

### Confidentiality assurances in surveys: reassurance or threat?

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## CONFIDENTIALITY ASSURANCES IN SURVEYS: REASSURANCE OR THREAT?

*Eleanor Singer, Hans-Jürgen Hippler,  
and Norbert Schwarz*

### ABSTRACT

Over the last three decades, the public's willingness to take part in surveys has gradually declined, and the decline has been attributed in part to increasing concern about the confidentiality of the data requested. This paper reviews the early literature bearing on confidentiality assurances and willingness to respond, and then reports on three experiments designed to investigate the effects of confidentiality on the expectations of respondents and on their willingness to take part in a survey. The results of all three experiments confirm our expectation that confidentiality assurances are not always perceived as reassuring, and do not necessarily increase the public's willingness to respond.

### INTRODUCTION

The most important requirement for representative sample surveys is a willingness on the part of the public to be interviewed. Over the last three decades, that willingness has gradually declined (Steeh, 1981; Groves, 1989). Especially in Germany and other European countries, but also in the United States, that decline has been attributed in part to increasing public concern about the confidentiality of the data requested. Survey researchers are, thus, faced with the problem of how best to deal with these concerns. On the one hand, assurances of confidentiality may put public concerns to rest. On the other hand, mention of confidentiality may call attention to problems respondents would not otherwise have thought of. In this paper, we first review the early literature bearing on assurances of confidentiality and willingness to respond, and then report on three experiments designed to investigate the effects of assurances of confidentiality on the expectations of respondents and on their willingness to take part in a survey.

## PRIOR RESEARCH

Survey researchers have always been concerned about the effect of survey introductions on the willingness of potential respondents to consent to an interview and on the quality of their responses. That concern was accentuated during the seventies, as a result of regulations mandating that the subjects of research be adequately informed about its risks and benefits. And it received a further impetus from the generally declining response rates observed during this period.

In 1978 and 1979, the first results of two studies designed to assess the effect of so-called 'informed consent procedures' in surveys were published. Singer (1978a) investigated the effect, in face-to-face interviews, of more (versus less) information about sensitive subject matter in survey introductions, as well as the effects of varying assurances of confidentiality and of requiring a signature to document consent. She found no statistically significant effect of the first two factors on response rates, although requiring a signature to document consent did significantly depress the cooperation rate. However, response rates to sensitive questions were affected by the type of confidentiality assurance: those respondents given an 'absolute' assurance of confidentiality had lower nonresponse rates to sensitive questions than those given either a qualified assurance or no assurance at all.<sup>1</sup> There is also a suggestion that respondents given an absolute assurance of confidentiality gave 'better' responses (i.e. higher estimates) to sensitive questions than those in other confidentiality conditions. The amount of information about survey content did not consistently affect either item response rates or the quality of response.

In 1979, the National Research Council published the results of its investigation of the impact of confidentiality assurances on survey response in face-to-face surveys. As hypothesized, refusal rates increased monotonically as the length of time during which confidentiality was promised was reduced, although differences between conditions were not statistically significant. Like Singer, the Council found that nonresponse to the income question, the most sensitive one on the survey, as well as underreporting of income, were affected by the type of confidentiality assurance given. In both studies, respondents' verbalized concern with the confidentiality issue was greater than its apparent effect on their behavior in the interview.

Several of these early studies also attempted to determine whether assurances of confidentiality offered by researchers might have had the unanticipated consequence of *increasing* respondents' concern about the survey. This was

<sup>1</sup> Those in the 'absolute' condition were told, 'Of course, your answers will remain completely confidential'; those in the 'qualified' condition were told, 'Of course, we will do our best to protect the confidentiality of your answers, except as required by law'.

explored by Reamer (1979), in a study of juvenile status offenders—a population that may have considerable incentive to bias their answers to survey questions. Half of Reamer's subjects were given an introduction designed to reduce their apprehension about the interview by assuring them of the confidentiality of their responses; they were also given a certificate, signed by Reamer, guaranteeing confidentiality and anonymity. No mention of confidentiality was made to the other half of the subjects. All youths were given a questionnaire including eight items to measure their apprehension about other people's finding out about their responses. The hypothesis was that those given special assurances of confidentiality would be less apprehensive; instead, they turned out to be slightly more apprehensive on all measures, with scores on the total scale significantly different from zero ( $p = .08$ ). There were no effects on response rates to individual items, nor on the quality of response. Reamer provides no information on whether the introduction influenced willingness to be interviewed.

