

*Clinicians and researchers frequently rely on self-reports of interpersonal violence. These reports are likely to be biased because of respondents' inclination to give socially desirable answers. This article describes methods for adjusting measures of violence and its correlates to take such response bias into account. Several studies are used to illustrate the application of an adjustment procedure to research and clinical assessment.*

# *Procedures for Adjusting Self-Reports of Violence for Social Desirability Bias*

DANIEL G. SAUNDERS

*University of Michigan*

*A major dilemma for researchers and clinicians in the field of interpersonal violence is the extent to which they can trust self-report measures. There is a growing tendency to rely on self-report measures in all fields (e.g., Caldwell-Colbert & Robinson, 1984), partly because of the high cost of behavioral observation and physiological measurement. The move toward the use of self-report measures, however, is done at the cost of decreased validity. For many years, it has been known that the validity of self-report measures is lowered by the contamination of response bias (Fiske & Pearson, 1970).*

The feasibility of using behavioral observation or witness reports is especially problematic in the field of family violence. The violence usually occurs in private, and there are pressures on victims to keep it a secret (Gelles, 1978). In addition, the family unit often dissolves, and thus the perpetrator may not be near potential victims for a long period of time. Obviously, it is then impossible to use victim reports to accurately assess the perpetrator's potential for continued abuse. For example, if a battered woman leaves her

---

Author's Note: Correspondence regarding this article should be addressed to Daniel G. Saunders, University of Michigan, School of Social Work, 1065 Frieze Building, Ann Arbor, MI 48109. This article was written with support from NIMH Grant 17139-01 and CDC Grant CCR 50284.

JOURNAL OF INTERPERSONAL VIOLENCE, Vol. 6 No. 3, September 1991 336-344

© 1991 Sage Publications, Inc.

partner, clinicians, criminal justice personnel, and the victim herself will want to know the likelihood of his recidivism following treatment. Self-reports adjusted for response bias may provide an indicator of this likelihood.

This article describes procedures for statistically adjusting self-report measures for Social Desirability Response Bias (SDRB). The procedures can be used by survey researchers or program evaluators. Program evaluators, in addition to assessing the overall impact of a treatment program, can help clinicians obtain and interpret adjusted scores of measures for each client before and after treatment.

SDRB occurs when respondents give answers that they think will be socially approved. Respondents who score high on measures of SDRB are trying consciously to "fake good" or to make a good impression. Bias of this sort is more likely for behaviors or emotions that are socially disapproved, for example, psychopathology, anger, and aggression. Some symptoms may be disapproved more for one gender than another. Depression, for example, is especially disapproved in men (Warren, 1983). Other types of response bias can also occur, such as "faking-bad" or random responding. However, "faking-good" seems the most likely type of bias for socially disapproved behaviors like violence. Underreporting of violence can also occur from unconscious self-deception (Riggs, Murphy, & O'Leary, 1989).

Although perpetrators of violence can be expected to fake their responses the most, victims and witnesses of violence might also alter their responses out of shame, fear, loyalty to the perpetrator, or other reasons. Measures that often correlate with violence are also susceptible to response bias. SDRB has been associated with self-report measures of anger (Novaco, 1976) and nonassertiveness (Lacks & Connelly, 1975), which is a risk factor for woman abuse (Hotelling & Sugarman, 1986). Depression and low self-esteem may also be risk factors for aggression (Novaco, 1977). Recently, the Beck Depression Inventory was shown to be affected by "demand characteristics" (Kornblith, Greenwald, Michelson, & Kazdin, 1984). The manner in which demand characteristics in this study were induced make them similar or equivalent to SDRB. Attitudes about violence can also be affected by SDRB. For example, two of the five subscales of the Inventory of Beliefs About Wife Beating were significantly related to SDRB in a sample of college students (Saunders, Lynch, Grayson, & Linz, 1987).

