Attrition and the National Longitudinal Surveys of Labor Market Experience: Avoidance, Control and Correction

by Dr. Patricia Rhoton
Data Archivist
Center for Human Resource Research
The Ohio State University

Since 1966 the Center for Human Resource Research has been analysing the longitudinal surveys conducted by the Census Bureau for the Department of Labor. The main purpose of these surveys is to study the labor force activity of different population groups. The original groups included men who were 45-59 years old in 1966, women who were 30-44 years old in 1967, men who were 14-24 years old in 1966, and women who were 14-24 years old in 1968. In 1979, a new survey, conducted by the National Opinion Research Center (editor's note:) (NORC) in Chicago, was added for young men and women who were 14-21 in that year. Each of the five surveys is designed to collect information on all phases of the respondent's labor force activity and on other characteristics such as educational attainment, health, family composition, and financial status that are known to be related to such activity.

The original plan in 1965 was to interview the same respondents each year for a period of five years. Because of the usefulness of the data and the relatively small sample attrition, a decision was made at the end of the first five-year period to continue for another five years. The interview pattern was changed at that time from a face-to-face yearly interview to a 2-2-1 pattern. Each respondent was contacted by phone every two years, then again in person one year after the second phone interview. This pattern was used again both during the third five-year extension obtained in 1976 and during the fourth five-year extension, obtained in December 1982. At the time of the most recent extension, a study looking specifically at attrition within the different cohorts was carried out.

Longitudinal studies in general have several advantages over the more frequent cross-sectional studies. While longitudinal studies are very expensive, the data are collected in great detail over time, with respondents reporting events and attitudes as they occur rather than retrospectively. Collecting the data in this way also enables the researcher to go beyond issues of correlations to address the more urgent issues of causality. The main advantage of a longitudinal survey, following the
same set of respondents year after year, creates two major problems, however. The first is the difficulty of relocating respondents for subsequent interviews, and the second is maintaining respondent cooperation over repeated interviews.

Attrition in the NLS

Table 1 shows the numbers and percentages of respondents for all interviews up to and including the 1983 questionnaire. The base year row shows only those respondents who were interviewed that first year. Between the original screening and the first interview, some of the eligible respondents were lost: 9.0 percent of the Older Men, 5.5 percent of the Older Women, 8.3 percent of the Young Men, 5.8 percent of the Young Women, and 11.5 percent of the New Youth.

While Table 1 shows the distribution of interviews between and among the five cohorts, Tables 2-5 show interview/noninterview status of the four older cohorts by reason for noninterview. While there are differences between the cohorts in the distribution of reason for noninterview, within each cohort the distribution of reason remains consistent across the years. The method of interview, whether face-to-face or by telephone, does not seem to affect the attrition rate. Some of the losses in the sample are unavoidable. In the Survey of Mature Men (Table 2), for example, an increasing percentage of sample losses are due to respondent deaths. The Mature Women's survey (Table 3) has the second highest retention rate among the four older cohorts. This high rate is probably due to the fact that this group is very stable and has low geographic mobility.

The Young Men's cohort has the lowest rate of retention and has been the test case for new attempts to stop the gradual decline in sample size. A variety of factors account for the difficulty in locating these respondents: completion of school, acquisition of new jobs, formation of families, and movement in and out of the military services. The higher rates of attrition in the earlier years were attributed to influx into the military since the sample was drawn, and initial interviewing done during the Vietnam War. However, rates remained high even as these respondents returned from the military.

The Young Women's cohort, which is similar to the Young Men's with respect to completion of school, acquisition of new jobs, and formation of families, posed the added challenge of name changes accompanying changes in marital status, yet the overall response rate has remained high.

The New Youth cohort has benefited greatly from the lessons taught by experience with the four older cohorts. In 1983, the response rate for this group was 96.3 percent. A comparison between this cohort and the first five years of the Young Women's cohort, which had the best retention rate of the older cohorts, shows that different procedures and techniques can substantially decrease attrition.

Not only does NORC have a higher overall interview rate, but also the organization seems to be better at retrieving respondents. In 1982, 96.0 percent of the original 1979 sample were interviewed. Some of these had not been interviewed in previous years: 2.2 percent in 1980, 1.1 percent in 1981, and 0.5 percent in 1980 or 1981. Only 165 respondents (one percent) of the original sample had had only one interview after four rounds of the survey. In 1983, the number of respondents who had had only one interview dropped to 115. Over eleven thousand (90.7) respondents had been

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1 Editor's note: Tables are gathered together at end of article
interviewed every year, and 5.5 percent had completed four out of the five interviews.

