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The importance of finding ways to minimize attrition in longitudinal studies has been highlighted by two recent developments affecting social surveys. First, response rates in surveys of the general population have declined sharply in recent years, primarily because of increased numbers of refusals and persistent not-at-homes. Second, social science researchers have come to rely increasingly on common sources of survey data from large samples of representative populations. These suggest the importance of reducing those types of nonresponse which may be more tractable than refusal.

While reports of successful, large-scale and long-term panel surveys are not unknown, notable failures are also common. Major factors affecting tracing failure are the size, social integration, mobility, and dispersion of the sample and the elapsed time between waves of the survey. We think another factor, the intensity and ingenuity of the search procedure, is equally important, for halfhearted efforts to trace respondents perpetuate the persistent myth that uncontrollable factors prevent successful tracing operations. Too often the search is left to individuals who are not involved with or do not have a vested interest in the research and the quality of the data.

Over periods ranging from a year or two to ten or fifteen years the response rates in the better known surveys vary from close to 90 percent to as little as 20 percent. Although there have been several reports of successful tracing attempts, our description of the present effort may be useful in several ways: First, our tracing operation was carried out mainly during the calendar years of 1974-75 and our follow-up survey in the calendar year 1975. The recency of our experience strongly indicates that changes in receptivity to surveys have not made it impossible to carry out a successful large-scale followup panel study. Second, our sample differs in important ways from several of those for which successful follow-ups have been previously reported. It is very large (more than 10,000 persons) and geographically dispersed, and the elapsed time since the last direct or indirect contact with respondents ranged from ten to seventeen years. Third, we believe that finding people may be more a craft than a science. The description of successful searches may be the

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We are reporting on a search for members of a sample of 10,317 men and women who were seniors in Wisconsin high schools in 1957. The posthigh school experiences and achievements of this sample have been studied extensively by William H. Sewell and his associates of the University of Wisconsin. Data for these studies came from questionnaires filled out when students were seniors in high school, a 1964 postcard survey directed to the students' parents, Social Security earnings histories, Wisconsin tax records, and, most recently, a round of telephone interviews. Our tracing operation carried out in 1974 successfully located 97.4 percent of the original members of the sample. This figure includes 99 percent of the 9,007 persons for whom responses were obtained in the 1964 survey, and 86.2 percent of the 1,310 persons for whom no responses had been obtained in the 1964 survey. Ultimately. 88.6 percent of the members of the original sample were interviewed by telephone during 1975. This compares favorably to the 87.3 percent of the original 10,317 people for whom data were obtained in 1964. Those interviewed comprise 91.4 percent of the original sample who were not known to be deceased, disabled, or currently living outside the United States. The response rate is slightly higher for females than males --92.3 percent and 90.5 percent, respectively. The response rate is 93.5 percent among persons whose parents responded in 1964, and 77 percent among 1964 nonrespondents. This differential is mainly due to tracing failure. We believe that our success is in a large part attributable to our extensive use of the telephone, both during the search phase and during the interviewing process, as well as to certain features of the organization of the search procedure.

The full paper** includes a detailed exposition of our research design, together with a description of the organization, and a description of the procedures used in the tracing operation. It gives an accounting of the clerical time required and the percentage of cases found in various phases of the search. For a random tenth of the sample it reports differentials in tracing complexity and success, and in interview completion rates by sex, educational attainment, urban and rural residence, and in- and out-of-state residence.

We shall now review a few features of the

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search and its results. First, we examined the various types of identifying information which were available from the 1957 survey, the 1964 parent interview, or the various record data (Figure 1). We then began our trace with a telephone book search, first for the parent at his or her most recent address, and then for the respondent at his or her most recent address. These two steps led us directly or indirectly to close to 90 percent of the students. We would add that in many cases finding the respondent was not so easy as a single, direct look-up. For example, our telephone book search steps included coverage of listings in geographically contiguous areas and the calling of same last-name persons in the same locality.

Where the telephone book searches failed to produce successful leads we reviewed each case and tried one or more of the following leads: First, we tried occupational leads including names of employers, unions, licensing and professional organizations, or job titles which in some cases led us to places of employment. Second, we looked for alumni leads at colleges or universities which students attended, graduated from, or which they had at some time planned to attend. Third, we tried neighbors in those places where reverse-listed address directories existed. We looked for the telephone numbers of individuals living near the respondent at some previous time or near his parent at some previous time. Using this method we initially looked for persons at the same address, and then for persons next door or across the street, or in other nearby addresses. Fourth, we sometimes contacted high schools. Occasionally, they would keep registers of current addresses of their graduates; sometimes they would know the names of siblings; at other times we could find out from where transcripts had been requested; or occasionally a school secretary would have personal knowledge about the whereabouts of one of our intended respondents. Similarly, we were often able to obtain first-hand information about respondents by calling post offices--especially in small towns and rural areas. For men with military service we had some success using the military locator services which various branches of the armed forces maintain. Finally, as a last-ditch effort, we wrote a letter to those fellow classmates of our intended respondent who had already been interviewed. This took place more than a year after the bulk of our research, and it had a very low return rate, primarily because we had already found almost everyone in our sample. Where we did have a response to this letter, it was almost always successful in leading us to one of the persons whom we had otherwise failed to locate.

