

SURVEY RESEARCH AND THE PUBLIC

Irene Hess, ISR, U-M, and Judith Tanur, SUNY, Stony Brook
Irene Hess, Institute for Social Research, U-M, PO Box 1248, Ann Arbor, MI 48106-1248

KEY WORDS: News media reporting, statistical enlightenment

ABSTRACT

Public confidence and cooperation in survey research and the quality of survey practice have been the concerns of researchers for several decades. Meeting acceptable standards of research and enlightening the public on survey methods must begin with survey practitioners. We limit our remarks to survey research conducted by professional researchers as a service to the general public. We stress the importance of taking polls and surveys seriously. We recognize that the news media are the principal conveyors of research findings to the public. There is no dearth of publications on survey methods and standards for reporting, yet there is laxity in practicing recommended procedures. We discuss some merits and faults of survey research and news media reporting. We consider ways by which researchers and reporters can work together to educate the public in survey research understanding and appreciation. In addition, we propose that individuals take some responsibility for advancing their own statistical literacy.

1. INTRODUCTION

With "Advancing Society's Statistical Literacy" as the theme for the 1992 meeting of the American Statistical Association, it is fitting that we consider what practitioners of survey research are doing to advance society's statistical literacy and what they might do further.

In a broad sense, survey research includes the collection of information by questioning some or all members of a population on any subject, for any purpose, and by any mode of data collection. Our interest is in survey research conducted by professional researchers for the benefit of or as a service to the general public or some of its subgroups. We limit the discussion to investigations of facts, plans, intentions, attitudes, or opinions about situations of concern to the public. (Thus we exclude market research conducted to promote the acceptance of commercial products, although

one component of the literacy we aim to increase is the ability to discriminate such practices from serious surveys both as respondents and as consumers.) An investigation might be a request for opinions on a current issue or event and would then be known as a public opinion poll. Or it might seek detailed information on a variety of topics related to the study of some social problem and be designated a survey. The terms poll and survey are sometimes used interchangeably.

2. BACKGROUND -- A LITTLE HISTORY OF WHAT HAS BEEN DONE

Twenty years ago there was concern among ASA members that surveys might be in difficulty because of changes in society or in public acceptance of surveys, or perhaps both. In 1973, with a grant from the National Science Foundation, the ASA convened a conference of distinguished social scientists and survey methodologists to discuss problems of surveys of human populations. The primary purpose of the conference was to explore whether these problems had reached a level (that presumably was tolerable) or were still growing at a rate that posed a threat to response rates and hence to the continued use of surveys as a basic tool of social science research. (The American Statistician, 1974)

The Conference found that neither survey research nor its functions were precisely defined. No data were available to evaluate respondent acceptance or rejection of survey research as measured by completion rates, refusal rates and other forms of nonresponse. There were not even any

uniform definitions for these terms.

In response to a Conference recommendation, and with a further grant from the National Science Foundation, in 1975 the ASA undertook a study to develop survey methods to assess current survey practices and data quality. (Bailar and Lanphier, 1978) The pilot investigation of 26 federal and 10 nonfederal surveys revealed that samples, for the most part, were poorly designed; response rates were difficult to collect, and difficult to compare in the absence of standard definitions; if weighted data were used for estimates of means, totals and proportions, frequently the weights were not used in the estimates of sampling errors. The study report emphasized, however, that these findings could not be generalized beyond the 36 surveys included in the pilot investigation.

A few years later through the joint efforts of the Assembly of Behavioral and Social Sciences, the Social Science Research Council, and the Committee on National Statistics (CNSTAT) of the National Research Council of the National Academy of Sciences, a Panel on Survey Measurement of Subjective Phenomena was formed with funding from the National Science Foundation. (Turner and Martin, 1981) Two of the recommendations presented by the Panel in its 1981 summary report are especially relevant to our discussion: (1) "Take surveys and polls seriously"; (2) "Encourage more competent and informed public discussion of the faults and merits of polls and surveys." In connection with the latter recommendation, the Panel stated: "Survey practitioners have a responsibility to educate the public and to disclose fully their methods and findings, so that informed criticism and debate are possible... We recommend that the professionals who conduct surveys and work with survey data contribute a significant portion of their professional effort toward

the enlightenment of the public."