The Impact of Attrition on Representativeness

The gradual decline in sample size over time becomes very important if it results in a biased sample. While each cohort was checked at the end of the first five-year series of interviews, and smaller checks were made in the context of reports on occupational distribution, educational attainment, age distributions, and marital status with published national data, no one looked at all the cohorts systematically until 1982. At this point the issue of representativeness had to be addressed as part of the proposal to extend the cohorts for another five years.

Such a study could essentially be carried out in either of two ways. First, the remaining sample could be compared with some outside group, such as the decennial Census or the Current Population Survey. Comparison with an outside sample was difficult given time constraints and the fact that Census data were not yet ready for release. While the CPS data were available, differences between the CPS and each of the four older cohorts had already been documented in the first year. The second alternative was to compare the characteristics of the respondents who were left after ten years with the characteristics of all respondents interviewed in the initial year to see how much difference, if any, there actually was. Each cohort was checked for differences in the age distributions, educational attainment levels, employment status, industry and occupation distributions, marital status, SMSA status, annual income distribution, and wage and salary distribution. The Young Men and Young Women were also checked for differences in enrollment status.

A separate evaluation was done by race for each of the four cohorts. Table 6 is an example of the type of table constructed for each group. The ten-year sample was weighted using two methods: the entry level weight and a ten-year weight, which includes successive adjustments for each year's noninterviews. For all cohorts except the Young Men, the relevant comparison was between the entry year weighted figures and the ten-year sample using the ten-year weight. In the Young Men's cohort, the 1966 sample using the 1966 weight was compared to the 1976 sample using the 1966 weight because the 1976 weight had been adjusted to include individuals formerly in the military. Since young men already in the military had been deliberately excluded from the Young Men's sample, using the 1976 weight could have created apparent differences where none existed. For this group alone, it was more appropriate to use the 1966 weight.

Table 7 summarizes the distribution of differences by cohort and shows that for most characteristics the difference between the two samples was less than two percentage points. After the differences were identified, statistical tests of significance were computed for each of the comparisons. Table 8 shows the number of statistically significant differences at various levels for each cohort by race. While the number of differences was higher than would be expected by chance, several were based upon small sample cases in the initial year and characteristics with only two values. In the latter cases, a statistically significant result in one category means the other category will also be statistically different [sic].

After reviewing the entire set of tables, it was clear that noninterviews had not seriously distorted the representativeness of the sample. Given this finding, and the ability to apply weights to eliminate any potential bias, the decision was made to continue all four surveys for another five years.
It is unclear, however, how further erosion of the samples will affect representativeness. Concern with this issue, together with the higher noninterview rates that NORC was having with the New Youth sample, led to an evaluation of the rules that had been established in the original five-year period and an attempt to see if it was possible to retrieve some of the noninterview cases.

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Retrieving Former Noninterview Cases

Since the Young Men's panel had lost the most respondents, it became the target for the first attempt at retrieval. Respondents from the 1975, 1976, 1978 and 1980 survey years, who normally would not have been included in the workload (i.e., attempted contacts) because of noninterview status in those years (refused, unable to contact, institutionalized, moved outside the U.S.) were sorted, and a sample of 279 selected.

Several changes were made in the procedures for contacting these special respondents. No restrictions were placed on the number of telephone calls, mileage, or time spent locating and retrieving these respondents. Each interviewing packet included the respondent's most recently completed interview and household record card, as well as the most recent questionnaire, and all record cards for any other household members participating in any of the other cohorts. In addition, an expanded list of methods of locating respondents was included. As a result of these additional steps, 104 (37.3 percent) of these respondents were interviewed. These interviews have been flagged and will be checked as soon as the data tapes are available from the Census Bureau to determine if they differ in any way from the rest of the respondents. If these respondents remain in the sample for the next round of interviews in the latter part of 1983, a concerted effort may be made to use these procedures during the regular interviews and in similar attempts to retrieve noninterviews in the other three cohorts.

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Differences Between Census and NORC

One of the major differences between Census and NORC is the amount of location information obtained from the respondent. NORC obtains more information, and request information on other individuals with specific relationships to the respondent, depending upon the respondent's circumstances. The interviewer begins by asking the name, relationship, address, and phone number of the person most likely to know where the respondent is. If the respondent is living in a dormitory, fraternity, sorority, hospital or other temporary situation, the interviewer is instructed to obtain the name and relationship of a household at a permanent home address. If the respondent is married and living apart from a spouse, the spouse's address and telephone number are requested. If the respondent is not living with a parent and has not provided a parent's name, this information is obtained, including whether or not the parents live together. The name of another relative with whom the respondent is in contact, and the names of friends and places to which the respondent goes when not spending spare time at home, are also obtained.

