

Survey Research

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A Word from the Editor

With the three issues of *Survey Research* for 1972 behind us, we are looking ahead to the first issue of 1973. We plan to devote a considerable portion of that issue to the question of telephone interviewing. Therefore, we would like to hear from our readers on what topics related to telephone interviewing they are interested in and what experiences survey organizations and individual researchers have had using this type of interviewing.

We plan to gather comparative data from the various survey research organizations but would also like contributions

from our readers. If you have an item or article on some phase of telephone interviewing that you feel would be of interest to others, please submit it. Possible topics include sampling (use of directories or random digit dialing), interviewer training, questionnaire construction, techniques and equipment used, and survey costs.

In addition to this special request, we always welcome contributions relating to specific areas of survey research or general research methodology. For example, in this issue we present an article contributed by Dean Weber on larger assignments for interviewers.

Mary A. Spaeth

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Current Research

Further information on the studies described below should be obtained from the organizations conducting the studies.

Bureau of Social Science Research
Washington D.C.

Career Patterns and Professional Activities of Former Professional Nurse Trainees and Special Nurse Fellows. The purpose of this study is to investigate

the career patterns and professional activities of registered nurses who were recipients of grants from either the Professional Nurse Traineeship Programs or the Special Nurse Fellowship Program. Using mail questionnaires, the study follows up a 10 per cent sample of the Professional Nurse Trainees and the entire universe (500 cases) of Special Nurse Fellows, seeking information on the post-training careers of these nurses and on background characteristics that may be predictive of success in career development.

Pilot Study of the Attitudes of Naval Personnel toward Alcohol and Alcoholism. Supported by the Office of Naval Personnel, this pilot study is a pretest of questionnaires using two different approaches to data collection. Direct mail is being used for approximately one-half of the self-administered questionnaires and a field-team approach is being used for the other half. The pilot study is being conducted at four sites: NAS Whidbey Island, Washington; Communications Station, Guam; Naval Station, San Diego; and Yokosuka Naval Station, Japan. Study directors: Ira Cisin and Don Cahalan.

Division of Behavioral Science Research Tuskegee Institute

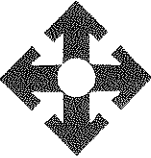
Informal Adoption in Black Families. This research, sponsored by the Office of Child Development, HEW, concerns the legal, social, and cultural contexts in which informal adoption of black children by adults other than blood parents who may or may not be related to them takes place in the rural South. Such adoption is considered as having occurred where there is no evidence within the household in which the child resides that the parent surrogate has followed the legal prescriptions governing legal adoptions or the administrative directives of social agencies. The study involves personal interviews with 150-300 families in rural Alabama. In addition to illuminating the legal, social, and cultural contexts in which informal adoption occurs, the results of this research will reveal existing patterns. Principal investigator: Lewis W. Jones.

Institute for Survey Research Temple University

Medical Care Experiences. This study investigates attitudes toward the quality of medical care. The study involves personal interviews with a nationwide sample of 1,000 respondents, who are being asked about their personal experiences with medical care. Study director: James Pererson.

Israel Institute of Applied Social Research Jerusalem, Israel

Sexual Attitudes and Behavior of Youth in Israel. This personal interview study, sponsored by the Demographic Center at the Prime Minister's Office, involves about 4,000 respondents throughout Israel. The purpose is to investigate the extent of information that the Jewish youth in Israel have concerning sexual matters, such as the importance of sexual activity in their lives, sexual relations before marriage, and boy-



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girl relations at adolescence.
Principal investigator: Helen Antovskiy, in cooperation with others.

Internal and External Communication of the Police. Sponsored by the Israel Police, the purpose of this survey is to study in general the attitudes of the public regarding activities of the police and in particular the attitudes of press reporters specializing in crime and police affairs. The study involves personal interviews with a sample of 3,000 persons throughout Israel. Principal investigators: Michael Gurevitch and Brenda Danet.