What are some of the ways that these counsels have been or could be acted upon?

3. TAKE SURVEYS AND POLLS SERIOUSLY

If we as survey practitioners want the public to take our surveys and polls seriously, we must take the lead by taking them seriously ourselves.

Not all surveys are of equal quality. Nor do all practitioners observe the same research standards. Since surveys are not regulated, anyone so inclined may practice survey research. What Harrison Hickman has said of polling is applicable to survey research in general: it is "a business any fool can get into, and many have." (Quoted in Lavrakas and Holley, p. 12, 1991.) Often the public and even at times the news media seem to be unaware that a properly designed and executed survey is a highly technical operation requiring professional skills not possessed by novices. Unless practitioners take surveys seriously, regulate themselves, and refrain from misusing survey research, they cannot expect to gain and hold the confidence and respect of the public.

Each of the three modes of data collection - telephone interview, face-to-face interview, mail questionnaire - is subject to misuses that can undermine public respect. To take surveys seriously means these measures must be pointed out and their shortcomings explained. Eternal vigilance is the price of such seriousness. For example:

- Call-in telephone surveys are a violation of sound survey practices. Their use appropriately prompts some professional survey groups to send letters of protest to the sponsors. One news organization is reported to have said that its call-in polls aren't meant to be scientific and are strictly for fun. (Crossen, 1991) But serious

researchers are not amused by such tactics which the public has difficulty distinguishing from serious surveys.

- Interviewing anyone who happens to be at home, whether by telephone or face-to-face, is an acceptable respondent selection procedure *only* if household rather than subjective data are sought. Serious survey researchers use carefully-worked-out procedures to choose respondents within the household, and the public needs to be made aware of the necessity of these practices.

- Ordering or wording questions to elicit desired responses is not serious survey research, and again the public needs to be warned.

- Asking questions on topics about which respondents cannot reasonably be expected to have knowledge, understanding or interest may encourage frustration and resentment, and lead to termination of an interview or failure to complete a mail questionnaire. More important, it may sour respondents on the whole survey enterprise.

- Including a mail-back questionnaire with monetary solicitations does not disguise the fact that contributions and not the data are valued. Again, the public must be informed in order to discriminate between legitimate and illegitimate uses of mail-back questionnaires.

In the spirit of taking polls and surveys seriously, ASA has made several good starts. At its February 1981 meeting the ASA Board "authorized appointment of an ad hoc committee to assess ways in which ASA could move to reduce significantly the incidence of invalid or otherwise statistically indefensible public surveys." (ASA Board, 1981) The Board's action was a response to a request from the Section on Survey Research Methods that ASA address flagrant abuses of sound statistical data collection procedures. The Section had expressed concern that the widespread use of unscientific public polls and surveys leads to

mistrust of statistics and statisticians.

But we find no record of any actions taken or recommendations made by the appointed ASA committee. A decade later, as many commentators, notably Tore Dalenius, have pointed out, misuses of survey research continue. (Dalenius, 1991)

In December 1991, the ASA Board endorsed the action taken by the Research Industry Coalition (RIC) in opposition to 900 number call-in polls. Indeed, in 1991 ASA became a member of RIC, an umbrella organization of survey research groups dedicated to concerted actions against violations of appropriate survey practice. (ASA Board, 1992)

The Section on Survey Research Methods has sponsored or cosponsored conferences and publications on various aspects of survey research including telephone survey methodology, and measurement errors in surveys. These undertakings are directed primarily to survey practitioners. We believe it is time to broaden these activities to let the public know that the ASA and the Section stand firmly against flagrant abuse of survey research methods and strongly support sound statistical practices.

Perhaps the prime example of taking surveys seriously is the current National Science Foundation project to fund the establishment of a Center for Survey Methods. The mission of that Center ought to include public education as well as education of practitioners.