Respondents are also asked for nicknames, maiden names if they are married women, and whether or not they expect to move in the next 12 months.

This extensive list gives the NORC interviewer a real advantage when contacting someone on the list, since the ability to mention the respondent's parents, relatives, friends, hangouts or nicknames demonstrates that the interviewer...
knows the respondent to some degree and may make the reference more willing to give out information about the respondent. Another major advantage that the NORC interviewer has over the Census interviewer is the existence of a centralized locating shop in Chicago. The person working at the locating shop has access to all previous questionnaires, original copies of locator documents and information about the respondent's brothers and sisters. Working with this additional data, the respondent can usually be located by phone and reassigned to the same or another interviewer. The Census interviewer starts out with less information with which to locate the respondent. S/he has a questionnaire with a label indicating the respondent's name and most recent home address. In addition, there is a household record card for each respondent which contains the telephone numbers, all addresses at which the respondent has lived since the survey began, the names of all persons who have lived with the respondent, and the names, addresses and telephone numbers of only two persons who will always know where s/he can be reached.

Besides the more extensive locating supplement that NORC builds in the interview, several other differences appear. Each respondent in the New Youth cohort is paid $10.00 for a completed interview, since many researchers believe that even a small amount of money helps in obtaining cooperation, especially among younger respondents. The New Youth respondents also had an opportunity to take a series of tests for the Department of Defence, which needed to evaluate tests given to individuals in the military. For these tests, which take several hours, the respondents were paid $50.00. When the four older cohorts were first interviewed, paying respondents was not as well accepted. Now there are fears that starting this procedure with the older cohorts would cause concern on the part of respondents.

Another procedural difference is that New Youth cohort respondents are told up front that they will be interviewed each year for the next several years and are therefore aware that they will be contacted about the same time each year. The Census interviewers are told only that they may be conducting additional surveys, and should not tell the respondents that this is the last time s/he will be interviewed. The lack of an answer to give the respondent, in addition to the 2-2-1 pattern, probably leaves the respondent without a sense of when or if s/he will be contacted again. While this ambiguity may not have an impact on their cooperation in the survey, the NORC approach leaves the respondent with a greater feeling of certainty about the interviewing schedule.

Revising the Rule for Dropping Respondents

After the first year, respondents in the four older cohorts who refused to participate or had died, were dropped from the Census sample. Those who were not reinterviewed for any reason for two consecutive years were also dropped. The only exception was made in the Young Men's sample with those respondents who were in the Armed Forces. Since the sample was to represent the national civilian, non-institutionalized population, young men were not interviewed while they were in the Armed Forces but were retained in the sample and reinterviewed in the first interview after they had left the services. However, NORC's success in retrieving respondents even after they had refused and the success of the Young Men retrieval effort resulted in a change in these rules. Currently, no respondent is dropped except those who have died. NORC goes back each year and attempts to interview all living respondents.

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Maintaining Respondent Cooperation

While both Census and NORC send out advance letters about the entire survey, stressing the importance of the respondent's cooperation, NORC also sends out a newsletter that tells respondents in a very "chatty" format about some general results of the previous survey. The Census Bureau had a short, formal fact sheet that went out with the cover letter, but interviewers reported that respondents did not feel it was very useful. In the 1982 Young Women's survey, a more extensive description of the surveys and a list of the research results from the survey were sent to any respondent who filled in and returned a postcard requesting additional information. Over one-third of the respondents interviewed in that wave mailed in the postcard. A variable will be created identifying these respondents and if distribution of the handbook increases the response rate in the next round, the handbook will be offered to the respondents in all three cohorts.

