APPENDIX C
EXAMPLES IN SAS

In SAS, the NCVS sample design must be appropriately specified for all survey procedures using the *varmethod*, *strata*, and *cluster* statements. The *varmethod=taylor* statement is included within the *proc* statement of each analysis. The following statements must be included to provide the stratification and PSU variables.

```
strata yr_grp v2117;
cluster v2118;
```

Weight statements are also required, but vary depending on the type of estimate (as shown in ***Table 3-1***). Because SAS does not support the specification of formulas within the analysis procedures, for the calculation of victimization rates analysts must first create a new variable equal to the product of the victimization count and the adjustment factor (*ADJINC_WT*), multiplied by 1,000 (as outlined in the examples below).

The *domain* statement is used to limit the analysis to the appropriate set of cases[1]. While all combinations of variables included in the *domain* statement will be included in the results, only the results meeting all subpopulation conditions are relevant. For this reason, prior to each analysis a "sub" variable is created based on all exclusions (e.g. victimizations occurring outside of the US and outside the year(s) of interest). Including this single recoded variable on the *domain* statement simplifies examination of the results.

Examples 1 and *2* demonstrate how to estimate the total number of victimizations. *Examples 3* and *4* demonstrate how to calculate the proportion of victimizations with given characteristics. *Examples 5* and *6* demonstrate the calculation of personal and property victimization rates for victimization characteristics included on the modified person and

[1] In ***Section 3***, the term analysis domain is used to define subsets of the population based on victims or victimizations. In SAS, the domain statement is used to identify records to include in analyses. To avoid confusion between the two uses, the term "analysis class" will replace the term "analysis domain" in ***Appendix C***.

household files, and *Example 7* demonstrates the calculation of victimization rates for victimization characteristics not on the modified files. Examples are included for both single- and pooled-year estimates.

C.1 Victimization Totals

The SAS *surveymeans* procedure is used to estimate the total number of victimizations from the modified incident-level file. The specific crime type of interest is specified in the *var* statement, and the analysis class(es) of interest (i.e. subsets of the population based on characteristics of the victimization or victim) are specified on the *domain* statement. *Examples 1A-1C* demonstrate the calculation of victimization totals for single years, and *Examples 2A-2C* demonstrate pooled year estimates.

Example 1: Number of victimizations, single year

Examples 1A and *1B* below are estimates of personal crimes, while *Example 1C* is an estimate of property crimes. *Examples 1A* and *1C* provide overall crime estimates, while *Example 1B* provides estimated totals for person-level characteristics of interest.

Example 1A - Total number of violent victimizations, 2011

Year(s): 2011
Crime Type: violent victimizations (*vcrime*)
Analysis Classes: n/a
Weight: *newwgt*
Subpopulation: within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2011 (*year*=**2011**)

Code:

```
data anset;
     set adjincident;
     sub=(exclude_outUS=0 and dummy=0 and year=2011);
run;

proc surveymeans data=anset varmethod=taylor sum; *a;
     strata yr_grp v2117; *c;
     cluster v2118; *d;
     weight newwgt; *e;
     domain sub; *b;
     var vcrime; *f;
run;
```

Code Comment(s):

a) Specifies input dataset and sample design
b) Subpopulation indicator
c) Specifies stratification
d) Specifies primary sampling units
e) Specifies analysis weight
f) Outcome of interest

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted rows).

The SURVEYMEANS Procedure

Data Summary

Number of Strata	160
Number of Clusters	320
Number of Observations	37853
Sum of Weights	115824878

Statistics

Variable	Sum	Std Dev
vcrime	29789137	1061238

Domain Analysis: sub

sub	Variable	Sum	Std Dev
0	vcrime	23976614	927768
1	vcrime	5812523	357912

Example 1B - Total number of violent victimizations by sex, age category, and race/ethnicity, 2011

Year(s): 2011
Crime Type: violent victimizations (*vcrime*)
Analysis Classes: sex (*sex*), age category (*agecat*), and race/ethnicity (*race_eth*)
Weight: *newwgt*
Subpopulation: within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2011 (*year*=**2011**)

Code:

```
data anset;
      set adjincident;
      sub=(exclude_outUS=0 and dummy=0 and year=2011);
run;

proc surveymeans data=anset varmethod=taylor sum;
      domain sub*sex sub*agecat sub*race_eth; *a;
      strata yr_grp v2117;
      cluster v2118;
      weight newwgt;
      var vcrime;
run;
```

Code Comment(s):

a) Analysis class variables (victim characteristics), crossed with subpopulation indicator

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted rows).

```
The SURVEYMEANS Procedure

            Data Summary

Number of Strata                160
Number of Clusters              320
Number of Observations        37853
Sum of Weights            115824878

              Statistics

Variable            Sum         Std Dev
ffffffffffffffffffffffffffffffffffffff
vcrime         29789137         1061238
ffffffffffffffffffffffffffffffffffffff
```

Domain Analysis: sub*sex

sub	sex	Variable	Sum	Std Dev
0	Male	vcrime	12443058	568391
	Female	vcrime	11533557	551251
1	Male	vcrime	3209725	236961
	Female	vcrime	2602798	252786

Domain Analysis: sub*agecat

sub	agecat	Variable	Sum	Std Dev
0	12 to 14	vcrime	2350414	190557
	15 to 17	vcrime	2351591	231698
	18 to 20	vcrime	2120993	169061
	21 to 24	vcrime	2671424	218252
	25 to 34	vcrime	5052311	372358
	35 to 49	vcrime	5846191	336304
	50 to 64	vcrime	3086188	201164
	65 or older	vcrime	497502	61068
1	12 to 14	vcrime	488383	77368
	15 to 17	vcrime	428880	64692
	18 to 20	vcrime	843753	220104
	21 to 24	vcrime	617720	69926
	25 to 34	vcrime	1114834	118262
	35 to 49	vcrime	1365450	141011
	50 to 64	vcrime	776857	90922
	65 or older	vcrime	176646	46321

Domain Analysis: sub*race_eth

sub	race_eth	Variable	Sum	Std Dev
0	Non-Hispanic White	vcrime	16135969	781567
	Non-Hispanic Black	vcrime	3535332	327426
	Hispanic	vcrime	2877571	187303
	Non-Hispanic Other	vcrime	807284	131642
	Non-Hispanic More than One Race	vcrime	620459	102505
1	Non-Hispanic White	vcrime	3719729	242039
	Non-Hispanic Black	vcrime	812173	181536
	Hispanic	vcrime	895434	130311
	Non-Hispanic Other	vcrime	197082	46736
	Non-Hispanic More than One Race	vcrime	188105	43090

Example 1C - Total number of property victimizations, 2011

Year(s): 2011
Crime Type: property victimizations (*pcrime*)
Analysis Classes: n/a
Weight: *newwgt*
Subpopulation: within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2011 (*year*=**2011**)

Code:

```
data anset;
      set adjincident;
      sub=(exclude_outUS=0 and dummy=0 and year=2011);
run;

proc surveymeans data=anset varmethod=taylor sum;
      domain sub;
      strata yr_grp v2117;
      cluster v2118;
      weight newwgt;
      var pcrime;
run;
```

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

```
The SURVEYMEANS Procedure

            Data Summary

Number of Strata                160
Number of Clusters              320
Number of Observations        37853
Sum of Weights            115824878


              Statistics

Variable            Sum         Std Dev
ffffffffffffffffffffffffffffffffffffff
pcrime         85126878         1577101
ffffffffffffffffffffffffffffffffffffff




               Domain Analysis: sub

     sub    Variable            Sum         Std Dev
fffffffffffffffffffffffffffffffffffffffffffffffffffff
```

```
       0    pcrime          68063730         1324122
       1    pcrime          17063148          543579
fffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffffff
```

Example 2: Number of crimes, aggregated years

Examples 2A and *2B* are estimates of personal crimes, while *Example 2C* is an estimate of a property crime. *Examples 2A* and *2C* provide overall crime estimates and *Example 2B* provides estimated totals for a victimization-level characteristic of interest. The code provided calculates the estimated number of victimization across the pooled years. To calculate the average number of victimizations per year, estimated totals and standard errors must be divided by the number of pooled years, as shown in the following examples.