4. SOME FAULTS AND MERITS OF POLLS AND SURVEYS

An outstanding merit of polls and surveys is that they exist. Many perform useful services in spite of any faults they may have. Government is too large, complex, and unwieldy to operate without solid data on which to build legislation. Members of society need valid information on social

issues, government activities, the political process, and countless other topics -- not to tell them what to think but to help them make their own informed decisions. The public can ill afford to forgo the services of valid polls and surveys.

The public *can* afford to forgo invalid polls, which do more harm than good. Consider a recent venture in call-in polling by a broadcast medium that simultaneously conducted a scientifically designed telephone survey. (Morin, 1992) Praising some 300,000 call-in responses while treating lightly the comparisons with 1200 scientifically selected responses is damaging to valid survey research. Members of society unacquainted with the power of probability selection over self-selection will be inclined to trust the larger number of responses and to consider call-in polls to be an acceptable form of survey research.

Although survey practitioners conduct survey research, they seldom report directly to the public unless, as in the case of polls sponsored by a news media organization, the researcher is also the reporter. Complex research surveys often conclude with a report to the sponsor or with book publications or both. In the case of federal surveys of a continuing design such as the Census Bureau's Current Population Survey, there are extensive reports available in libraries or from the Government Printing Office. Even though research findings may become the bases for social action or legislation that affect large parts of society, few members of the general public will ever see or read the reports, which are too numerous and too costly for individual purchase and which may not be on the shelves of libraries accessible to interested persons. So there is need for clear and concise exposition, directed to the general public, of the methodology and results of surveys.

It is a common practice for the research

staff or survey sponsor to hold a press conference or to distribute a press release to the media. Then the news media have responsibility for honest and fair reporting, and for knowing the right questions to ask to make such reporting possible.

There are codes of professional ethics and practice, and principles of disclosure published by the American Association of Public Opinion Research, The National Council on Public Polls, the International Chamber of Commerce, the European Society for Opinion and Marketing Research, and perhaps others.

In 1979 a committee of the Section on Survey Research Methods began the development of a proposal to prepare a reference manual for use by copy editors and news release writers. Although the project was not funded, other researchers with related interests produced during the 1980's books and brochures on what reporters should know or ask, what journalists should know, and what every citizen should know:

Herbert Asher, *Polling and the Public*

Victor Cohn, *News and Numbers*

Cleveland Wilhoit and David Weaver,
Newsroom Guide to Polls and Surveys

These publications can serve a useful purpose if their messages are taken seriously. Other relevant publications are appearing in the 1990's:

Albert Cantril, *The Opinion Connection*

Paul Lavrakas and Jack Holley, eds.,

Polling and Presidential Election Coverage

David Yankelovich, *Coming to Public Judgment*

The ASA Committee on Privacy and Confidentiality, *Surveys and Privacy*

Sheldon Gawiser and Evans Witt, for the National Council on Public Polls, *Twenty Questions A Journalist Should Ask About Poll Results*

Something that should appear in the 1990s is

an updated version of the ASA brochure on *What Is a Survey?*, and the Section on Survey Research Methods is working on it.

4.1 Methodological Disclosure

The objective of methodological disclosure is to provide information on survey design and operations so that the consumer of survey findings can judge their validity. For broadcasters as well as print journalists, we suggest that the minimum disclosure include: name of the sponsor, name of the organization conducting the survey or poll, the population sampled, method of sample selection (probability or other), geographic area covered, mode and date of data collection, and the achieved sample size - not necessarily in that order.

From the print media we expect more. The serious reader would like to know, as applicable: the purpose of the survey; total sample size (residences, households, or others) and completion rate; respondent eligibility, selection procedure, and response rate; complete question wording when practical; weighting, and adjustment procedures if any; sample sizes and approximate sampling errors of estimates for subgroups as well as for all respondents; other sources of errors and biases and the effects on survey findings.

Our expectations, which are consistent with those included in published principles of disclosure, are seldom entirely satisfied. Newspaper and magazine reports often present methodological data in a boxed section. Yet completion rates, response rates, and effects of nonresponse, and nonsampling errors, are commonly bypassed. Weighting and adjustment procedures seldom receive attention. Often when data are adjusted, the reported sampling errors appear to have been based on unadjusted data. At times, sampling errors are unreported for subsets of the total

sample. (See Miller et al. in Lavrakas and Holley for discussion of disclosure standards and practices.)

