

## MAXIMIZING RESPONSE RATES IN SURVEY RESEARCH: ISSUES AND METHODS

Darcy Clay Siebert

**Abstract:** *Collecting accurate data is a challenge for researchers, and securing sufficient response rates can be especially difficult, particularly when asking respondents to reveal sensitive information. This paper will review the relevant literature and illustrate the issues by reporting the methods used to collect data for Work and Well Being: A Study of North Carolina Social Workers. By following a rigorous protocol, the study achieved a 75% response rate (N=751), a sample that was representative of the population, and minimal response bias. The results highlight the ways in which social work researchers can explore difficult substantive arenas and yet achieve an excellent response.*

**Key words:** *Research Method; Surveys; Response Rate*

### INTRODUCTION

Collecting accurate data is a challenge for researchers, and securing sufficient response rates and accurate responses in survey research can be especially difficult, particularly when requesting sensitive information. At times, participants place a good deal at risk by answering survey questions; for example, respondents revealing stigmatizing illnesses might lose friends if their answers were exposed, or professionals asked to disclose unethical behavior would fear losing their jobs if their responses were made public. It is not surprising that research participants are reluctant to respond to questionnaires that ask questions about sensitive topics, yet sensitive topics are at the heart of much social work research. This paper will review the issues involved in conducting survey research, including response rates, sample representative ness, and item non response, giving particular attention to the collection of sensitive data. Issues will be illustrated by presenting the methods used for Work and Well Being, a survey of 1000 actively practicing members of the North Carolina chapter of the National Association of Social Workers (NASW) that included a number of questions of a sensitive nature.

This survey study explored the extent of alcohol and other drug (AOD) use, depression, and burnout among social workers, examined demographic and other, sensitive correlates (e.g., sexual abuse history), and analyzed the ways in which these variables impaired respondents' professional practice (e.g., provided inadequate client care or had inappropriate relationships with clients).

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## SURVEY DESIGN

Previous studies find that self-report is frequently more accurate than proxy report (Fowler, 1995), and this may be particularly true when collecting sensitive data, as these sensitive events or behaviors are frequently so private or covert as to be unknown to others. A variety of self-report methods have been used in past research to elicit information — telephone interviews, face-to-face interviews, group-administered questionnaires, and computer-assisted methods are all documented in the literature. Previous studies that compare methods of collecting sensitive data find that respondents report more truthfully in self-administered questionnaires than in other kinds of self-report (Harrison, 1995; Turner, Lessler, & Gfroerer, 1992). Because methods that minimize personal contact are most likely to produce accurate and complete results, researchers frequently use mail surveys to collect data about substance abuse (Trinkoff & Storr, 1997) and other sensitive issues (Deutsch, 1985; Sherman & Thelan, 1998). Participants whose identities remain anonymous are likely to feel safer than those who participate confidentially, and when anonymity is guaranteed there may be little or no response bias (Rouse, Kozel, & Richards, 1985; Trinkoff & Storr, 1997). Following the literature, *Work and Well Being* utilized a cross-sectional, anonymous mailed survey design.

## DATA COLLECTION METHODS

Participants in all kinds of surveys may be influenced by the details of the data collection plan. For *Work and Well Being*, data collection strategies, modified from Dillman (2000), were employed to maximize the response rate while reducing item nonresponse and social desirability bias, thus improving the likelihood of obtaining a representative sample and accurate data.

Respondents were sent an initial, brief letter of introduction to the study, as suggested frequently by survey researchers (Dillman, 2000; Mangione, 1995; Murphy, 1993; Salant & Dillman, 1994). This introductory letter prepared respondents for the questionnaire, and endorsements lent credibility to the purpose of the study. The letter was printed on stationery from the Dean's Office at the university's School of Social Work, and the Dean, the Executive Director of the State Chapter of the NASW, the President of the State Society of Clinical Social Workers, and the Principal Investigator, signed it. A notice prominently placed in the State NASW newsletter also described and endorsed the study. Survey researchers agree that marketing materials and cover letters should be persuasive and well written (Bourque & Fielder, 1995; Dillman, 2000; Mangione, 1995) to facilitate higher response rates.