Example 2A - Total and Average number of aggravated assaults, 2009-2011

Year(s): 2009-2011
Crime Type: aggravated assaults (*aast*)
Analysis Classes: n/a
Weight: *newwgt*
Subpopulation: within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2009-2011 ((**2009** <= *year*) and (*year* <=**2011**))
Code:

```
data anset;
     set adjincident;
     sub=(exclude_outUS=0 and dummy=0 and (2009 <= year) and
        (year <=2011)); *a;
run;

proc surveymeans data=anset varmethod=taylor sum;
     domain sub;
     strata yr_grp v2117;
     cluster v2118;
     weight newwgt;
     var aast;
run;
```

Code Comment(s):

a) Subpopulation indicator incorporates the range of years to be analyzed

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

```
The SURVEYMEANS Procedure

            Data Summary

Number of Strata                160
Number of Clusters              320
Number of Observations        37853
Sum of Weights            115824878

              Statistics

Variable             Sum         Std Dev
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
AAST             5189174          257111
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ

             Domain Analysis: sub

     sub    Variable             Sum         Std Dev
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
       0    AAST             2248758          206953
       1    AAST             2940416          160814
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
```

NOTE: The estimate above represents the total number of aggravated assaults from 2009-2011. To obtain the average number of aggravated assaults, both the estimate and the standard error must be divided by the number of pooled years (3), as follows:

$$avg\ number\ of\ aggravated\ assaults = \frac{total\ number\ of\ aggravated\ asaults}{number\ of\ pooled\ years}$$

$$= \frac{2940416}{3}$$

$$= 980139$$

$$SE(avg\ number\ of\ aggravated\ assaults) = \frac{se(total\ number\ of\ aggravated\ asaults)}{number\ of\ pooled\ years}$$

$$= \frac{160814}{3}$$

$$= 53605$$

Example 2B - Total and average number of aggravated assaults involving firearm, 2009–2011

Year(s): 2009-2011
Crime Type: aggravated assaults (*aast*)
Analysis Classes: weapon category (*weapcat*)
Weight: *newwgt*
Subpopulation: within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2009-2011 ((**2009** <= *year*) and (*year* <=**2011**))

Code:

```
data anset;
      set adjincident;
      sub=(exclude_outUS=0 and dummy=0 and (2009 <= year) and
          (year <=2011));
run;

proc surveymeans data=anset varmethod=taylor sum;
      domain sub*weapcat;
      strata yr_grp v2117;
      cluster v2118;
      weight newwgt;
      var aast;
run;
```

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

```
The SURVEYMEANS Procedure

            Data Summary

Number of Strata                160
Number of Clusters              320
Number of Observations        37853
Sum of Weights            115824878


              Statistics

Variable            Sum         Std Dev
ffffffffffffffffffffffffffffffffffffffff
AAST            5189174          257111
ffffffffffffffffffffffffffffffffffffffff
```

Domain Analysis: sub*weapcat

sub	weapcat	Variable	Sum	Std Dev
0	No Weapon	AAST	110713	21766
	Firearm	AAST	647127	176781
	Knife or sharp object	AAST	601554	74541
	Other type weapon	AAST	706901	98434
	Type weapon unknown	AAST	158175	40728
	Do Not Know if off had weapon	AAST	24289	6567.738419
1	No Weapon	AAST	318542	53740
	Firearm	AAST	778706	81552
	Knife or sharp object	AAST	642022	65521
	Other type weapon	AAST	939927	96628
	Type weapon unknown	AAST	228755	52288
	Do Not Know if off had weapon	AAST	32463	11506

NOTE: The estimate above represents the total number of aggravated assaults involving a firearm from 2009-2011. To obtain the average number of aggravated assaults involving a firearm, both the estimate and the standard error must be divided by the number of pooled years (3), as follows:

$$avg\ number\ of\ aggravated\ assaults\ w\ firearm = \frac{total\ number\ of\ aggravated\ asaults\ w\ firearm}{number\ of\ pooled\ years}$$

$$= \frac{778706}{3}$$

$$= 259569$$

$$SE(avg\ number\ of\ aggravated\ assaults\ w\ firearm) = \frac{se(total\ number\ of\ aggravated\ asaults\ w\ firearm)}{number\ of\ pooled\ years}$$

$$= \frac{81552}{3}$$

$$= 27184$$

Example 2C - Total and average number of household burglaries, 2009-2011

Year(s): 2009-2011
Crime Type: household burglary (*hburg*)
Analysis Classes: n/a
Weight: *newwgt*
Subpopulation: Within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2009-2011 ((**2009** <= *year*) and (*year* <=**2011**))

Code:

```
data anset;
      set adjincident;
      sub=(exclude_outUS=0 and dummy=0 and (2009 <= year) and
          (year <=2011));
run;

proc surveymeans data=anset varmethod=taylor sum;
      domain sub;
      strata yr_grp v2117;
      cluster v2118;
      weight newwgt;
      var hburg;
run;
```

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

```
The SURVEYMEANS Procedure

            Data Summary

Number of Strata                160
Number of Clusters              320
Number of Observations        37853
Sum of Weights            115824878


               Statistics

Variable            Sum         Std Dev
ffffffffffffffffffffffffffffffffffffff
HBURG          17350128          480495
ffffffffffffffffffffffffffffffffffffff



                Domain Analysis: sub

     sub    Variable            Sum         Std Dev
fffffffffffffffffffffffffffffffffffffffffffffffffffffff
       0    HBURG           7148811          254130
```

```
       1    HBURG          10201317         336711
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
```

NOTE: The estimate above represents the total number of household burglaries from 2009-2011. To obtain the average number of household burglaries, both the estimate and the standard error must be divided by the number of pooled years (3), as follows:

$$avg\ number\ of\ household\ burglaries = \frac{total\ number\ of\ household\ burglaries}{number\ of\ pooled\ years}$$

$$= \frac{10201317}{3}$$

$$= 3400439$$

$$SE(avg\ number\ of\ household\ burglaries) = \frac{se(total\ number\ of\ household\ burglaries)}{number\ of\ pooled\ years}$$

$$= \frac{336711}{3}$$

$$= 112237$$

C.2 Victimization Proportions

The SAS *surveyfreq* procedure is used to estimate the percent distribution of victimizations in a specific analysis class across covariates from the modified incident-level file. Subpopulation and covariates of interest are specified on the *table* statement.

Example 3: Percent distribution of victims across characteristics, single year

Example 3A is an estimate of personal crimes, while *Example 3B* is an estimate of property crimes. In *Example 3A*, both the analysis classes and covariates are specified based on person- and incident-level characteristics. In *Example 3B*, the analysis class is specified based on an incident-level characteristic, while the covariates are household-level characteristics.

Example 3A - Distribution of female violent crime victims by age category, race/ethnicity, and victim-offender relationship, 2011

Year(s): 2011
Analysis Classes: female (*sex*=2); violent victimizations (*vcrime*=1)
Covariate(s): age category (*agecat*); race/ethnicity (*race_eth*); victim-offender relationship (*direl*)
Weight: *newwgt*
Subpopulation: within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2011 (*year*=**2011**); female (*sex*=2); violent victimizations (*vcrime*=1)

Code:

```
data anset;
     set adjincident;
     sub=(exclude_outUS=0 and dummy=0 and year=2011 and sex=2 and
          vcrime=1);
run;

proc surveyfreq data=anset varmethod=taylor; *a;
     strata yr_grp v2117; *b;
     cluster v2118; *c;
     weight newwgt; *d;
     table /*e*/sub*(/*f*/agecat race_eth direl) / row nocellpercent
          nofreq nowt;
run;
```

Code Comment(s):

a) Specifies input dataset and sample design
b) Specifies stratification
c) Specifies primary sampling units
d) Specifies analysis weight
e) Subpopulation indicator
f) Covariates of interest

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under “Domain Analysis: sub” with a “sub” value of 1 is relevant (highlighted row).