Public Perception of and Response to Population Policy in Israel. In this two-year study, sponsored by the Ford Foundation, personal interviews are being held throughout Israel with a sample of 250 physicians, 250 nurses, and 250 community workers, and with two samples of 500 women each. Among the purposes are (1) to examine Israel's population policy and its implementation through the availability of fertility benefits and family planning services; (2) to assess the effectiveness of such benefits and services in meeting public demand; (3) to examine beliefs about the policy; and (4) to learn the implications for change to make the policy more effective and/or responsive to public needs.
Principal investigator: Tsiyona Peled, in cooperation with others.

**Office of Institutional Educational
Research
University of Washington**

Completed research:

Student Financial Resources Survey. The purpose of this study, sponsored by the Washington State Council on Higher Education, was to investigate resources available to students and the students' awareness of programs of financial aids. Mail questionnaires were sent to a sample of 8,000 students at the University of Washington.
Principal investigator: James K. Morishima.

Foreign Student Services. This study for the University of Washington Committee on Foreign Student Policies and Services investigated the utilization of and satisfaction with various special services provided for foreign students at the University and obtained information on their needs, resources, etc. Personal interviews were conducted with a sample of 140 at the University.
Principal investigator: Judith Fiedler.

**Minnesota Center for Sociological Research
University of Minnesota**

Completed research:

Victimization of the Residents and Their Perceptions of Community Services: Minneapolis Model City--1971. Sponsored by the Metropolitan Council of the Twin Cities (Minneapolis-St. Paul), this survey of the residents of the Minneapolis Model Cities project was conducted for the following purposes: (1) to estimate the volume and type of incidents of abuse (justified and unjustified) that occurred to residents in 1971 and to estimate the characteristics of offenders responsible for these incidents, and (2) to determine the residents' opinions and perceptions of existing community services in Model Cities. Personal interviews were conducted with 330 residents, of the Minneapolis Model Cities.
Principal investigators: Paul Davidson Reynolds, Thomas J. Bouchard, Jr., and Dale A. Blyth.

**National Opinion Research Center
University of Chicago**

1973 National Data Program for the Social Sciences. Now that the first survey of NORC's National Data Program has been completed (see May, 1972, issue of *Survey Research*), work is in progress on preparations for the 1973 survey. The questionnaire will be expanded from 40 minutes to an hour. The expanded portion of the questionnaire will include a topical section that will change

from year to year. NORC would welcome suggestions for additions to this part of the schedule.

Principal investigator: James A. Davis.

National Evaluation of Community Services. Funded by the National Science Foundation's Research and National Needs Program (RANN), this two-year study will evaluate the delivery of governmental services at the community and neighborhood level. The study will also generate and analyze unique information on such items as short-run changes in social indicator variables, local government and urban affairs, the social psychology of opinions, and the social characteristics of selected target populations. Plans call for the data from the study to be distributed by the Dartmouth College Time-Sharing System.

Principal investigator: James Murray.

Governmental Finance Department National Survey. Sponsored by the New York State School of Industrial and Labor Relations, Cornell University, this study involves interviewing some 2,000 department and division heads of approximately 250 finance departments and other agencies in various municipal, county, and state governments located throughout the continental United States. As the second phase of a panel study begun in 1966, the purposes of this phase are (1) to learn what changes in administrative structure have occurred over the past five to six years; (2) to find out whether there have been changes in accounting procedures; and (3) to see if there has been expansion of funding by Federal grant programs to local governments.

National Survey of Family Growth. Conducted for the National Center for Health Statistics, this is a nationwide survey designed to gather detailed information on (1) fertility trends and differentials and their determinants; (2) family planning practices and sources of family planning services; and (3) maternal and child health factors relating to fertility patterns. This large-scale project involves screening between 30,000 and 40,000

households in the NORC national probability sample to identify and interview 10,000 ever-married women under 45 years of age. Field work on the study will begin in May, 1973.