### METHODS FOR ADJUSTING FOR SDRB

Several methods have been used for accounting for or making adjustments for sources of scale invalidity such as SDRB. First, SDRB can be reduced by

using a measure that forces respondents to choose between two opposing items that have been empirically determined to be of equal value of social desirability. Second, one may choose an inventory that has a validity scale embedded within it. The K, F, and Lie scales of the MMPI are best known. Items for these scales were identified during inventory construction by asking a group of respondents to "fake good" or "fake ill" when completing the inventory. Deviant responses to the validity scales are taken into account when interpreting these inventories. Some inventories, like the Millon Clinical Multiaxial Inventory, correct for response bias in the scoring process (Millon, 1982).

Third, a newer procedure, the principal-factor deletion technique, can be used. Factor analysis identifies the items highly correlated with social desirability scale values (Paulus, 1981). This procedure rests on the assumption that the loadings of items on the first principal-factor (unrotated) are the ones contaminated by SDRB. This factor is deleted prior to factor rotation.

Fourth, a separate scale of SDRB can be used to statistically remove SDRB from the scores of self-report measures.

The first two procedures obviously depend on the use of measures with built-in measures of SDRB or built-in reduction of SDRB. The third procedure has shown disappointing results (Borkenau & Amelang, 1985). It is the fourth procedure that will be described here.

Of the two most commonly used measures of social desirability, the Marlowe-Crowne (Crowne & Marlowe, 1964) is preferable to the Edwards Scale (1957) because it is much freer of association with psychopathology. For example, its average correlation with the MMPI clinical scales is .28 compared with .43 for the Edwards Scale (Crowne & Marlowe, 1964). The Marlowe-Crowne's highest correlation was with the Psychopathic Deviate subscale ( $r = .41$ ). It also correlates more highly with the Lie Scale of the MMPI than the Edwards Scale ( $r = .54$  vs.  $r = .22$ ).

The original 33 item, true-false version of the Marlowe-Crowne can be used, but versions of equal reliability and many fewer items are available with a 7-point Likert response format (Greenwald & Satow, 1970). The purpose of the Marlowe-Crowne scale can be easily disguised by calling it the "Personal Reaction Inventory." Another scale, developed by Schuessler, Hittle, and Cardascia (1978) is more appropriate for use in attitude-opinion surveys. One must select the items of the SDRB measure carefully to make sure that they are not likely to correlate substantively with the construct being adjusted. In other words, the items on the Marlowe-Crowne scale dealing with aggression should not be used to adjust measures of aggression.

If SDRB is correlated with a measure, one can choose to drop from further analysis those cases that are a certain distance above the norm on SDRB. The

drawbacks of this method are apparent — a reduced sample size and thus loss of information. A preferred method is to statistically adjust for the bias. For correlational designs, the SDRB measure can be used as the control variable in partial correlational or regression analyses. For ANOVA designs, the SDRB measure can become a covariate in analysis of covariance. However, both correlational analyses and ANOVA may need to be done with the same set of data as it is clinically useful to show both adjusted and unadjusted scores of a client. Therefore, the computation of adjusted scores may be the most useful procedure.

Adjusted self-report scores can be computed for each client with two steps. First, the unstandardized regression coefficient in predicting the unadjusted score from the Marlowe-Crowne Score is derived. The formula for simple regression is used:  $Y = a + (b)(X)$ , where  $(X)$  is the score on the measure of SDRB and  $(b)$  is the unstandardized regression coefficient. If more than one sample is being studied, the regression coefficient is found for each sample. This is especially important in descriptive work that compares diverse samples because the direction of the coefficient may not be the same among the samples and subsequent adjustments would be in different directions. What is socially desirable in one group may be socially undesirable in another (cf. Schuessler, Hittle, & Cardascia, 1978).

In the second step, the unstandardized regression coefficient becomes the correction factor. The adjusted score is derived with the following formula:  $Y' = Y - (b) (\text{SDRB score})$ , where  $Y'$  is the adjusted score and  $Y$  is the unadjusted score. The regression coefficient multiplied by the SDRB score is subtracted from the unadjusted score. As a check on the procedure, the adjusted scale can be correlated with the SDRB measure to make sure that the correlation is zero.