The SURVEYFREQ Procedure

Data Summary

Number of Strata	160
Number of Clusters	320
Number of Observations	37853
Sum of Weights	115824878

Table of sub by agecat

sub	agecat	Row Percent	Std Err of Row Percent
0	12 to 14	4.4827	0.2112
	15 to 17	5.2166	0.2419
	18 to 20	6.6596	0.2631
	21 to 24	9.0951	0.3107
	25 to 34	20.6693	0.4669
	35 to 49	27.2827	0.4232
	50 to 64	19.1136	0.4089
	65 or older	7.4803	0.2600
	Total	100.000	
1	12 to 14	7.6428	1.8588
	15 to 17	6.2620	1.3309
	18 to 20	15.5020	5.3677
	21 to 24	9.3116	1.6367
	25 to 34	19.3023	2.3616
	35 to 49	24.5841	3.0542
	50 to 64	12.9129	1.9929
	65 or older	4.4822	1.7220
	Total	100.000	
Total	12 to 14		
	15 to 17		
	18 to 20		
	21 to 24		
	25 to 34		
	35 to 49		
	50 to 64		
	65 or older		
	Total		

Frequency Missing = 1600

Table of sub by race_eth

sub	race_eth	Row Percent	Std Err of Row Percent
0	Non-Hispanic White	65.4165	0.7871
	Non-Hispanic Black	14.2469	0.6862
	Hispanic	14.4004	0.5881
	Non-Hispanic Other	3.6912	0.2494
	Non-Hispanic More than One Race	2.2450	0.1751

```
         Total                              100.000
-----------------------------------------------------------------------
    1    Non-Hispanic White                 59.8656         4.4568
         Non-Hispanic Black                 19.4289         5.1812
         Hispanic                           11.6743         1.9826
         Non-Hispanic Other                  4.4212         1.5083
         Non-Hispanic More than One Race     4.6101         1.2872

         Total                              100.000
-----------------------------------------------------------------------
Total    Non-Hispanic White
         Non-Hispanic Black
         Hispanic
         Non-Hispanic Other
         Non-Hispanic More than One Race

         Total
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                     Frequency Missing = 1600
```

```
                      Table of sub by direl

                                                    Row     Std Err of
  sub    direl                                  Percent    Row Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
    0    intimates                          10.6971         0.6071
         other relatives                     6.8193         0.5450
         well known/casual acquaintances    26.4125         0.7750
         strangers                          33.1309         0.8289
         do not know relationship            6.6340         0.2820
         do not know number of offenders    16.3063         0.5064

         Total                              100.000
-----------------------------------------------------------------------
    1    intimates                          23.2306         3.5018
         other relatives                     9.9822         1.6418
         well known/casual acquaintances    35.2831         4.5594
         strangers                          25.3356         3.1567
         do not know relationship            2.7056         0.6099
         do not know number of offenders     3.4630         0.9380

         Total                              100.000
```

```
-------------------------------------------------------------------
Total    intimates
         other relatives
         well known/casual acquaintances
         strangers
         do not know relationship
         do not know number of offenders

         Total
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                     Frequency Missing = 26335
```

Example 3B - Distribution of property crime victims by household income, MSA status, and region, 2011

Year(s): 2011
Analysis Classes: property victimizations (*pcrime*=1)
Covariate(s): household income (*hincome*); MSA status (*msa*); region (*region*)
Weight: *newwgt*
Subpopulation: within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2011 (*year*=**2011**); property victimizations (*pcrime*=1)

Code:

```
data anset;
     set adjincident;
     sub=(exclude_outUS=0 and dummy=0 and year=2011 and pcrime=1);
run;

proc surveyfreq data=anset varmethod=taylor;
     strata yr_grp v2117;
     cluster v2118;
     weight newwgt;
     table sub*(hincome msa region) / row nocellpercent nofreq nowt;
run;
```

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

```
The SURVEYFREQ Procedure

           Data Summary

Number of Strata               160
Number of Clusters             320
Number of Observations       37853
Sum of Weights           115824878
```

```
             Table of sub by hincome

                                  Row     Std Err of
 sub    hincome              Percent    Row Percent
```

```
-----------------------------------------------------
    0    Less than $7,500       5.8068         0.3420
         $7,500 to $14,999      7.9607         0.3342
         $15,000 to $24,999     9.7039         0.3290
         $25,000 to $34,999     9.2893         0.3713
         $35,000 to $49,999    11.4065         0.3506
         $50,000 to $74,999    11.6421         0.3815
         $75,000 or more       17.9292         0.4836
         Unknown               26.2615         0.7121


         Total                 100.000
-----------------------------------------------------
    1    Less than $7,500       6.4502         0.6755
         $7,500 to $14,999      8.6763         0.6591
         $15,000 to $24,999    10.2487         0.6577
         $25,000 to $34,999     8.8855         0.6006
         $35,000 to $49,999    11.7194         0.6256
         $50,000 to $74,999    11.4977         0.6959
         $75,000 or more       16.4669         0.7300
         Unknown               26.0553         1.1284

         Total                 100.000
-----------------------------------------------------

Total    Less than $7,500
         $7,500 to $14,999
         $15,000 to $24,999
         $25,000 to $34,999
         $35,000 to $49,999
         $50,000 to $74,999
         $75,000 or more
         Unknown

         Total
-----------------------------------------------------
               Frequency Missing = 1600
```

```
           Table of sub by msa

                          Row     Std Err of
  sub    msa           Percent    Row Percent
-------------------------------------------------
    0    Urban         39.8233         1.3159
         Suburban      44.9932         1.3979
         Rural         15.1835         1.5780

         Total         100.000
-----------------------------------------------
    1    Urban         40.5967         1.5111
         Suburban      46.6167         1.6160
         Rural         12.7866         1.6281

         Total         100.000
```

```
-----------------------------------------
Total    Urban
         Suburban
         Rural

         Total
-----------------------------------------
          Frequency Missing = 1600


           Table of sub by region

                            Row     Std Err of
  sub    region          Percent    Row Percent
-----------------------------------------
    0    Northeast       14.2339         0.5989
         Midwest         24.0198         1.1795
         South           35.9385         1.0096
         West            25.8078         0.7835



         Total           100.000
-----------------------------------------

    1    Northeast       13.4005         1.0813
         Midwest         21.4105         1.4478
         South           34.8072         1.5195
         West            30.3818         1.3962

         Total           100.000
-----------------------------------------
Total    Northeast
         Midwest
         South
         West

         Total
-----------------------------------------
          Frequency Missing = 1600
```

Example 4: Percent distribution of victims across characteristics, aggregated years

Example 4A is an estimate of personal crimes, while *Example 4B* is an estimate of property crimes. Both examples specify multiple covariates based on incident-level characteristics.

Example 4A - Percent of violent victimizations reported and not reported to police by type of crime, 2009-2011

Year(s): 2009-2011
Analysis Classes: violent victimizations (*vcrime*=1)
Covariate(s): report status (*notify*); type of crime (*newoff*)
Weight: *newwgt*
Subpopulation: within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2009-2011 ((**2009** <= *year*) and (*year* <=**2011**)); violent victimizations (*vcrime*=1)

Code:

```
data anset;
     set adjincident;
     sub=(exclude_outUS=0 and dummy=0 and (2009 <= year) and (year
          <=2011) and vcrime=1);
run;

proc surveyfreq data=anset varmethod=taylor;
     strata yr_grp v2117;
     cluster v2118;
     weight newwgt;
     table sub*newoff*notify / row nocellpercent nofreq nowt;*a;
run;
```

Code Comment(s):

a) The goal is to obtain the distribution of victimizations by report status for each type of violent crime. Therefore, *newoff*notify* is specified on the *table* statement and row percents are requested. If the percent distribution of crimes among those reported or not reported to police were desired, column percents would be requested.

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

The SURVEYFREQ Procedure

Data Summary

Number of Strata	160
Number of Clusters	320
Number of Observations	37853
Sum of Weights	115824878

The SURVEYFREQ Procedure

Table of newoff by notify
Controlling for sub=0

newoff	notify	Row Percent	Std Err of Row Percent
Rape & Sexual Assault	reported to police	41.1259	6.2743
	not reported to police	58.8741	6.2743
	do not know	.	.
	Total	100.000	
Robbery	reported to police	64.8907	3.5035
	not reported to police	35.1093	3.5035
	do not know	.	.
	Total	100.000	
Aggravated Assault	reported to police	54.4203	5.0909
	not reported to police	43.9368	5.0355
	do not know	1.6429	0.6685
	Total	100.000	

Example 4B - Percent of property victimizations reported and not reported to police by type of crime, 2009-2011

Year(s): 2009-2011
Analysis Classes: property victimizations (*pcrime*=1)
Covariate(s): report status (*notify*); type of crime (*newoff*)
Weight: *newwgt*
Subpopulation: within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2009-2011 ((**2009** <= *year*) and (*year* <=**2011**)); property victimizations (*pcrime*=1)

Code:

```
data anset;
      set adjincident;
      sub=(exclude_outUS=0 and dummy=0 and (2009 <= year) and (year
           <=2011) and pcrime=1);
run;

proc surveyfreq data=anset varmethod=taylor;
      strata yr_grp v2117;
      cluster v2118;
      weight newwgt;
      table sub*newoff*notify / row nocellpercent nofreq nowt;
run;
```

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

```
The SURVEYFREQ Procedure

           Data Summary

Number of Strata                160
Number of Clusters              320
Number of Observations        37853
Sum of Weights            115824878
```

```
                        Table of newoff by notify
                         Controlling for sub=0
                                                        Row     Std Err of
newoff                  notify                      Percent    Row Percent
```

