that they were current or past drug users given consideration of their family roles and associations. Therefore, we hypothesize:

H1c: Married respondents are more likely to underreport drug use than other respondents.

2. Interviewer role demands effects – interviewers' gender as correlate of underreporting of drug use.

In the bulk of prior studies of self-report validity, respondent characteristics generally have been conceptualized as part of the true variance in responses, while interviewer characteristics have been largely seen as part of the error term. Even when interviewers' characteristics were considered, they were studied largely in the context of sexual attitudes and behaviors, ethnicity, or related topics. Prior studies indicate that the sex of the interviewer influences responses primarily when the topic of the study is highly sex-related (Sudman and Bradburn, 1974; Hansen and Schuldt, 1982; Kane and Macaulay, 1993; Catania et al., 1996) and the race of the interviewer influences responses primarily when the topic is highly race-related (Sudman and Bradburn, 1974; Reese et al., 1986).

Research on interviewer's role in explaining deviance disavowal, particularly denying drug use, has been lacking. Early studies on generic topics found that female interviewers elicited a larger effect on responses than male interviewers did when the questions were open and were placed at the later part of the questionnaire (Sudman and Bradburn, 1974).

With regard to drug use, it should be fruitful to explore both the respondents' and interviewers' characteristics and examine explicitly their interaction on underreporting. We assume that male interviewers' behavior is more likely to approximate an automaton than female interviewers' behavior. Since a greater degree of structure in the interviewer's role may lead to relatively lower response effect (Sudman and Bradburn, 1974), we hypothesize:

H2: Male interviewers will generate less underreporting than female interviewers.

3. Social interaction effects.

Interviews involve the interpersonal interactions which can be put within a larger social context.

Schuman and Converse (1971) noted that interviewer effects represent a useful indicator, a "fact of social life", of relations between the racial/ethnic groups. As Sudman, Bradburn, and Schwarz (1996) point out, interviews entail much more than just questions and there might exist a "carry over" effect in that "social characteristics of the interviewers and the respondents, such as race or gender, may carry over into attitudes and affect relations in ways that are independent of the interview and reflect larger social beliefs."

According to Hayman et al's (1954) general deference thesis, blacks gave different responses to

whites than to other blacks, presumably out of deference. Through a telephone interview of 1076 Texas residents over the age of 18, Reese et al. (1986) partially confirmed hypotheses derived from the argument of interpersonal deference. Anglos would defer to Hispanic interviewers on questions related to Mexican-American culture.

However, from a self-disclosure perspective, people simply tend to disclose more honestly and in greater detail to people with whom they feel emotionally comfortable (Catania, McDermott, and Pollack, 1986; Herold and Way 1988; Jourard, 1971). Overall, drug use items are neither ethnic-related or sex-related, instead, drug use is illegitimate and generally disapproved by society. In formulating our study propositions, we assume that in the mid-1990s, the "deference" thesis may not be evidenced as strongly as it was in the 1950s. Furthermore, it may be mitigated by the potential mistrust of black respondents towards white interviewers or towards the whole criminal justice system. We thus hypothesize:

H3: Relative to whites interviewed by whites, blacks interviewed by whites or whites interviewed by blacks would be more likely to underreport drug use.

Research Questions

Our research questions center on comparing the booked arrestees' reports of their drug use in the past with the outcomes of urine tests. Our evaluations are four-fold: (1) Are there any discrepancies? (2) Who are more likely to underreport? (3) Is there any interviewer effect? and (4) Is the deference theory or the self-disclosure theory supported?

Method

Sample. We use the 1995 Drug Use Forecasting (DUF) system data. The purpose of DUF was to gather drug prevalence data on people under arrest, a population not normally sampled by general population surveys of drug use, such as the National Household Survey on Drug Abuse (NHSDA) and the Monitoring the Future (MTF). The data analyzed included all the 24 sites in Part II of the 1995 survey. Among these sites, 21 sites collected data on both males and females, and three on females only.

Procedure. We first compare urinalysis and self-report and identify if there are inconsistencies between these two. We then identify which subgroups are at higher risk to provide false report. Finally, we examine the interviewer effects and their interactions with the

respondent characteristics as they are related potentially to the false reporting of current drug use.

Analyses

Measures of underreporting were obtained by comparing the self reported claims and the urine test outcomes. There are usually four types of response styles specific to substance abuse (Rogers and Kelly, 1997), namely, disacknowledgement, misappraisal, denial, and exaggeration. For our study purposes, we want to minimize the effect of inaccuracies due to memory loss and focus on the "denial" category. Here "denial" means the consciously determined refusal to acknowledge the existence of past or current behavior. We limited our validity check to two drugs, marijuana and cocaine. We used respondents' self reports on whether they had used these two type of drugs in their life time, compared with urine tests, to discriminate between true and false claims of nondrug use. In particular, those who claimed that they had never used marijuana or cocaine, but tested "positive" for marijuana or cocaine in the urine test, clearly and intentionally denied the drug use behavior.

