



Bureau of Justice Statistics Technical Report

1980-81 Changes Based on New Estimates

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Criminal Victimization in the U.S.

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National Crime Survey (NCS) data for 1981 are being released as a technical report to document the use of population figures based on the 1980 census in the estimation procedure, as well as to describe a refinement in that procedure. While bringing increased reliability to the estimates, use of the most recent census-based population and household controls affected the historical continuity of the NCS statistical series. In order to bridge the series, data for 1980 have been computed using both the new and old population control figures. Selected results from both sets of 1980 estimates are examined in this report.

In general, the estimation changes made in the NCS resulted in higher counts, or levels, of victimization for 1980. This is because post-1970 estimates of the U.S. population, used in weighting the sample results, had

understated the number of inhabitants.¹ Relative figures, such as victimization rates and the percentages of crime reported to the police, did not change appreciably, as the population adjustments generally had similar proportionate effects on numerators and denominators used in deriving such figures.

NCS data for 1981 were collected and processed in the same manner as those for 1980, and the estimation procedure used in generating the most recent results was identical to that used in producing the revised 1980 data. Thus, the summary discussion of 1980-to-1981 changes in victimization is based on compatible figures.

An overview of crime trends since the inception of the NCS (1973) derives from an examination of victimization rates for general offense categories. As will be shown, the change in estimation made a relatively small impact

upon victimization rates, the basic measures of trends since 1973. While the continuity and comparability of victimization rates were not significantly affected, the revised 1980 levels of victimization are not comparable with those published for 1973-79. The new 1980 victimization levels will serve as a baseline for the amount of victimization during the current decade, or until any future redesign or other substantive change in the NCS.

NCS police reporting rates--i.e., the percentages of victimizations that victims said they personally reported or that otherwise were made known to the police--also are examined. In order to measure the relative impact of (as well as any changes in) crimes known to the police, a companion set of victimization rates was calculated for 1980 and 1981, based solely on those offenses that victims said were known to the authorities.

Following a summary discussion of the 1981 NCS findings, the second section of this report gives additional details concerning the re-estimation of 1980 data, along with examples of the effects of the changes that resulted.

Summary results for 1981

For several of the offenses measured by the NCS, victimization levels and rates were higher in 1981 than in 1980.² It was generally the less serious forms of crime that contributed to the increases. The proportions of victimizations that victims said they had reported to the police during 1981 remained basically unchanged from what they were in 1980.

The numbers of personal robberies without victim injury and of attempted assaults without a weapon increased sharply, while the more serious robberies or assaults did not change

²Throughout this section of the report and in tables 1-6, comparisons involving 1980 are based on the re-estimated victimization levels and rates for that year.

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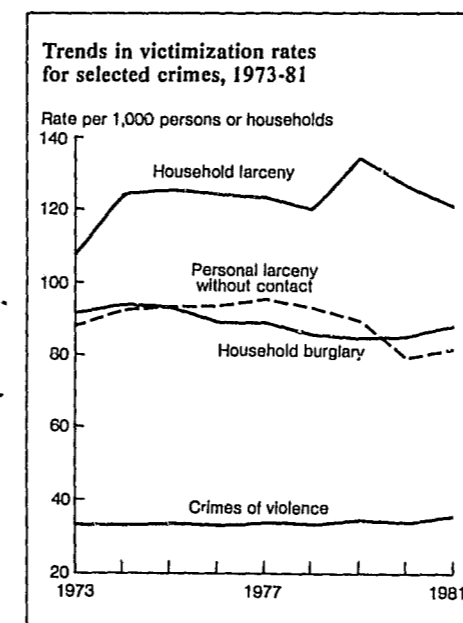


Figure 1

¹Based on an extrapolation of the 1970 census count, the mid-1980 civilian population--the resident population, including institutionalized persons but excluding Armed Forces personnel stationed in the United States--was estimated to be 220.8 million. (The figure cited is an unpublished estimate that is compatible with the 1970-based intercensal estimates issued by the Census Bureau in its Current Population Reports, Series P-25, and with population controls used in the estimation of NCS and other survey-derived data.) Incorporating results of the census of April 1, 1980, the preliminary estimate of the mid-1980 civilian population was 225.6 million. (See, U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 917, Preliminary Estimates of the Population of the United States, by Age, Sex, and Race: 1970 to 1981, Washington, D.C., July 1982; this publication carries postcensal estimates for 1980 and 1981 and intercensal estimates that are compatible with results of both the 1970 and 1980 censuses.) The difference between the two figures--220.8 vs. 225.6 million--is largely attributable to a net population undercount in the 1970 census. The 1970-based estimates of the population within the scope of the NCS--those age 12 and over, excluding institutionalized persons but including military personnel not living in barracks--were similarly affected, and this in turn caused an underestimation in the levels of victimization.