Rape & Sexual Assault	reported to police	36.1639	4.6125
	not reported to police	63.8361	4.6125
	do not know	.	.
	Total	100.000	
Robbery	reported to police	63.1051	2.4092
	not reported to police	36.4855	2.4511
	do not know	0.4093	0.2529
	Total	100.000	
Aggravated Assault	reported to police	57.0243	2.6465
	not reported to police	41.4185	2.6741
	do not know	1.5572	0.6167
	Total	100.000	
Simple Assault	reported to police	42.5540	1.3444
	not reported to police	56.1714	1.3307
	do not know	1.2746	0.2690
	Total	100.000	
Personal Theft	reported to police	53.6418	4.1041
	not reported to police	44.8037	4.0528
	do not know	1.5545	0.9273
	Total	100.000	
Household Burglary	reported to police	52.8492	1.3038
	not reported to police	45.6522	1.2619
	do not know	1.4986	0.5373
	Total	100.000	
Motor Vehicle Theft	reported to police	82.4474	1.8638
	not reported to police	17.1571	1.8509
	do not know	0.3955	0.2299
	Total	100.000	
Theft	reported to police	31.8270	0.7299
	not reported to police	66.9627	0.7458
	do not know	1.2103	0.1756
	Total	100.000	
Total	reported to police		
	not reported to police		
	do not know		
	Total		

Table of newoff by notify

Controlling for sub=1

newoff	notify	Row Percent	Std Err of Row Percent
Rape & Sexual Assault	reported to police	.	.
	not reported to police	.	.
	do not know	.	.
	Total	.	
Robbery	reported to police	.	.
	not reported to police	.	.
	do not know	.	.
	Total	.	
Aggravated Assault	reported to police	.	.
	not reported to police	.	.
	do not know	.	.
	Total	.	
Simple Assault	reported to police	.	.
	not reported to police	.	.
	do not know	.	.
	Total	.	
Personal Theft	reported to police	.	.
	not reported to police	.	.
	do not know	.	.
	Total	.	
Household Burglary	reported to police	54.5535	1.5082
	not reported to police	44.6500	1.4979
	do not know	0.7964	0.4070
	Total	100.000	
Motor Vehicle Theft	reported to police	83.7377	1.4000
	not reported to police	15.9900	1.3898
	do not know	0.2723	0.1922
	Total	100.000	
Theft	reported to police	31.1678	0.4962
	not reported to police	68.1654	0.4969
	do not know	0.6668	0.0674
	Total	100.000	
Total	reported to police		
	not reported to police		
	do not know		
	Total		

C.3 Victimization Rates

Victimization rates are calculated from the modified person-level file (for personal crimes) or the modified household-level file (for property crimes) using the SAS *surveymeans* procedure. Since the victimization rate is a function of a constant and two variables, the analysis variable is created as a recode in a data step preceding the procedure. The victimization count for the victimization type of interest is multiplied by the victimization adjustment factor (*ADJINC_WT*), and this product is multiplied by 1,000. This new variable is used as the analysis variable in *surveymeans' var* statement, as demonstrated in the examples below.

To calculate victimization rates for person- or household-level characteristics, these characteristics are included on the *domain* statement (in addition to the derived "sub" variable that limits the analysis to records of interest). However, if victimization rates are desired based on incident-level characteristics, separate variables are defined for each level of the incident characteristic of interest and are included on the *var* statement. Exclusions based on the incident characteristics must be made when calculating victimization summaries, as outlined in ***Section 3.2***. For example, the modified person- and household-level files exclude victimizations occurring outside of the United States. Because there are no dummy records on the modified person and household files, no exclusions are needed to remove dummy records from the analysis.

The modified person and household files contain the victimization counts needed to calculate victimization rates for the most common victimization characteristics analyzed using NCVS data. *Examples 5A-5C* demonstrate the calculation of personal and property victimizations rates that can be calculated directly from the modified person and household level files provided for a single year and *Examples 6A-6B* demonstrate these calculations for pooled year estimates. If an analyst wants to calculate a victimization rate for an incident-level characteristic that is not included on the modified files, preprocessing steps are needed to calculate victimization summaries from the incident-level file and move these summaries to the person file (for personal crimes) or the household file (for property crimes). ***Section 3.2*** documents these steps. *Examples 7A-7B* demonstrate the calculation of personal and property victimization rates for incident characteristics not included on the modified person and household files.

Example 5: Rate of crime, single year

Example 5A is an estimate of an overall personal victimization rate. *Example 5B* is an estimate of a property victimization rate with the inclusion of household-level characteristics. *Example 5C* is an estimate of a personal victimization rate, where the characteristics of interest are incident-level characteristics. All three estimates are computed with variables available on the modified person and household files.

Example 5A - Rate of simple assaults, 2011

Year(s): 2011
Crime Type(s): simple assault (*sast*)
Analysis Classes: n/a
Weight: *wgtpercy*
Subpopulation: 2011 (*year*=**2011**)
Calculated Directly from Adjusted Files?: yes

Code:

```
data anset;
      set adjper;
      sub=(year=2011);
      vrsast=adjinc_wt*sast*1000; *a;
run;

proc surveymeans data=anset varmethod=taylor mean; *b;
      domain sub; *c;
      strata yr_grp v2117; *d;
      cluster v2118; *e;
      weight wgtpercy; *f;
      var vrsast;
run;
```

Code Comment(s):

a) Specifies victimization recode
b) Specifies input dataset and sample design
c) Subpopulation indicator
d) Specifies stratification
e) Specifies primary sampling units
f) Specifies analysis weight

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

The SURVEYMEANS Procedure

Data Summary

Number of Strata	160
Number of Clusters	320
Number of Observations	814680
Number of Observations Used	708493
Number of Obs with Nonpositive Weights	106187
Sum of Weights	1270197175

Statistics

Variable	Mean	Std Error of Mean
vrsast	15.638820	0.610515

Domain Analysis: sub

sub	Variable	Mean	Std Error of Mean
0	vrsast	15.707917	0.669826
1	vrsast	15.367133	1.176853

Example 5B - Rate of household burglary by MSA status, household income, and family structure, 2011

Year(s): 2011
Crime Type(s): household burglary (*hburg*)
Analysis Classes: MSA status (*msa*); household income (*hincome*); family structure (*fam_structure2*)
Weight: *wgthhcy*
Subpopulation: 2011 (*year*=**2011**)
Calculated Directly from Adjusted Files?: yes

Code:

```
data anset;
      set adjhh;
      sub=(year=2011);
      vrburg=adjinc_wt*hburg*1000;
run;

proc surveymeans data=anset varmethod=taylor mean;
      domain sub*msa sub*hincome sub*fam_structure2;
      strata yr_grp v2117;
      cluster v2118;
      weight wgthhcy;
      var vrburg;
run;
```

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

```
The SURVEYMEANS Procedure

                  Data Summary

Number of Strata                              160
Number of Clusters                            320
Number of Observations                     527673
Number of Observations Used                398238
Number of Obs with Nonpositive Weights     129435
Sum of Weights                          608895975

              Statistics

                              Std Error
Variable            Mean         of Mean
ffffffffffffffffffffffffffffffffffffff
vrburg          28.319646        0.771345
ffffffffffffffffffffffffffffffffffffff
             Domain Analysis: sub*HOUSEHOLD LOCALE

            HOUSEHOLD                                  Std Error
     sub    LOCALE       Variable           Mean         of Mean
```

0	Urban	vrburg	33.388469	1.179397
	Suburban	vrburg	22.284276	1.161647
	Rural	vrburg	35.072801	2.724182
1	Urban	vrburg	33.487009	2.515425
	Suburban	vrburg	25.445345	2.008611
	Rural	vrburg	33.019059	4.534446

Domain Analysis: sub*hincome

sub	hincome	Variable	Mean	Std Error of Mean
0	Less than $7,500	vrburg	59.651675	5.784041
	$7,500 to $14,999	vrburg	56.887617	4.760163
	$15,000 to $24,999	vrburg	36.988937	3.625684
	$25,000 to $34,999	vrburg	32.461893	2.317476
	$35,000 to $49,999	vrburg	28.371919	1.752191
	$50,000 to $74,999	vrburg	21.164290	1.171311
	$75,000 or more	vrburg	16.811149	0.868502
	Unknown	vrburg	25.476500	1.281015
1	Less than $7,500	vrburg	67.164972	14.006749
	$7,500 to $14,999	vrburg	58.845099	9.944788
	$15,000 to $24,999	vrburg	42.776246	5.556782
	$25,000 to $34,999	vrburg	33.340142	5.830933
	$35,000 to $49,999	vrburg	26.301166	2.682444
	$50,000 to $74,999	vrburg	21.506342	3.006216
	$75,000 or more	vrburg	12.288703	1.235878
	Unknown	vrburg	29.549576	2.702723