Conclusions

The New Youth survey has, at this time, a considerably better response rate than any of the four older cohorts. Much of its success can be traced to the solution of problems that developed over time in the four older cohorts. While the necessity of maintaining the same measures over time prevented change in the handling of the four older cohorts, these problems were corrected in the first wave of the New Youth cohort. Questions that the respondents or the interviewer had difficulty with in the four older cohorts were altered so that there was no confusion from the very beginning. Perhaps most importantly, given the highly mobile nature of the younger age group, much more detail was obtained on individuals who would always know where the respondent was. In addition, more information about the survey was given to the respondent before, during and after each interview. All these factors combined have resulted in a response rate that is very good for any survey and exceptional for a longitudinal survey in its fifth year. ☐
| Year | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Men 45-59 in 1966 | 5,034 | 4,751 | 4,661 | 4,288 | 4,102 | 3,951 | 4,471 | 3,951 | 3,322 | 3,732 | 3,487 | 3,966 | 3,219 | 3,812 | 3,001 | 2,834 | 2,634 |
| Total interviewed | 5,034 | 4,751 | 4,661 | 4,288 | 4,102 | 3,951 | 4,471 | 3,951 | 3,322 | 3,732 | 3,487 | 3,966 | 3,219 | 3,812 | 3,001 | 2,834 | 2,634 |
| Retention rate | 100.0 | 94.4 | 92.6 | 87.2 | 83.1 | 78.5 | 88.0 | 78.5 | 85.0 | 74.1 | 69.3 | 78.0 | 63.9 | 75.0 | 59.6 | 56.2 | 69.7 | 52.3 |
| Men 30-44 in 1967 | 5,083 | 4,910 | 4,712 | 4,575 | 4,014 | 3,977 | 4,172 | 3,538 | 3,923 | 4,243 | 3,694 | 4,071 | 3,545 | 6,398 | 6,087 | 6,125 | 3,650 | 3,545 |
| Total interviewed | 5,083 | 4,910 | 4,712 | 4,575 | 4,014 | 3,977 | 4,172 | 3,538 | 3,923 | 4,243 | 3,694 | 4,071 | 3,545 | 6,398 | 6,087 | 6,125 | 3,650 | 3,545 |
| Retention rate | 100.0 | 96.6 | 92.7 | 90.0 | 76.8 | 76.1 | 82.1 | 67.7 | 76.1 | 82.2 | 70.7 | 78.9 | 67.1 | 100.0 | 95.1 | 95.7 | 70.8 | 68.7 |
| Men 14-24 in 1966 | 4,790 | 4,318 | 4,033 | 3,907 | 3,987 | 3,966 | 3,696 | 3,538 | 3,545 | 4,243 | 3,694 | 4,071 | 3,545 | 6,087 | 6,087 | 6,125 | 3,650 | 3,545 |
| Total interviewed | 4,790 | 4,318 | 4,033 | 3,907 | 3,987 | 3,966 | 3,696 | 3,538 | 3,545 | 4,243 | 3,694 | 4,071 | 3,545 | 6,087 | 6,087 | 6,125 | 3,650 | 3,545 |
| Retention rate | 91.7 | 82.6 | 77.2 | 91.4 | 76.8 | 76.1 | 70.7 | 67.7 | 76.1 | 82.2 | 70.7 | 78.9 | 67.1 | 100.0 | 95.1 | 95.7 | 70.8 | 68.7 |
| Women 14-24 in 1966 | 5,159 | 4,930 | 4,766 | 4,714 | 4,625 | 4,243 | 3,545 | 4,790 | 4,318 | 4,243 | 3,694 | 4,071 | 3,545 | 6,398 | 6,087 | 6,125 | 3,650 | 3,545 |
| Total interviewed | 5,159 | 4,930 | 4,766 | 4,714 | 4,625 | 4,243 | 3,545 | 4,790 | 4,318 | 4,243 | 3,694 | 4,071 | 3,545 | 6,398 | 6,087 | 6,125 | 3,650 | 3,545 |
| Retention rate | 100.0 | 95.6 | 92.4 | 91.4 | 89.6 | 82.2 | 78.9 | 91.7 | 82.6 | 77.2 | 91.4 | 76.8 | 76.1 | 100.0 | 95.1 | 95.7 | 70.8 | 68.7 |
| Men 14-21 in 1979 | 6,088 | 6,054 | 6,070 | 6,040 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 |
| Total interviewed | 6,088 | 6,054 | 6,070 | 6,040 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 | 6,078 |
| Retention rate | 100.0 | 96.3 | 96.5 | 96.1 | 96.7 | 96.7 | 96.7 | 96.7 | 96.7 | 96.7 | 96.7 | 96.7 | 96.7 | 100.0 | 96.3 | 96.5 | 96.1 | 96.7 |
Table 2  Interview/Noninterview Status for Survey of Mature Men