We closed only those cases in which we were able to ascertain the current name, address, and telephone number of the respondent from that persons' parent, spouse, or responsible child. Thus, we made a large number of confirming calls once we had learned the location from some other source. Ultimately, we know of only two possible occurrences of errors in identifying a respondent, and we think one of those was a clever refusal.

Since we found and interviewed such a high proportion of the sample, the response differentials were rather weak (Table 1). Men and persons of urban origin were harder to find and interview than women and persons of rural origin. Business leads were especially helpful in locating male college graduates, and spouses' names and employment characteristics in locating females. More than a third of the sample members were located with a single call, and two-thirds after no more than three calls, but the distribution was highly skewed to the right. Nine percent of the sample required 11 or more calls before we located them. Our considerable efforts to locate hard to find persons were well rewarded. Even in the hardest to find eight percent of the sample we ultimately interviewed 71 percent of the cases, and among those we attempted to call who were not dead, outside the U.S., or without a phone, the completion rate was more than 90 percent.

Finally, we note several organizational features of our research. First, we carried out a substantial pretest, just as we did before the production interviewing was undertaken. This helped us train personnel, develop search and record-keeping procedures, and anticipate problems with particular types of respondents. Second, the production tracing was carried out in highly stratified random tenths of the full sample. This smoothed the work flow, helped in training searchers, prevented a pile-up of hardto-find cases, and enabled us to monitor and control costs without a complex accounting system. Third, our extensive use of the telephone, combined with the central review of cases by means of a continuous and complete call record, allowed us to maximize feedback about each case in real time and to adapt both our search strategy and tactics to this feedback. Finally, we treated the search procedure as inherently unreliable, and obtained a substantial return from verification of records, repeating of steps, and in some cases a complete recycling of failed cases.

It would be tempting to conclude from all this that our success in tracing the Wisconsin panel was an artifact of the restricted and favorable make-up of the sample. While that argument has some merit, we feel the lack of substantial response differentials across the major strata of our sample encourages the possibility of similar success under other conditions.

	Inter- viewed	Re- fused	No Phone	De- ceased**	Outside USA	Not Found	Total	N
Male	89.22	4.59	1.83	1.15	1.15	2.06	100	(436)
Female	92.61	2.83	1.52	1.09	0.65	1.30	100	(460)
ligh School	91.40	3.95	2.09	1.16	0.23	1.16	100	(430)
Vocational or Some College	90.32	3.23	1.94	0.65	1.29	2.58	100	(310)
College Grad	91.03	3.85	0.0	1.92	1.92	1.28	100	(156)
1957 Rural***	95.22	2.39	1.19	0.30	0.30	0.60	100	(335)
1957 Urban	88.41	4.46	1.96	1.60	1.25	2.32	100	(561)
1964 Instate	90.98	4.37	1.60	1.16	0.15	1.75	100	(687)
1964 Out-of-State	90.91	1.44	1.91	0.96	3.35	1.44	100	(209)
1975 Instate	92.40	4.50	1.55	1.55**	0.0	0.0	100	(645)
1975 Out-of-State	91.63	1.67	2.09	0.0	3.35	1.26	100	(239)
Not Found	0.0	0.0	0.0	0.0	0.0	100	100	(12)

Table 1. Percentage Distribution of Final Status of Search by Sex, Education, Rural-Urban Residence in 1957, and Instate or Out-of-State Residence in 1964 and 1975*

*This table represents the final outcome of the search, thus there are 3 individuals who were found, then lost again, bringing the total in the Not Found column to 15 rather than the 12 indicated in Tables 2, 3, and 4.

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**In all tables the deceased were coded INSTATE in 1975.

***Cities with a population of less than 2500 were coded as rural.

Identifying Information	1964 Respondents	1964 Nonrespondents
Parent's and student's 1957 address (the same household)	X	x
Parent's 1964 address	x	-
Student's 1964 address	x	-
Schools the student attended or grad- uated from prior to 1964	x	-
Student's 1964 occupation	x	-
Student's marital status in 1964	Х	-
Female student's spouse's occupation	х	-
Student's status with respect to mili- tary service	X	-
Background Information		
Parents' education	X	X
High school rank	x	X
Student's occupational aspirations	x	х
Parent's 1957 occupation	x	х

Figure 1. Identifying information for 1964 respondents and nonrespondents

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