These kinds of methodological disclosures must originate with researchers. Journalists cannot report what researchers fail to provide. And researchers cannot be held responsible for what journalists write about survey methods and findings. Researchers can, however, protest vigorously to the journalists and news media when important technical items are omitted or when findings are misstated, misinterpreted, or distorted in any manner. Similarly, journalists cannot be held responsible when, as a space-saving device, their well-written articles are cut without their knowledge and some critical research information omitted. Such losses could be avoided by placing technical data near the beginning of an article or in a boxed section. Such placement will be facilitated when the methodological details of a survey come to be viewed as integral parts of any report of survey findings.

Sometimes journalists avoid technical disclosures by naming a source when it is a government agency, a prestigious university center, or a respected polling organization that conducted the research. This is no favor to readers who are unacquainted with the source's quality of work, nor is it a favor to either the public or the journalist if later the source is proved to be fallible. (Faludi, 1991) The journalist can and must request more technical information than just the number of interviews, which frequently is all that is reported. Cohn's book on *News and Numbers* is a particularly good source for questions reporters should raise.

4.2 Interpretation of Findings

The organizations that provide guidelines for methodical disclosure also advise on reporting and interpreting survey findings. When interpreting poll findings, the print

journalist is urged to list the complete wording of every question in the order presented to respondents, and to display the percent distribution of responses. This is frequently done. What is not done often enough, even though recommended, is to report the base of every percentage or to supply enough data to permit the reader to estimate the base of any percentage of interest.

When interpreting findings from more extensive surveys too complex for the listing of all questions, journalists should include supporting data for the questions discussed.

Responsible, honest and fair journalism rules out distorting survey findings in any way to produce some desired but unwarranted effect, drawing conclusions unjustified by the data, or reporting some data and suppressing others to serve some special interest. Readers should be warned when data are subject to limitations that restrict widespread use. If a journalist doubts the validity of a research finding, he or she can request clarification from the researcher or refrain from reporting the finding to the public. (Again, Cohn is a good source for information on what needs clarification and how to ask for it.) Journalists should be selective about polls or surveys they report and decline to write about research of questionable quality -- unless the purpose of an article is to call attention to a survey's flaws. (Marshall, 1991) There should be joint efforts on the part of researchers and journalists to ensure that it is information and not misinformation that reaches society.

Responsible researchers and journalists strive to comply with recommended practices when conducting surveys and reporting findings to the public. Even so, some news media reports of findings from surveys or polls have questionable features that need reconsideration especially since these are the reports most likely to reach the

general public. Here are some examples that point out flaws that journalists should pursue.

- Consider the case when data are collected from a sample of residences of telephone subscribers in conterminous United States. An interview is attempted with one scientifically selected adult per residence. Yet inferences are made to all adults or to all Americans. It is clear that all adults must include many who were not represented in the sampling frame because they had no telephone. The discrepancy between the sampled population and the population of inference could be eliminated by supplementing the telephone sample or by limiting the inference to the population with telephones.

- Because data collection by telephone begins with a selection of telephone numbers that must be screened to identify residential numbers, the completion rate of the screening process is important to sample interpretation. Furthermore, the response rate from designated respondents is essential to interpretation of survey findings. During the past year we have failed to locate even one polling report that included either a completion rate or a response rate. We recognize that a brief data collection period of over-night or two or three days may curtail sharply the reporting of methodological data. In all fairness we can say that response rates for any mode of data collection are rarely reported.

- Unless the term "error" is defined, the expression "margin of error" is not clear and should be avoided. Sampling error has a specific meaning although the method of estimating sampling error needs explanation to the public. Technically, the frequently occurring term "randomly selected" implies a fixed probability of selection for each potential respondent but not necessarily equal selection probabilities. Assigning unequal weights to responses is equivalent to

having had unequal selection probabilities, which affects sampling variability. Some interpretation of "other sources of error" and the probable magnitudes of those errors relative to sampling error would be enlightening.