Domain Analysis: sub*Family Structure

sub	Family Structure	Variable	Mean	Std Error of Mean
0	Two or more adults - W/O Children	vrburg	21.290559	0.930596
	Two or more adults - With Children	vrburg	28.441133	1.059043
	One Male Adult - W/O Children	vrburg	36.163618	3.603260
	One Male Adult - With Children	vrburg	52.526591	9.167820
	One Female Adult - W/O Children	vrburg	25.750941	1.588754
	One Female Adult - With Children	vrburg	64.961684	4.899564
1	Two or more adults - W/O Children	vrburg	24.208885	2.304288
	Two or more adults - With Children	vrburg	29.610024	2.381918
	One Male Adult - W/O Children	vrburg	30.997012	2.922347
	One Male Adult - With Children	vrburg	46.669715	14.319366
	One Female Adult - W/O Children	vrburg	30.105671	4.797870
	One Female Adult - With Children	vrburg	61.962753	8.315094

Example 5C - Rate of violent crime by weapon involvement, injury, and victim-offender relationship, 2011

Year(s): 2011
Crime Type(s): violent victimizations (*rsa+rob+aast+sast*)
Analysis Classes: weapon involvement (*wpnuse*); injury (*inj*), victim-offender relationship (*rel*)
Weight: *wgtpercy*
Subpopulation: 2011 (*year*=**2011**)
Calculated Directly from Adjusted Files?: yes

Code:

```
data anset;
 set adjper;

 sub=(year=2011);

*aggregate violent crimes into a single measure for each outcome of interest.
*a;
 viol_weap1=(rsa_wpnuse1+rob_wpnuse1+aast_wpnuse1+sast_wpnuse1)*adjinc_wt*1000;
*b;
 viol_weap2=(rsa_wpnuse2+rob_wpnuse2+aast_wpnuse2+sast_wpnuse2)*adjinc_wt*1000;
*c;
 viol_weap3=(rsa_wpnuse3+rob_wpnuse3+aast_wpnuse3+sast_wpnuse3)*adjinc_wt*1000;

*d;
 viol_inj1=(rsa_inj1+rob_inj1+aast_inj1+sast_inj1)*adjinc_wt*1000;
*e;
 viol_inj2=(rsa_inj2+rob_inj2+aast_inj2+sast_inj2)*adjinc_wt*1000;
*f;
 viol_inj3=(rsa_inj3+rob_inj3+aast_inj3+sast_inj3)*adjinc_wt*1000;
*g;
 viol_inj4=(rsa_inj4+rob_inj4+aast_inj4+sast_inj4)*adjinc_wt*1000;

*h;
 viol_rel1=(rsa_rel1+rob_rel1+aast_rel1+sast_rel1)*adjinc_wt*1000;
*i;
 viol_rel2=(rsa_rel2+rob_rel2+aast_rel2+sast_rel2)*adjinc_wt*1000;
*j;
 viol_rel3=(rsa_rel3+rob_rel3+aast_rel3+sast_rel3)*adjinc_wt*1000;
*k;
 viol_rel4=(rsa_rel4+rob_rel4+aast_rel4+sast_rel4)*adjinc_wt*1000;
*l;
 viol_rel5=(rsa_rel5+rob_rel5+aast_rel5+sast_rel5)*adjinc_wt*1000;
*m;
 viol_rel6=(rsa_rel6+rob_rel6+aast_rel6+sast_rel6)*adjinc_wt*1000;

run;

proc surveymeans data=anset varmethod=taylor mean;
      domain sub;
      strata yr_grp v2117;
      cluster v2118;
      weight wgtpercy;
      var viol_weap1-viol_weap3 viol_inj1-viol_inj4 viol_rel1-viol_rel6;
run;
```

Code Comment(s):

a) Yes, offender had a weapon
b) No, offender did not have a weapon
c) Do not know if offender had a weapon
d) No injury
e) Serious injury
f) Minor injury
g) Rape without other injuries
h) Intimates
i) Other relatives
j) well known/casual acquaintances
k) Strangers
l) Do not know relationship
m) Do not know number of offenders

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

The SURVEYMEANS Procedure

Data Summary

Number of Strata	160
Number of Clusters	320
Number of Observations	814680
Number of Observations Used	708493
Number of Obs with Nonpositive Weights	106187
Sum of Weights	1270197175

Statistics

Variable	Mean	Std Error of Mean
viol_weap1	4.831854	0.239978
viol_weap2	16.905851	0.657311
viol_weap3	1.585757	0.126202
viol_inj1	17.472264	0.660110
viol_inj2	1.019748	0.101134
viol_inj3	4.522141	0.241631
viol_inj4	0.294720	0.053443
viol_rel1	3.679001	0.235064
viol_rel2	1.700361	0.168869
viol_rel3	6.996892	0.373455
viol_rel4	8.648548	0.364130
viol_rel5	1.324181	0.088132
viol_rel6	0.968963	0.106546

Domain Analysis: sub

sub	Variable	Mean	Std Error of Mean
0	viol_weap1	4.881214	0.279946
	viol_weap2	17.021172	0.732904
	viol_weap3	1.612903	0.135616
	viol_inj1	17.608513	0.731000
	viol_inj2	0.991732	0.110364
	viol_inj3	4.633226	0.274660
	viol_inj4	0.263517	0.065760
	viol_rel1	3.774519	0.255819
	viol_rel2	1.634968	0.188501
	viol_rel3	7.018989	0.395294
	viol_rel4	8.728594	0.410245
	viol_rel5	1.423006	0.109876
	viol_rel6	0.928292	0.124775
1	viol_weap1	4.637771	0.348181
	viol_weap2	16.452410	1.176199
	viol_weap3	1.479021	0.300596
	viol_inj1	16.936533	1.225512
	viol_inj2	1.129908	0.191335
	viol_inj3	4.085352	0.384823
	viol_inj4	0.417409	0.097062
	viol_rel1	3.303427	0.499653
	viol_rel2	1.957484	0.354815
	viol_rel3	6.910004	0.777927
	viol_rel4	8.333804	0.686701
	viol_rel5	0.935598	0.125684
	viol_rel6	1.128885	0.215224

Example 6: Rate of crime, aggregated years

Example 6A is an estimate of a personal victimization rate with person-level characteristics of interest. *Example 6B* is an estimate of a property victimization rate with the inclusion of a household-level characteristic. Both estimates are computed with variables available on the modified person and household files.

Example 6A - Rate of violent crimes reported to police by sex, age category, race/ethnicity, and marital status, 2009–2011

Year(s): 2009-2011
Crime Type(s): violent victimizations reported to police (*rsa_rpt1+rob_rpt1+aast_rpt1+sast_rpt1*)
Analysis Classes: sex (*sex*); age category (*agecat*); race/ethnicity (*race_eth*); marital status (*marital*)
Weight: *wgtpercy*
Subpopulation: 2009-2011 ((**2009** <= *year*) and (*year* <=**2011**))
Calculated Directly from Adjusted Files?: yes

Code:

```
data anset;
 set adjper;
 sub=((2009 <= year) and (year <=2011));
 *aggregate violent crimes into a single measure for outcome of
   interest;
 viol_rpt1=(rsa_rpt1+rob_rpt1+aast_rpt1+sast_rpt1)*adjinc_wt*1000;
run;

proc surveymeans data=anset varmethod=taylor mean;
      domain sub*sex sub*agecat sub*race_eth sub*marital;
      strata yr_grp v2117;
      cluster v2118;
      weight wgtpercy;
      var viol_rpt1;
run;
```

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under “Domain Analysis: sub” with a “sub” value of 1 is relevant (highlighted row).