In the analysis, race/ethnicity was coded as white, black, and Hispanic, and gender was coded as male, and female. Interviews were then classified as 9 possible ethnic interviewer-respondent interaction groups and four gender interviewer-respondent interaction groups. Logit regression analyses were used to examine the sociodemographic characteristics of the respondents who were more likely to deny drug use.

Results

Responses from the interview and the outcomes from the urine tests were compared. Among the 3353 respondents who reported that they had never used marijuana, 11.6% tested "positive" in the urine tests, which showed that they actually used marijuana within the past two or four weeks. This result was at the 50 nanogram test level. Moreover, 8.8% of these 3353 self-reported "non-users of marijuana" tested "positive" at the 100 nanogram test level. Among the 9462 respondents who reported that they had never used cocaine, about one-fourth (24%) used cocaine just within the past 2-3 days before they were arrested. Arrestees in the DUF system were more likely to deny cocaine use than marijuana use.

The higher percentage of false reporting on cocaine use suggests that arrestees were much less willing to reveal that they used cocaine before. The degrees of social desirability were certainly different across these two illicit drugs. This supported previous findings that valid self-reporting of drug use was a

function of the social desirability of drugs (Harrison, 1995).

It is possible that respondents may overreport their drug use. However, in our study, since the subjects were booked arrestees, it was very much less likely that they would overreport drug use¹. In the subsequent analyses, we focused only on those who tested positive on either marijuana or cocaine use.

The proportion of giving false reports was higher among females (34.1%) than among males (28.3%), higher among blacks (36.7%) and Hispanics (28.5%) than among whites (13.5%), and higher among married arrestees (33.3%) than among other arrestees (29.3%). The proportions providing the false self-report were about the same regardless the type of offense charge. Arrestees aged 35 or older were less likely to give false reports than members of younger age groups. If we treat living arrangement prior to arrest as a proxy measure of social class, then the array of the false-reporting proportions among shelter (41.4%), public housing (39.2%), private apartment (30.5%), and house (27.6%) would imply a possible negative relationship between social class and false reporting.

We performed logistic regression analyses to investigate the false reporting pattern in the data. We first examined the main effects of respondents' gender, age, marital status, and ethnicity. The odds ratio for blacks relative to whites was 3.93; that is, black arrestees who participated in the DUF system were almost 4 times as likely as white arrestees to under-report current drug use. The result also indicated that Hispanics, females, and married persons were significantly more likely to falsely deny that they had ever used drugs in the past. These results supported our hypotheses.

We then considered the relative risks of giving false reports among the 9 ethnic differentiated interviewer-respondent interactions and 4 gender differentiated interviewer-respondent interactions in the model. For ethnic differentiated interactions, the reference group would be white interviewers/white respondents. For gender differentiated interactions, the reference group would be female interviewers/female

¹The analytic results indicated that almost one half of those who answered that they used drugs before were tested as having negative urine test outcome since the self-report item of *life-time* use of marijuana and cocaine were used. A large part of this discrepancy between self-report and urine analysis should be due to the discrepancy between window of detectability and window of self-report.

respondents. Regardless of the gender of the respondents, male interviewers were significantly less likely to generate under-reported drug use behavior (OR=0.269, 95% CI=0.131, 0.552 for male interviewer and female respondents, and OR = 0.295, 95% CI=0.144, 0.606 for male interviewer and male respondents). Moreover, the odds of respondents interviewed by females to falsely deny drug use were 1.2 times the odds of female respondents interviewed by females to do so. When the interviewer was male, male respondents would be less likely to deny their drug use behavior than female respondents. And when the interviewer was female, then female respondents would be less likely to deliberately deny their drug use behavior.

Examining the ethnic-differentiated interviewer-respondent effect, we found that white respondents interviewed by blacks were significantly more likely (OR = 1.78, 95% CI=1.13, 2.88) to engage in "deviance disavowal" on their drug use in the past than white respondents interviewed by whites. However, white respondents interviewed by Hispanics did not differ in their "deviance disavowal" behavior from white respondents who were interviewed by whites. Meanwhile, controlling the main effect of being Hispanic, the odds ratio for Hispanics interviewed by Blacks (OR=1.97, 95% CI=1.23, 2.67) was much higher than the odds ratio for Hispanics interviewed by Hispanics. Concerning the black respondents, the results did NOT indicate that the extent of black arrestees interviewed by blacks to deny their current drug use behavior would be smaller than that of blacks interviewed by whites (OR=1.7, 95% CI=1.09, 2.77 v.s OR=1.5, 95% CI=1.13, 2.08).