Observers of unprofessional survey practices or reporting can and do protest strongly to the offenders and to professional organizations striving to maintain ethical standards of survey research. Usually the public is unaware of such protests and of the actions that prompt them.

At all times, reporters and the public should view research findings with healthy skepticism. Failure to do so can lead to mushrooming of misinformation as one news service picks up another's story. The ultimate outcome can be chagrin for all involved. (Faludi, 1991) The quality of survey research would be raised if practitioners followed the recommendation of the Panel on Survey Measurement of Subjective Phenomena of CNSTAT to "make independent peer review a part of the design, analysis, and reporting of surveys."

5. ENLIGHTENMENT OF THE PUBLIC

We see that survey research performs a service for the general public through investigations of current topics, social issues and problems. We recognize that research findings generally reach the public through some form of news media. Yet all members of society are not equally served by all news media sources.

5.1 Availability of News Media to the Public

The news media available to an individual depends to a large extent on the place of residence, economic status, educational background, and intellectual curiosity.

Most individuals are reached by television

or radio broadcasting, but those media's presentations of survey results are necessarily constrained by time pressures. The availability of nationally circulated daily papers that offer the best coverage of survey research findings is limited to some newsstands and libraries across the country and to individuals who can afford a subscription for local or mail delivery. Other daily papers may carry news syndicate reports of survey research, or reprints from leading national papers, or their own reports, or no reports. Weekly news magazines, or other periodicals, that sponsor and report polls and surveys are distributed to subscribers, to newsstands and to some libraries. Not every individual has the educational background to read and understand survey reports, and those who meet educational requirements may be uninterested.

We have no data on the public interest in or use of survey research, what proportion of the public is well informed, or what proportion needs or wants enlightenment. Such data would be interesting indeed.

5.2 Professional Effort Toward Enlightenment of the Public

The ASA membership has not been unmindful of the importance of enlightening nonstatisticians on the general subject of survey research. In the late '70's when the Section on Survey Research Methods was being formed, Robert Ferber recognized the need for a publication to describe survey operations in nontechnical terms for persons not trained in statistics. He chaired the subcommittee that prepared the brochure on *What Is A Survey?*, an ASA publication that has been and continues to be circulated widely, although currently in need of updating.

Aware of public concern over possible breaches of confidence by some survey

groups, the ASA Committee on Privacy and Confidentiality produced and published the brochure on *Surveys and Privacy*. Recently the National Council on Public Polls has published the brochure on *Twenty Questions A Journalist Should Ask About Poll Results*.

Yet there are other activities professional researchers might undertake or promote toward enlightenment of the public as illustrated by the following:

- Promote a collaborative survey of the public to learn what the public knows, wants to know, or needs to know about survey research.
- Explore what might be done to get feature articles on survey research into local daily and weekly papers, and to civic organizations that might promote programs on survey research.
- Cooperate with educators in developing materials to be included in secondary school curricula on the understanding and appreciation of survey research in order that future adults can learn to discriminate among polls and surveys on the basis of quality. Recently with funding from the National Science Foundation, the ASA has undertaken two projects to advance secondary school pupils' mathematical and statistical literacy. These are the *Quantitative Literacy* projects and *A Data-driven Curriculum Strand in High School Mathematics*. In addition, social studies programs or classes on survey research are needed in order to reach all pupils -- not just those who are studying mathematics and statistics.
- Some survey organizations repeatedly use the same design for polls or surveys. Researchers could work with broadcasters and print journalists to prepare pamphlets that explain in nontechnical language the basic methodological features of a particular design. Sponsors could offer the pamphlets free (or for a small fee) to the public on request.

Programs to enlighten the public should be designed as continuing activities even as survey research is a continuing activity and the composition of the public continually changing. It is probable that as more members of society become informed consumers of survey research, more members will become cooperating respondents not only for survey research but also for decennial censuses when every member of society is in a sense a designated respondent.

