

Influence of Socially Desirable Responding in a Study of Stress and Substance Abuse

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Socially desirable responding is the reluctance to admit unpopular beliefs or behavior in order to avoid making a negative impression. It poses a problem for researchers who rely on self-report of heavy drinking and drug use. The Marlowe-Crowne Social Desirability Scale (SDS), which measures socially desirable responding, was administered to 1933 respondents in a general population survey. The relationships between SDS and various self-report measures were examined. SDS was not correlated with gender or race; it increased with greater age and decreased with higher socioeconomic status. With age and socioeconomic status controlled, SDS had a moderate negative relationship with alcohol and drug use, and a strong negative relationship with variables reflecting the expression of anger. Correlations between drinking/drug use and such variables as age, marital conflict, and stressful life events were not substantially changed by controlling for SDS. It was concluded that social desirability response bias probably results in underestimates of rates of heavy drinking and drug use, but does not compromise the study of predictors of heavy drinking or drug use.

Key Words: Marlowe Crowne, Social Desirability, Alcohol, Drug Abuse.

SOcially desirable responding is the tendency for respondents to avoid admitting unpopular actions or beliefs in order to favorably impress an interviewer. The Marlowe-Crowne Social Desirability Scale (SDS)¹ was developed to measure socially desirable responding. It contains 33 categorically strong statements that are almost never (or almost always) true, but which tempt subjects to respond falsely in order to place themselves in a positive light. Examples are: "I have never been irked when people expressed ideas very different from my own," and "There have been occasions when I took advantage of someone." The developmental work of Marlowe and Crowne showed the SDS to have good internal consistency reliability (i.e., the items tended to be positively correlated with each other) and to be unrelated to any mental illness. The absolute nature of the statements means that few, if any, could give socially desirable answers with complete honesty. Therefore, the SDS was originally interpreted as a measure of bias or contamination in self-report data—bias caused by subjects' lying to make a good impression.

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In previous studies of socially desirable responding it was reported that SDS scores increased with age and decreased with education, but were not correlated with sex.^{2,3} Racial differences in SDS scores were observed by some researchers,³ but not all.² Not surprisingly, socially desirable responding has been found to have a negative relationship with self-report of undesirable behavior. Henly and Winters⁴ found a strong negative correlation with a drug problems scale in a sample of adolescent drug abusers. Bradburn et al.² found a negative correlation of approximately the same magnitude between SDS and heavy drinking and SDS and marijuana use.

The possibility that people lie about socially undesirable behavior is of concern to researchers who must evaluate the validity of self-reports of such socially undesirable behaviors as heavy drinking and drug use. However, the correlation between SDS and self-report of socially undesirable behavior is not necessarily due to contamination. High SDS scores could reflect the personality of individuals highly concerned about societal approval. Such individuals might be expected to both represent themselves as having socially acceptable behavior and behave in socially approved ways.

Evidence for the latter view has been put forth by Bradburn et al.² They interpreted the positive relationship between age and SDS as a cohort effect caused by older people having been brought up to think in categorical terms about behavior, arguing that older respondents were not portraying themselves as virtuous to impress the interviewer but that they truly thought of themselves as, for example, always being helpful. It was also hypothesized that if socially desirable lying were operating, the correlation between the SDS and marijuana use would be stronger than that between the SDS and alcohol, reflecting the fact that marijuana is illegal and more strongly proscribed than drinking.

The researcher's dilemma is to determine "whether the differences between persons with low and high Marlowe-Crowne scores are part of the real variance in (the) data or part of the error variance" (Bradburn et al., p. 88).² In the latter case, it would be necessary to adjust socially sensitive self-report data from subjects with high SDS scores in order to discern the true nature of the relationships under study; in the former, adjusting for SDS scores might obscure relationships of interest.

In this study we will investigate the effect of socially desirable responding on self-reports of alcohol and drug

use in a general population survey. The contamination theory would predict that the SDS would be most highly correlated with those variables that involve the most socially damaging admissions. We will also investigate the effect of controlling statistically for SDS on relationships between measures of substance abuse and other variables of interest.

METHODS

Sample

Data for the present analyses came from a representative adult household survey of stress, alcohol use, and hypertension conducted in Erie County, New York ($n = 1933$). Respondents were identified using a stratified, three-stage probability sampling procedure designed to yield approximately equal numbers of African Americans and all others at three levels of education (less than high school, high school, at least some college). The overall sample completion rate was 78.3%, with the majority (84.5%) of noncompletions due to refusals. The present analyses were conducted without weighting.

The sample was 42% White, 52% African American, and 6% others. It was 62% female, and ranged in age from 19 to 91 years.

Procedures

Data were collected by a corps of 27 interviewers in the summer and fall of 1986. Interviewers received 5 days of intensive training on general and survey-specific interviewing techniques and 3 days of training on physical measurement, including blood pressure measurement. Interviews were conducted in respondents' homes using a highly structured interview schedule that included diet, smoking, and physical activity, as well as medical history. The entire procedure took about 90 min; respondents were paid \$25.

