

Example 1: Mean Calculation

In the following sample code, the distribution of BMI (bmi) is examined by race (racehpr2) and by the interaction between race and sex (racehpr2*srsex).

SAS:

```
PROC SURVEYMEANS DATA = data mean stderr NOMCAR VARMETHOD=TAYLOR; a
STRATA tsvarstr;
CLUSTER tsvrunit; b
WEIGHT rakedw0;
VAR bmi;
DOMAIN racehpr2 racehpr2*srsex; c
RUN;
```

^a In SAS, the NOMCAR option presents the assumption that missing values are not completely at random. This, along with the DOMAIN statement, is the appropriate approach for domain analyses, which uses the entire sample for variance estimation.

^b When using concatenated data across adults, adolescents, and/or children, use tsvrunit; when using separate data files, delete the commands associated with tsvrunit.

^c If conducting a domain analysis, the DOMAIN statement is necessary for accurate variance estimation. Using BY or WHERE statements will not produce valid variance estimates for the subpopulation/domain.

SUDAAN:

```
PROC SORT DATA = data;
BY tsvarstr tsvrunit; d
RUN;

PROC DESCRIPTIVE DATA = data FILETYPE=SAS DESIGN=WR;
NEST tsvarstr tsvrunit;
WEIGHT rakedw0;
CLASS racehpr2 racehpr2*srsex;
VAR bmi;
TABLES racehpr2 racehpr2*srsex;
SUBGROUP racehpr2 srsex;
LEVELS 7 2;
RUN;
```

^d When using concatenated data across adults, adolescents, and/or children, use tsvrunit; when using separate data files, delete the commands associated with tsvrunit.

Stata:

```
*Sample design specification step* e
use "DATASET LOCATION"
svyset TSVRUNIT [pw=rakedw0], strata (TSVARSTR) f

*Analysis*
svy: mean bmi, over(racehpr2)
svy: mean bmi, over(srsex racehpr2)
```

^e In Stata, the sample design specification step should be included before conducting any analysis.

^f When using concatenated data across adults, adolescents, and/or children, use tsvrunit; when using separate data files, delete the commands associated with tsvrunit.

SPSS:

***Sample design specification step*^a**

* Analysis Preparation Wizard.

CSPLAN ANALYSIS

/PLAN FILE='\\PATH FOR COMPLEX SURVEY PLAN FILE\FILENAME.csaplan'

/PLANVARS ANALYSISWEIGHT=RAKEDW0

/PRINT PLAN

/DESIGN STRATA= TSVARSTR CLUSTER=TSVRUNIT^b

/ESTIMATOR TYPE=WR.

Analysis

* Complex Samples Descriptives.

CSDESCRIPTIVES

/PLAN FILE = '\\PATH FOR COMPLEX SURVEY PLAN FILE\FILENAME.csaplan'

/SUMMARY VARIABLES = bmi

/SUBPOP TABLE = racehpr2 DISPLAY=LAYERED

/MEAN

/STATISTICS SE CV POPSIZE CIN (95)

/MISSING SCOPE = ANALYSIS CLASSMISSING = EXCLUDE.

* Complex Samples Descriptives.

CSDESCRIPTIVES

/PLAN FILE = '\\PATH FOR COMPLEX SURVEY PLAN FILE\FILENAME.csaplan'

/SUMMARY VARIABLES = bmi

/SUBPOP TABLE = racehpr2 BY sex DISPLAY=LAYERED

/MEAN

/STATISTICS SE CV POPSIZE CIN (95)

/MISSING SCOPE = ANALYSIS CLASSMISSING = EXCLUDE.

^a. In SPSS, the sample design specification step should be included before conducting any analysis.

^b. When using concatenated data across adults, adolescents, and/or children, use `tsvrunit`; when using separate data files, delete the commands associated with `tsvrunit`.