In a subsequent study, Frey (1986) inserted a reminder of confidentiality in the middle of a telephone survey, just before the interviewer asked a series of demographic questions. Contrary to expectation, the confidentiality reminder led to significantly higher nonresponse on the income question, and to higher nonresponse on the other demographic questions as well. Thus, there is some evidence in the survey literature that under certain circumstances confidentiality reminders may increase the suspicion of subjects, and perhaps even reduce their willingness to respond.

Summarizing what is known about the effect of verbal confidentiality assurances on response, we can say that such assurances seem to have had very modest effects on response rates to surveys and on response rates to sensitive items. The evidence with respect to 'stronger' assurances of confidentiality, such as randomized response techniques, is also not consistent in showing an advantage in terms of response rate or quality. For a recent summary, see Fox and Tracy (1986).

### THEORETICAL CONSIDERATIONS

The assumption underlying the early research on confidentiality assurances was that such assurances were a 'good'—that it was necessary to assure respondents of the confidentiality of their replies in order to persuade them to respond, or, at the least, that they would not respond candidly if they were not given such assurances. (This is quite apart from the *ethical* requirement of actually maintaining confidentiality, of course.) As we have seen, however, the evidence for this assumption has been quite meager.

The conceptualization of survey interviews as an on-going conversation, to which respondents bring many of the assumptions that govern the conduct of

conversation in everyday life (cf. Schwarz and Hippler, 1991; Strack and Schwarz, in press) suggests a more paradoxical view of the role played by confidentiality assurances. According to this view, every contribution to the on-going conversation comes with the 'guarantee of relevance' that characterizes contributions to conversations in everyday life (cf. Sperber and Wilson, 1986), and the participants are not supposed to contribute information that is irrelevant in the context of the conversation. This suggests that respondents will extract information about the nature of the survey from the confidentiality assurances given to them. If these assurances are very elaborate, respondents are likely to infer that the survey is sensitive and that they will be asked a number of questions that may be unpleasant, embarrassing, or incriminating.<sup>2</sup>

How this inference will affect their willingness to participate should depend on the actual sensitivity of the survey. If the survey is indeed sensitive, respondents' willingness to participate is likely to be low to begin with, but some of the concerns raised by the topic may be reduced by assurances of confidentiality. Hence, such assurances are likely to have a positive impact on the response rate, much as suggested by the review above. Suppose, however, that the topic is *not* sensitive. In that case, respondents' willingness to participate is likely to be high. If the researcher nevertheless introduces an assurance of confidentiality, this may suggest to respondents that the questions that will actually be asked are *more* sensitive than the topic implies at first glance. Hence, assurances of confidentiality may actually *decrease* the response rate in this case, by suggesting more sensitive questions than are actually in store. Indeed, the experiments by Berman *et al.* (1977), Reamer (1979), and Frey (1986) are compatible with this expectation.

