

# Source and Accuracy Statement for the October 2003 CPS Microdata File for Internet and Computer Use in the U.S.

## Table of Contents

<b>SOURCE OF DATA</b> .....	<b>1</b>
Basic CPS.....	1
October 2003 Supplement.....	1
Sample Redesign.....	1
Estimation Procedure.....	1
 <b>ACCURACY OF THE ESTIMATES</b> .....	 <b>2</b>
Sampling Error.....	2
Nonsampling Error.....	2
Nonresponse.....	2
Coverage.....	2
Comparability of Data.....	3
A Nonsampling Error Warning.....	4
Standard Errors and Their Use.....	4
Estimating Standard Errors.....	5
Generalized Variance Parameters.....	5
Standard Errors of Estimated Numbers.....	5
Standard Errors of Estimated Percentages.....	6
Standard Errors of Differences.....	7
Accuracy of State Estimates.....	8
Computation of Standard Errors for State Estimates.....	8
Computation of Standard Errors for Groups of States.....	9

## Tables

Table 1. CPS Coverage Ratios: October 2003.....	3
Table 2. Parameters for Computation of Standard Errors for Labor Force Characteristics: October 2003.....	10
Table 3A. Parameters for Computation of the Standard Errors for Internet and Computer Use Estimates: October 2003.....	11
Table 3B. Parameters for Computation of the Standard Errors for Internet and Computer Use Estimates: October 2003 (continued).....	12
Table 4. Factors for State Standard Errors and Parameters and State Populations: October 2003.....	13

## **Source and Accuracy Statement for the October 2003 CPS Microdata File for Internet and Computer Use in the U.S.**

### **SOURCE OF DATA**

The data for this microdata file come from the October 2003 Current Population Survey (CPS). The October survey uses two sets of questions, the basic CPS and the supplement.

**Basic CPS.** The monthly CPS collects primarily labor force data about the civilian noninstitutional population. Interviewers ask questions concerning labor force participation about each member 15 years old and over in every sample household.

The monthly CPS sample is a multi-stage probability sample with coverage in all 50 states and the District of Columbia. The sample was selected from the 1990 Decennial Census files and is continually updated to account for new residential construction. To obtain the sample, the United States was divided into 2,007 geographic areas. In most states, a geographic area consisted of a county or several contiguous counties. In some areas of New England and Hawaii, minor civil divisions are used instead of counties. These 2,007 geographic areas were then grouped into 754 strata, and one geographic area was selected from each stratum.

About 60,000 occupied households are eligible for interview every month out of these 754 strata. Interviewers are unable to obtain interviews at about 4,500 of these units. This occurs when the occupants are not found at home after repeated calls or are unavailable for some other reason. The number of households that are eligible for interview in the basic CPS increased from 50,000 to 60,000 in July of 2001. With the increase in eligible households, the number of units where interviewers were unable to obtain an interview increased from 3,200 to 4,500.

**October 2003 Supplement.** In October 2003, in addition to the basic CPS questions, interviewers asked supplementary questions about internet and computer use.

**Sample Redesign.** Since the introduction of the CPS, the Census Bureau has redesigned the CPS sample several times. These redesigns have improved the quality and accuracy of the data and have satisfied changing data needs. The most recent changes were completely implemented in July 1995.

**Estimation Procedure.** This survey's estimation procedure adjusts weighted sample results to agree with independent estimates of the civilian noninstitutional population of the United States by age, sex, race, Hispanic/non-Hispanic ancestry, and state of residence. The adjusted estimate is called the post-stratification ratio estimate. The independent estimates are calculated based on information from three primary sources:

- The 2000 Decennial Census of Population and Housing.
- Statistics on births, deaths, immigration, and emigration.
- Statistics on the size of the Armed Forces.

The independent population estimates include some, but not all, unauthorized migrants.

## ACCURACY OF THE ESTIMATES

A sample survey estimate has two possible types of error: sampling and nonsampling. The accuracy of an estimate depends on both types of error. The nature of the sampling error is known given the survey design. The full extent of the nonsampling error, however, is unknown.

**Sampling Error.** Since the CPS estimates come from a sample, they may differ from figures from a complete census using the same questionnaires, instruction, and enumerators. This possible variation in the estimates due to sampling error is known as “sampling variability.” Standard errors, as calculated by methods described in “Standard Errors and Their Use,” are primarily measures of sampling variability. However, they may include some nonsampling error.