The SURVEYMEANS Procedure

Data Summary

Number of Strata	160
Number of Clusters	320
Number of Observations	814680
Number of Observations Used	708493
Number of Obs with Nonpositive Weights	106187
Sum of Weights	1270197175

Statistics

Variable	Mean	Std Error of Mean
viol_rpt1	10.942564	0.388276

Domain Analysis: sub*sex

sub	sex	Variable	Mean	Std Error of Mean
0	Male	viol_rpt1	12.263099	0.847527
	Female	viol_rpt1	11.735712	0.792736
1	Male	viol_rpt1	9.682951	0.535355
	Female	viol_rpt1	10.801333	0.750092

Domain Analysis: sub*agecat

sub	agecat	Variable	Mean	Std Error of Mean
0	12 to 14	viol_rpt1	10.706604	1.514160
	15 to 17	viol_rpt1	20.325239	2.983613
	18 to 20	viol_rpt1	18.508326	2.103361
	21 to 24	viol_rpt1	19.158965	2.595491
	25 to 34	viol_rpt1	17.998077	2.201344
	35 to 49	viol_rpt1	13.197065	1.221089
	50 to 64	viol_rpt1	7.657778	0.944521
	65 or older	viol_rpt1	1.662752	0.359343
1	12 to 14	viol_rpt1	10.142548	1.528288
	15 to 17	viol_rpt1	13.041282	1.607437
	18 to 20	viol_rpt1	22.576998	4.639424
	21 to 24	viol_rpt1	16.933566	1.895897
	25 to 34	viol_rpt1	14.075923	1.173494
	35 to 49	viol_rpt1	11.413987	0.893979
	50 to 64	viol_rpt1	6.593241	0.582309
	65 or older	viol_rpt1	1.902745	0.371955

Domain Analysis: sub*race_eth

sub	race_eth	Variable	Mean	Std Error of Mean
0	Non-Hispanic White	viol_rpt1	11.779361	0.689952
	Non-Hispanic Black	viol_rpt1	17.080468	2.129403
	Hispanic	viol_rpt1	9.606242	1.012843
	Non-Hispanic Other	viol_rpt1	8.094436	2.965192
	Non-Hispanic More than One Race	viol_rpt1	20.653312	4.002124
1	Non-Hispanic White	viol_rpt1	9.591058	0.556192
	Non-Hispanic Black	viol_rpt1	16.324494	2.150383

Hispanic	viol_rpt1	9.110811	0.905751
Non-Hispanic Other	viol_rpt1	6.215577	1.431772
Non-Hispanic More than One Race	viol_rpt1	20.785537	3.675282

Domain Analysis: sub*marital

sub	marital	Variable	Mean	Std Error of Mean
0	Never Married	viol_rpt1	18.209104	1.219181
	Married	viol_rpt1	6.064960	0.536853
	Widowed	viol_rpt1	5.630742	2.102283
	Divorced	viol_rpt1	21.873231	2.587565
	Separated	viol_rpt1	37.178780	7.171082
1	Never Married	viol_rpt1	15.248824	1.034491
	Married	viol_rpt1	5.035802	0.383114
	Widowed	viol_rpt1	3.738650	0.916177
	Divorced	viol_rpt1	18.372702	1.868214
	Separated	viol_rpt1	38.603385	5.885568

Example 6B - Rate of property crimes reported to police by household income, 2009–2011

Year(s): 2009-2011
Crime Type(s): property crimes reported to police (*hburg_rpt1+tft_rpt1+mvtft_rpt1*)
Analysis Classes: household income (*hincome*)
Weight: *wgthhcy*
Subpopulation: 2009-2011 ((**2009** <= *year*) and (*year* <=**2011**))
Calculated Directly from Adjusted Files?: yes

Code:

```
data anset;
 set adjhh;
 sub=((2009 <= year) and (year <=2011));
  vrproprpt=(hburg_rpt1+tft_rpt1+mvtft_rpt1)*adjinc_wt*1000;
run;

proc surveymeans data=anset varmethod=taylor mean;
     domain sub*hincome;
     strata yr_grp v2117;
     cluster v2118;
     weight wgthhcy;
     var vrproprpt;
run;
```

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under “Domain Analysis: sub” with a “sub” value of 1 is relevant (highlighted row).

```
The SURVEYMEANS Procedure

                    Data Summary

Number of Strata                                 160
Number of Clusters                               320
Number of Observations                        527673
Number of Observations Used                   398238
Number of Obs with Nonpositive Weights        129435
Sum of Weights                             608895975


               Statistics

                                Std Error
Variable            Mean          of Mean
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
vrproprpt      53.182550         0.936036
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ


                Domain Analysis: sub*hincome
                                                                  Std Error
     sub    hincome              Variable            Mean           of Mean
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
       0    Less than $7,500     vrproprpt      81.044611          8.658194
```

	$7,500 to $14,999	vrproprpt	74.357555	6.668412
	$15,000 to $24,999	vrproprpt	60.660916	3.555991
	$25,000 to $34,999	vrproprpt	58.303682	4.122739
	$35,000 to $49,999	vrproprpt	60.220186	3.250153
	$50,000 to $74,999	vrproprpt	56.186640	3.568633
	$75,000 or more	vrproprpt	58.226671	2.115554
	Unknown	vrproprpt	49.863632	1.997445
1	Less than $7,500	vrproprpt	64.052739	4.366416
	$7,500 to $14,999	vrproprpt	60.840821	3.678508
	$15,000 to $24,999	vrproprpt	54.831987	2.794859
	$25,000 to $34,999	vrproprpt	54.832067	3.222495
	$35,000 to $49,999	vrproprpt	55.921312	3.030289
	$50,000 to $74,999	vrproprpt	49.011134	2.029558
	$75,000 or more	vrproprpt	49.946119	1.490552
	Unknown	vrproprpt	43.616987	1.544342

ƒƒ

Example 7: Computing victimization rates based on incident characteristics not included on the provided file

The two examples below estimate personal and property victimization rates for incident-level characteristics not contained on the modified person and household files, and thus require the pre-processing steps outlined in ***Section 3.2***. SAS is used to calculate victimization summaries from the incident-level file and merge incident summaries onto the household and person files. Victimization rates are then calculated from the modified person-level file (for personal crimes) or the modified household-level file (for property crimes). *Example 7A* is an estimate of a personal victimization rate and *Example 7B* is an estimate of a property victimization rate. *Example 7A* is for a single year, and *Example 7B* is for aggregated years.

Example 7A - Rate of violent crimes by location of crime, 2011

Year(s): 2011
Crime Type(s): violent victimizations by location of crime (*violent_home*; *violent_other*)
Analysis Classes: n/a
Weight: *wgtpercy*
Subpopulation: 2011 (*year*=**2011**)
Calculated Directly from Adjusted Files?: no

Code:

```
*step1: identify records with victimization characteristic(s) of
 interest on the modified incident-level file ;

data example7a_inc;
 set adjincident;
 vcrime=(newoff in (1 2 3 4)); *a;

 *identify location of crime;
 if v4024 in (1 2 3 4) then place_inc=1; *b;
 else if v4024 in (5 6 7) then place_inc=2; *c;
 else if v4024 in (8 9 10 11) then place_inc=3; *d;
 else if v4024 in (12 13 14 24 25 26 27) then place_inc=4; *e;
 else if v4024 in (15 16 17) then place_inc=5; *f;
 else if v4024 in (18 19) then place_inc=6; *g;
 else if v4024 in (20 21 22) then place_inc=7; *h;
 else if v4024 in (23) then place_inc=8; *i;
 else if v4024=. then place_inc=9; *j;

 *collapse location of crime;
 if place_inc in (1 2) then place=1; *k;
 else place=2; *l;
```

```
*create binary classifications for each location, excluding
  dummy records and crimes that occurred outside of the united
  states;

 violent_home=(vcrime=1 and place=1 and exclude_outus=0 and
               dummy=0);
 violent_other=(vcrime=1 and place=2 and exclude_outus=0 and
               dummy=0);
run;
```

Code Comment(s):

a) Identify violent crimes
b) Respondent's home
c) Near respondents home
d) Friend's home
e) Commercial
f) Parking lot-garage
g) School
h) Open areas, on street or public transportation
i) Other
j) Missing
k) Respondent's home/near respondent's home
l) Other location

```
*step2: create victimization summary file ;
proc sort data=example7a_inc(keep=yearq idper serieswgt
                              violent_home violent_other);
 by yearq idhh idper;
run;

*calculate the number of victimizations of each type by person
 and reporting period ;
proc means data=example7a_inc noprint;
 by yearq idper;
 weight serieswgt;
 var violent_home violent_other;
 output out=violent_place_sums(drop=_type_ _freq_)
        sum=;
run;
*step3: merge victimization summary file onto the person-level
        file ;
proc sort data=adjper; by yearq idper; run;

data example7a_per;
 merge adjper(in=a)
       violent_place_sums(in=b);
 by yearq idper;
 if a;
 if violent_home=. then violent_home=0; *a;
 if violent_other=. then violent_other=0;
run;
```

Code Comment(s):

a) The two incident count variables are missing for persons not included on the victimization summary file, so they are set to '0' (no victimizations of this type)

```
*calculate victimization rates ;
proc sort data=example7a_per; by yr_grp v2117 v2118; run;

data anset;
      set example7a_per;
      sub=(year=2011);
      *a;
      vrviolrhome=violent_home*adjinc_wt*1000;
      vrviolother=violent_other*adjinc_wt*1000;
run;

proc surveymeans data=anset varmethod=taylor mean;
      domain sub;
      strata yr_grp v2117;
      cluster v2118;
      weight wgtpercy;
      var vrviolrhome vrviolother;
run;
```

Code Comment(s):

a) The final step outlined in section 3.2 was to calculate the victimization adjustment factor, but it is already contained on the modified person file.

