

WesVar Analysis Example Replication C6

WesVar 5.1 is primarily a point and click application and though a text file of commands can be used in the WesVar (V5.1) batch processing environment, all examples presented here use the GUI method. For more information on the batch processing approach, see the WesVar documentation addendum for V5.1.

Due to use of GUI method, no syntax is presented prior to results. Typically, WesVar results and setups are stored in WesVar workbooks. The analysis example replication documents include selected parts of the workbook output to highlight key results. For more on additional outputs and program features, see the WesVar documentation.

Output WesVar Analysis Example Replication C6

Example 6.1 Proportion of Those with Irregular Heart Beat, NHANES data

WESVAR VERSION NUMBER : v5.1.18
 TIME THE JOB EXECUTED : 11:15:55 06/29/2017
 INPUT DATASET NAME : P:\ASDA 2\Data sets\ nhanes 2011_2012\ nhanes1112_sub_8aug2016.var
 TIME THE INPUT DATASET CREATED : 13:01:11 06/28/2017
 FULL SAMPLE WEIGHT : WTMEC2YR
 REPLICATE WEIGHTS : RPL01...RPL31
 VARIANCE ESTIMATION METHOD : JK_n

OPTION COMPLETE : ON
 OPTION FUNCTION LOG : ON
 OPTION VARIABLE LABEL : OFF
 OPTION VALUE LABEL : OFF
 OPTION OUTPUT REPLICATE ESTIMATES : OFF
 FINITE POPULATION CORRECTION FACTOR : 1.00000
 VALUE OF ALPHA (CONFIDENCE LEVEL %) : 0.05000 (95.00000 %)
 DEGREES OF FREEDOM : 17
 t VALUE : 2.110
 SUBSET CRITERIA : age18p=1

ANALYSIS VARIABLES : irregular
 COMPUTED STATISTIC : None Specified.
 TABLE(S) : irregular

FACTOR(S) : 1.00
 JK_n FACTOR(S) : 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.50
 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50
 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50

NUMBER OF REPLICATES : 31
 NUMBER OF OBSERVATIONS READ : 5864
 WEIGHTED NUMBER OF OBSERVATIONS READ : 232002539.045
 EXCLUDED: 249 observations excluded from CELL_n because of zero weights.

| Irregular | STATISTIC | EST_TYPE | ESTIMATE | STDERROR | LOWER 95% | UPPER 95% WILSON | LOWER 95% WILSON | UPPER 95% | CELL _n | DENOM _n | DEFF |
|-----------|-----------|----------|----------|----------|-----------|------------------|------------------|-----------|-------------------|--------------------|-------|
| 1 | SUM_WTS | PERCENT | 1.642 | 0.168 | 1.287 | 1.996 | 1.323 | 2.036 | 110 | 5374 | 0.939 |

Example 6.2 Proportions of Adults by Race/Ethnicity, NHANES data

WESVAR VERSION NUMBER : v5.1.18
 TIME THE JOB EXECUTED : 11:25:21 06/29/2017
 INPUT DATASET NAME : P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes1112_sub_8aug2016.var
 TIME THE INPUT DATASET CREATED : 13:01:11 06/28/2017
 FULL SAMPLE WEIGHT : WTMEC2YR
 REPLICATE WEIGHTS : RPL01...RPL31
 VARIANCE ESTIMATION METHOD : JK_n

OPTION COMPLETE : ON
 OPTION FUNCTION LOG : ON
 OPTION VARIABLE LABEL : OFF
 OPTION VALUE LABEL : OFF
 OPTION OUTPUT REPLICATE ESTIMATES : OFF
 FINITE POPULATION CORRECTION FACTOR : 1.00000
 VALUE OF ALPHA (CONFIDENCE LEVEL %) : 0.05000 (95.00000 %)
 DEGREES OF FREEDOM : 17
 t VALUE : 2.110
 SUBSET CRITERIA : age18p=1

ANALYSIS VARIABLES : None Specified.
 COMPUTED STATISTIC : None Specified.
 TABLE(S) : RIDRETH1