National Ambulatory Medical Care Survey. The aim of this panel study for the National Center for Health Statistics is the systematic gathering of data on medical care given by office-based physicians to patients during office visits. At quarterly intervals during each of two years, a national probability sample of approximately 4,000 physicians will be asked to fill out standardized forms describing each ambulatory patient contact for a two-day period. A series of nine panels will be involved over the two years, with the first panel of 300 physicians to be enlisted in January, 1973.

Survey Research Center
Brigham Young University

Statewide Health Attitude Survey. The purpose of this study is to evaluate health attitudes and awareness of households in the state of Utah. The study involves personal interviews with 2,400 households in the state, including a special minority sample.

Principal investigator: Evan Peterson.

Asian Educational Resource Project. Conducted in Japan, Korea, Taiwan, the Philippines, and Hong Kong with a sample of 1,200, this study uses group-administered questionnaires to assess the education resources among Latter Day Saint church members in Asia.

Principal investigator: Richard Beal.

Home Study Curriculum Survey. Conducted for the Department of Home Study at Brigham Young University, the purpose of this study is to gather data from users and non-users of Home Study courses regarding their awareness and evaluation of the Home Study curriculum. The study involves telephone interviews with a sample of 750 on the BYU campus. Principal investigator: Lynn England.

Survey Research Center
University of California at Los Angeles

Change of Attitudes towards Population Policy Issues. This four-year study, supported by the National Institute of Child Health and Human Development, is the most complex in design of any project undertaken by SRC since its establishment in 1966. The study incorporates cross-sectional, panel, and longitudinal research design features. The study builds upon the current SRC project "Mass vs. Elite Attitudes on Population Policy Issues" (see January, 1972, issue of *Survey Research*). Study directors: Leo G. Reeder, Deborah Hensler, and Kenneth Bailey.

Analysis of Public Response to the Los Angeles Earthquake. The purpose of this study, which is part of the Los Angeles Metropolitan Area Survey, is to investigate the effects of the 1971 earthquake. Census tracts that received heavy damage are being compared with those in other areas of Los Angeles. Utilizing instruments developed by other disaster research groups in addition to those designed specifically for this study, particular focus will be on the response of the "Emergency Medical System" as perceived by residents. Survey data will be interrelated with those from the Earthquake Engineering Research Institute at UCLA, which will provide information about physical damage, and from interviews with families that utilized the facilities of the San Fernando Valley Child Guidance Clinic. Study directors: Leo G. Reeder and Michael Walton.

Survey Research Center
University of Michigan

Completed research:

Students in the Multiversity. In this longitudinal research project, which spanned one of the most active periods of campus unrest (1962 to 1967), two consecutive entering freshman classes were followed through their four-year

college careers at the University of Michigan. The broad goals of the study were to find out what conditions and experiences in the University significantly affected students' development and growth.

Study director: Gerald Gurin.

Young Men and Military Service. This study probed the plans, attitudes, and decisions of young men as they related to military service. It was part of the larger Youth in Transition project, which has been under way since 1966 with interviews of a nationwide representative sample of over 2,000 young men who entered the tenth grade. Questions specific to military plans and attitudes were asked when most of the young men were about to graduate from high school (1969) and one year beyond graduation (1970).

Study directors: Jerome Johnston and Jerald Bachman.

1971 Survey of the Quality of American Life. This study, supported by a grant from the Russell Sage Foundation, was designed as the first of a series of national surveys intended to measure change in the sociopsychological condition of the American public. Interviews were conducted with a nationwide probability sample of 2,164 persons 18 years and older.

Study directors: Angus Campbell and Philip E. Converse.

Credit Card Use in the United States. This study is reported in a monograph by Lewis Mandell that summarizes data compiled from questions on credit card use asked in the 1970 and 1971 Surveys of Consumer Finances. These questions, which were asked of heads of households in three waves of personal interviews, related primarily to the uses of various types of cards, attitudes toward credit cards, and the patterns of use of the debt feature of the cards.