figures applied in generating NCS data for the black inhabitants (and young black males in particular) had been substantially underestimated. NCS results have demonstrated conclusively that members of that group have comparatively high personal-crime victimization rates. This largely accounts for the increases in the average rates for most of the major personal offense categories displayed in table 7. Rounding differences between the old and revised sets of victimization rates for 1980 also account for some of the changes in the published rates. Similar results are known to have occurred in re-estimating other statistical series, notably the labor force participation and employment status figures derived from the Current Population Survey, on the basis of the latest census results.¹²

Coupled with the introduction of new population controls, the NCS estimation procedure was modified further to improve the reliability of the estimates. The change was in the second-stage ratio adjustment (see footnote 9) and entailed the manner of adjusting for race. Previously, a distinction was made between the "white and other-than-white" populations. The new procedure, adopted to improve estimates for the black population, adjusts according to "black and other-than-black," without adversely affecting estimates for the white population.

The effects of these changes in the NCS estimation procedure were not uniform across crime categories or demographic groups. Although victimization rates for aggregate categories of personal crime generally increased when the 1980 data were re-estimated, the relative changes in rates for household crimes generally were smaller and some of the categories decreased fractionally. Drawing for illustration from data in table 7, it can be seen that the 1980 residential burglary rate was affected slightly by changes in the components of the fractions used in the calculation:

| Component | Based on 1970 controls | Based on 1980 controls |
|----------------------------|------------------------|------------------------|
| Victimizations (numerator) | 6,817,000 | 6,973,000 |
| Households (denominator) | 80,977,000 | 82,753,000 |
| Rate per 1,000 households | 84.2 | 84.3 |

There were differences between, as well as within, population groups in the direction and degree of change associated with the re-estimation of victimization rates for 1980. In

¹²See, Deborah Pissetzner Klein, "Labor Force Data: The Impact of the 1980 Census," a Technical Note in *Monthly Labor Review*, Vol. 105, No. 7, pp. 39-43 (Bureau of Labor Statistics, July 1982).

Table 8. Old and revised victimization rates for selected personal crimes and population groups, 1980

(Rate per 1,000 persons in each age group)

| Population group | Total | | Crimes of violence | | | | Personal larceny without contact | |
|---------------------|-------|-------|--------------------|-------|---------|-------|----------------------------------|--------|
| | | | Robbery | | Assault | | | |
| | Old | Rev. | Old | Rev. | Old | Rev. | Old | Rev. |
| White (all ages) | 32.15 | 32.24 | 5.70 | 5.71 | 25.53 | 25.61 | 80.63 | 80.73 |
| 12-15 | 48.65 | 48.68 | 7.09 | 7.10 | 40.79 | 40.82 | 119.90 | 119.94 |
| 16-19 | 69.52 | 69.45 | 10.07 | 10.04 | 56.77 | 56.75 | 125.89 | 125.91 |
| 20-24 | 69.01 | 68.98 | 9.61 | 9.60 | 56.99 | 56.97 | 135.59 | 135.51 |
| 25-34 | 38.38 | 38.42 | 6.20 | 6.21 | 30.95 | 30.97 | 95.88 | 95.91 |
| 35-49 | 20.52 | 20.53 | 4.28 | 4.28 | 15.75 | 15.77 | 72.37 | 72.35 |
| 50-64 | 11.53 | 11.48 | 4.09 | 4.08 | 7.44 | 7.40 | 47.55 | 47.43 |
| 65 and over | 6.21 | 6.20 | 2.65 | 2.65 | 3.44 | 3.43 | 21.57 | 21.51 |
| Black (all ages) | 40.20 | 40.59 | 13.94 | 14.00 | 25.19 | 25.52 | 72.87 | 73.90 |
| 12-15 | 53.39 | 52.43 | 17.16 | 16.85 | 35.54 | 34.86 | 93.67 | 93.34 |
| 16-19 | 69.12 | 69.56 | 18.59 | 18.60 | 46.02 | 46.53 | 83.00 | 83.17 |
| 20-24 | 65.48 | 65.65 | 18.43 | 18.72 | 44.43 | 44.32 | 119.73 | 119.12 |
| 25-34 | 47.53 | 47.86 | 17.49 | 17.59 | 29.30 | 29.53 | 100.09 | 100.60 |
| 35-49 | 25.78 | 25.78 | 8.99 | 9.02 | 16.79 | 16.76 | 57.71 | 58.32 |
| 50-64 | 15.43 | 15.23 | 7.52 | 7.40 | 7.91 | 7.84 | 36.13 | 36.02 |
| 65 and over | 14.25 | 13.56 | 11.99 | 11.43 | 2.27 | 2.12 | 16.08 | 15.50 |
| Hispanic (all ages) | 39.79 | 39.90 | 11.95 | 11.97 | 27.17 | 27.25 | 70.47 | 70.59 |
| 12-15 | 37.83 | 37.92 | 9.54 | 9.46 | 27.23 | 27.36 | 90.10 | 90.08 |
| 16-19 | 61.39 | 61.25 | 16.21 | 16.20 | 45.17 | 45.05 | 78.90 | 78.73 |
| 20-24 | 67.73 | 67.70 | 10.29 | 10.17 | 55.42 | 55.42 | 105.13 | 105.11 |
| 25-34 | 38.37 | 38.45 | 13.23 | 13.39 | 24.43 | 24.45 | 78.11 | 78.14 |
| 35-49 | 27.77 | 27.87 | 10.02 | 10.02 | 17.14 | 17.24 | 57.04 | 57.09 |
| 50-64 | 29.31 | 29.25 | 16.01 | 15.96 | 13.38 | 13.30 | 39.52 | 39.58 |
| 65 and over | 9.89 | 10.01 | 4.68 | 4.75 | 5.20 | 5.09 | 22.03 | 21.72 |