### APPLICATIONS TO INTERPERSONAL VIOLENCE

Only two previous studies could be found that explored the relationship between interpersonal violence and SDRB. Arias and Beach (1987) found that the tendency to respond in a socially desirable manner was associated with a lower rate of admitting being an aggressor of spousal assault. SDRB was not related to admitting being a victim. The frequency and severity of violence were also not significantly related to SDRB, but the researchers report that the results are inconclusive because these variables had very restricted ranges. Riggs and his associates (Riggs, Murphy, & O'Leary, 1989) asked undergraduates the likelihood that they would report being the victim

or perpetrator of interpartner aggression. They found a greater willingness to admit victimization and a lowered tendency to admit perpetration with increasing severity of violence.

Several other studies will be described here briefly to illustrate how adjustments can be made for SDRB. It was predicted that in studies with both perpetrators and victims, perpetrator self-reports would correlate most highly with SDRB.

### **Abuser's Reports of Anger and Depression**

In a treatment study of 92 abusive husbands (Saunders & Hanusa, 1986), the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), and a modified Novaco Anger Scale (Novaco, 1976) were among the measures administered before and after treatment. Scores were computed that were adjusted and unadjusted for SDRB. Adjustment was done with a 10-item version of the Marlowe-Crowne scale and the correction formula given above. The adjusted pretest scores were about twice as high as the unadjusted scores on both measures. For example, the average unadjusted BDI score (pretreatment) was 11.2 ( $SD = 8.8$ ). After adjustment, the average score was 25.4 ( $SD = 8.1$ ). This adjusted score is within the "mild" range using Beck et al.'s (1961) norms, but this does not necessarily mean the men were depressed on the average because the scores of the normative group were not adjusted for SDRB. At posttest, the men did not show as great a tendency to bias their scores, hopefully a sign that treatment decreased their defensiveness. From a clinical perspective, it was important to discover that the men strongly suppressed their reports of depression as well as anger.

### **Abuser's Reports of Violence Versus Arrests**

In a sample of 182 men who batter who participated in a study of abuser typologies (Saunders, 1988b), it was possible to correlate SDRB with self-reports of violence and a variety of other measures. Both the severity and frequency of violence that the men reported perpetrating in the year prior to treatment were significantly correlated with the Marlowe-Crowne measure of SDRB ( $r = .38$  and  $.20$  respectively). Psychological abuse was even more strongly associated with SDRB ( $r = .50$ ). The BDI measure of depression and a measure of jealousy were also fairly strongly correlated with SDRB ( $r = .45$  and  $.42$  respectively). The men's reports of arrests for violent and nonviolent crimes, on the other hand, were not significantly related to SDRB ( $r = .09$  and  $.06$ ), perhaps because they knew the counselor could check on

the accuracy of these reports. Other background variables showed low correlations with SDRB as well.

### **Incest Treatment**

In an unpublished treatment study of incest perpetrators, survivors, and nonabusing parents, a Likert version of the Rosenberg Self-Esteem Scale (Rosenberg, 1965) was used. Preintervention scores of perpetrators and nonabusing parents were relatively high, near those of a normative sample (Hooper, Hooper, & Colbert, 1984). The scores of adult survivors of incest were significantly lower than the other two groups. Counselors at the program suspected that the perpetrators were biasing their responses, especially because several of the perpetrators had "perfect" self-esteem scores. Indeed, the Marlowe-Crowne correlated very highly with the perpetrators' scores ( $r = .63$ ,  $df = 28$ ,  $p < .001$ ). It also correlated quite highly with the scores of nonabusing parents ( $r = .56$ ,  $df = 34$ ,  $p = .001$ ). The self-esteem scores of survivors, on the other hand, were not highly contaminated by SDRB ( $r = .35$ ,  $df = 31$ ,  $p = .06$ ). After scores were adjusted, the average for perpetrators fell far below that of the other two groups (perpetrators = 10.01, survivors = 16.6, nonabusing parents = 20.3).