**Nonsampling error.** All other sources of error in the survey estimates are collectively called nonsampling error. Sources of nonsampling errors include the following:

- Inability to get information about all sample cases (nonresponse)
- Definitional difficulties
- Differences in the interpretation of questions
- Respondent inability or unwillingness to provide correct information
- Respondent inability to recall information
- Errors made in data collection such as recording and coding data
- Errors made in processing the data
- Errors made in estimating values for missing data
- Failure to represent all units with the sample (undercoverage).

Two types of nonsampling error that can be examined to a limited extent are nonresponse and undercoverage.

**Nonresponse.** The effect of nonresponse cannot be measured directly, but one indication of its potential effect is the nonresponse rate. For the October 2003 basic CPS, the nonresponse rate was 7.3%. The nonresponse rate for the internet and computer use supplement was an additional 6.3%. These two nonresponse rates lead to a total supplement nonresponse rate of 13.1%.

**Coverage.** The concept of coverage in the survey sampling process is the extent to which the total population that could be selected for sample “covers” the survey’s target population. CPS undercoverage results from missed housing units and missed persons within sample households. Overall CPS undercoverage for October 2003 is estimated to be about 11 percent. CPS undercoverage varies with age, sex, and race. Generally, undercoverage is larger for males than for females and larger for Blacks than for Non-Blacks.

The CPS weighting procedure uses ratio estimation whereby sample estimates are adjusted to independent estimates of the national population by age, race, sex, and Hispanic ancestry. This weighting partially corrects for bias due to undercoverage, but biases may still be present when people who are missed by the survey differ from those interviewed in ways other than age, race, sex, and Hispanic ancestry. All of these considerations affect comparisons across different surveys or data sources.

A common measure of survey coverage is the coverage ratio, calculated as the estimated population before post-stratification divided by the independent population control. Table 1 shows October 2003 CPS coverage ratios for certain age-sex-race-ancestry groups. The CPS coverage ratios can exhibit some variability from month to month.

<b>Age Group</b>	<b>Totals</b>			<b>White Only</b>		<b>Black Only</b>		<b>Residual</b>		<b>Hispanic</b>	
	<b>All People</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
<b>0-15</b>	0.91	0.90	0.91	0.92	0.94	0.79	0.82	0.84	0.90	0.94	0.96
<b>16-19</b>	0.86	0.87	0.85	0.88	0.88	0.84	0.77	0.77	0.65	0.97	0.85
<b>20-24</b>	0.77	0.74	0.81	0.76	0.83	0.62	0.70	0.71	0.78	0.81	0.94
<b>25-34</b>	0.84	0.82	0.86	0.84	0.88	0.68	0.79	0.75	0.78	0.78	0.86
<b>35-44</b>	0.89	0.86	0.92	0.88	0.94	0.75	0.87	0.81	0.82	0.80	0.89
<b>45-54</b>	0.91	0.90	0.92	0.91	0.93	0.86	0.91	0.85	0.87	0.84	0.85
<b>55-64</b>	0.91	0.92	0.91	0.92	0.91	0.90	0.92	0.93	0.80	0.81	0.85
<b>65+</b>	0.92	0.94	0.91	0.95	0.91	0.95	0.94	0.81	0.84	0.83	0.82
<b>15+</b>	0.88	0.87	0.89	0.88	0.91	0.79	0.85	0.80	0.80	0.82	0.87
<b>0+</b>	0.89	0.87	0.90	0.89	0.91	0.79	0.84	0.81	0.83	0.86	0.90

Notes: (1) The Residual Race group includes cases indicating a single race other than White or Black, and cases indicating two or more races.  
 (2) Hispanics may be of any race.

**Comparability of Data.** Data obtained from the CPS and other sources are not entirely comparable. This results from differences in interviewer training and experience and in differing survey processes. This is an example of nonsampling variability not reflected in the standard errors. Therefore, caution should be used when comparing results from different sources.