University stationery was used for all letters to respondents, as the survey research literature is clear that research sponsored by recognized research institutions may be more credible to respondents and enjoy higher response rates (Dillman, 2000). This may be particularly true for studies collecting sensitive information from respondents who appreciate assurances of methodological rigor, so that affiliation was prominently advertised in study materials.

A cover letter was included with the initial mailing of the questionnaire and all subsequent follow-up mailings. This letter was one page long, easy to read, personally signed in

blue ink, and printed on institutional letterhead. It included a compelling first sentence, explained why the study was important, and clearly explained the procedure for returning completed surveys. Respondents were told how they were chosen randomly for participation, emphasizing the importance of their participation while clearly stating that it was voluntary. Of particular importance for this study was the assurance of anonymity and the clear explanation of the methods that would insure this protection. Respondents must be satisfied that their anonymity is guaranteed, particularly if they perceive risk attached with revealing information. To accomplish this, the specifics of that protection were offered in sufficient, but not lengthy, detail (Bourque & Fielder, 1995; Dillman, 2000).

Finally, the project contact person, phone number and email address were included in case the respondents had any questions about the study (Foddy, 1993; Mangione, 1995; Salant & Dillman, 1994).

Because the mailing schedule can also affect response rate, reminders and subsequent mailings were sent according to a specific timetable (Mangione, 1995). Commemorative postage stamps rather than metered or business reply stamps were utilized to increase the response rate by placing "subtle pressure" on respondents to return the questionnaire, helping them differentiate the survey from junk mail, and requiring the post office to return unforwardable envelopes (Choi, Pack, & Purdham, 1990; Mangione, 1995; Salant & Dillman, 1994; Shiono & Klebanoff, 1991). Large mailing envelopes were used to avoid folding the questionnaire (Mangione, 1995). Also, all correspondence was personalized by printing the respondents' names on the introduction and cover letters, outgoing envelopes, and return postcards, as studies regularly have found that this technique slightly improves response rate (Dillman, 2000).

This study did not provide incentives to respondents (e.g., money or trinkets), as the literature provided no evidence that this would be helpful to increasing response rate for a survey of professionals (Asch, Jedrzejewski, & Christakis, 1997). In addition, respondents being asked for particularly sensitive information could have been offended by the notion that their private and important information would be worth only the small token or other incentive that is typically included in survey studies. Potential participants must be given an exceedingly good reason for participating, such as appealing to an aspect of self-interest or demonstrating the study's importance to an issue that is meaningful for them (Bourque & Fielder, 1995; Dillman, 2000; Mangione, 1995). Along with a statement of the study's importance to the social work profession, an offer to send respondents a summary of the survey results was included in the cover letter, as this is regarded as a helpful motivator, particularly for professional respondents (Murphy, 1993).

## QUESTIONNAIRE

The project also followed recommendations for reducing item non response. An attractive and easy-to-follow questionnaire was designed, including good quality printing, balanced arrangement of the questions on each page, easy-to-read font style and size, numbered questions, consistently marked instructions, sequential ordering of response options, clean-looking formatting with lots of blank space on each page, and good quality paper (Bourque & Fielder, 1995; Dillman, 2000; Mangione, 1995; Salant & Dillman, 1994).

Only necessary questions were asked, and in only as much detail as was necessary for the study (Mangione, 1995). The questionnaire did not begin with the most sensitive questions (Foddy, 1993; Mangione, 1995), and questions about respondents' own behavior were preceded with questions about other people's behavior in the same content area (Foddy, 1993; Mangione, 1995). The wording of questions was typically brief and without too much detail, usually below the ideal 20-word recommended maximum (Foddy, 1993). Also clear instructions and indications about why the questions were being asked were provided (Mangione, 1995).

The traditional suggestions for decreasing the difficulty of questions were also followed – not asking two questions as if they were one (i.e., double-barreled), avoiding qualifying phrases and difficult words or phrases, avoiding multiple ideas or subjects within one question, excluding negative phrases or instructions within a question, and avoiding the inclusion of both present and past tense, or singular and plural cases (Foddy, 1993).