| Year | Total Interviews | Total \( q^2 \) | Deceased \( q^2 \) | Refused \( q^2 \) | Unable to contact \( q^2 \) | Temporarily absent \( q^2 \) | Institutionalized \( q^2 \) | Amed forces \( q^2 \) | Other \( q^2 \) | Noninterview 2 consecutive, 5 years dropped \( q^2 \) | Retention rate \( q^2 \) |
|------|------------------|----------------|-----------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|
| 1966 | 5,034            | -              | -               | -             | -              | -              | -              | -              | -              | -              | -             | 80.2          |
| 1967 | 4,751            | 283            | 5.6             | 60            | 21.2           | 107            | 37.8           | 93             | 32.9           | 8              | 2.8           | 15            | 5.3           | 94.4          |
| 1968 | 4,661            | 206            | 4.2             | 75            | 36.4           | 50             | 24.3           | 66             | 32.0           | 3              | 1.5           | 11            | 5.3           | 92.6          |
| 1969 | 4,388            | 330            | 7.0             | 102           | 30.9           | 92             | 27.9           | 88             | 26.7           | 17             | 5.1           | 18            | 5.5           | 87.2          |
| 1970 | -                | -              | -               | -             | -              | -              | -              | -              | -              | -              | -             | -             | -             | -             |
| 1971 | 4,182            | 323            | 7.2             | 169           | 52.3           | 56             | 17.3           | 56             | 17.3           | 15             | 4.6           | 10            | 3.1           | 83.1          |
| 1972 | -                | -              | -               | -             | -              | -              | -              | -              | -              | -              | -             | -             | -             | -             |
| 1973 | 3,951            | 303            | 7.1             | 175           | 57.7           | 42             | 13.9           | 62             | 20.5           | 3              | 1.0           | 14            | 4.6           | 76.2          |
| 1974 | -                | -              | -               | -             | -              | -              | -              | -              | -              | -              | -             | -             | -             | -             |
| 1975 | 3,732            | 281            | 7.0             | 174           | 61.9           | 43             | 15.3           | 37             | 13.2           | 3              | 1.1           | 11            | 3.9           | 74.1          |
| 1976 | 3,487            | 294            | 7.8             | 100           | 34.0           | 128            | 43.5           | 22             | 7.5            | 18             | 6.1           | 14            | 4.8           | 69.3          |
| 1977 | -                | -              | -               | -             | -              | -              | -              | -              | -              | -              | -             | -             | -             | -             |
| 1978 | 3,219            | 316            | 6.9             | 163           | 51.6           | 73             | 23.1           | 38             | 12.0           | 12             | 3.8           | 26            | 8.2           | 63.9          |
| 1979 | -                | -              | -               | -             | -              | -              | -              | -              | -              | -              | -             | -             | -             | -             |
| 1980 | 3,001            | 289            | 8.8             | 202           | 69.9           | 35             | 12.1           | 15             | 5.2            | 2              | 0.7           | 29            | 10.0          | 59.0          |
| 1981 | 2,834            | 202            | 6.6             | 99            | 49.0           | 50             | 29.2           | 11             | 5.4            | 5              | 2.5           | 26            | 12.9          | 56.2          |

1Percent of previous year number of interviews.

2Percent of total noninterviews.

3Noninterviews which are deleted from the sample.

4The retention rate in the percent of base year respondents who were interviewed.
Table 3  Interview/Noninterview Status for Survey of Mature Women

| Year | Total Interviews | Total % | Deceased % | Refused % | Unable to Contact % | Temporarily Absent % | Institutionalized % | Armed Forces % | Other % | Noninterview 2 consecutive years dropped % | Retention rate % |
|------|------------------|---------|------------|-----------|------------------|---------------------|---------------------|-----------------|---------|-------------------------------------------|-----------------|
| 1966 | -                | -       | -          | -         | -                | -                   | -                   | -               | -       | -                                         | -               |
| 1967 | 5,083            | -       | -          | -         | -                | -                   | -                   | -               | -       | -                                         | -               |
| 1968 | 4,910            | 173     | 3.4        | 22        | 12.7             | 76                  | 43.9                | 62              | 35.8    | -                                         | 12              |
| 1969 | 4,712            | 273     | 5.5        | 13        | 4.8              | 134                 | 49.1                | 87              | 31.9    | 16                                           | 10              |
| 1970 | -                | -       | -          | -         | -                | -                   | -                   | -               | -       | -                                         | -               |
| 1971 | 4,575            | 234     | 4.9        | 25        | 10.7             | 82                  | 35.0                | 84              | 35.9    | 12                                           | 10              |
| 1972 | 4,471            | 199     | 4.3        | 12        | 6.0              | 97                  | 48.7                | 66              | 33.2    | 8                                           | 7.0             |
| 1973 | -                | -       | -          | -         | -                | -                   | -                   | -               | -       | -                                         | -               |
| 1974 | 4,322            | 196     | 4.3        | 29        | 14.8             | 90                  | 45.9                | 51              | 26.0    | 8                                           | 3.1             |
| 1975 | -                | -       | -          | -         | -                | -                   | -                   | -               | -       | -                                         | -               |
| 1976 | 4,172            | 212     | 4.8        | 30        | 14.2             | 101                 | 47.6                | 48              | 22.6    | 5                                           | 2.4             |
| 1977 | 3,965            | 207     | 6.3        | 9         | 3.4              | 181                 | 67.8                | 41              | 15.3    | 10                                         | 3.7             |
| 1978 | -                | -       | -          | -         | -                | -                   | -                   | -               | -       | -                                         | -               |
| 1979 | 3,812            | 201     | 5.0        | 36        | 17.9             | 106                 | 52.7                | 35              | 17.4    | 4                                           | 2.0             |
| 1980 | -                | -       | -          | -         | -                | -                   | -                   | -               | -       | -                                         | -               |
| 1981 | 3,680            | 170     | 4.4        | 37        | 21.8             | 91                  | 53.5                | 26              | 15.3    | 4                                           | 2.4             |