FACTOR(S) : 1.00
 JK_n FACTOR(S) : 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.50
 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50
 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50

NUMBER OF REPLICATES : 31
 NUMBER OF OBSERVATIONS READ : 5864
 WEIGHTED NUMBER OF OBSERVATIONS READ : 232002539.045
 EXCLUDED: 249 observations excluded from CELL_n because of zero weights.

| RIDRETH1 | STATISTIC | EST_TYPE | ESTIMATE | STDERROR | LOWER 95% | UPPER 95% | CELL_n | DENOM_n | DEFF |
|----------|-----------|----------|----------|----------|-----------|-----------|--------|---------|--------|
| 1 | SUM_WTS | PERCENT | 7.917 | 1.723 | 4.283 | 11.551 | 569 | 5615 | 22.853 |
| 2 | SUM_WTS | PERCENT | 6.622 | 1.520 | 3.415 | 9.830 | 577 | 5615 | 20.988 |
| 3 | SUM_WTS | PERCENT | 65.939 | 3.890 | 57.731 | 74.146 | 2014 | 5615 | 37.833 |
| 4 | SUM_WTS | PERCENT | 11.718 | 2.339 | 6.784 | 16.653 | 1505 | 5615 | 29.693 |
| 5 | SUM_WTS | PERCENT | 7.804 | 1.087 | 5.510 | 10.097 | 950 | 5615 | 9.221 |

Example 6.3 Proportions of US Adults by Blood Pressure Category, NHANES data

WESVAR VERSION NUMBER : v5.1.18
 TIME THE JOB EXECUTED : 11:30:10 06/29/2017
 INPUT DATASET NAME : P:\ASDA 2\Data sets\ nhanes 2011_2012\ nhanes1112_sub_8aug2016.var
 TIME THE INPUT DATASET CREATED : 13:01:11 06/28/2017
 FULL SAMPLE WEIGHT : WTMEC2YR
 REPLICATE WEIGHTS : RPL01...RPL31
 VARIANCE ESTIMATION METHOD : JK_n

OPTION COMPLETE : ON
 OPTION FUNCTION LOG : ON
 OPTION VARIABLE LABEL : OFF
 OPTION VALUE LABEL : OFF
 OPTION OUTPUT REPLICATE ESTIMATES : OFF
 FINITE POPULATION CORRECTION FACTOR : 1.00000
 VALUE OF ALPHA (CONFIDENCE LEVEL %) : 0.05000 (95.00000 %)
 DEGREES OF FREEDOM : 17
 t VALUE : 2.110
 SUBSET CRITERIA : age18p=1

ANALYSIS VARIABLES : None Specified.
 COMPUTED STATISTIC : None Specified.
 TABLE(S) : bp_cat

FACTOR(S) : 1.00
 JK_n FACTOR(S) : 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.50
 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50
 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50

NUMBER OF REPLICATES : 31
 NUMBER OF OBSERVATIONS READ : 5864
 WEIGHTED NUMBER OF OBSERVATIONS READ : 232002539.045
 EXCLUDED: 249 observations excluded from CELL_n because of zero weights.

| bp_cat | STATISTIC | EST_TYPE | ESTIMATE | STDERROR | LOWER 95% | UPPER 95% | CELL_n | DENOM_n | DEFF |
|--------|-----------|----------|----------|----------|-----------|-----------|--------|---------|-------|
| 1 | SUM_WTS | PERCENT | 47.222 | 1.554 | 43.943 | 50.502 | 2438 | 5356 | 5.193 |
| 2 | SUM_WTS | PERCENT | 42.799 | 1.204 | 40.258 | 45.339 | 2284 | 5356 | 3.172 |
| 3 | SUM_WTS | PERCENT | 7.978 | 0.582 | 6.750 | 9.205 | 489 | 5356 | 2.470 |
| 4 | SUM_WTS | PERCENT | 2.001 | 0.440 | 1.073 | 2.930 | 145 | 5356 | 5.291 |

