

## IVEware Analysis Example Replication C6

```
* IVEware (SAS Callable) Analysis Examples Replication for ASDA 2nd Edition
* Berglund April 2017
* Chapter 6 ;

libname d "P:\ASDA 2\Data sets\nhanes 2011_2012\" ;
ods listing ;
ods graphics off ;
options nodate nonumber ls=125 ps=68 ;

* set options and location to call IVEware from SAS session ;
options set=srclib "C:\iveware_30jan2017\sas" sasautos=('!srclib' sasautos) maautosource ;

ods rtf style=minimal bodytitle ;

title ;

data c6_nhanes ;
  set d.nhanes1112_sub_8aug2016 ;
run ;

* Example 6.1: Estimating the Proportion of the U.S. Adult Population with an Irregular Heart Beat. ;
%describe (setup=new, name="Example 6.1", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
  title "Example 6.1 Proportion of US Adults with Irregular Hear Beat" ;
  datain c6_nhanes ;
  stratum sdmvstra ; cluster sdmvpsu ; weight wtmecl2yr ;
  by age18p ;
  table irregular ; *NOTE: TABLE uses same method for CI as MEAN, NO OPTION FOR LOGIT ;
run;

%describe (setup=new, name="Example 6.1", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
  title "Example 6.1 Proportion of US Adults with Irregular Hear Beat" ;
  datain c6_nhanes ;
  stratum sdmvstra ; cluster sdmvpsu ; weight wtmecl2yr ;
  by age18p ;
  mean irregular ;
run;

*Example 6.2: Estimating the Proportion of U.S. Adults by Race and Ethnicity using NHANES data. ;
%describe (setup=new, name="Example 6.2", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
  title "Example 6.2 Proportion of US Adults by Race and Ethnicity" ;
  datain c6_nhanes ;
  stratum sdmvstra ; cluster sdmvpsu ; weight wtmecl2yr ;
  by age18p ;
  table ridreth1 ;
run;

%describe (setup=new, name="Example 6.3", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
  title " Example 6.3: Estimating the Proportions of U.S. Adults by Blood Pressure Category using the 2011-2012 NHANES Data." ;
  datain c6_nhanes ;
  stratum sdmvstra ; cluster sdmvpsu ; weight wtmecl2yr ;
  by age18p ;
  table bp_cat ;
run;

libname russia "P:\ASDA 2\Data sets\ESS6 Russia" ;
data c6_russia ;
  set russia.ess6_russia_20aug2016 ;
run ;

ods text="GOF for Proportions Not Available in IVEware: Example 6.4: A Goodness of Fit Test for Proportions of Russians age 15+ by Marital Status." ;

%describe (setup=new, name="Example 6.4", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
  title " Example 6.4: Proportions of Russians Age 15+ by Marital Status" ;
  datain c6_russia ;
  stratum stratify ; cluster psu ; weight pspwght ;
  table marcat ;
run;

ods text="GOF for Proportions Not Available in IVEware: Example 6.4: A Goodness of Fit Test for Proportions of Russians age 15+ by Marital Status." ;
ods text="Weighted Plots not Available in IVEware: Example 6.5: Pie Charts and Vertical Bar Charts of the Estimated Proportions of Russians age 15+ by Marital Status." ;
```

```

libname ncsr "P:\ASDA 2\Data sets\ncsr\" ;
data c6_ncsr ;
    set ncsr.ncsr_sub_13nov2015 ;
run ;

%describe (setup=new, name="Example 6.6", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
    title " Example 6.6: Estimation of Total Proportions for the Crosstabulation of Gender and Lifetime Major Depression Status
(Source: NCS-R)." ;
    datain c6_ncsr ;
    stratum sestrat ; cluster seclustr ; weight ncsrwtsh ;
    table sex*mde ;
run;

%describe (setup=new, name="Example 6.6", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
    title " Example 6.6: Estimation of Row Proportions for the Crosstabulation of Gender and Lifetime Major Depression Status
(Source: NCS-R)." ;
    datain c6_ncsr ;
    stratum sestrat ; cluster seclustr ; weight ncsrwtsh ;
    table mde ;
    by sex ;
run;

%describe (setup=new, name="Example 6.7", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
    title " Example 6.7: Comparing the Proportions of U.S. Adult Men and Women with Lifetime Major Depression. " ;
    datain c6_ncsr ;
    stratum sestrat ; cluster seclustr ; weight ncsrwtsh ;
    table mde ;
    contrast sex ;
run;

    * no test of independence in DESCRIBE/TABLE command, therefore use REGRESS command, this uses logistic regression and provides
a design-based t test with p value ;
%regress (setup=new, name="Example 6.8", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
title Example 6.8: Testing the Independence of MDE and Gender in U.S. Adults Using the NCS-R data. ;
    datain c6_ncsr ;
    stratum sestrat ; cluster seclustr ; weight ncsrwtsh ;
    class mde sex ;
    dependent mde ;
    predictor sex ;
run;

data c6_ncsr1 ;
    set c6_ncsr ;
* create indicator for subpopulation of interest ;
    age18_28=0 ;
    if 18<=age<=28 then age18_28=1 ;
    if sex=2 then sexr=1 ; if sex=1 then sexr=2 ;
    if mde=1 then mder=1 ; if mde=0 then mder=2 ;
    * create a dummy variable for males ;
    if sex=1 then sexm=1 ; else sexm=0 ;
run ;

* Note: due to Bad Strata 18, this code aborts ;
%describe (setup=new, name="Example 6.9", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
title Example 6.9: Testing the Independence of Alcohol Dependence and Education Level in Young Adults (Ages 18-28) using the
NCS-R data. ;
    datain c6_ncsr1 ;
    stratum sestrat ; cluster seclustr ; weight ncsrwtsh ;
    by age18_28 ;
    table ed4cat*ald ;
run;

* Note: use reversed coded mde variable to omit some categories as Stata (IVEware omits highest category by default) ;
%regress (setup=new, name="Example 6.10", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
title "Example 6.10: Simple Logistic Regression to Estimate the NCS-R Male/Female Odds Ratio for Lifetime Major Depressive
Episode. " ;
    datain c6_ncsr1 ;
    stratum sestrat ; cluster seclustr ; weight ncsrwtsh ;
    class mder sex ;
    dependent mder ;
    predictor sex ;
run;

* Example 6.11: Using the NCS-R Data to Estimate and Test the Association between Gender and Depression in the U.S. Adult
Population when controlling for Age. ;
ods text="Example 6.11 CMH Trend not Available in IVEware" ;