Social desirability bias is a concern, as it can undermine the validity of measures through consistent under-reporting of behaviors and other attributes. Respondents may want to make themselves look good, or they may simply want to protect themselves from looking bad (Fowler, 1995). Clearly, this kind of bias was likely in this study, the questionnaire included explicit questions about behavior that could compromise respondents' careers and/or licenses. It was possible that respondents would consciously or unconsciously distort their responses in order to protect their personal self-images. To help lessen this bias, a statement emphasizing the need for honest and accurate responses was made in several places, as were assurances of anonymity. The ranges of response options for sensitive questions were increased (e.g., including very high upper limits for drinking and drug use measures), as respondents are typically more comfortable selecting the correct option if it does not seem to be the most extreme response possible (Foddy, 1993; Fowler, 1995; Mangione, 1995). For other sensitive topics such as income, the detail in response categories was minimized because respondents are generally more comfortable answering questions in which the response categories are broad rather than narrow (Foddy, 1993; Fowler, 1995).

Finally, as is regularly recommended in the literature, participation in the study should not require a burdensome length of time; this is especially germane for respondents who are asked for sensitive information that might generate uncomfortable feelings while they are responding (Bourque & Fielder, 1995; Dillman, 2000).

### **TIMELINE**

Dillman (2000) has very specific recommendations for data collection timelines, and these recommendations were followed for Work and Well Being. Data were collected between July and September. Initially introductory letters notified all recipients of their selection to participate and briefly described the study and its significance. Questionnaire packets were mailed three days later, and each included a cover letter, a stamped reply envelope that was addressed to be returned to the School of Social Work, and a return postcard that was stamped and personalized with the respondent's name and address. This postcard, to be returned separately from the questionnaire and mailed to a different address, allowed respondents to check a box confirming either

that they returned their questionnaire under separate cover or that they did not want to be part of the study and wished to be taken off the follow-up mailing list. This system allowed the tracking of responses without having a name attached to a specific questionnaire. Previous studies (Gilbert, Longmate, & Branch, 1992; Trinkoff, Eaton, & Anthony, 1994; Trinkoff & Storr, 1997) experienced proportional numbers of returned postcards and returned questionnaires, always receiving slightly more usable questionnaires than confirmatory postcards (Summers & Price, 1997).

Subsequent mailings were sent to non responders at two-week intervals for the next eight weeks, alternating between reminder postcards and replacement questionnaire packets. When the post office returned several undeliverable letters during the first few weeks of the study, every attempt was made to locate respondents' new or corrected addresses.

## RESULTS

### Response Rate

By the end of the study, 822 (82%) of the social workers had responded to the mailings. Of this total, 75 (7.5%) had returned postcards or left voice mail or email messages stating that they did not wish to participate in the study. Additionally, 12 respondents were not locatable and three questionnaires were removed as unusable. From the original sample of 1000, 751 usable questionnaires were received, yielding a survey completion rate of 75.1%. For ease of interpretation, Table 1 presents the timeline information and the cumulative totals of reply cards received, questionnaires received, and respondents who declined participation.

**Table 1. Timeline and Cumulative Totals of Responses for Work and Well Being**

Date	Activity	Reply cards received	Usable questionnaires received	Declined participation
7/11	Intro letter mailed to 1000 SWers			
7/14	Initial packets mailed to 1000 SWers			
7/27	Reminder postcards mailed	379	358	22
8/10	Replacement packets mailed	610	560	37
8/23	Revised reminder postcards mailed	724	675	53
9/07	Final packets mailed	760	706	59
9/28	None	805	740	71
10/15	Final totals	822	751	75

Note. 592 respondents requested a summary of the study's results.

## Demographic Comparison to Target Population

No demographic data were available about the population of North Carolina members of NASW, so demographics were compared with the national NASW membership to explore whether the study sample was similar to the population of NASW members. Data from the recent Practice Research Network survey (PRN, 2000) and population data from the 1995 profile of the NASW membership from *Who We Are: A Second Look* (Gibelman & Schervish, 1997), were compared with the data from this study. The study sample over represented women and African-Americans while under representing Hispanics and those over 60 years of age compared to the national membership. It should be noted that because the NASW does not promise confidentiality when collecting personal information from its members, the usefulness of those comparisons may be somewhat compromised. Statistical testing for significant differences was not conducted due to the unavailability of the raw data and differences in item construction, data collection methods, sample sizes, and reporting. Table 2 summarizes these data.