The three experiments reported in the present paper were designed to shed light on the considerations outlined above. They were designed to explore the impact of confidentiality assurances in nonsensitive surveys on (a) respondents' expectations regarding the questions they are likely to be asked and (b) their actual willingness to participate. They were explicitly designed to shed light on the theoretical considerations outlined above. All three experiments were carried out in Germany, where concern about data protection and confidentiality has for many years been greater than in the United States, and where such concern has

<sup>2</sup> After completing this article we discovered an earlier reference to this hypothesis. In a study of the contamination method (a method similar to randomized response), Berman *et al.* (1977) speculated that their failure to obtain better responses with the contamination method might be because 'the very use of the . . . method is a cue to the respondent that these questions are indeed personal and, therefore, he should not answer them truthfully. The elaborate procedure . . . may cause a respondent to perceive the questions as more sensitive than he would perceive them if he were directly asked' (p. 53). In a study designed to test this hypothesis, they found that questions were more likely to be rated as sensitive under the contamination method, though there were no differences between conditions in post-experimentally reported anxiety, embarrassment, or honesty.

become especially salient as a result of the renewed passage of the Data Protection Act in 1986 and in connection with the Census of 1988.

## EXPERIMENTAL INVESTIGATIONS OF THE EFFECTS OF CONFIDENTIALITY ASSURANCES

### EXPERIMENT 1: THE EFFECT OF VARIATIONS IN CONFIDENTIALITY ASSURANCES ON WILLINGNESS TO RESPOND TO A SELF-ADMINISTERED QUESTIONNAIRE

The first experiment was carried out in March 1988 at the University of Mannheim with a convenience sample. Students were approached in the dining room of the university by a female research assistant and handed a description, on ZUMA letterhead, of a planned 'Survey of Student Life, 1988'. We assumed that this topic would be perceived as relatively nonthreatening by students. The experiment embedded three levels of confidentiality assurance in the descriptions handed to students: (1) No mention of confidentiality; (2) Low confidentiality—one sentence referring to the confidentiality of the survey; and (3) High confidentiality—several sentences referring to the confidentiality of the survey and to the German Data Protection Law. In addition, students in this condition were given a one-page description of how the confidentiality of their replies would be safeguarded by ZUMA in accordance with the Data Protection Law (see Appendix). Attached to the survey introduction were (a) a request to fill out a one-page questionnaire and (b) a consent form indicating willingness to take part in the upcoming survey, which students were asked to sign after providing their name, address and telephone number.

The first row of Table 1 shows the percentage indicating their willingness to fill out a one-page questionnaire; the second row, the percentage signing a

TABLE 1 Experiment 1: Confidentiality assurance and willingness to participate in survey (March 1988)

	<i>Confidentiality assurance</i>			<i>Significance</i>
	<i>No mention</i> (n = 42)	<i>Low assurance</i> (n = 52)	<i>High assurance</i> (n = 65) percentage	
Willingness to participate	76.2	61.5	49.2	$\chi^2 (2) = 7.8$ , $p < .05$
Willingness to sign	52.4	36.5	26.2	$\chi^2 (2) = 7.6$ , $p < .05$



consent form indicating their willingness to take part in a later survey. As expected, both percentages decline as the assurance of confidentiality increases ( $p < .05$ ).<sup>3</sup>

The results of this first experiment indicate that, as predicted, respondents' willingness to participate in a 'nonthreatening' survey declines as confidentiality assurances are made more elaborate.

#### EXPERIMENT 2: THE EFFECT OF VARIATIONS IN CONFIDENTIALITY ASSURANCES ON EXPECTATIONS ABOUT THE QUESTIONNAIRE

The second experiment, carried out in March 1990, was designed to test our hypothesis that the reason greater assurances of confidentiality lead to higher refusals is because they change respondents' perceptions of the threat of the interview. Like the first, it approached students in the university dining hall and asked them, in connection with a pretest for a 'Survey of Student Life, 1990', to fill out a very short questionnaire. Forty-eight students, half men and half women, agreed, and were randomly assigned to the same three confidentiality conditions already described in connection with Experiment 1. They were asked to indicate, on the questionnaire, their willingness to participate in the upcoming survey and, immediately afterwards—whether they were willing to participate or not—for their expectations concerning the survey questions.

The first part of Table 2 shows the effect of variations in confidentiality assurances on willingness to participate. As before, greater assurances of confidentiality are associated with less willingness to participate. However, differences between confidentiality conditions are much smaller than in Experiment 1, a result we attribute to the fact that Experiment 2 did not demand a written commitment from respondents. Under these circumstances, the one-sentence assurance of confidentiality does not depress the stated willingness to respond at a later time.