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

```
The SURVEYMEANS Procedure

                     Data Summary

Number of Strata                                   160
Number of Clusters                                 320
Number of Observations                          814680
Number of Observations Used                     708493
Number of Obs with Nonpositive Weights          106187
Sum of Weights                              1270197175



                 Statistics

                                             Std Error
Variable                  Mean                 of Mean
```

```
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
vrviolrhome         8.895617        0.371408
vrviolother        14.427845        0.557310
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ


                   Domain Analysis: sub

                                                     Std Error
     sub    Variable                 Mean              of Mean
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
       0    vrviolrhome         9.038327        0.425064
            vrviolother        14.476962        0.608688
       1    vrviolrhome         8.334482        0.631375
            vrviolother        14.234720        1.153994
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
```

Example 7B - Rate of property crimes by time of day, 2009-2011

Year(s): 2009-2011
Crime Type(s): property crimes by time of day (*property_day*; *property_night*; *property_missing*)
Analysis Classes: n/a
Weight: *wgthhcy*
Subpopulation: 2009-2011 ((**2009** <= *year*) and (*year* <=**2011**))
Calculated Directly from Adjusted Files?: no

```
*step1: identify records with victimization characteristic(s) of
 interest on the modified incident-level file ;
data example7b_inc;
 set adjincident;
 pcrime=(newoff in (6 7 8)); *a;
 *identify time of incident;
 if v4021b in (1 2 3 4) then time_day=1; *b;
 else if v4021b in (5 6 7 8) then time_day=2; *c;
 else if v4021b in (9 98) then time_day=3; *d;
 *create binary classifications for each time, excluding dummy
  records and crimes that occurred outside of the united states;
 property_day=(pcrime=1 and time_day=1 and exclude_outus=0 and
               dummy=0);
 property_night=(pcrime=1 and time_day=2 and exclude_outus=0 and
               dummy=0);
 property_missing=(pcrime=1 and time_day=3 and exclude_outus=0
               and dummy=0);

run;
```

Code Comment(s):

```
a)    identify property crimes
b)    day
c)    night
d)    missing
```

```
*step2: create victimization summary file ;
proc sort data=example7b_inc(keep=yearq idhh serieswgt
        property_day property_night property_missing);
 by yearq idhh;
run;
```

```
*calculate the number of victimizations of each type by household and
reporting period ;
proc means data=example7b_inc noprint;
 by yearq idhh;
 weight serieswgt;
 var property_day property_night property_missing;
 output out=property_time_sums(drop=_type_ _freq_)
        sum=;
run;

*step3: merge victimization summary file onto the HH-level
        file ;
proc sort data=adjhh; by yearq idhh; run;
data example7b_hh;
 merge adjhh(in=a)
       property_time_sums(in=b);
 by yearq idhh;
 if a;
 if property_day=. then property_day=0; *a;
 if property_night=. then property_night=0;
 if property_missing=. then property_missing=0;
run;
```

Code Comment(s):

a) The three incident count variables are missing for households not included on the victimization summary file, so they are set to '0' (no victimizations of this type)

```
*calculate victimization rates ;

proc sort data=example7b_hh; by yr_grp v2117 v2118; run;

data anset;
      set example7b_hh;
      sub=((2009 <= year) and (year <=2011));
      *a;
      vrpropday=property_day*adjinc_wt*1000;
      vrpropnight=property_night*adjinc_wt*1000;
      vrpropmiss=property_missing*adjinc_wt*1000;
run;

proc surveymeans data=anset varmethod=taylor mean;
      domain sub;
      strata yr_grp v2117;
      cluster v2118;
      weight wgthhcy;
      var vrpropday vrpropnight vrpropmiss;
run;
```

Code Comment(s):

a) The final step outlined in section 3.2 was to calculate the victimization adjustment factor, but it is already contained on the modified person file.

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

The SURVEYMEANS Procedure

Data Summary

Number of Strata	160
Number of Clusters	320
Number of Observations	527673
Number of Observations Used	398238
Number of Obs with Nonpositive Weights	129435
Sum of Weights	608895975

Statistics

Variable	Mean	Std Error of Mean
vrpropday	54.546013	1.097167
vrpropnight	59.332574	1.222059
vrpropmiss	24.883746	0.735171

Domain Analysis: sub

sub	Variable	Mean	Std Error of Mean
0	vrpropday	59.022848	1.518622
	vrpropnight	63.701678	1.688110
	vrpropmiss	26.018035	1.020754
1	vrpropday	51.620495	1.227080
	vrpropnight	56.477455	1.331527
	vrpropmiss	24.142513	0.806898

C.4 Identifying Low Quality Estimates

This section demonstrates how to implement the recommendations for identifying low quality estimates and the rounding rules discussed in ***Section 4*** of the user's guide. Three types of data are needed to identify and flag low quality estimates, regardless of the estimate type: the estimate, the standard error of the estimate, and the unweighted sample size of the estimate. Because *Examples 1-7* provided details for obtaining estimates and standard errors, the examples in this section will focus primarily on calculating the percent relative standard error (RSE), calculating unweighted sample sizes, identifying estimates that should be flagged as unreliable, and verifying that estimates rounding to zero are not presented.

Unweighted sample sizes should take into account the series adjustment. For example, a series victimization with a series count of seven would count as seven victimizations in the unweighted sample size, while a non-series victimization would only count as one. This series adjustment is already incorporated in the victimization counts on the modified person and household-level files, so sample sizes for victimization rates are obtained by taking unweighted sums of victimization counts with the specified characteristic(s) of interest. However, for victimization totals and proportions, the series count must be included in the calculation of the sample size, as demonstrated in the examples below. *Example 8A* demonstrates implementation of flagging and rounding rules for victimization totals, *Example 8B* for victimization proportions, and *Example 8C* for victimization rates.

Example 8A - Total number of personal thefts by sex and race/ethnicity, 2011

Year(s): 2011
Crime Type: personal thefts (*ptft*)
Domain(s): sex (*sex*) and race/ethnicity (*race_eth*)
Weight: *newwgt*
Subpopulation: within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2011 (*year*=**2011**)

Code:

```
*calculate estimates and standard errors;
data anset;
     set adjincident;
     sub=(exclude_outus=0 and dummy=0 and year=2011);
run;
```

```
proc surveymeans data=anset varmethod=taylor sum;
      domain sub*sex sub*race_eth;
      strata yr_grp v2117;
      cluster v2118;
      weight newwgt;
      var ptft;
run;

*calculate sample sizes;
proc means data=anset sum;
      where sub;
      class sex race_eth;
      ways 1;
      weight serieswgt; *a;
      var ptft;
run;
```

Code Comment(s):

a) Weight by the series weight to obtain the series-adjusted count of victimizations

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

The SURVEYMEANS Procedure

Data Summary

Number of Strata	304
Number of Clusters	608
Number of Observations	112932
Sum of Weights	342486009

Statistics

Variable	Sum	Std Dev
PTFT	2787632	119047

Domain Analysis: sub*sex

sub	sex	Variable	Sum	Std Dev
0	Male	PTFT	1244808	92801
	Female	PTFT	1377054	72295
1	Male	PTFT	53583	18914
	Female	PTFT	112187	19314

Domain Analysis: sub*race_eth

sub	race_eth	Variable	Sum	Std Dev
0	Non-Hispanic White	PTFT	1615705	86826

```
          Non-Hispanic Black               PTFT             435124           52924
          Hispanic                         PTFT             371336           44117
          Non-Hispanic Other               PTFT             172088           39824
          Non-Hispanic More than One Race  PTFT              27608     9540.767800
     1    Non-Hispanic White               PTFT              83956           21479
          Non-Hispanic Black               PTFT              29507           10989
          Hispanic                         PTFT              30287           10489
          Non-Hispanic Other               PTFT              13519     5943.552122
          Non-Hispanic More than One Race  PTFT        8501.872300     5281.778471
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ


                Analysis Variable : PTFT

race_eth                           N Obs             Sum
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Non-Hispanic White                  4660      24.0000000

Non-Hispanic Black                   911       9.0000000

Hispanic                            1183       9.0000000

Non-Hispanic Other                   315       6.0000000

Non-Hispanic More than One Race      186       3.0000000
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
   Analysis Variable : PTFT

sex        N Obs             Sum
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Male        3358      16.0000000

Female      3897      35.0000000
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
```

Identifying Unreliable Estimates:

As outlined in ***Section 4***, it is recommended that estimated totals meeting either of the following criteria be identified as unreliable. In addition, any estimate rounding to zero should not be displayed.