**Table 2. Demographic Comparisons of the 1995 NASW Membership, the PRN Survey, and the Study Sample**

Item	1995 NASW (N=153,814)	Study Sample (N=751)	PRN Sample (N=1620)
Gender (female)	79.4%	83.8%	79%
<b>Ethnicity</b>			
White	87.9%	88.1%	89%
African American	5.7%	9.1%	5%
Hispanic	2.8%	0.7%	3%
Asian	1.8%	0.4%	1%
Native American	0.6%	0.4%	1%
Other	1.3%	1.3%	2%
<b>Age</b>			
40 years or younger	38.0%	36.0%	21% (under 40)
41-60 years	51.0%	59.0%	70% (40-59)
61 years or older	10.0%	5.0%	9% (60+)

## Item Nonresponse

Because the questionnaire was lengthy, containing 84 questions, nonresponse is reported in categories of questions. Illicit drug use or improper prescription drug use questions had a mean item nonresponse of .81% (i.e., each question was answered by an average of 99.19% of respondents). Drinking items' mean nonresponse was

2.7%, while trauma history questions (e.g., history of sexual abuse) averaged 2.1% item nonresponse. Impairment items asking about the negative professional consequences of mental health or AOD problems (e.g., having improper relationships with clients, providing inadequate client care) sustained the highest mean nonresponse at 3.4%. These mean percentages include all missing data, including those that were not purposeful – for example, items unanswered because questionnaire pages were stuck together when received by return mail.

## Response Bias

To explore potential nonresponse bias, early and late responders were grouped, coding the first 100 respondents as “1” and the last 100 respondents as “2,” comparing them on outcome measures and on demographic characteristics.

This typical method for identifying non-response bias presumes that nonresponders are more similar to late responders than to early responders (Trinkoff & Storr, 1997).

Chi square tests revealed no differences between early and late responders on ethnicity, marital status, sexual identification (e.g., heterosexual female, homosexual male), and highest degree earned. One-way ANOVAs revealed no differences between early and late responders on age, income, or years of social work experience. Thus, demographically, there were no significant differences between the groups on these variables.

Standardized measures were used to assess AOD use, depression, and burnout, and these were complemented with single-item self-assessment items. Both an index and a single-item self-assessment scale measured impairment. One-way ANOVAs were conducted on these variables, and no differences were found between early and late responders on any of the alcohol or other drug use variables, the burnout scale, or the impairment index. Chi square tests also found no differences for self-reported depression status or burnout status. Two statistically significant differences occurred between early and late responders – late responders were more likely to report stronger agreement with the statement “I have worked when I was too distressed to be effective” and to have scored higher on the Center for Epidemiological Studies Depression scale (Radloff, 1977). Following the argument that nonresponders are more similar to late rather than early responders, nonresponders may have been more likely to experience depression symptoms and professional impairment. Funding limitations precluded follow-up with nonrespondents to determine actual differences between them and the sample. It is clear, however, that respondents experiencing depressive symptoms and professional impairment required more contacts before responding to the questionnaire than those respondents who did not report higher scores on the CES-D and single-item impairment measure.

## DISCUSSION

It is difficult to conduct research on issues that are stigmatized by society, especially problems like alcohol and other drug use in which denial is a characteristic defense (Haack & Hughes, 1989). This difficulty may be compounded when asking for sensitive information from respondents who have a good deal to lose if the information was inadvertently revealed, such as this sample of professionals whose careers and licenses may rest on their good reputations. Because stigma prevails, both participant nonresponse and item nonresponse are possible.

Despite these difficulties, survey research, including that which asks respondents for sensitive information, can be rigorous. Following well-researched guidelines resulted in an excellent response rate despite the intrusive questions asked in this study of social workers. The wisdom about how to do this well runs broad and deep in the scientific literature, yet there are many examples in the literature of studies that fail to meet (or even address) the recommendations for sound survey research. Past researchers who deviated from recommended procedures experienced poor response rates when surveying professionals on this topic. For example, Hughes and colleagues (1992) conducted a survey of physicians' alcohol and other drug use that utilized an excellent sampling strategy, sound measures, and most methods that followed the literature. However, they did not follow recommended timelines for their mailings (Dillman, 2000), and they achieved a 59% response rate.