More important, in the present context, is the effect of variations in confidentiality assurances on respondents' expectations concerning the threat of the interview, shown in the second part of Table 2. As predicted, respondents given an elaborate assurance of confidentiality expected the questionnaire to contain more questions they would not like to answer, expected more personal questions, and expected more threatening questions. Interestingly enough, despite the researchers' assurances, they were also more likely to expect the data to fall into the wrong hands.<sup>4</sup> There were no significant differences in the

<sup>3</sup> The  $n$ 's in the different confidentiality conditions are unequal because, for reasons unrelated to the present study, subjects continued to be recruited until there were 32 in each confidentiality condition.

<sup>4</sup> Students were asked to indicate their reasons for refusing or agreeing to participate in the larger survey. Although there were no significant differences between conditions, reasons referring to the confidentiality of the data were mentioned *only* in those conditions in which the experimenter had given an assurance of confidentiality, and only by those refusing to participate.

TABLE 2 Experiment 2: Confidentiality assurances, willingness to participate, and expectations about the interview

	Confidentiality assurance			
	No mention	Low assurance	High assurance	Significance <sup>1</sup>
<i>Behavior</i>				
Willingness to participate (per cent)	76.5 (n = 17)	75.0 (n = 16)	46.7 (n = 15)	$\chi^2(2) = 3.9$ , n.s. $\chi^2(1) = 3.9$ , $p < .05$
<i>Expectations</i>				
Number of questions one would not like to answer (10 = very many)	3.4	3.8	4.9	$F(2,45) = 2.7$ , $p = < .08$ $t(46) = 2.3$ , $p = < .03$
Number of personal questions expected (10 = very many)	4.7	4.8	6.5	$F(2,45) = 2.8$ , $p < .07$ $t(46) = 2.4$ , $p < .02$
How threatening do you expect the questions to be? (10 = very)	2.1	1.6	3.7	$F(2,45) = 4.9$ , $p < .02$ $t(46) = 3.1$ , $p < .01$
How likely is it that the data will be handled in confidence? (10 = very likely)	6.8	5.1	5.9	$F(2,45) = 2.0$ , n.s. $t(46) = 1$ , n.s.
How likely is it that the data will fall into the wrong hands? (10 = very likely)	3.2	3.4	5.1	$F(2,45) = 3.4$ , $p < .05$ $t(46) = 2.6$ , $p < .02$
How much do you expect to enjoy the interview? (10 = very much)	4.4	3.9	3.5	$F(2,45) = 1.0$ , n.s. $t(46) = 1.2$ , n.s.

<sup>1</sup> The first row gives the omnibus test across all three confidentiality conditions; the second row a planned contrast of the first two confidentiality conditions against the third.

perception that the data would be treated as confidential, nor in how much respondents expected to enjoy the interview; and there were no significant differences on any of the questions between those who received only one sentence about confidentiality and those to whom confidentiality was not mentioned at all.

These findings indicate that elaborate assurances of confidentiality arouse expectations that the interview will be sensitive, and such assurances are not enough to overcome the resulting reluctance to participate, at least in this student sample and in the absence of contact with an interviewer.

### EXPERIMENT 3: THE EFFECT OF VARIATIONS IN CONFIDENTIALITY ASSURANCES ON RESPONSE RATES IN A GENERAL-POPULATION MAIL SURVEY

Because students may not be representative of the population in general, the third experiment was designed to investigate the effect of variations in confidentiality assurances in a mail survey of a general population sample. In June 1988, 198 people were selected at random from the city directory of Viernheim (Hessen) and asked to take part in a 'Citizens' Survey, 1988', which was intended as a neutral, nonthreatening survey topic. Potential respondents received a letter describing the study in general terms and were asked to indicate their willingness to participate on a return postcard. Half the sample received, in addition to the general description, an elaborate assurance of confidentiality and a one-page description of how the confidentiality of the data would be safeguarded (see Appendix).