1Percent of previous year number of interviews.  
2Percent of total noninterviews.  
3Noninterviews which are deleted from the sample.  
4The retention rate is the percent of base year respondents who were interviewed.
Table 4  Interview/Noninterview Status for Survey of Young Men

| Year  | Total Interviews | Total Deceased | Deceased | Total Refused | Temporarily Unable to Contact | Temporarily Absent | Institutionalized | Amended Forces | Other | Noninterview 2 consecutive years dropped | Retention Rate |
|-------|------------------|----------------|----------|---------------|-----------------------------|-------------------|------------------|---------------|-------|------------------------------------------|---------------|
|       |                  |                | %1       | %2            | %3                          | %4                | %5               | %6            | %7    | %8                                       | %9            |
| 1966  | 5,225            | -              | 32       | -             | 32                          | -                 | -                | -             | -     | -                                       | -             |
| 1967  | 4,790            | 435            | 8.3      | 14            | 3.2                         | 66                | 15.2             | 83            | 19.0  | 4                                       | 0.9           |
| 1968  | 4,318            | 827            | 11.1     | 10            | 1.2                         | 70                | 8.5              | 143           | 17.3  | 6                                       | 0.7           |
| 1969  | 4,033            | 994            | 19.8     | 11            | 1.1                         | 54                | 5.4              | 181           | 18.2  | 10                                      | 1.0           |
| 1970  | 3,993            | 904            | 18.5     | 13            | 1.4                         | 37                | 4.1              | 154           | 17.0  | 17                                      | 1.9           |
| 1971  | 3,987            | 801            | 16.7     | 11            | 1.4                         | 54                | 6.7              | 160           | 20.0  | 13                                      | 1.6           |
| 1972  | -                | -              | -        | -             | -                           | -                 | -                | -             | -     | -                                       | -             |
| 1973  | 4,014            | 655            | 14.0     | 17            | 2.6                         | 69                | 10.5             | 214           | 37.3  | 6                                       | 0.9           |
| 1974  | -                | -              | -        | -             | -                           | -                 | -                | -             | -     | -                                       | -             |
| 1975  | 3,977            | 552            | 12.2     | 13            | 2.4                         | 88                | 15.9             | 212           | 38.4  | 1                                       | 0.2           |
| 1976  | 3,696            | 541            | 12.8     | 7             | 1.3                         | 177               | 32.7             | 152           | 28.1  | 9                                       | 1.7           |
| 1977  | -                | -              | -        | -             | -                           | -                 | -                | -             | -     | -                                       | -             |
| 1978  | 3,538            | 472            | 11.8     | 21            | 4.4                         | 114               | 24.1             | 164           | 34.7  | 8                                       | 1.7           |
| 1979  | -                | -              | -        | -             | -                           | -                 | -                | -             | -     | -                                       | -             |
| 1980  | 3,438            | 408            | 11.9     | 15            | 3.7                         | 72                | 17.6             | 165           | 40.4  | 5                                       | 1.2           |
| 1981  | 3,398            | 331            | 7.5      | 7             | 1.6                         | 107               | 27.4             | 126           | 32.2  | 8                                       | 2.0           |