- RSE > 30%
- Count sample size ≤ 10

The percent relative standard error of an estimated total is calculated as:

$$\%\, RSE(Total) = \frac{SE(Total)}{Total} * 100$$

Estimated totals, standard errors, and unweighted sample sizes from the output above are included in ***Table C-1*** (in the “Total,” “SE(Total),” and “n” columns, respectively). Percent RSEs are calculated based on the formula above. Based on the recommendations, five of the eight estimates are flagged as unreliable. The estimate for males is flagged because the percent RSE is greater than 30 percent, while the other four estimates are flagged both because their

RSEs exceed 30 percent and because their unweighted sample sizes are less than or equal to 10. All estimates can be displayed because no estimates round to zero.

Table C-1. Identifying Low Quality Victimization Totals

Domain	Total	SE(Total)	n	%RSE (Total)	Flag as Unreliable?	Rounds to Zero?
Overall	165770.15	24276.55	51	14.64		
Male	53583.48	18913.90	16	35.30	√	
Female	112186.67	19313.73	35	17.22		
Non-Hispanic White	83955.56	21478.97	24	25.58		
Non-Hispanic Black	29506.98	10989.44	9	37.24	√	
Hispanic	30286.66	10488.60	9	34.63	√	
Non-Hispanic Other	13519.07	5943.55	6	43.96	√	
Non-Hispanic More than One Race	8501.87	5281.78	3	62.12	√	

Example 8B – Distribution of motor vehicle theft in the Northeast Census Region by report status, 2011

Year(s): 2011
Domain(s): Northeast Census Region (*region*=1); motor vehicle theft (*mvtft*=1)
Covariate(s): report status (*notify*)
Weight: *newwgt*
Subpopulation: within the United States (*exclude_outUS*=**0**); non-dummy records (*dummy*=**0**); 2011 (*year*=**2011**); Northeast Census Region (*region*=1); motor vehicle theft (*mvtft*=1)

Code:

```
*calculate estimates and standard errors;
data anset;
     set adjincident;
sub=(exclude_outus=0 and dummy=0 and year=2011 and region=1 and
mvtft=1);
run;

proc surveyfreq data=anset varmethod=taylor;
     strata yr_grp v2117;
     cluster v2118;
     weight newwgt;
     table sub*notify / row nocellpercent nofreq nowt;
run;

*calculate sample sizes;
proc means data=anset n;
     where sub;
     weight serieswgt; *a;
     class notify;
     var notify;
run;
```

Code Comment(s):

a) Weight by the series weight to obtain the series-adjusted count of victimizations. Because flagging rules are based on the denominator sample size, only the overall sample size is needed (not estimates by report status).

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

```
The SURVEYFREQ Procedure
            Data Summary

Number of Strata                 304
Number of Clusters               608
Number of Observations        112932
Sum of Weights             342486009


                 Table of sub by notify

                                        Row     Std Err of
  sub    notify                     Percent    Row Percent
ffffffffffffffffffffffffffffffffffffffffffffffffffffffffff
    0    reported to police        40.0671         0.3079
         not reported to police    58.9204         0.3136
         do not know                1.0125         0.0478

         Total                     100.000
-----------------------------------------------------------
    1    reported to police        92.6011         5.4032
         not reported to police     7.3989         5.4032
         do not know                  .              .

         Total                     100.000
-----------------------------------------------------------
Total    reported to police
         not reported to police
         do not know

         Total
ffffffffffffffffffffffffffffffffffffffffffffffffffffffffff
                Frequency Missing = 4079


The MEANS Procedure

       Analysis Variable : notify

notify                      N Obs         N
fffffffffffffffffffffffffffffffffffffff
reported to police             17        17

not reported to police          2         2
fffffffffffffffffffffffffffffffffffffff
```

Identifying Unreliable Estimates:

As outlined in ***Section 4***, it is recommended that victimization percentages (P) meeting either of the following criteria be flagged as unreliable. In addition, any estimate rounding to zero should not be displayed.

- RSE > 30%, where
  - If the percentage is ≤ 50%, use the RSE of log(P)
  - If the percentage is > 50%, use the RSE of log(100-P); or
- Denominator sample size ≤ 10

The percent relative standard errors of the log of the percentages (P) and (1-P) are calculated as:

$$\%\, RSE(\log(P)) = \frac{SE(P)}{P * abs(\log\left(\frac{P}{100}\right))} * 100$$

$$\%\, RSE(\log(100 - P)) = \frac{SE(P)}{(100 - P) * abs(\log\left(1 - \frac{P}{100}\right))} * 100$$

Estimated percentages, standard errors, and the unweighted denominator sample size from the output above are included in ***Table C-2*** below (in the "P," "SE(P)," and "n (denom)" columns, respectively). Percent RSEs are calculated based on the formulas above. Based on these recommendations, none of the estimates are flagged as unreliable. The denominator sample size is 19, which is greater than the recommended threshold of 10. The percent RSEs for the reported and not reported estimates are 28.03, which are below the 30 percent threshold. However, because no respondents reported that they did not know whether or not the motor vehicle theft was reported to the police, the estimated percent is 0. This estimate should not be presented because it rounds to zero.

Table C-2. Identifying Low Quality Victimization Percentages

Estimate	P	SE(P)	n (denom)	%RSE(P) OR %RSE(100-P)	Flag as Unreliable?	Rounds to Zero?
Reported to Police	92.60	5.40	19	28.03		
Not Reported to Police	7.40	5.40	19	28.03		
Do Not Know	0.00	-	19	-		√

Example 8C – Rate of rape/sexual assault by sex, 2011

Year(s): 2011
Crime Type(s): rape/sexual assault (*rsa*)
Domain(s): sex (*sex*)
Weight: *wgtpercy*
Subpopulation: 2011 (*year*=**2011**)
Calculated Directly from Adjusted Files?: yes

Code:

```
*calculate estimates and standard errors;
data anset;
      set adjper;
      sub=(year=2011);
      vrrsa=adjinc_wt*rsa*1000;
run;

proc surveymeans data=anset varmethod=taylor mean;
      domain sub sub*sex;
      strata yr_grp v2117;
      cluster v2118;
      weight wgtpercy;
      var vrrsa;
run;

*calculate sample sizes;
proc means data=anset sum; *a;
      where sub;
      class sex;
      var rsa;
run;
```

Code Comment(s):
b) Unweighted because the victimization count RSA already includes the series adjustment

Output:

NOTE: Output is provided overall and by subpopulation. Only the output under "Domain Analysis: sub" with a "sub" value of 1 is relevant (highlighted row).

```
The SURVEYMEANS Procedure
                    Data Summary

Number of Strata                                160
Number of Clusters                              320
Number of Observations                        814680
Number of Observations Used                   708493
Number of Obs with Nonpositive Weights        106187
Sum of Weights                             1270197175

               Statistics

                                Std Error
Variable            Mean          of Mean
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
vrrsa           1.115027        0.141041
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ


                Domain Analysis: sub

                                           Std Error
     sub    Variable            Mean          of Mean
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
       0    vrrsa           1.157469        0.166403
       1    vrrsa           0.948146        0.162529
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ


                  Domain Analysis: sub*sex

                                                    Std Error
     sub    sex       Variable            Mean          of Mean
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
       0    Male      vrrsa           0.173447        0.043650
            Female    vrrsa           2.095539        0.323622
       1    Male      vrrsa           0.276019        0.089702
            Female    vrrsa           1.592869        0.332343
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ

The MEANS Procedure

    Analysis Variable : RSA

sex        N Obs             Sum
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Male       77758      10.0000000

Female     85109      69.0000000
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
```

Identifying Unreliable Estimates:

As outlined in ***Section 4***, it is recommended that victimization rates meeting either of the following criteria be flagged as unreliable. In addition, any estimate rounding to zero should not be displayed.

- RSE > 30%
- Numerator sample size ≤ 10

The percent relative standard errors of the victimization rates (VR) are calculated as:

$$\%\, RSE(VR) = \frac{SE(VR)}{VR} * 100$$

Estimates, standard errors, and unweighted sample sizes from the output above are included in ***Table C-3*** below (in the "VR," "SE(VR)," and "n (num)" columns, respectively). Percent RSEs are calculated based on the formula above. Based on these recommendations, the estimated victimization rate for males is flagged as unreliable because the percent RSE is greater than 30 percent and the sample size of the numerator is less than or equal to 10. Because none of the estimates round to zero, all three estimates can be presented.

Table C-3. Identifying Low Quality Victimization Rates

Domain	VR	SE(VR)	n (num)	%RSE(VR)	Flag as Unreliable?	Rounds to Zero?
Overall	0.94815	0.16253	79	17.14		
Male	0.27602	0.0897	10	32.50	√	
Female	1.59287	0.33234	69	20.86		