TABLE 3 Confidentiality assurance and willingness to participate in a mail survey (June 1988)

	<i>Confidentiality assurance</i>	
	<i>Without</i>	<i>With</i>
<i>Sample Disposition</i>		
Number of letters mailed	99	99
Lost to follow-up (moved, died)	24	25
Not contacted by phone	13	11
Net sample	62	63
Willing to participate	26 = 41.9 percent*	14 = 22.2 percent*

\*  $\chi^2(1) = 5.6$ ,  $p < .05$ .

After one week all those who failed to respond received a follow-up letter referring to a questionnaire of 'about 10 pages' and another return postcard. A second reminder, containing, for half the sample, the same confidentiality assurance as in the first letter, was sent during the third week. After five weeks those people who had not yet responded were contacted by telephone (if there was a telephone in the household) and asked about their willingness to participate or their reasons for nonparticipation. After this, a questionnaire was mailed to all those who had indicated a willingness to respond.

Willingness to participate, by confidentiality condition, is shown in Table 3. Of the net sample,<sup>5</sup> 41.9 percent in the condition without confidentiality assurances, and 22.2 percent in the condition with assurances, agreed to participate.<sup>6</sup> As in the earlier experiments, these results are in the direction predicted and statistically significant. However, reasons given for nonparticipation either on the postcard or on the telephone do not differentiate between the two conditions. Reasons pertaining to confidentiality were mentioned by about 20 percent, but no more often in the high-confidentiality than in the low-confidentiality condition.

Forty questionnaires were mailed to those who had indicated a willingness to participate in the survey—26 in the low-confidentiality condition, and 14 in the high-confidentiality condition. No attempts were made to follow up those who did not return the questionnaire. Only 16 of 26—61.5 percent—of those in the low-confidentiality condition returned the questionnaire; this was true of 12 of 14, or 85.7 percent, of those in the high-confidentiality condition. Thus, the final response rate shows very little difference between the two conditions: 25.8 percent of those in the low-confidentiality condition, versus 19.0 percent of those in the high-confidentiality condition, returned a completed questionnaire.

Several explanations of these results are possible. First, because of the large number of earlier drop outs, those remaining in the high-confidentiality condition were the most cooperative respondents. Furthermore, the experimental manipulation may have made the survey more salient for those in the high-confidentiality condition, so that they were more likely to complete it without a reminder. Finally, the actual questionnaire may have been a pleasant surprise to respondents in this condition, who probably expected a more difficult and sensitive instrument. If these arguments are correct, follow-up attempts should once again have increased the difference between conditions.

The findings suggest that mode of interview may be important in mediating the effects of confidentiality assurances and of survey introductions more

<sup>5</sup> The percentage lost, as shown in Table 3, is high because the city directory we used was two years old. With a current directory, the percentage lost for reasons of mobility or death is between 7 and 10 percent.

<sup>6</sup> We suspect that these response rates are lower than on 'normal' mail surveys because respondents did not receive the actual questionnaire; instead, they were asked to return a postcard indicating willingness to fill out a questionnaire at a future time. This procedure was followed because it paralleled that used in the earlier experiments with students.

generally. In an interview situation, whether the interview is done in person or on the telephone, the respondent must decide on the basis of the introduction alone (and, in fact, often decides before the introduction can be completed!) whether to participate or not. In a self-administered questionnaire, however, the questions as well as the introduction can be used as the basis for reaching a decision. Thus, the introduction should have less effect on respondents' perceptions of question threat in this mode. And if the questions are indeed sensitive, an assurance of confidentiality may be required to persuade them to complete the questionnaire.

## DISCUSSION

The results of all three experiments confirm our expectation that respondents will express less willingness to participate in a survey on non-sensitive topics if the request is accompanied by considerable emphasis on the confidentiality of their replies. Our hypothesis concerning the reasons for these differences—that respondents will expect more threatening questions when they are given elaborate assurances of confidentiality—was also supported.