Discussion

All of our hypotheses formulated are supported by our analyses of the DUF data. Deviance disavowal is found to be a significant factor that contributes to survey bias in the form of underreporting. The effect of social desirability is reflected in differences in false report prevalence rates for marijuana and cocaine: 24% of those who said that they had never used cocaine turned out to have used just within a couple of days, but only 12% of those who answered that they had never used marijuana had used within several prior weeks. Overall, the arrestees most likely to give false reports are female, black, Hispanic, and married. Prior studies had found that "racial, ethnic, social class, age, and sex effects occur if the question pertains to race,

ethnicity, social class, age, or sex but not otherwise"² (Schuman and Converse, 1971; Sudman and Bradburn, 1974; Campbell, 1981; Colombotos, Elinson, and Loewenstein, 1968; Weeks and Moore, 1981). Our findings of significant gender- and ethnic-differentiated effects suggested that gender and ethnicity of the respondents did make differences in their responses to illicit drug use questions.

The study also provides empirical evidences that interviewers' gender and ethnicity have significant effects on the "deviance disavowal" coping strategy adopted by the booked arrestees in the DUF system. The findings, taken as a whole, contribute to an important emerging base of knowledge regarding the interviewers' role in the drug use face-to-face survey. Nevertheless, there is a need to corroborate these findings with additional research involving representative surveys in the general targeted population.

One may note, from general findings from the large nationally representative surveys such as the National Household Survey on Drug Abuse, that those who are less likely to use drugs are also females, blacks, Hispanics, and married persons (Substance Abuse and Mental Health Service Administration, 1998). Is this a coincidence or is there a general mechanism in operation here? We think that the relatively low prevalence rate among females further enhances the uneasiness for female arrestee to report honestly that they have ever used drugs. There exists a structural "pull" effect which pulls those members of the low risk groups of using drugs further away from admitting that they had actually ever used drugs before. Given the lower drug use prevalence rates of these subgroups in the general population, denial of drug use by members of this lower risky groups will be more likely to be accepted as true if no validity checking is used.

Interview is a conversation with purpose (Bingham and Moore, 1934). There are some structured characteristics associated with the interview. Considering that the respondents were selected from a list of booked and incarcerated arrestees, one should be cautious when attempting to generalize the results to the general population. Drug use is not socially desirable, as most of the respondents in any large general population survey would recognize. Judgements of an act's deviance are related to such factors as time, place, circumstance, actor, and audience (Wilson, 1990). For arrestee respondents,

² See review by Mensch and Kandel (1988).

drug use questions may not only be associated with social desirability. Arrestees may fear that revealing their drug use behavior may lead to possible punishment by the criminal justice system later.

On the surface, the accuracy of estimation of false reporting itself may be challenged, since the short window³ of the urine test makes it impossible to test drug use behavior longer ago. This assumption was directly confirmed by the fact that almost half of those respondents who said that they used drugs before had negative urine test results. This short window would lead to underestimation of the extent of under-reporting, which on the other side, suggests that our measures are quite conservative. Given our study purpose, this shortcoming may appear to enhance the quality of our study. By using the urine test results, the potential effects such as omissions due to memory problem were reduced to a minimum. And the inconsistencies found in the negative urine test outcomes can be regarded as a clear intentional denial behavior.

Most male interviewees in DUF were serious offenders. As a contrast, all females brought to the facility were generally asked to participate in the study regardless of their offense. Compared with male arrestees, more female arrestees may be at the initial primary deviance stage. Attempts at deviance disavowal appear to be a more viable means of reality negotiation in the initial stages of labeling process, female arrestees are thus more likely to adopt the "deviance disavowal" actively and are more consciously determined to deflect and "shrugg off" the stigma associated with drug use.

The DUF sampling procedure imposed another limitation on this study. Arrestees, especially male arrestees, participated in the DUF survey on a voluntary basis which may yield selection bias. Persons who volunteered to be surveyed may have more "willingness to communicate" (McCroskey and Richmond, 1991) and thus more likely to have attitudes and behaviors known to others, and be more willing to disclose their behaviors to the public. Underreporting of drug use may therefore underestimated in this study if the selection bias is present.

³ Urine analysis is effective only within a short window of detection, usually 1-3 days with exception of marijuana (up to 30 days) (Cone, 1997).

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