Example 6.4 Marital Status Proportions, Russian Federation Data

WESVAR VERSION NUMBER : v5.1.18
 TIME THE JOB EXECUTED : 11:49:49 06/29/2017
 INPUT DATASET NAME : P:\ASDA 2\Data sets\ESS6 Russia\ess6_russia_20aug2016.var
 TIME THE INPUT DATASET CREATED : 11:47:19 06/29/2017
 FULL SAMPLE WEIGHT : PSPWGHT
 REPLICATE WEIGHTS : RPL001...RPL184
 VARIANCE ESTIMATION METHOD : JK1

OPTION COMPLETE : ON
 OPTION FUNCTION LOG : ON
 OPTION VARIABLE LABEL : OFF
 OPTION VALUE LABEL : OFF
 OPTION OUTPUT REPLICATE ESTIMATES : OFF
 FINITE POPULATION CORRECTION FACTOR : 1.00000
 VALUE OF ALPHA (CONFIDENCE LEVEL %) : 0.05000 (95.00000 %)
 DEGREES OF FREEDOM : 183
 t VALUE : 1.973
 SUBSET CRITERIA :

ANALYSIS VARIABLES : None Specified.
 COMPUTED STATISTIC : None Specified.
 TABLE(S) : marcat

FACTOR(S) : 1.00

NUMBER OF REPLICATES : 184
 NUMBER OF OBSERVATIONS READ : 2484
 WEIGHTED NUMBER OF OBSERVATIONS READ : 2484.000

| marcat | STATISTIC | EST_TYPE | ESTIMATE | STDERROR | LOWER 95% | UPPER 95% | CV (%) | CELL_n | DENOM_n | DEFF |
|--------|-----------|----------|----------|----------|-----------|-----------|--------|--------|---------|-------|
| 1 | SUM_WTS | PERCENT | 50.386 | 1.317 | 47.788 | 52.984 | 2.613 | 1066 | 2444 | 1.695 |
| 2 | SUM_WTS | PERCENT | 23.007 | 1.200 | 20.639 | 25.374 | 5.215 | 791 | 2444 | 1.986 |
| 3 | SUM_WTS | PERCENT | 26.607 | 1.326 | 23.991 | 29.224 | 4.984 | 587 | 2444 | 2.201 |

Note: Test of hypothesized proportions not available in WesVar.

Example 6.5 Pie and Bar Charts Not Available in WesVar

Example 6.6 Proportions of MDE by Gender, NCS-R data

WESVAR VERSION NUMBER : v5.1.18
TIME THE JOB EXECUTED : 12:15:51 06/29/2017
INPUT DATASET NAME : P:\ASDA 2\Data sets\NCSR\ncsr_sub_5apr2017_p1.var
TIME THE INPUT DATASET CREATED : 12:14:24 06/29/2017
FULL SAMPLE WEIGHT : NCSRWTSH
REPLICATE WEIGHTS : RPL01...RPL42
VARIANCE ESTIMATION METHOD : JK2

OPTION COMPLETE : ON
OPTION FUNCTION LOG : ON
OPTION VARIABLE LABEL : OFF
OPTION VALUE LABEL : OFF
OPTION OUTPUT REPLICATE ESTIMATES : OFF
FINITE POPULATION CORRECTION FACTOR : 1.00000
VALUE OF ALPHA (CONFIDENCE LEVEL %) : 0.05000 (95.00000 %)
DEGREES OF FREEDOM : 42
t VALUE : 2.018
SUBSET CRITERIA :

ANALYSIS VARIABLES : None Specified.
COMPUTED STATISTIC : None Specified.
TABLE(S) : SEX*mde