### **Attitudes About Women Abuse**

An 18 item true-false version of the Marlowe-Crowne scale was used in a study of attitudes about the causes and proposed solutions for women abuse (Saunders & Size, 1986). The responses of police officers, victims, and victim advocates were compared. On a scale measuring the view that violence is justified in response to marital infidelity, police officers were somewhat more biased in their responses. Their unstandardized regression coefficient in predicting the scale scores from the Marlowe-Crowne was .0064, compared with .0055 for victims and .0047 for advocates. In turn, the officers' average adjusted scores rose the most, from 1.99 to 2.06. Advocate scores, on the other hand, rose only from 1.11 to 1.15 (a high score meaning stronger agreement that violence is justified).

On another scale reflecting opinions about the proper role for the police, victims and advocates held the belief more strongly than officers that police should respond to marital fights as crimes and arrest the offending party. Victims and advocates did not differ from each other. After adjusting for SDRB, however, the advocates' scores were significantly higher than victims', showing more agreement with these opinions. In this case, the

adjustments went in opposite directions, causing advocate scores to increase ( $b = .048$ ) and victim and police scores to decrease ( $b = -.094$  and  $b = -.057$ ).

## DISCUSSION

This article describes and illustrates ways of making adjustments for a form of response bias commonly found in self-report measures. Social desirability response bias is likely to be a serious problem when measuring sensitive topics, such as interpersonal violence. The bias is less of a concern in correlational studies if response bias is nearly equal among the measures. Future research could test the validity of the SDRB adjustment process for marital violence by noting if there is a positive correlation between SDRB and the discrepancy between husband-wife reports of violence. Husbands appear to minimize the extent of their violence because discrepancies are usually found between their reports and those of their partners (e.g., Edleson & Brygger, 1986).

Despite the apparent success of methods for making adjustments for response bias, violence researchers and clinicians are encouraged to rely on "harder" forms of data than those from self-report. The development and application of behavioral role-play tests or physiological measures are often well worth the effort (see Saunders, 1988a, for applications in abuser treatment). Abel and his associates (Abel, Cunningham-Rathner, Becker, & McHugh, 1983), for example, found that when sex offenders were confronted with the laboratory results of their sexual arousal, they admitted to a wider range of sexual deviations. This confrontation worked better than other methods for increasing disclosure.

A possible limitation in the adjustment for SDRB is that it may actually reflect a personality trait of the "need for approval." Some researchers interpret the Marlowe-Crowne scale in this broader sense and conclude that it is natural that it will correlate negatively with traits like anger. According to this interpretation, people with a need for approval really do have less anger or other undesired traits (Edwards, 1957; Heilbrun, 1964). However, this interpretation does not explain why SDRB correlates with self-report but not physiological measures of anger (Novaco, 1976). Nonetheless, when interpreting adjusted scores, one should keep in mind that some of the adjustment can be due to the person's conformist attitudes and not strictly from denial.

In conclusion, an easy-to-administer measure of social desirability response bias is available for statistically correcting self-report measures of

violence and its correlates. Without adjustment for this form of response bias, clinical assessments and research results will often be misleading.