Mandell found that although half of all families in the United States use at least one credit card, they are not fully accepted by the public. In fact, 75 per cent of those interviewed said that credit cards made it too easy to buy

things that they may not really want or that they can't really afford. When asked about the advantages of a credit card, respondents mentioned the credit feature most often. Half of all credit card users take advantage of the debt feature of their cards. Despite the great use of the credit card, Mandell found that it is not becoming a replacement for money or for checks as many people have predicted it would.

(The monograph on this study is available for \$4 from the Publications Division, Institute for Social Research P.O. Box 1248, Ann Arbor, Michigan 48106.)

**Survey Research Center
State University of New York at Buffalo**

Course and Teacher Evaluations. These are two evaluation studies involving self-administered questionnaires distributed on the SUNY/Buffalo campus. The evaluation for the Faculty of Natural Sciences and Mathematics is in its fourth semester, while that for the Faculty of Law and Jurisprudence is in its third semester.

VA Lung Cancer Study. Sponsored by Dr. Marvin Zelen of the University's Department of Statistics, this questionnaire study is being conducted in selected Veterans Administration hospitals throughout the country to collect data on responses to or affects of treatment, from established protocols on various drugs and therapies.

**Survey Research Laboratory
University of Illinois**

at Urbana-Champaign

Secondary School Home Economics Teachers in Illinois. Conducted for the Home Economics Education Division at the University of Illinois in order to assist them in planning Home Ec courses to be taught on the University's campuses or at extension centers, this

study will survey the characteristics and professional interests of Illinois public secondary school home economics teachers to learn what kinds of further education they would like. Mail questionnaires will be sent to one teacher in each of 628 Illinois public secondary schools outside the city of Chicago. Project coordinator: Matilda Frankel.

University of Illinois Retiree Benefits. This study for the University Ad Hoc Committee on Retiree Benefits involves mail questionnaires to the approximately 1,700 University retirees and staff members nearing retirement to ascertain their needs and the degree to which current retirement benefits and privileges meet those needs. Project coordinator: Diane O'Rourke.

Completed research:

Communications Study. This study for Professor Jagdish Sheth of the University of Illinois involved 30 in-depth personal interviews to determine the general public's feelings, opinions, and attitudes toward the telephone as a mode of communication and toward various specific aspects of the telephone such as the instrument, service, type of calling, and time of calling. After the data collection phase in the metropolitan Chicago area and Champaign-Urbana, the data underwent extensive content analysis. Project coordinator: Mathew Hauck.

at Chicago Circle

Citizens' Attitudes on the Solid Waste Issue. Conducted for the Illinois Institute for Environmental Quality, the purpose of this telephone interview study with a sample of 2,500 Illinois residents is to discover citizen attitudes toward the environment, with special emphasis on solid waste matters such as garbage collection, waste disposal, and recycling. The results of the study will form the environmental attitude section of the comprehensive solid waste plan for the state of Illinois. Project coordinator: Jeanne Sigler.

Methodological Study of Medical Diaries. The purpose of this study, funded by the National Center for Health Services Research and Development, HEW, is to ascertain the effectiveness of diaries for obtaining information on illnesses and their cost. A series of interviews will be conducted with a statistical probability sample of about 800 families in the Chicago area. Many of these families will be asked to keep records of how they feel from day to day and of what they do, what kinds of drugs they buy, and what sort of medical consultation they seek each time a member of the family does not feel well. Project coordinators: Seymour Sudman, Robert Ferber, and Wallace Wilson.

The Effects of Methods of Administration on Response. Being conducted in collaboration with the National Opinion Research Center and sponsored by Seymour Sudman, Norman Bradburn, and William Locander under funding from the National Science Foundation, the purpose of this study is to examine the relation between four methods of questionnaire administration and response effects. The methods of administration are face-to-face interviews, self-administered questionnaires, telephone interviews, and randomized response. A series of questions of a more or less threatening nature are used, including possession of a library card, voting behavior, arrests for traffic violations, and participation in court cases. The study is being conducted in the Chicago area with a total sample of 800 respondents.