We know of no fast route to the desired goal of public enlightenment. Over a period of years, secondary school education on the values and uses of survey research would reach the majority of society's members. In the meantime, we can only hope that individuals will take responsibility for their own education through: serious reading of feature articles on the merits and faults of survey research appearing in current publications; critical review of news media reports of current polls and surveys; requesting any pamphlets on survey operations offered for distribution; taking advantage of any other educational opportunity that may arise. Advancing society's statistical literacy is a never-ending task for the public as well as for practitioners of survey research.

REFERENCES

- American Association for Public Opinion Research, *Code of Professional Ethics and Practices*, and *AAPOR's Procedures* (For Dealing with Alleged Violations of Code), AAPOR Secretary's Office, P.O. Box 1248, Ann Arbor, MI 48106. Reprinted 1991.
- ASA Board, "ASA Board Actions," February 1981, in *Amstat News*, March 1981.
- _____, "Highlights from December 1991 Board of Directors Meeting," in *Amstat*

- News*, March 1992.
- Asher, Herbert, *Polling and the Public, what every citizen should know*, Congressional Quarterly Press, A Division of Congressional Quarterly, Inc., Washington, DC, 1988.
- Bailar, Barbara A., and Lanphier, C. Michael, *Development of Survey Methods to Assess Survey Practices*, American Statistical Association, Washington, DC, 1978.
- Cantril, Albert H., *The Opinion Connection*, Congressional Quarterly Press, A Division of Congressional Quarterly, Inc., Washington, DC, 1991.
- Cohn, Victor, *News and Numbers*, Iowa State University Press, Ames, Iowa, 1989.
- Crossen, Cynthia, "Margin of Error," *The Wall Street Journal*, November 14, 1991.
- Dalenius, Tore, "Survey Practices and Public Confidence: Causes for Concern," in *Amstat News*, p. 21, June 1991.
- European Society for Opinion and Marketing Research, *International Code of Practice for the Publication of Public Opinion Poll Results and Guidelines to its Interpretation*, E.S.O.M.A.R., Central Secretariat, Amsterdam, The Netherlands, 1983.
- Faludi, Susan, "Don't Be Happy - Worry," in *The Washington Post Magazine*, The Washington Post, October 20, 1991.
- Gawiser, Sheldon R., and Witt, G. Evans, *Twenty Questions A Journalist Should Ask About Poll Results*, National Council on Public Polls, New York, NY, 1991.
- International Chamber of Commerce/E.S.O.M.A.R., *Marketing and Social Research Practice*, E.S.O.M.A.R., Central Secretariat, Amsterdam, The Netherlands, 1977.
- Lavrakas, Paul J., and Holley, Jack, K., editors, *Polling and Presidential Election Coverage*, Sage Publications, Inc., Newbury Park, California, 1991.
- Marshall, Eliot, "USDA's Food Survey Riddled With Flaws," in *Science*, September 20, 1991.
- Morin, Richard, "Numbers from Nowhere: The Hoax of the Call-In 'Polls,'" in *The Washington Post*, p. B3, Feb. 9, 1992.
- Subcommittee of the Section on Survey Research Methods, *What is a Survey?* American Statistical Association, Alexandria, Virginia, 1980.
- The American Statistician, *Report on the ASA Conference on Surveys of Human Populations*, Vol. 28, No. 1, pp. 30-34, 1974.
- The ASA Committee on Privacy and Confidentiality, *Surveys and Privacy*, American Statistical Association, Alexandria, Virginia, 1992.
- The National Council on Public Polls, "Principles of Disclosure," 1979, in Cantril, Albert H., *The Opinion Connection*, Congressional Quarterly Press, A Division of Congressional Quarterly, Inc., Washington, DC, 1991.
- Turner, Charles F., and Martin, Elizabeth, editors, *Surveys of Subjective Phenomena: Summary Report*, National Academy Press, Washington, DC, 1981.
- Wilhoit, G. Cleveland, and Weaver, David H., *Newsroom Guide to Polls and Surveys*, American Newspaper Publishers Association, Washington, DC, 1980.
- Yankelovich, Daniel, *Coming to Public Judgment*, Syracuse University Press, Syracuse, NY, 1991.