Measures

•*Social desirability* was measured using a 10-item version of the Marlowe-Crowne Social Desirability Scale developed by Strahan and Gerbasi.³ It was demonstrated to have correlations of 0.8 or better with the long form in various populations.³ To adjust for missing data, the number of items answered in a socially desirable manner was divided by the number of items completed. Thus, SDS scores ranged from 0 to 1.0. Reliability analysis showed an Cronbach's α of 0.62, which might be characterized as acceptable although not good. Alphas of 0.6 or better were observed among race- and sex-specific subgroups (data available from the authors).

•*Heavy drinking* was defined as the number of days in the last 30 that five or more drinks were drunk.

•*Drug use* was defined as the number of different types of illegal drugs used in a respondent's life.

•*Job prestige* rankings were derived from respondents' reports of their job titles and duties using Hollingshead's⁶ categories for occupational rank.

•*Depression* was assessed using a 20-item scale developed by the Center for Epidemiological Studies.⁷

•*Drinking to cope* was estimated using a 5-item scale developed by Polich and Orvis⁸ to measure the tendency to use alcohol to relieve distress.

•*Negative life events* was used to assess the extent to which the respondent was distressed or upset by events in his/her life. Our measure was derived from the life events measure developed by Dohrenwend et al.⁹

•*Self-esteem*, respondent's perception of self-worth, was assessed using Rosenberg's¹⁰ measure of self-esteem.

•*Mastery*, the extent to which the respondent feels in control of his or her life, was based on Pearlin et al.'s¹¹ measure.

•*Social competence* was assessed using a measure culled from the Social Avoidance and Distress Scale developed by Watson and Friend.¹² This scale reflects ease in social situations.

•*Anger-in/anger-out/anger-reflect* measure styles of dealing with anger. They were assessed using anger-in (suppressing it and "sulking") and anger-out (letting it out) scales developed by Spielberger et al.¹³ and an anger-reflect (keep cool and think) scale developed by Harburg and Gleiberman.¹⁴

•*Experience of anger* is a measure developed by Siegel¹⁵ to assess the frequency, duration, and strength of anger.

•*Marital conflict* was estimated using a measure based on the work of Kessler.¹⁶

RESULTS

Bivariate analyses were done that examined the relationship between SDS scores and several important demographic characteristics. SDS scores were not correlated with sex or race. SDS increased markedly with age, however. Respondents aged 18–29 answered 51% of the items in the socially desirable direction, whereas the corresponding figure for those over 59 was 70%. SDS was negatively correlated with both education and income. Higher socioeconomic status respondents answered fewer items in the socially desirable direction.

Bivariate relationships between SDS and various measures from our stress model (listed in "Measures") were examined. Correlation coefficients were used, both Pearson's correlations (r) and partial correlations adjusted for age, income and education. These control variables were used to ensure against spurious correlations; for example, a negative correlation between SDS and substance abuse created solely because older respondents have both high SDS and low substance abuse. A comparison of the unadjusted and adjusted correlations showed that holding age, education, and income constant generally lowered the absolute value of the correlation slightly, but did not change the basic pattern.

The SDS was negatively associated with substance use, as expected. The magnitude of the correlation increased as level of social disapproval likely to be associated with the use increased. For cigarette smoking the association was not statistically significant, and for alcohol-related variables the magnitude of the correlations was in the modest -0.09 to -0.17 range. However, the correlation with number of illegal drugs used in the respondent's lifetime was considerably higher at -0.27 . Desirable personality traits such as self-esteem, mastery, and social competence tended to be positively associated with socially desirable responding, whereas the experience of anger, a less desirable trait, was negatively associated. Sources of stress such as negative life events, depression, and marital conflict were negatively associated with the SDS. The SDS was positively associated with active coping styles, problem-solving and anger-reflect, and negatively associated with avoidant styles of coping, anger-in, and anger-out. As mentioned earlier, adjusting for the effect of age, education, family income, and job prestige had no influence

on the direction of the relationships and little influence on the strength of the observed associations.

The relationship of socially desirable responding to self-report of substance abuse is examined in greater detail in Table 1, in which the unadjusted and adjusted mean days of heavy drinking/month and lifetime use of illegal drug types are summarized for 10 levels of the SDS. Displayed in this manner, the relationships seem much stronger. For example, respondents in the lowest tenth of SDS reported an average of 0.96 different types of illegal drugs, whereas those in the top tenth report an average of only 0.02. As in the bivariate analyses mentioned earlier, adjusting for the effect of age, education, family income, and job prestige attenuated the relationship between substance abuse and SDS somewhat, but it was still strong. Therefore, confounding by age and socioeconomic status does not appear to account for the correlations between the SDS and alcohol/drug use.