Potential respondents interpret assurances of confidentiality, especially when they are long and detailed, as an indication that the topic of the survey is likely to be sensitive, and this reduces their willingness to respond. This is hardly surprising. Although such assurances promise data protection, they also suggest that the interview itself may be unpleasant—that it may contain questions that are difficult or embarrassing to answer. Even the most convincing assurance that responses will be held in confidence cannot alter these negative expectations. Thus, although survey responses should always be held in confidence, detailed assurances of confidentiality should not be routinely given because if the content of the survey is not sensitive, they may serve to increase, rather than reduce, respondent apprehension and refusals.

The present experiments were restricted to surveys whose content is not especially sensitive, and they were intended primarily as a test of the validity of our theoretical assumptions concerning the meaning of confidentiality assurances to respondents. There are several obvious extensions of this experimental work in order to increase its utility for survey researchers. First, the experiments should be replicated in cross-national studies, with larger samples, and in realistic survey contexts. Second, the research should be extended to surveys whose content is sensitive, where one would expect an assurance of confidentiality to increase respondents' willingness to participate. Third, it would be fruitful to examine the effect of confidentiality assurances in the context of mail vs. telephone vs. face-to-face surveys. On the one hand, perceived trustworthiness of the interviewer may serve to reduce (or increase) respondents' concerns about the confidentiality of their replies. On the other hand, respondents in a

mail survey ordinarily have an opportunity to look at the actual survey questions before deciding whether or not to answer them. Both of these conditions—the interaction with the interviewer, especially in a personal interview, and the ability to look at the questions before deciding whether to respond—should, we believe, reduce the importance of the survey introduction in influencing the decision to participate.

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## BIBLIOGRAPHIC NOTES

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## APPENDIX

### EXPLANATION CONCERNING DATA PROTECTION AND THE ABSOLUTE CONFIDENTIALITY OF YOUR ANSWERS TO SURVEYS

ZUMA follows the legal requirements for data protection.

Results are presented anonymously and in aggregate form only. No one will be able to tell from the results which person gave a particular response.

This is also true for panel surveys, where it is important to carry out another interview with the same person. In panel surveys, responses to the several interviews are linked by means of a code number, and no names or addresses are used. There is no release of data in individually identifiable form.

The people responsible for the confidentiality of research data are Dr. Peter Mohler, the Executive Director of ZUMA, and Dr. Peter Hartmann.

On the reverse side of this page we describe the handling of your responses from the questionnaire to the completely anonymous table of results.

(Reverse side)

### WHAT HAPPENS TO YOUR RESPONSES?

1. You write your responses on the questionnaire.
2. At ZUMA, addresses are separated from the questionnaire. Both receive a code number. No one who sees the questionnaire thereafter knows whose answers they are. Your address remains at the Institute, but only until the study has been completed.
3. The responses to the questionnaire are translated into numerical codes and entered on a diskette or tape without your name or address—that is, anonymously.
4. Then, the responses to the questionnaire (without names or addresses) are tabulated by a computer. For example, the computer counts all responses concerning methods of transportation and calculates the percentages.
5. The results for the entire sample and for subgroups (for example, blue-collar workers, white-collar workers) are presented in the form of tables.
6. Even in case of a follow-up survey your name and address will be separated



from the data. The computer compares responses for each person using a code number (never the name) and presents the results in exactly the same anonymous form as in the case of a one-time survey.

7. Your participation in the study is voluntary. Failure to participate will not have any negative consequences for you. It goes without saying that ZUMA observes all the requirements of the Data Protection Law. You can be absolutely certain that ZUMA—

- will never again connect your name or signature with your interview responses, so that no one will know what answers you gave;
- will not pass along your name or signature to third persons;
- will not release individual data to third persons that make it possible to trace the responses back to you.

We thank you for your participation and for your confidence in our work.