1Percent of previous year number of interviews.
2Percent of total noninterviews.
3Noninterviews which are deleted from the sample.
4The retention rate in the percent of base year respondents who were interviewed.
| Year | Total interviews | Total # | Percent | Refused # | Percent | Unable to contact # | Percent | Temporarily absent # | Percent | Institutionalized # | Percent | Amed forces # | Percent | Other # | Percent | Noninterview 2 consecutive years dropped | Retention rate % |
|------|------------------|--------|---------|-----------|---------|-------------------|---------|---------------------|---------|---------------------|---------|--------------|---------|--------|---------|----------------------------------------|------------------|
| 1966 | -                | -      | -       | -         | -       | -                 | -       | -                   | -       | -                   | -       | -            | -       | -      | -       | -                                      | -                |
| 1967 | -                | -      | -       | -         | -       | -                 | -       | -                   | -       | -                   | -       | -            | -       | -      | -       | -                                      | -                |
| 1968 | 5,159            | -      | -       | -         | -       | -                 | -       | -                   | -       | -                   | -       | -            | -       | -      | -       | -                                      | -                |
| 1969 | 4,930            | 229    | 4.4     | 2         | 0.9     | 98                | 42.8    | 112                 | 48.9    | 3                   | 1.3     | 9            | 3.9     | -      | -       | 5                                      | 2.2              | 95.6 |
| 1970 | 4,766            | 293    | 5.8     | 6         | 2.0     | 74                | 25.3    | 136                 | 46.4    | 21                  | 7.2     | 7            | 2.4     | -      | -       | 49                                    | 16.7             | 92.4 |
| 1971 | 4,714            | 217    | 4.4     | 4         | 1.8     | 54                | 24.9    | 95                  | 43.8    | 12                  | 5.5     | 8            | 3.7     | -      | -       | 44                                    | 20.3             | 91.4 |
| 1972 | 4,625            | 203    | 4.2     | 6         | 3.0     | 74                | 36.5    | 93                  | 45.8    | 5                  | 2.5     | 5            | 2.5     | -      | -       | 20                                    | 9.9              | 89.7 |
| 1973 | 4,424            | 285    | 6.1     | 4         | 1.4     | 116               | 40.7    | 108                 | 37.9    | 4                  | 1.4     | 4            | 1.4     | -      | -       | 49                                    | 17.2             | 85.5 |
| 1974 | -                | -      | -       | -         | -       | -                 | -       | -                   | -       | -                   | -       | -            | -       | -      | -       | -                                      | -                |
| 1975 | 4,243            | 307    | 6.7     | 5         | 1.6     | 114               | 37.1    | 132                 | 43.0    | 5                  | 1.6     | 2            | 0.7     | -      | -       | 49                                    | 16.0             | 82.2 |
| 1976 | -                | -      | -       | -         | -       | -                 | -       | -                   | -       | -                   | -       | -            | -       | -      | -       | -                                      | -                |
| 1977 | 4,108            | 274    | 6.3     | 3         | 1.1     | 113               | 41.2    | 114                 | 41.6    | 5                  | 1.8     | 2            | 0.7     | -      | -       | 37                                    | 13.5             | 79.6 |
| 1978 | 3,902            | 319    | 7.5     | 3         | 0.9     | 180               | 56.4    | 86                  | 26.9    | 14                  | 4.4     | 6            | 1.9     | 10     | 3.1     | 20                                    | 6.3              | 75.6 |
| 1979 | -                | -      | -       | -         | -       | -                 | -       | -                   | -       | -                   | -       | -            | -       | -      | -       | -                                      | -                |
| 1980 | 3,801            | 190    | 4.8     | 6         | 3.1     | 88                | 46.3    | 63                  | 33.1    | 1                  | 0.5     | 3            | 1.6     | 4      | 2.1     | 25                                    | 13.1             | 73.7 |

1Percent of previous year number of interviews.
2Percent of total noninterviews.
3Noninterviews which are deleted from the sample.
4The retention rate in the percent of base year respondents who were interviewed.
Table 6

Table 6 Selected Characteristics in 1556 of Original Sample and Sample Interviewed in 1976