FACTOR(S) : 1.00

NUMBER OF REPLICATES : 42
NUMBER OF OBSERVATIONS READ : 9282
WEIGHTED NUMBER OF OBSERVATIONS READ : 9282.000

| SEX | mde | STATISTIC | EST_TYPE | ESTIMATE | STDERROR | LOWER 95% | UPPER 95% | CV(%) | CELL_n | DENOM_n | DEFF |
|-----|----------|-----------|----------|----------|----------|-----------|-----------|-------|--------|---------|-------|
| 1 | 0 | SUM_WTS | PERCENT | 40.664 | 0.694 | 39.264 | 42.065 | 1.706 | 3522 | 9282 | 1.852 |
| 1 | 1 | SUM_WTS | PERCENT | 7.221 | 0.339 | 6.536 | 7.906 | 4.701 | 617 | 9282 | 1.596 |
| 1 | MARGINAL | SUM_WTS | PERCENT | 47.885 | 0.531 | 46.813 | 48.958 | 1.110 | 4139 | 9282 | 1.050 |
| 2 | 0 | SUM_WTS | PERCENT | 40.164 | 0.536 | 39.083 | 41.246 | 1.334 | 3931 | 9282 | 1.109 |
| 2 | 1 | SUM_WTS | PERCENT | 11.950 | 0.303 | 11.340 | 12.561 | 2.533 | 1212 | 9282 | 0.808 |
| 2 | MARGINAL | SUM_WTS | PERCENT | 52.115 | 0.531 | 51.042 | 53.187 | 1.020 | 5143 | 9282 | 1.050 |

| SEX | mde | STATISTIC | EST_TYPE | ESTIMATE | STDERROR | LOWER 95% | UPPER 95% | CV(%) | CELL_n | DENOM_n | DEFF |
|-----|----------|-----------|----------|----------|----------|-----------|-----------|-------|--------|---------|-------|
| 1 | 0 | SUM_WTS | ROWPCT | 84.921 | 0.766 | 83.375 | 86.466 | 0.902 | 3522 | 4139 | 1.896 |
| 1 | 1 | SUM_WTS | ROWPCT | 15.079 | 0.766 | 13.534 | 16.625 | 5.079 | 617 | 4139 | 1.896 |
| 1 | MARGINAL | SUM_WTS | ROWPCT | 100.000 | 0.000 | . | . | 0.000 | 4139 | 4139 | . |
| 2 | 0 | SUM_WTS | ROWPCT | 77.069 | 0.564 | 75.930 | 78.208 | 0.732 | 3931 | 5143 | 0.927 |
| 2 | 1 | SUM_WTS | ROWPCT | 22.931 | 0.564 | 21.792 | 24.070 | 2.461 | 1212 | 5143 | 0.927 |
| 2 | MARGINAL | SUM_WTS | ROWPCT | 100.000 | 0.000 | . | . | 0.000 | 5143 | 5143 | . |

Example 6.7 Proportions of MDE by Gender with Linear Contrast, NCS-R data

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FULL SAMPLE WEIGHT :   NCSRWTSH
REPLICATE WEIGHTS :   RPL01...RPL42
VARIANCE ESTIMATION METHOD :   JK2

OPTION COMPLETE :      ON
OPTION FUNCTION LOG :  ON
OPTION VARIABLE LABEL :      OFF
OPTION VALUE LABEL :   OFF
OPTION OUTPUT REPLICATE ESTIMATES :   OFF
FINITE POPULATION CORRECTION FACTOR :  1.00000
VALUE OF ALPHA (CONFIDENCE LEVEL %) :  0.05000 (95.00000 %)
DEGREES OF FREEDOM :   42
t VALUE :      2.018
SUBSET CRITERIA :

ANALYSIS VARIABLES :  None Specified.
COMPUTED STATISTIC :  None Specified.
TABLE(S) :      mde*SEX

FACTOR(S) :      1.00

NUMBER OF REPLICATES :  42
NUMBER OF OBSERVATIONS READ :  9282
WEIGHTED NUMBER OF OBSERVATIONS READ : 9282.000

```

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TABLE :      mde * SEX
Cell Definition :  mde_m : mde = 1
                  SEX = 1
mde_f : mde = 1
                  SEX = 2
Function Statistics :      diff_mde=mde_m-mde_f
FOR--      SUM_WTS

```

| LABEL | STATISTIC | EST_TYPE | ESTIMATE | STDERROR | LOWER 95% | UPPER 95% | CV(%) |
|----------|-----------|----------|----------|----------|-----------|-----------|--------|
| diff_mde | SUM_WTS | COLPCT | -7.851 | 0.946 | -9.760 | -5.943 | 12.046 |