NOTE: Under crimes of violence, "total" includes data on rape, not shown separately. "Old" refers to estimates that were derived using 1970-based population controls. "Rev." denotes re-estimation based on population controls derived from the 1980 census and a modified second-stage ratio adjustment. Race and ethnicity are not mutually exclusive, and most Hispanics are classified as white.

Table 9. Old and revised victimization rates for household crimes and selected population groups, 1980

(Rate per 1,000 households headed by persons in each age group)

| Population group | Burglary | | Household larceny | | Motor vehicle theft | |
|------------------|----------|--------|-------------------|--------|---------------------|-------|
| | | | | | | |
| | Old | Rev. | Old | Rev. | Old | Rev. |
| White (all ages) | 80.55 | 80.55 | 125.23 | 125.09 | 15.63 | 15.59 |
| 20-34 | 103.86 | 103.87 | 165.70 | 165.72 | 24.80 | 24.73 |
| 35-49 | 90.58 | 90.56 | 150.69 | 150.72 | 17.66 | 17.66 |
| 50-64 | 64.97 | 64.86 | 98.23 | 97.92 | 11.88 | 11.84 |
| 65 and over | 46.14 | 46.14 | 56.11 | 56.02 | 2.81 | 2.80 |
| Black (all ages) | 114.65 | 115.40 | 133.65 | 134.28 | 25.14 | 25.07 |
| 20-34 | 134.94 | 135.29 | 171.50 | 172.28 | 26.75 | 26.50 |
| 35-49 | 128.03 | 128.56 | 122.72 | 121.77 | 30.52 | 30.44 |
| 50-64 | 98.25 | 97.96 | 126.78 | 126.50 | 26.53 | 26.48 |
| 65 and over | 71.39 | 70.81 | 77.29 | 76.16 | 13.24 | 13.13 |

NOTE: For each racial group, the "all ages" category includes a relatively small number of households headed by persons under age 20. "Old" refers to estimates that were derived using 1970-based population controls. "Rev." denotes re-estimation based on population controls derived from the 1980 census and a modified second-stage ratio adjustment.

general, the revised rates of personal crime changed more markedly for minority populations than for whites. Among blacks, for example, the victimization rate by violent crime changed from 40.2 to 40.6, while the figure for personal larceny without contact rose a full point (table 8). The corresponding rates for Hispanics

also increased, but considerably less.¹³ Among whites, the violent crime rate rose from 32.15 to 32.24 (a change not observable if the rates

¹³Estimates for the Hispanic population derive from the weighting of individual responses to a question on ethnic background, and they are not based on controls developed independently for this group.

are rounded to the nearest tenth), and the rate for personal larceny without contact increased from 80.63 to 80.73. There were differences in the extent to which the rates for specific age groups changed, with some of the figures declining rather than increasing. Comparable changes also resulted from the re-estimation of victimization rates for the household crimes (table 9).

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