However, in studies that paid careful attention to the details of survey administration, and in particular followed the recommendations in the literature for follow-up mailings, helping professionals were willing to provide sensitive information. McAuliffe and colleagues (1991) surveyed physicians and medical students, and then compared their alcohol use and abuse with previously surveyed samples of pharmacists and pharmacy students. The investigators carefully followed the methods recommended in the literature – e.g. guaranteed anonymity and follow-up mailings at two-week intervals, and their methods were rewarded with response rates of 76% for pharmacists, 67% for pharmacy students, 70% for physicians, and 78% for medical students. Trinkoff and Storr (1997, 1998a, 1998b, 1999) surveyed nurses about their alcohol and other drug use utilizing methods that were the template for *Work and Well Being*, and of the 5706 nurses eligible to participate in their study, 4438 (78%) returned usable questionnaires.

Respondents in rigorous studies also appear to provide more accurate information, as the rates of alcohol and other drug (AOD) abuse reported were even higher than those in less meticulous studies. For example, while Hughes and colleagues (1992) reported an 8% lifetime (AOD) abuse rate, McAuliffe and colleagues (1991) found that 17% of their sample of physicians reported drinking too much currently. Trinkoff & Storr's study of nurses found that past-year use for all substances was 32%, and 17% of respondents reported past-year binge drinking (Trinkoff & Storr, 1997, 1998a), higher than the national average. The current study of social workers found even higher rates of AOD use, despite using the same measurement strategy as Hughes (1992) and Trinkoff and Storr (1997). Twelve percent of the sample was at serious risk of AOD abuse, 28 percent reported binge drinking dur-



ing the past year, and 21 percent had used drugs illegally since becoming a social worker (Siebert, 2003). In addition, the lifetime rate of depression reported by social workers was three times the national average for women (Siebert, 2004) and the lifetime burnout rate reported was 75% (Siebert, in press). Fifty two percent reported some kind of professional impairment as a result of their own AOD or mental health problems at some time in their lifetimes (Siebert, 2005).

Insuring that the content of a questionnaire is believable and important to potential participants is a key feature in maximizing response rates in all kinds of survey research, and this may be especially important for respondents who are reluctant to reveal sensitive information. While the literature frequently recommends the use of brief questionnaires to guard against low response rates and item nonresponse, the length of the questionnaire may be less of an issue if the content is persuasive to the respondent. This study's 10-page, 84-question instrument exceeded typical recommendations for length, yet it still achieved an excellent response, making the case that compelling content may keep a respondent's attention even for a lengthy questionnaire.

Nevertheless, the potential for underreporting is always an issue for topics in which denial is powerful, as demonstrated by differences in this study's early and late responders. Surveys asking for sensitive information would be wise to plan for multiple follow up contacts with respondents, as many of the social workers experiencing depression and professional impairment would not have been included in the Work and Well Being data if only one or two follow ups had been implemented, thus lowering the response rate and the prevalence rates for these important variables.

Another useful strategy for addressing underreporting is to utilize multiple measures for sensitive variables, giving respondents multiple opportunities to report accurately and to check the consistency of those responses within a particular topic. This tactic was particularly valuable for this survey's sample of social work professionals, many of whom likely utilized some of the same standardized measures (e.g., the CAGE) with their clients that were included in the questionnaire. Finally, item nonresponse may also be less of a problem if items are well-constructed and meaningful to respondents (Dillman, 2000; Mangione, 1995).

In summary, those of us who conduct survey research must improve our ability to capture accurate information about the very difficult issues that face our clients and practitioners. The effort required to improve response rates is costly and time-consuming, but effective with a variety of populations (Dillman, 2000) and well worth the effort. We also need to aspire to higher standards for reporting our response rates accurately – the usable number of responses divided by the total number selected in the sampling – not response rates that are calculated exclusive of respondents that can't be located or who are deemed ineligible after the fact. Rather than avoiding the study of sensitive issues or continuing to be complacent about inaccurate reporting, poor survey response rates, and substantial item nonresponse, we owe it to ourselves and to our clients to become more rigorous in our methods, improving the accuracy of our findings and providing practitioners with the valuable information they need to provide better services.

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