A number of changes were made in data collection and estimation procedures beginning with the January 1994 CPS. The major change was the use of a new questionnaire. The questionnaire was redesigned to measure the official labor force concepts more precisely, to expand the amount of data available, to implement several definitional changes, and to adapt to a computer-assisted interviewing environment. See Appendix C of Report P-60 No. 188 on “Conversion to a Computer Assisted Questionnaire” for a description of these changes and the effect they had on the data. Due to these and other changes, one should use caution when comparing estimates from data collected before 1994 with estimates from data collected in 1994 and later.

Caution should also be used when comparing data from this microdata file, which reflects 2000 census-based population controls, with microdata files from March 1994-2001, which reflect 1990 census-based controls. Microdata files from previous years reflect the latest available census-based population controls. Although this change in population controls had relatively little impact on summary measures such as averages, medians, and percentage distributions, it did have a significant impact on levels. For example, use of 2000 based population controls results in about a one percent increase from the 1990 based population controls in the civilian noninstitutional population and in the number of families and households. Thus, estimates of levels for data collected in 2002 and later years will differ from those for earlier years by more

than what could be attributed to actual changes in the population. These differences could be disproportionately greater for certain subpopulation groups than for the total population.

Caution should also be used when comparing Hispanic estimates over time. No independent population control totals for people of Hispanic ancestry were used before 1985.

Based on the results of each decennial census, the Census Bureau gradually introduces a new sample design for the CPS<sup>1</sup>. During this phase-in period, CPS data are collected from sample designs based on different censuses. While most CPS estimates were unaffected by this mixed sample, geographic estimates are subject to greater error and variability. Users should exercise caution when comparing estimates across years for metropolitan/nonmetropolitan categories.

**A Nonsampling Error Warning.** Since the full extent of the nonsampling error is unknown, one should be particularly careful when interpreting results based on small differences between estimates. Even a small amount of nonsampling error can cause a borderline difference to appear significant or not, thus distorting a seemingly valid hypothesis test. Caution should also be used when interpreting results based on a relatively small number of cases. Summary measures probably do not reveal useful information when computed on a base<sup>2</sup> smaller than 75,000. For additional information on nonsampling error including the possible impact on CPS data when known, refer to

- Statistical Policy Working Paper 3, An Error Profile: Employment as Measured by the Current Population Survey, Office of Federal Statistical Policy and Standards, U.S. Department of Commerce, 1978. (<http://www.fcsm.gov/working-papers/spp.html>)
- Technical Paper 63RV, The Current Population Survey: Design and Methodology, U.S. Census Bureau, U.S. Department of Commerce, 2002. (<http://www.census.gov/prod/2002pubs/tp63rv.pdf>)

**Standard Errors and Their Use.** The sample estimate and its standard error enable one to construct a confidence interval. A confidence interval is a range that would include the average result of all possible samples with a known probability. For example, if all possible samples were surveyed under essentially the same general conditions and using the same sample design, and if an estimate and its standard error were calculated from each sample, then approximately 90 percent of the intervals from 1.645 standard errors below the estimate to 1.645 standard errors above the estimate would include the average result of all possible samples.

A particular confidence interval may or may not contain the average estimate derived from all possible samples. However, one can say with specified confidence that the interval includes the average estimate calculated from all possible samples.

---

<sup>1</sup> For detailed information on the 1990 sample redesign, see the Department of Labor, Bureau of Labor Statistics report, *Employment and Earnings*, Volume 41 Number 5, May 1994.

<sup>2</sup> subpopulation

Standard errors may also be used to perform hypothesis testing. This is a procedure for distinguishing between population parameters using sample estimates. The most common type of hypothesis is that the population parameters are different. An example of this would be comparing the number of men who were part-time workers with the number of women who were part-time workers.

Tests may be performed at various levels of significance. A significance level is the probability of concluding that the characteristics are different when, in fact, they are the same. For example, to conclude that two parameters are different at the 0.10 level of significance, the absolute value of the estimated difference between characteristics must be greater than or equal to 1.645 times the standard error of the difference.

The Census Bureau uses 90-percent confidence intervals and 0.10 levels of significance to determine statistical validity. Consult standard statistical textbooks for alternative criteria. For information on calculating standard errors for labor force data from the CPS which involve quarterly or yearly averages see “Explanatory Notes and Estimates of Error: Household Data” in *Employment and Earnings* published by the Bureau of Labor Statistics.