| Characteristics in 1556 | Number of respondents in 1556 | Number potentially eligible for interview in 1976 | Rate of respondents in 1976 | Total 
|------------------------|-------------------------------|-----------------------------------------------|-----------------------------|-----------
| Age                    |                               |                                               |                             | 1976       |
| 45-49                  | 1329                          | 1202                                          | 39.3                        | 74.0       |
| 50-54                  | 1238                          | 1043                                          | 34.1                        | 70.6       |
| 55-59                  | 1041                          | 811                                           | 26.5                        | 64.4       |
| Educational attainment|                               |                                               |                             |            |
| Less than 12 yrs.      | 2038                          | 1679                                          | 55.3                        | 68.2       |
| More than 12 yrs.      | 655                           | 558                                           | 19.3                        | 72.1       |
| Employment status      |                               |                                               |                             |            |
| Unemployed             | 3348                          | 2957                                          | 94.9                        | 87.7       |
| Out of labor force     | 206                            | 212                                           | 12.1                        | 81.0       |
| Industry               |                               |                                               |                             |            |
| Agriculture            | 335                           | 293                                           | 10.1                        | 90.1       |
| Mining                 | 30                             | 25                                            | 8.9                         | 92.2       |
| Construction           | 351                           | 292                                           | 10.1                        | 81.2       |
| Manufacturing          | 1000                          | 866                                           | 25.5                        | 81.1       |
| Transportation         | 315                           | 256                                           | 9.1                         | 85.6       |
| Trade                  | 523                           | 457                                           | 15.8                        | 82.0       |
| Finance                | 119                           | 111                                           | 3.8                         | 80.2       |
| Services               | 432                           | 374                                           | 12.9                        | 80.5       |
| Public admin.          | 230                           | 213                                           | 7.4                         | 83.1       |
| Marital status         |                               |                                               |                             |            |
| Married                | 3235                          | 2775                                          | 91.0                        | 82.8       |
| Previously married     | 190                            | 143                                           | 4.6                         | 84.4       |
| Never married          | 166                            | 134                                           | 4.4                         | 75.4       |
| Occupation             |                               |                                               |                             |            |
| Professional           | 359                           | 316                                           | 10.9                        | 80.4       |
| Nonprofessional        | 585                           | 508                                           | 17.6                        | 83.5       |
| Clerical               | 173                           | 147                                           | 5.1                         | 80.2       |
| Sales                  | 176                           | 154                                           | 5.3                         | 81.2       |
| Crafts                 | 838                           | 770                                           | 24.0                        | 82.6       |
| Operatives             | 575                           | 497                                           | 17.1                        | 80.5       |
| Household              | -                             | -                                             | -                           |            |
| Services               | 180                           | 149                                           | 5.2                         | 82.6       |
| Farm Inhabitants       | 60                             | 50                                            | 1.7                         | 82.0       |
| Laborers               | 154                           | 119                                           | 4.1                         | 81.2       |
| SNEA status            |                               |                                               |                             |            |
| In SNEA                | 2487                          | 2167                                          | 69.0                        | 81.4       |
| Out of SNEA            | 1112                          | 948                                           | 31.0                        | 84.8       |
| Annual income          |                               |                                               |                             |            |
| Equal to zero          | 5                              | 5                                             | 90.0                        | 100.0      |
| 1-2,999                | 249                           | 185                                           | 7.9                         | 84.9       |
| 3,000-5,999            | 1418                          | 1177                                          | 50.5                        | 84.9       |
| 10,000-14,999          | 712                           | 631                                           | 77.1                        | 84.6       |
| 15,000-19,999          | 311                           | 192                                           | 8.2                         | 79.7       |
| + 20,000               | 156                           | 141                                           | 6.0                         | 88.6       |
| Wages and salary       |                               |                                               |                             |            |
| Equal to zero          | 777                           | 634                                           | 22.5                        | 71.1       |
| 1-2,999                | 243                           | 180                                           | 6.7                         | 91.0       |
| 3,000-5,999            | 1496                          | 1468                                          | 52.1                        | 86.0       |
| 10,000-14,999          | 447                           | 301                                           | 14.1                        | 84.6       |
| 15,000-19,999          | 81                            | 77                                            | 2.7                         | 75.3       |
| + 20,000               | 60                            | 54                                            | 1.5                         | 87.0       |

1 Excludes death, military and out of country.
2 Those employed survey week.
**Table 7**

| Panel             | Absolute differences (%) | Total      |
|-------------------|---------------------------|------------|
|                   | 0-2 | 2-3 | 3+ |      |
| **Mature men**    |     |     |    |      |
| Black             | 34  | 8   | 4  | 46   |
| White             | 43  | 2   | 0  | 45   |
| **Mature women**  |     |     |    |      |
| Black             | 42  | 3   | 0  | 45   |
| White             | 45  | 0   | 0  | 45   |
| **Young men**     |     |     |    |      |
| Black             | 30  | 5   | 6  | 41   |
| White             | 43  | 1   | 0  | 44   |
| **Young women**   |     |     |    |      |
| Black             | 33  | 6   | 1  | 40   |
| White             | 40  | 2   | 0  | 42   |

**Table 8**

| Panel             | Level of significance | 1% | 2% | 3%     |
|-------------------|-----------------------|----|----|--------|
| **Mature men**    |                       |    |    |        |
| Black             | 4 (9.1)               | 7  | 12 | (27.3) |
| White             | 4 (9.1)               | 7  | 14 | (31.8) |
| **Mature women**  |                       |    |    |        |
| Black             | 2 (4.5)               | 2  | 3  | (6.8)  |
| White             | 1 (2.3)               | 4  | 5  | (11.6) |
| **Young men**     |                       |    |    |        |
| Black             | 1 (2.6)               | 4  | 6  | (15.4) |
| White             | 2 (4.7)               | 4  | 6  | (14.0) |
| **Young women**   |                       |    |    |        |
| Black             | 1 (2.6)               | 3  | 4  | (10.5) |
| White             | 1 (2.8)               | 2  | 2  | (5.1)  |