Project coordinator: Ron Czaja.

Completed research:

Proprietary Drug Use. The purposes of this study for Dr. Pedro J. Lecca of the University of Illinois Medical Center were (1) to determine the extent to which proprietary (over-the-counter) drugs are abused or misused if purchased without professional counseling; (2) to determine what the influence of proprietary advertising has on such abuse or misuse; and (3) to identify the

influence of demographic characteristics of the respondents on such abuse or misuse. The pilot study involved telephone interviews with a sample of 100 adults in the city of Chicago. Project coordinator: Jeanne Sigler.

Survey Research Program Boston

Need and Use of Health Services. In this study of health planning and evaluation of accessibility and efficacy of health service systems, both telephone and personal interviews are being used. The study, sponsored by the National Center for Health Services Research and Development, involves a sample size of 2,000 throughout the state of Vermont. Principal investigator: John E. Wennberg.

Crime and the Aged. Sponsored by the Law Enforcement Assistance Administration, U.S. Department of Justice, the purpose of this study is to understand the extent and ways that crime affects the lives of the aged, with special focus on the relationship of housing to the likelihood of victimization. Personal interviews are being conducted with a sample of 400 in Boston. Principal investigator: Deborah Blumin.

Wisconsin Survey Research Laboratory University of Wisconsin

Barron County Needs Survey. The specific purpose of this survey for the Wisconsin Board of Vocational, Technical, and Adult Education is to assess the needs and problems of residents of Barron County, Wisconsin. The study, involving personal interviews with a sample of 260 residents in the county, serves as a pilot study for finding out about needs. The main thrust is geared toward career education, but also included is a wide spectrum of needs--financial, legal, vocational, social, recreational, and medical. Project director: Kenneth Reigles,

Behavioral Disabilities, University of Wisconsin.

Kenosha Urban Youth Study. Sponsored by the Department of Program and Staff Development of the University of Wisconsin Extension, the purpose of this study is to find out what activities urban youth participate in and what the needs are in this area. The study involves 400 completed personal interviews in Kenosha, Wisconsin.

Project directors: Sara Steele and Gerald Gast, University of Wisconsin Extension.

Bloomer Consumer Health Education Survey. This survey is part of the Consumer Health Education project being conducted in Bloomer, Wisconsin, by the University of Wisconsin. In July, 1972, approximately 200 telephone interviews were completed with residents in the Bloomer area to determine what the community's knowledge and attitudes about health were before any educational program was offered in the community. A second survey, using a similar instrument with another 200 residents, will be conducted sometime in January or February, 1973. The second interview will be used as a comparison and guide in evaluating the health programs instituted in the Bloomer area in the intervening months. Project directors: Dr. William Blockstein, Health Science Unit, and Ann Johnston.

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Personnel Notes

Brian C. Aldrich has become Director of the Minnesota Center for Sociological Research, University of Minnesota. He is also an Assistant Professor of Sociology and was formerly a full-time member of the Department of Sociology at the University.

Earl R. Babbie, Director of the Survey Research Office, University of Hawaii, has assumed the additional position of Associate Director of the Social Science Research Institute at that University.

He is also a member of the Sociology Department.

James A. Davis, Director of the National Opinion Research Center, has been appointed Professor in the Department of Sociology at the University of Chicago.

Helen Humes Lamale has retired from the Bureau of Labor Statistics after serving for 30 years as an economist in the prices and living conditions area. At the time of her retirement, she had been Chief of the Division of Living Conditions Studies for 12 years.

William C. McCready has been made a Senior Study Director in the Center for the Study of American Pluralism, National Opinion Research Center.

James Murray has been appointed Senior Study Director at the National Opinion Research Center. He was formerly a Research Associate in the Industrial Relations Center and Assistant Professor in the Department of Education at the University of Chicago.

Leo G. Reeder, Director of the Survey Research Center, UCLA, is on sabbatical leave during the Fall and Winter Quarters. During his absence, *Bert Raven*, former Associate Director, is the Acting Director. *Robert Hodge*, newly appointed Professor of Sociology at UCLA, is Acting Associate Director.