Example 6.8 Independence of MDE and Gender, NCS-R data

FULL SAMPLE WEIGHT : NCSRWTSH
REPLICATE WEIGHTS : RPL01...RPL42
VARIANCE ESTIMATION METHOD : JK2

OPTION COMPLETE : ON
OPTION FUNCTION LOG : ON
OPTION VARIABLE LABEL : OFF
OPTION VALUE LABEL : OFF
OPTION OUTPUT REPLICATE ESTIMATES : OFF
FINITE POPULATION CORRECTION FACTOR : 1.00000
VALUE OF ALPHA (CONFIDENCE LEVEL %) : 0.05000 (95.00000 %)
DEGREES OF FREEDOM : 42
t VALUE : 2.018
SUBSET CRITERIA :

ANALYSIS VARIABLES : None Specified.
COMPUTED STATISTIC : None Specified.
TABLE(S) : SEX*mde

FACTOR(S) : 1.00

NUMBER OF REPLICATES : 42
NUMBER OF OBSERVATIONS READ : 9282
WEIGHTED NUMBER OF OBSERVATIONS READ : 9282.000

| CHI-SQUARE | D.F. | VALUE | PROB |
|------------|-------|--------|-------|
| PEARSON | 1.000 | 92.150 | 0.000 |
| RS2 | 1.000 | 68.543 | 0.000 |
| RS3 | 1.000 | 68.470 | 0.000 |

Example 6.9 Independence of Alcohol Dependence and Education in Young Adults (Age 18-28), NCS-R data

WESVAR VERSION NUMBER : v5.1.18
 TIME THE JOB EXECUTED : 12:38:38 06/29/2017
 INPUT DATASET NAME : P:\ASDA 2\Data sets\NCSR\ncsr_sub_5apr2017_p2.var
 TIME THE INPUT DATASET CREATED : 12:35:20 06/29/2017
 FULL SAMPLE WEIGHT : NCSRWTLG
 REPLICATE WEIGHTS : RPL01...RPL42
 VARIANCE ESTIMATION METHOD : JK2
 OPTION COMPLETE : ON
 OPTION FUNCTION LOG : ON
 OPTION VARIABLE LABEL : OFF
 OPTION VALUE LABEL : OFF
 OPTION OUTPUT REPLICATE ESTIMATES : OFF
 FINITE POPULATION CORRECTION FACTOR : 1.00000
 VALUE OF ALPHA (CONFIDENCE LEVEL %) : 0.05000 (95.00000 %)
 DEGREES OF FREEDOM : 42
 t VALUE : 2.018
 SUBSET CRITERIA : age <=28

ANALYSIS VARIABLES : None Specified.
 COMPUTED STATISTIC : None Specified.
 TABLE(S) : ald*ED4CAT

FACTOR(S) : 1.00
 NUMBER OF REPLICATES : 42
 NUMBER OF OBSERVATIONS READ : 1275
 WEIGHTED NUMBER OF OBSERVATIONS READ : 1266.557