**Estimating Standard Errors.** To estimate the standard error of a CPS estimate, the Census Bureau uses replicated variance estimation methods. These methods primarily measure the magnitude of sampling error. However, they do measure some effects of nonsampling error as well. They do not measure systematic biases in the data due to nonsampling error. Bias is the average over all possible samples of the differences between the sample estimates and the true value.

**Generalized Variance Parameters.** Consider all the possible estimates of characteristics of the population that are of interest to data users. Now consider all the subpopulations such as racial groups, age ranges, etc. Finally, consider every possible comparison or ratio combination. The list would be completely unmanageable. Similarly, a list of standard errors to go with every estimate would be unmanageable. Therefore, rather than providing an individual standard error for every possible estimate, we provide generalized variance parameters to allow for the calculation of standard errors.

Through experimentation, we have found that certain groups of estimates have similar relationships between their variances and expected values. We provide a generalized method for calculating standard errors for any of the characteristics of the population of interest. The generalized method uses generalized variance parameters for groups of estimates. These parameters are in Tables 3A and 3B for October 2003 CPS supplement data on internet and computer use.

**Standard Errors of Estimated Numbers.** The approximate standard error,  $s_x$ , of an estimated number from this microdata file can be obtained by using this formula:

$$s_x = \sqrt{ax^2 + bx} \quad (1)$$

Here  $x$  is the size of the estimate and  $a$  and  $b$  are the parameters in Table 2, 3A, or 3B associated with the particular type of characteristic. When calculating standard errors from cross-tabulations involving different characteristics, use the set of parameters for the characteristic that will give the largest standard error.

#### Illustration No. 1

Suppose there were 4,485,000 unemployed men in the civilian labor force. Use the appropriate parameters from Table 2 and Formula 1 to get

Number, $x$	4,485,000
$a$ parameter	-0.000035
$b$ parameter	2,927
Standard error	111,000
90% conf. int.	4,302,000 to 4,668,000

The standard error is calculated as

$$s_x = \sqrt{-0.000035 \times 4,485,000 + 2,927 \times 4,485,000} = 111,000$$

The 90-percent confidence interval is calculated as  $4,485,000 \pm 1.645 \times 111,000$ .

A conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly 90 percent of all possible samples.

**Standard Errors of Estimated Percentages.** The reliability of an estimated percentage, computed using sample data for both numerator and denominator, depends on both the size of the percentage and its base. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are 50 percent or more. When the numerator and denominator of the percentage are in different categories, use the parameter from Table 2, 3A, or 3B as indicated by the numerator.

The approximate standard error,  $s_{x,p}$ , of an estimated percentage can be obtained by using the formula:

$$s_{x,p} = \sqrt{\frac{b}{x} p(100 - p)} \quad (2)$$

Here  $x$  is the total number of people, families, households, or unrelated individuals in the base of the percentage,  $p$  is the percentage ( $0 \leq p \leq 100$ ), and  $b$  is the parameter in Table 2, 3A, or 3B associated with the characteristic in the numerator of the percentage.

#### Illustration No. 2

Suppose that of approximately 113,126,000 households, 61.8 percent had a computer in the household. Use the appropriate parameter from Table 3A and Formula 2 to get

Percentage, p	61.8
Base, x	113,126,000
b parameter	1,860
Standard error	0.20
90% conf. int.	61.5 to 62.1

The standard error is calculated as

$$s_{x,p} = \sqrt{\frac{1,860}{113,126,000} \times 61.8 \times (100 - 61.8)} = 0.20$$

The 90-percent confidence interval of the percentage of households with computers is calculated as  $61.8 \pm 1.645 \times 0.20$ .

**Standard Errors of Differences.** The standard error of the difference between two sample estimates is approximately equal to

$$s_{x-y} = \sqrt{s_x^2 + s_y^2} \quad (3)$$

where  $s_x$  and  $s_y$  are the standard errors of the estimates, x and y. The estimates can be numbers, percentages, ratios, etc. This will represent the actual standard error quite accurately for the difference between estimates of the same characteristic in two different areas, or for the difference between separate and uncorrelated characteristics in the same area. However, if there is a high positive (negative) correlation between the two characteristics, the formula will overestimate (underestimate) the true standard error.