Ellin Spector, Manager of the Field Administration Department at the Institute for Survey Research, Temple University, has also been appointed Assistant Director for Administration.

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Field Directors' Conference

The fourth annual Conference of Field Directors of nonprofit survey organizations (academic and governmental) was held on June 1 and 2 at the University of North Carolina. The two sponsoring organizations for this year's conference were the Institute for Research in

Social Science at the University of North Carolina and the Research Triangle Institute at Research Triangle Park, North Carolina. A total of 42 participants from 27 different organizations in the U.S. and abroad attended the conference, which consisted of four main sessions over the two days. At these sessions individual presentations centering around specific topics served to stimulate discussions involving the entire group of participants.

The initial topic for the first session was "Data Gathering Techniques for Sensitive Subject Matter." The main presentation by Daniel Horvitz of the Research Triangle Institute concerned the "randomized response technique." The purpose of this technique is to reduce response error and bias on sensitive questions. It involves giving the respondent a box containing two colors of beads (approximately 70 percent red and 30 percent blue). When the respondent shakes the box, a bead drops into a little window. The respondent then answers the question printed on the back of the box that relates to the color of the bead, with red indicating a sensitive question and blue indicating an innocuous question. The conference participants devoted considerable time to a discussion of this technique, the uses to which it can be put, and the problems involved.

Harold Organic of the Population Research Laboratory, Brown University, discussed various other procedures used in handling sensitive questions, and Seymour Sudman of the Survey Research Laboratory, University of Illinois, explained some research that he is planning and wanted to know what questions the conference participants thought might be threatening to respondents.

The second topic at the session was "Field Costs of Surveys." Tom Weller of the Public Opinion Center, Dayton, Ohio, talked about costs related to telephone surveys and discussed some of the equipment and techniques his organization uses, such as random digit dialing. It was learned that a number of facilities use this technique.

Raymond Hunt of the Survey Research Center, State University of New York at Buffalo, then talked in general about survey costs, not only the monetary costs but the social costs. This led to a discussion of the techniques and procedures used in working in a community and the need for community cooperation and involvement.

"Comparison of Data Collection Methods" was the initial topic for the second session of the conference. Jack Fowler of the Survey Research Program, Boston, talked about the use of reversible directories and the possible use and need for longer questions in telephone surveys to elicit longer answers from the respondent. Judy Fiedler of the Office of Institutional Educational Research, University of Washington, presented some data on a mail survey that OIER had done, and Jean Atkinson from the Social Surveys Division of the Office of Population, Censuses, and Surveys in London talked about the successful use of one-page mailed questionnaires for screening.

The second topic at this session was "Field Problems in Longitudinal Studies." Ellin Spector of the Institute for Survey Research, Temple University, presented some results of a longitudinal study of oral contraceptive use and cervical cancer that ISR has been conducting. There was also a discussion of pay rates for interviewers at the various organizations represented at the conference and procedures used for pay increases. The starting hourly pay ranged from \$2.00 to \$3.45.

The third session started with a discussion on "Reduction of Response Error and Response Bias." Richard Andrews of the Survey Research Center, Brigham Young University, presented some materials based on the review of the literature on response error and bias. Considerable group discussion followed on how clients cause delays in field schedules because of the routine paper work they must go through. Such delays in time schedules and other disruptions not only cause increases in costs but disrupt other surveys.

Joseph Waksberg of the Census Bureau talked about some of the problems involved in obtaining complete coverage for surveys and thus reducing nonresponse error. In some areas there is a lot of mistrust of the interviewers. Many times the interviewers themselves are not completely convinced of the confidentiality of census data, which affects the responses.

Also discussed at the session were the use of tape recordings of interviews in order to evaluate an interviewer's performance and the need to retrain interviewers if necessary to assure quality work.