The possibility that the correlations observed between SDS and self-report of alcohol/drug use indicate a contamination effect cannot be ruled out. Therefore, we must be concerned about the impact of socially desirable responding on the type of relational analyses often performed with such data. Table 2 shows the correlations of five variables with heavy drinking and illegal drug use. These five were selected a priori because their correlations with substance abuse have theoretical interest and are commonly studied. The correlations with SDS scores partialled out are also shown. None were changed significantly.

Table 3 illustrates more directly the point made in Table 2. For example, a marked decline in drug use with increas-

Table 3. Heavy Drinking and Illegal Drug Use Stratified by Social Desirability, Age, and Drinking to Cope

	Social desirability		
	Low	Medium	High
Frequency of heavy drinking*			
Age			
18-30	2.4	2.6	1.3
31-50	1.9	2.3	1.3
50+	0.9	1.7	0.63
Drinking to cope			
Low	0.54	0.29	0.24
Medium	1.01	2.26	0.86
High	4.13	4.99	3.46
Illegal drug use†			
Age			
18-30	1.1	0.8	0.6
31-50	0.8	0.5	0.4
50+	0.11	0.08	0.02
Drinking to cope			
Low	0.51	0.26	0.20
Medium	0.77	0.64	0.36
High	1.18	0.68	0.34
Days drink 5+/month			
0	0.62	0.34	0.18
1-5	1.29	0.86	0.62
6+	1.31	0.98	0.62

* Cell entries are mean days/month drank 5 or more drinks.

† Cell entries are mean number of drug types used in lifetime.

ing age was observed at each level of SDS, although the mean number of drugs reported was much lower for high SDS respondents. Put another way, the conclusion about the relationship between age and drug use would be the same whether the sample was composed solely of respondents with low SDS scores or solely of respondents with high SDS scores. This also holds true for the relationship between drinking to cope and substance abuse and that between heavy drinking and drug use.

DISCUSSION

These analyses indicated that socially desirable responding was significantly correlated with self-reported substance use and measures from our stress model, but that it did not appreciably influence correlational analyses of substance abuse with other factors of interest. These results offer some hope that high SDS might not be just a contamination factor, but reflects a person who both answers and acts in a socially desirable manner. The strongest correlations with the SDS were variables that involve anger. The highest correlation was with anger-out, a high score on which means that the respondent admitted to doing things such as slamming doors and making sarcastic remarks. The correlation with depression was much lower, even though the depression measure includes items such as "I thought my life had been a failure." To the extent that most people would rather admit to sarcasm than to their life being a failure, the contamination view would predict that the SDS would be more highly correlated with depression than with anger-out. The result observed is clearly not consistent with the contamination hypothesis. Anger-out is directly related to the presentation of oneself in a

Table 1. Heavy Drinking and Illegal Drug Use by Level of Social Desirability

Social desirability (deciles)	Frequency of heavy drinking (5+ drinks, mean days/month)		Illegal drug use (mean no. used in lifetime)	
	Unadjusted	Adjusted*	Unadjusted	Adjusted*
1	3.3	3.0	0.96	0.78
2	2.6	2.2	0.83	0.81
3	1.6	1.8	0.78	0.64
4	2.5	2.7	0.54	0.60
5	2.3	2.7	0.56	0.60
6	1.9	1.9	0.37	0.41
7	1.3	1.5	0.29	0.44
8	0.7	1.1	0.23	0.40
9	0.9	0.9	0.23	0.39
10	0.6	1.0	0.02	0.24

* Adjusted for age, education, family income, and job prestige.

Table 2. Influence of Social Desirability on the Relationship of Heavy Drinking and Drug Use with Selected Variables (correlation coefficients)

	Frequency of heavy drinking (5+ drinks, mean days/month)		Illegal drug use (mean no. used in lifetime)	
	Unadjusted	Adjusted for SDS	Unadjusted	Adjusted for SDS
Age	-0.05	-0.02	-0.44*	-0.39*
Cigarettes/day	0.20*	0.19*	0.16*	0.15*
Negative life events	0.01	0.01	0.07	0.06
Drinking to cope	0.30*	0.29*	0.15*	0.11*
Marital conflict	0.05	0.03	0.18*	0.15*

* $p < 0.01$.

social situation, and the visible display of petulance may be disturbing to people who actually behave in a socially approved manner.

Also encouraging is the observation that, even assuming the contamination view to be correct, many relational analyses do not seem to be affected. For example, we have demonstrated that the tendency for older persons to report less drug use is still strong after controlling for SDS, strengthening our belief that they really use fewer drugs than young adults. However, to the extent that socially desirable responding reflects contamination of the data, point estimates of behavior such as drug use will be greatly affected, even if the conclusions drawn from relational analyses don't change. A glance at Table 1 shows that self-reported drug use and heavy drinking are much lower for those with high SDS scores. These results are in fact consistent with the conventional wisdom about drinking surveys. From comparisons with excise tax data, we know that drinking surveys underestimate average alcohol consumption,¹⁷ although correlations with alcohol consumption are widely assumed to be valid.

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