### Illustration No. 3

Suppose there were 3,320,000 unemployed men 20 years of age or older and 3,340,000 unemployed women 20 years of age or older. Use the appropriate parameters from Table 2 and Formulas 2 and 3 to get

	x	y	difference
Number	3,320,000	3,340,000	-20,000
a parameter	-0.000035	-0.000033	-
b parameter	2,927	2,693	-
Standard error	97,000	93,000	134,000
90% conf. int.	3,160,000 to 3,480,000	3,187,000 to 3,493,000	-240,000 to 200,000

The standard error of the difference is calculated as

$$s_{x-y} = \sqrt{97,000^2 + 93,000^2} = 134,000$$

The 90-percent confidence interval around the difference is calculated as  $-20,000 \pm 1.645 \times 134,000$ . Since this interval includes zero, we can conclude with 90 percent confidence that the number of unemployed men is not statistically different than the number of unemployed women.

**Accuracy of State Estimates.** The redesign of the CPS following the 1980 census provided an opportunity to increase efficiency and accuracy of state data. All strata are now defined within state boundaries. The sample is allocated among the states to produce state and national estimates with the required accuracy while keeping total sample size to a minimum. Improved accuracy of state data has been achieved with about the same sample size as in the 1970 design.

Since the CPS is designed to produce both state and national estimates, the proportion of the total population sampled and the sampling rates differ among the states. In general, the smaller the population of the state the larger the sampling proportion. For example, in Vermont approximately 1 in every 250 households was sampled each month. In New York the sample was about 1 in every 2,000 households. Nevertheless, the size of the sample in New York is four times larger than in Vermont because New York has a larger population.

**Computation of Standard Errors for State Estimates.** The standard error for a state may be obtained by determining new state-level a and b parameters and then using these adjusted parameters in the standard error formulas mentioned previously. To determine a new state-level b parameter ( $b_{state}$ ), multiply the b parameter from Table 2, 3A, or 3B by the state factor from Table 4. To determine a new state-level a parameter ( $a_{state}$ ):

- (1) If the a parameter from Table 2, 3A, or 3B is positive, multiply the a parameter by the state factor from Table 4.
- (2) If the a parameter in Table 2, 3A, or 3B is negative, calculate the new state-level a parameter as follows:

$$a_{state} = \frac{-b_{state}}{StatePopulation} \quad (4)$$

where the state population (state control total) is found in Table 4.

#### Illustration No. 4

Suppose there were 12,841,000 households in California, 66.3 percent of which had a computer. Use the appropriate parameter from Table 3A to get:

Percentage, p	66.3
Base, x	12,841,000
b parameter	1,860
State b parameter	2,771
Factor, f	1.49
Standard error	0.69
90% conf. int.	65.2 to 67.4

Obtain the state-level  $b$  parameter by multiplying the  $b$  parameter in Table 3A by the state factor in Table 4. This gives  $b_{state} = 1,860 \times 1.49 = 2,771$ . The standard error of the estimate of the percentage of households in California with a computer can then be found by using formula (2) and the new state-level  $b$  parameter. The standard error is calculated as

$$s_{x,p} = \sqrt{\frac{2,771}{12,841,000} 66.3 \times (100 - 66.3)} = 0.69$$

and the 90-percent confidence interval for the percentage of households in California with a computer is calculated as  $66.3 \pm 1.645 \times 0.69$ .

**Computation of Standard Errors for Groups of States.** The standard error calculation for a group of states is similar to the standard error calculation for a single state. First, calculate a new factor for the group of states. Then, determine new state group  $a$  and  $b$  parameters. Finally, use these adjusted parameters in the standard error formulas mentioned previously. Use the following formula to determine a new state group factor:

$$factor_{stategroup} = \frac{\sum_{i=1}^n (POP_i \times factor_i)}{\sum_{i=1}^n POP_i} \quad (5)$$

where  $POP_i$  and  $factor_i$  (the population and factor for state  $i$ ) are from Table 4. To obtain a new state group  $b$  parameter ( $b_{stategroup}$ ), multiply the  $b$  parameter from Table 2, 3A, or 3B by the state group factor obtained by Formula (5). To determine a new state group  $a$  parameter ( $a_{stategroup}$ ):

