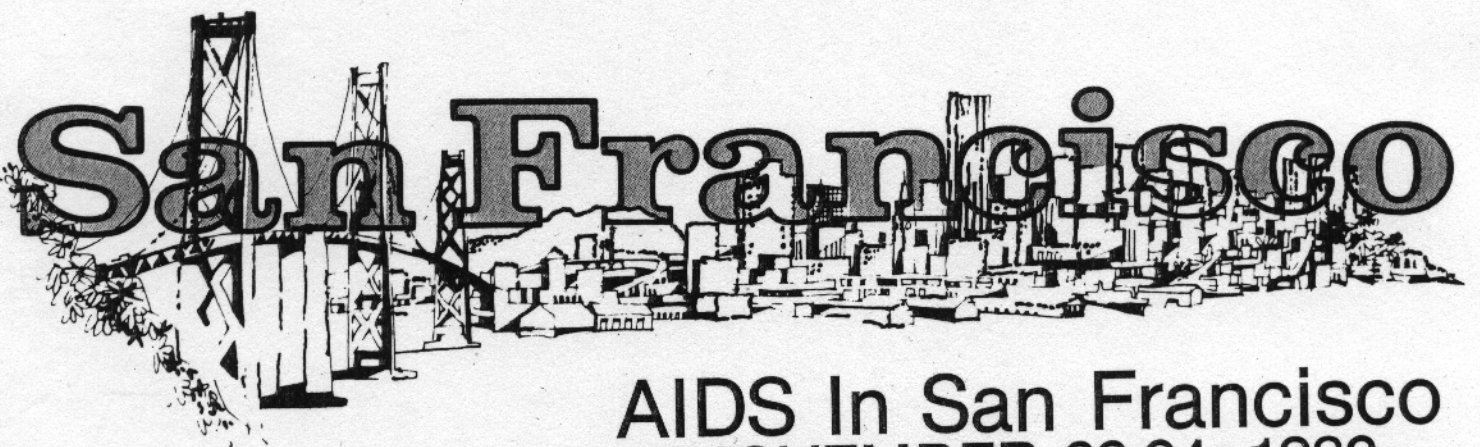


14th Annual Meeting
American Institute for
Decision Sciences
November 22-24, 1982
San Francisco

Volume 1

Accounting
Finance
Innovative Education
Management Information Systems
Marketing
Office Technology
Organization Behavior

Coordinator:
Gregory P. White



AIDS In San Francisco
NOVEMBER 22-24, 1982

SURVEY RESPONSE ERROR: A THEORY AND AN EXPERIMENT

Z. S. Demirdjian, California State University, Long Beach

ABSTRACT

Numerous studies in the social sciences have indicated that there is substantial discrepancy between the respondent's answers to survey questions and the actual facts. While the identification of the problem is necessary, its solution depends on research efforts directed at explanation of causes of survey response error. Therefore, an attempt is made in this paper to present a theory of response error by proposing that distortion of factual information may largely be a function of the level of threat of verification of the reported data (against recorded data) present in a situation, and the respondent's current need satisfaction level. Based upon this conceptualization, an experiment was conducted and the findings seem to lend a strong empirical support to this theory.

PREVIOUS STUDIES

Some previous studies have used the demographic characteristics of respondents such as sex (male vs. female) or background (rural vs. urban) etc., in response error studies (Weaver and Swanson 1974; Matthews and Cooper 1976). The implied assumption about the nature of the respondent is that he or she either is categorically truthful or deceitful. Conditions that are conducive or deterrent to response distortion, such as social pressure, importance of issue or outcome, ease of verification, and the like, may point to important clues regarding reporting behavior. Various situational or demand factors might elicit misreporting behavior. Since most current marketing research studies rely heavily on survey-based data, isolation of situations and conditions bearing upon response error is imperative.

A THEORY OF RESPONSE ERROR

As a first approximation, the concept of survey response may be theoretically stated for further research as the related function of the algebraic sum of the products of the intensity of risk involved and the amount of reward that reporting behavior provides to complete a felt need. In a formula form, the foregoing statement is put in the following equation:

$$RE_{lt} = \sum_{i=1}^n T_{itl} \times N_{itl} \quad (1)$$

Where:

- RE_{lt} = Respondent l 's propensity of response error toward a particular survey topic t
 T_{it} = The magnitude of threat of verification inherent for respondent i for answering to survey question i in topic t
 N_{itl} = Respondent l 's status of need satisfaction in the survey question i of topic t
 n = Number of related questions in a particular survey topic

METHOD

Based upon this conceptualization, three derivative hypotheses were tested: H_1 under conditions of "no threat" of verification, inaccurate responses occur more frequently to survey questions where the respondent feels safe from any threat of verification to enhance his or her position (e.g., economic); H_2 under conditions of "mild threat" of verification inaccurate responses occur less frequently to survey questions when the respondent feels "somewhat" unsafe from the threat of verification; and H_3 the frequency of inaccurate responses will be greater by respondents

who lack more of "something" of interest or value (e.g., grades) which can be gained by misreporting factual information than by those respondents who lack the same thing less acutely. Thus, the combined prediction of the three hypotheses simply states that accuracy of survey responses may depend on the level of risk inherent in a situation and on the expected reward accruing the respondent.

Procedure

One hundred thirty-eight undergraduate marketing students were randomly assigned to one of two levels of threat of response verification in an after-only with control group experimental design. S's were asked to report their grades for the semester. The two levels of threat conditions were manipulated through a cover story, communicating different possibilities of response verification. In the "no threat" condition, the instructor/experimenter informed the S's that he had lost the grade book including all test material beyond any hope of recovery, while in the "mild threat" condition, he stated to the S's that he had been unable to locate his grade book. The need satisfaction wanting was surrogated by the S's class standing (grades earned).

RESULTS

The discrepancy between reported and recorded grades were used as the dependent variable in a series of analysis of variance. A 2X2 ANOVA indicated significant treatment and interaction effects. Treatment groups differed significantly in overreporting their test scores ($F=53.21$; $df=2, 126$; $p<.05$). In terms of class standing, the reporting behavior of the three categories was significant ($F=19.97$; $df=2, 126$; $p<.05$). The interaction effect obtained by the type of treatment and class standing of the S's was found significant ($f=7.66$; $df=2, 126$; $p<.05$) in the sense that students with lower class standing overstated their grades more than those who had higher grades going for them. Thus, the three H's were accepted. The results reveal that survey responses are strongly controlled by situational factors within the present study. It was found to be influenced by both the level of threat of verification of the actual data and the level of grade achievement of the respondent.

REFERENCES

- (1) Matthews, K. E., Jr. and S. Cooper, "Deceit as a Function of Sex of Subject and Target Person," *Sex Roles*, 2 (1976), 29-38.
- (2) Weaver, C. N. and C.L. Swanson, "Validity of Reported Date of Birth, Salary, and Seniority," *Public Opinion Quarterly*, 38 (1974), 69-79.