"Field Problems Associated with Community and Ad Hoc Surveys" was the second main topic at this session. Fan Calloway from the National Opinion Research Center presented some materials on the recruitment procedure for a community survey and discussed the techniques that NORC has used in group recruitment. She also emphasized the value of using state employment services in recruitment and explained the technique she uses. Laurie Bauman of the Bureau of Applied Social Research presented some results of a survey done at BASR regarding interviewers in low income area studies, and Douglas Scott of the Survey Research Center, UCLA, discussed some further problems associated with community surveys.

The last session of the conference was a mixture of many topics. Included were discussions on work the Army Research Laboratory at Natick is doing on food surveys for the Armed Forces and telephone sampling work done at the Survey Research Laboratory, University of Illinois. It was decided to have the Field Directors' Conference remain as an organization just for nonprofit survey facilities and not to open it up to any of the commercial firms. No final decision was made on the site of next year's conference, although the University of Missouri and SUNY/Buffalo made formal offers.

#

The Case for Larger Assignments

Dean Weber*

There is evidence that survey costs could be cut in a number of ways if fewer interviewers were used and each was given more work. Consider, for example, the following tabulation, which contains unit salary costs for the July, 1969, Current Population Survey:

<u>Completed Households in the Assignment</u>	<u>Cost per Completed Household</u>
Less than 50	\$1.70
50-59	1.45
60-69	1.41
70-79	1.29
80-89	1.24
90-99	1.08
100-109	1.12
110 or more	1.08

It is difficult to find factors other than pure assignment size to account for the relationship in this table. When the assignments are grouped into five strata, ranging from those in the very largest cities (considered the most difficult and requiring little travel) down to those in highly rural areas (considered the easiest and requiring the greatest amount of travel), the same phenomenon is observed within each stratum.

If interviewer costs can be reduced through larger assignments, associated costs will also decrease in about the same proportion. Declines in the amount of recruiting, the cost of training, and the number of supervisors should be directly proportional to reductions in interviewer staff.

The cost of payrolling and maintaining personnel files would drop, and there would be savings in printing the manuals and other instructional materials

*Dean Weber recently retired from the U.S. Bureau of the Census after 22 years, mostly with the Field Division.

that are provided to the interviewers. Even the postage costs for mailing such materials to interviewers would be less.

A subtle point is that the cost of quality control of the interviewers' work can also be reduced. The same sample size would be used to inspect a sample of the interviewer's work despite the fact that he now had more work in total. This is because of the statistical principle that in general it is not the proportion of cases in a sample but the number in a sample that governs reliability.

Another subtlety is that interviewer learning operates in favor of cost reductions beyond what are expected from the factors mentioned above. Perhaps an example can best illustrate this point. The following tabulation shows production increases due to learning for the Current Population Survey, measured against a production standard of 1:00:

<u>Week of Enumeration</u>	<u>Production</u>
1st	.70
2nd	.76
3rd	.82
4th	.86
5th	.88

If one-week assignments on a similar survey were given to a larger number of interviewers, production would be expected to be .70. If four-week assignments were given to a smaller number of interviewers, production would be expected to be close to .80, about 14 per cent higher.

A side benefit of larger assignments is an improvement in the completeness of the questionnaires. Using the learning curve for error rates for the Current Population Survey, errors from the one-week assignments in the above example would be about 50 per cent greater than those from the four-week assignments.

The following table indicates that enumerators will also work more hours per day if given larger assignments. The data are from the 1960 decennial census, a 1964 test census of Louisville,

Kentucky, and a 1965 test census of Cleveland, Ohio.

Hours of Work in the Assignment	Mean Hours Worked per Day per Enumerator		
	1960	Louisville	Cleveland
50 or less	5.2	4.4	4.2
51-75	6.3	5.1	4.3
76-100	7.6	6.7	5.2
101-125	7.7	7.9	5.8
126-150	9.2	8.2	6.7
151-175	7.4	9.4	7.7
176 or more	9.4	11.9	7.1

The first column measures the amount of work in a manner independent of the number of hours actually used. In the ranges covered by the table, doubling the enumerator's workload by no means doubled the length of time he took to do the work, but rather increased it by about 50 per cent.