- (1) If the  $a$  parameter from Table 2, 3A, or 3B is positive, multiply the  $a$  parameter by the state group factor determined by Formula (5).
- (2) If the  $a$  parameter from Table 2, 3A, or 3B is negative, calculate the new state group  $a$  parameter as follows:

$$a_{stategroup} = \frac{-b_{stategroup}}{\sum_{i=1}^n POP_i} \quad (6)$$

#### Illustration No. 5

Suppose a factor for the state group Illinois-Indiana-Michigan was required. The appropriate factor would be

$$f_{stategroup} = \frac{12,697,160 \times 1.08 + 6,135,518 \times 0.92 + 10,047,160 \times 1.05}{12,697,160 + 6,135,518 + 10,047,160} = 1.04$$

<b>Table 2. Parameters for Computation of Standard Errors for Labor Force Characteristics: October 2003</b>		
<b>Characteristic</b>	<b>a</b>	<b>b</b>
<b>Labor Force and Not In Labor Force Data Other than Agricultural Employment and Unemployment</b>		
Total or White	-0.000008	1,586
Men	-0.000035	2,927
Women	-0.000033	2,693
Both sexes, 16 to 19 years	-0.000244	3,005
Black	-0.000154	3,296
Men	-0.000336	3,332
Women	-0.000282	2,944
Both sexes, 16 to 19 years	-0.001531	3,296
Hispanic ancestry	-0.000187	3,296
Men	-0.000363	3,332
Women	-0.000380	2,944
Both sexes, 16 to 19 years	-0.001822	3,296
API	-0.000272	2,749
Men	-0.000569	2,749
Women	-0.000521	2,749
<b>Unemployment</b>		
Total or White	-0.000017	3,005
Men	-0.000035	2,927
Women	-0.000033	2,693
Both sexes, 16 to 19 years	-0.000244	3,005
Black	-0.000154	3,296
Men	-0.000336	3,332
Women	-0.000282	2,944
Both sexes, 16 to 19 years	-0.001531	3,296
Hispanic ancestry	-0.000187	3,296
Men	-0.000363	3,332
Women	-0.000380	2,944
Both sexes, 16 to 19 years	-0.001822	3,296
API	-0.000272	2,749
Men	-0.000569	2,749
Women	-0.000521	2,749
<b>Agricultural Employment</b>	0.001345	2,989

- NOTES: (1) These parameters are to be applied to basic CPS monthly labor force estimates.  
(2) For foreign-born and noncitizen characteristics for Total and White, the a and b parameters should be multiplied by 1.3. No adjustment is necessary for foreign-born and noncitizen characteristics for Blacks, APIs, and Hispanics.

<b>Table 3A. Parameters for Computation of the Standard Errors for Internet and Computer Use Estimates: October 2003</b>						
<b>Characteristic</b>	<b>Total or White</b>		<b>Black</b>		<b>Hispanic</b>	
	<b>a</b>	<b>b</b>	<b>a</b>	<b>b</b>	<b>a</b>	<b>b</b>
<b>PEOPLE</b>						
Educational Attainment	-0.000009	2,131	-0.000037	2,410	-0.000085	2,745
People by Family Income	-0.000018	4,408	-0.000077	5,047	-0.000263	8,505
Income	-0.000009	2,207	-0.000038	2,527	-0.000132	4,260
Marital Status, Household & Family Characteristics	-0.000016	4,687	-0.000083	6,733	-0.000351	11,347
Poverty	-0.000033	9,336	-0.000115	9,336	-0.000487	15,733
<b>HOUSEHOLDS, FAMILIES OR UNRELATED INDIVIDUALS</b>						
Income	-0.000008	2,016	-0.000033	2,201	-0.000115	3,709
Marital Status, Household & Family Characteristics, Educational Attainment, Population by Age or Sex	-0.000008	1,860	-0.000026	1,683	-0.000088	2,836
Poverty	0.000052	1,243	0.000052	1,243	0.000052	1,243

## NOTES:

- (1) Hispanics may be of any race.
- (2) The Total or White and Black parameters are to be used for both “alone” and “in combination” race group estimates.
- (3) These parameters are to be applied to the CPS October 2003 Internet and Computer Use Supplement data.
- (4) For nonmetropolitan characteristics multiply a and b parameters by 1.5. If the characteristic of interest is total state population, not subtotaled by race or ancestry, the a and b parameters are zero.
- (5) For foreign-born and noncitizen characteristics for Total and White, the a and b parameters should be multiplied by 1.3. No adjustment is necessary for foreign-born and noncitizen characteristics for Blacks and Hispanics.