| ald | ED4CAT | STATISTIC | EST_TYPE | ESTIMATE | STDERROR | LOWER 95% | UPPER 95% | CV(%) | CELL_n | DENOM_n | DEFF |
|-----|----------|-----------|----------|----------|----------|-----------|-----------|--------|--------|---------|-------|
| 0 | 1 | SUM_WTS | COLPCT | 90.871 | 2.917 | 84.985 | 96.758 | 3.210 | 186 | 208 | 2.134 |
| 0 | 2 | SUM_WTS | COLPCT | 95.144 | 1.339 | 92.443 | 97.845 | 1.407 | 356 | 382 | 1.481 |
| 0 | 3 | SUM_WTS | COLPCT | 95.104 | 1.005 | 93.077 | 97.132 | 1.056 | 424 | 458 | 0.993 |
| 0 | 4 | SUM_WTS | COLPCT | 93.096 | 1.371 | 90.330 | 95.863 | 1.472 | 207 | 227 | 0.664 |
| 0 | MARGINAL | SUM_WTS | COLPCT | 94.051 | 0.884 | 92.266 | 95.835 | 0.940 | 1173 | 1275 | 1.782 |
| 1 | 1 | SUM_WTS | COLPCT | 9.129 | 2.917 | 3.242 | 15.015 | 31.954 | 22 | 208 | 2.134 |
| 1 | 2 | SUM_WTS | COLPCT | 4.856 | 1.339 | 2.155 | 7.557 | 27.566 | 26 | 382 | 1.481 |
| 1 | 3 | SUM_WTS | COLPCT | 4.896 | 1.005 | 2.868 | 6.923 | 20.522 | 34 | 458 | 0.993 |
| 1 | 4 | SUM_WTS | COLPCT | 6.904 | 1.371 | 4.137 | 9.670 | 19.856 | 20 | 227 | 0.664 |
| 1 | MARGINAL | SUM_WTS | COLPCT | 5.949 | 0.884 | 4.165 | 7.734 | 14.866 | 102 | 1275 | 1.782 |

| CHI-SQUARE | D.F. | VALUE | PROB |
|------------|-------|-------|-------|
| PEARSON | 1.000 | 6.896 | 0.009 |
| RS2 | 1.000 | 5.307 | 0.021 |

Example 6.10 Simple Logistic Regression to Estimate Gender Odds Ratio for MDE

WESVAR VERSION NUMBER : v5.1.18
 TIME THE JOB EXECUTED : 12:51:02 06/29/2017
 INPUT DATASET NAME : P:\ASDA 2\Data sets\NCSR\ncsr_sub_5apr2017_p1.var
 TIME THE INPUT DATASET CREATED : 12:14:24 06/29/2017
 FULL SAMPLE WEIGHT : NCSRWTSH
 REPLICATE WEIGHTS : RPL01...RPL42
 VARIANCE ESTIMATION METHOD : JK2

TYPE OF ANALYSIS : LOGISTIC
 CONVERGENCE CRITERION : 1e-06
 MAXIMUM NUMBER OF ITERATIONS : 25
 VALUE OF ALPHA (CONFIDENCE LEVEL %) : 0.05000 (95.00000 %)
 OPTION OUTPUT REPLICATE COEFFICIENTS : OFF
 OPTION OUTPUT ITERATION HISTORY : OFF

MODEL(S): mde = sexm

NUMBER OF REPLICATES : 42
 NUMBER OF OBSERVATIONS READ : 9282
 WEIGHTED NUMBER OF OBSERVATIONS READ : 9282.000

| | PARAMETER | STANDARD ERROR | TEST FOR H0: | | | |
|-----------|-----------|----------------|--------------|---------|-----------|-----------|
| PARAMETER | ESTIMATE | OF ESTIMATE | PARAMETER=0 | PROB> T | LOWER 95% | UPPER 95% |
| INTERCEPT | -1.212 | 0.032 | -37.896 | 0.000 | -1.277 | -1.148 |
| sexm | -0.516 | 0.067 | -7.680 | 0.000 | -0.652 | -0.381 |

| | | | |
|------------------------------|-------|-------------------------|-------|
| Negative log-likelihood: | 0.010 | | |
| Likelihood ratio(Cox-Snell): | 0.010 | Maximum possible value: | 0.624 |
| Likelihood ratio(Estrella): | 0.010 | | |

| TEST | F VALUE | NUM. DF | DENOM. DF | PROB>F |
|-------------|---------|---------|-----------|--------|
| OVERALL FIT | 58.978 | 1 | 42 | 0.000 |
| sexm | 58.978 | 1 | 42 | 0.000 |

| PARAMETER | ESTIMATE/ODDS Ratio | LOWER 95% | UPPER 95% |
|-----------|---------------------|-----------|-----------|
| sexm | 0.597 | 0.521 | 0.683 |

Example 6.11 Association Between MDE and Gender, Controlling for Age with CMH test is Not Available in WesVar

Example 6.12 Log-Linear Model for MDE and Gender Association is Not Available in WesVar