## REFERENCES

- Abel, G., Cunningham-Rathner, J., Becker, J. V., & McHugh, J. (1983, December). *Motivating sex offender for treatment with feedback of their psychophysiological assessment*. Paper presented at the World Congress of Behavior Therapy. Washington, DC.
- Arias, I., & Beach, R. H. (1987). Validity of self-reports of marital violence. *Journal of Family Violence, 2*(2), 139-142.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4*, 53-63.
- Borkenau, P., & Amelang, M. (1985). The control of social desirability in personality inventories: A study using the principal-factor deletion technique. *Journal of Research in Personality, 19*, 44-53.
- Caldwell-Colbert, A. T., & Robinson, W. L. (1984). Utilization and predicted trends of behavioral inventories. *Journal of Behavioral Assessment, 6*(3), 189-196.
- Crowne, D. P., & Marlowe, D. (1964). *The approval motive: Studies in evaluation dependence*. New York: Wiley.
- Edelson, J. L., & Brygger, M. P. (1986). Gender differences in reporting of battering incidences. *Family Relations, 35*, 75-88.
- Edwards, A. L. (1957). *The social desirability variable in personality assessment and research*. New York: Dryden.
- Fiske, D. W., & Pearson, P. H. (1970). Theory and technique of personality measurement. *Annual Review of Psychology, 21*, 49-86.
- Gelles, R. J. (1978). Methods for studying sensitive family topics. *American Journal of Orthopsychiatry, 48*(3), 408-424.
- Greenwald, H. J., & Satow, Y. (1970). A short social desirability scale. *Psychological Reports, 27*, 131-135.
- Heilbrun, A. B. (1964). Social learning theory, social desirability, and the MMPI. *Psychological Bulletin, 61*, 377-387.
- Hooper, F. H., Hooper, J. O., & Colbert, K. K. (1984). *Personality and memory correlates of intellectual functioning: Young adulthood to old age*. New York: S. Karger.
- Hotelling, G. T., & Sugarman, D. B. (1986). An analysis of risk markers in husband to wife violence: The current state of knowledge. *Violence and Victims, 1*, 101-124.
- Kornblith, S. J., Greenwald, D. P., Michelson, L., & Kazdin, A. E. (1984). Measuring the effects of demand characteristics on the Beck Depression Inventory. *Journal of Behavioral Assessment, 6*(1), 45-49.
- Lacks, P., & Connelly, J. (1975). *Analysis of four self-report measures of assertion*. Unpublished manuscript. Washington University.
- Millon, T. (1982). *Millon Clinical Multiaxial Inventory*. Minneapolis, MN: Interpretive Scoring Systems.
- Novaco, R. W. (1976). *Anger control: The development and evaluation of an experimental treatment*. Lexington, MA: Lexington.
- Novaco, R. W. (1977). Stress inoculation: A cognitive therapy for anger and its application to a case of depression. *Journal of Consulting and Clinical Psychology, 45*(4), 600-608.



- Paulus, D. L. (1981). Control of social desirability in personality inventories: Principal factor deletion. *Journal of Research in Personality, 15*, 383-388.
- Riggs, D. S., Murphy, C. M., & O'Leary, K. D. (1989). Intentional falsification in reports of interpartner aggression. *Journal of Interpersonal Violence, 4*, 220-232.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Saunders, D. G. (1988a). Issues in conducting treatment research with men who batter. In G. T. Hotaling, D. Finkelhor, J. T. Kirkpatrick, & M. A. Straus (Eds.), *Coping with family violence: Research and policy perspectives*. Newbury Park, CA: Sage.
- Saunders, D. G. (1988b). *A typology of men who batter their wives: Three types derived from cluster analysis*. Manuscript submitted for publication, University of Wisconsin-Madison.
- Saunders, D. G., & Hanusa, D. (1986). Cognitive-behavioral treatment for men who batter: The short-term effects of group therapy. *Journal of Family Violence, 1*(4), 357-372.
- Saunders, D. G., & Size, P. B. (1986). Attitudes about woman abuse among police officers, victims, and victim advocates. *Journal of Interpersonal Violence, 1*, 25-42.
- Saunders, D. G., Lynch, A. B., Grayson, M., & Linz, D. (1987). The inventory of beliefs about wife beating: The construction and initial validation of a measure of beliefs and attitudes. *Violence and Victims, 2*(1), 39-58.
- Schuessler, K., Hittle, D., & Cardascia, J. (1978). Measuring responding desirability with attitude-opinion items. *Social Psychology, 41*(3), 224-235.
- Warren, L. W. (1983). Male intolerance of depression: A review with implications for psychotherapy. *Clinical Psychology Review, 3*, 147-156.

*Daniel G. Saunders, Ph.D., is an assistant professor, School of Social Work, University of Michigan. He has published numerous articles and chapters on assessing and treating men who batter and on the attitudes of professionals toward battered women.*