<b>Table 3B. Parameters for Computation of Standard Errors for Internet and Computer Use Estimates: October 2003 (continued)</b>				
<b>Characteristic</b>	<b>API, AIAN, NH &amp; OPI</b>		<b>Two or More Races</b>	
	<b>a</b>	<b>b</b>	<b>a</b>	<b>b</b>
<b>PEOPLE</b>				
Educational Attainment	-0.000041	1,946	-0.000065	2,410
People by Family Income	-0.000107	5,047	-0.000136	5,047
Income	-0.000053	2,527	-0.000068	2,527
Marital Status, Household & Family Characteristics	-0.000116	6,733	-0.000145	6,733
Poverty	-0.000160	9,336	-0.000201	9,336
<b>HOUSEHOLDS, FAMILIES OR UNRELATED INDIVIDUALS</b>				
Income	-0.000046	2,201	-0.000059	2,201
Marital Status, Household & Family Characteristics, Educational Attainment, Population by Age or Sex	-0.000046	2,196	-0.000045	1,683
Poverty	0.000052	1,243	0.000052	1,243

## NOTES:

- (1) API, AIAN, NH, and OPI are Asian and Pacific Islander, American Indian and Alaska Native, Native Hawaiian, and Other Pacific Islander respectively.
- (2) Two or More Races refers to the group of cases self-classified as having two or more races, none of which are White, Black, or API.
- (3) These parameters are to be applied to the CPS October 2003 Internet and Computer Use Supplement data.
- (4) The API parameters are to be used for both "alone" and "in combination" race group estimates.
- (5) For nonmetropolitan characteristics multiply a and b parameters by 1.5. If the characteristic of interest is total state population, not subtotaled by race or ancestry, the a and b parameters are zero.

<b>Table 4. Factors for State Standard Errors and Parameters and State Populations: October 2003</b>		
State	Factor	Population
Alabama	0.94	4,435,532
Alaska	0.12	634,207
Arizona	1.15	5,382,335
Arkansas	0.64	2,670,197
California	1.49	35,490,299
Colorado	0.67	4,489,372
Connecticut	0.55	3,441,856
Delaware	0.18	793,708
Dist. Of Columbia	0.14	576,188
Florida	1.14	16,352,570
Georgia	1.70	8,435,441
Hawaii	0.26	1,215,507
Idaho	0.3	1,327,338
Illinois	1.08	12,697,160
Indiana	0.92	6,135,518
Iowa	0.51	2,923,456
Kansas	0.48	2,696,591
Kentucky	0.83	4,027,467
Louisiana	1.05	4,424,416
Maine	0.21	1,270,136
Maryland	0.93	5,408,755
Massachusetts	0.93	6,454,814
Michigan	1.05	10,047,160
Minnesota	0.81	5,017,883
Mississippi	0.73	2,825,852
Missouri	1.00	5,592,374
Montana	0.23	896,273
Nebraska	0.34	1,725,102
Nevada	0.35	2,126,219
New Hampshire	0.22	1,261,524
New Jersey	0.92	8,646,566
New Mexico	0.46	1,848,212
New York	1.00	19,379,829
North Carolina	1.09	8,163,417
North Dakota	0.13	628,358
Ohio	1.13	11,372,776
Oklahoma	0.72	3,427,054
Oregon	0.68	3,491,795
Pennsylvania	1.04	12,175,267
Rhode Island	0.16	1,055,249
South Carolina	0.83	4,022,423
South Dakota	0.13	752,836
Tennessee	1.35	5,715,727
Texas	1.37	21,697,942
Utah	0.46	2,360,737
Vermont	0.11	611,658
Virginia	1.32	7,111,123
Washington	1.11	6,030,976
West Virginia	0.34	1,769,062
Wisconsin	0.82	5,401,673
Wyoming	0.10	490,644

NOTE: For foreign-born and noncitizen characteristics for Total and White, the a and b parameters should be multiplied by 1.3. No adjustment is necessary for foreign-born and noncitizen characteristics for Blacks, API, and Hispanics.