The savings implied by the table are not in enumerator payments, for these were piece-rate jobs, but rather both in a shorter period of supervision at the crew-leader and all higher levels and in lower administrative costs for space, furniture, equipment, and utilities.

Corroboration of the benefits of larger assignments, although not quantified, comes from the following statement made earlier this year by a former colleague in the Census Bureau: "October [production] is typically high because of heavy workloads which cause the interviewer to work more efficiently and thus increase his production ratio."

One way to induce interviewer efficiency without reducing the number of interviewers is to set an early deadline for completion of the work. I recently suggested this for a survey now under way in the field for which the assignment sizes were built into the sampling and thus defied enlargement.

The preceding remarks apply especially to organizations that employ temporary rather than full-time interviewers. However, there is still at least one

option for the full-time situation: train, say, half the staff on one survey and the other half on another survey, as interviewer locations permit. This would allow savings in training, printing, postage, quality control, learning, and mileage, but not savings in recruiting, supervising, payroll, and maintaining personnel files.

There are, of course, some potential disadvantages to using fewer interviewers. The most serious is increasing the part of the nonsampling error in the survey that is attributable to interviewers. Several major studies at the Census Bureau have shown nonsampling variance to be a substantial part of the total error for a number of censuses and surveys.

In fact, everything known at the Census Bureau about enumerator variance leads us in exactly the opposite direction from everything said in the foregoing. The optimum assignment size from the variance viewpoint would be one housing unit, which was exactly the reason for using self-enumeration in the 1970 census. Thus, there must be an optimization process that measures any improvement in cost and completeness against a loss through enumerator variance.

The people in the Census Bureau's data collection centers have another, more practical reason for resisting a smaller number of interviewers. They deliberately use more interviewers in order to have the flexibility of being able to do the regular job if someone is ill or resigns and to have additional capacity for new work.

Another disadvantage comes into play when there is a fixed reference date attached to some of the questions that are to be answered in the survey. If the use of fewer interviewers stretches out the survey period, there will be a deleterious effect on respondent recall.

Finally, a longer period of data collection could delay publication of the results.

#

New Publications

Dillman, Don A. "Increasing Mail Questionnaire Response in Large Samples of the General Public." *Public Opinion Quarterly*, 1972, 36 (Summer), 254-57.

Georgopoulos, Basil., ed. *Organization Research on Health Institutions*. Ann Arbor: Institute for Social Research, University of Michigan, 1972. 418p. Cloth, \$12.

Hyman, Herbert H. *Secondary Analysis of Sample Surveys: Principles, Procedures, and Potentialities*. New York: Wiley, 1972. 368p. \$11.95.

Nemanich, Dorothy. "Is Key punch Verification Really Necessary?" *Public Opinion Quarterly*, 1972, 36 (Summer), 260-62.

Parsons, Robert J., and Medford, Thomas S. "The Effect of Advance Notice in Mail Surveys of Homogeneous Groups." *Public Opinion Quarterly*, 1972, 36 (Summer), 258-59.

Sudman, Seymour. "On Sampling of Very Rare Human Populations." *Journal of the American Statistical Association*, 1972, 67 (June), 335-39.

U.S. National Center for Health Statistics. *Interviewing Methods in the Health Interview Survey*. Vital and Health Statistics, Series 2, No. 48. Washington, D.C.: Government Printing Office, 1972. 86p. \$1.00.

_____. *Reporting Health Events in Household Interviews: Effects of an Extensive Questionnaire and a Diary Procedure*. Vital and Health Statistics, Series 2, No. 49. Washington, D.C.: Government Printing Office, 1972. 80p. 75¢.

Weiss, Carol H. *Evaluation Research: Methods of Assessing Program Effectiveness*. Englewood Cliffs, N.J.: Prentice-Hall, 1972.