```

```
* for 6.12, need data set with just variables used in PROC CATMOD in SASMOD command of IVEware, this enable program to work
correctly for JRR ;
data c6_ncsra ;
  set c6_ncsrl ;
keep seclustr sestrat ncsrwts mde sexm ;
run ;

* Example 6.12: A Simple Log-linear Model to Test the Association between Lifetime Major Depression Episode and Sex. ;
%sasmod (setup=new, name="Example 6.12" , dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
title Example 6.12: A Simple Log-linear Model to Test the Association between Lifetime Major Depression Episode and Sex ;
datain c6_ncsra ;
stratum sestrat ; cluster seclustr ; weight ncsrwts ;
proc catmod ;
  model mde*sexm=_response_ ;
  loglin mde sexm mde*sexm ;
run ;

ods rtf close ;
```

Output IVEware Analysis Example Replication C6

```
IVEware Setup Checker, Tue May 09 11:09:57 2017 1
Setup listing:
title "Example 6.1 Proportion of US Adults with Irregular Hear Beat" ;
datain c6 nhanes ;
stratum sdmvstra ; cluster sdmvpsu ; weight wtmecl2yr ;
by age18p ;
table irregular ; *NOTE: TABLE uses same method for CI as MEAN, NO OPTION FOR
LOGIT ;
run;
```

```
IVEware Design-Based Descriptive Statistics Procedure, Tue May 09 11:09:58 2017 1
"Example 6.1 Proportion of US Adults with Irregular Hear Beat"
By variables:          age18p  Age >=18: 1=Yes 0=No
Stratum variable:     SDMVSTRA  Masked variance pseudo-stratum
Cluster variable:     SDMVPSU   Masked variance pseudo-PSU
Weight variable:      WTMEC2YR  Full sample 2 year MEC exam weight

Analysis description:
      5  Variables
     14  Strata
     31  Secus

Strata Model
     14  Multiple PSU
      0  Paired Selection
      0  Successive Differences

9338  Cases Read
```

"Example 6.1 Proportion of US Adults with Irregular Hear Beat"

By Condition

age18p  
0

Problem 1

Degrees of freedom

17

Factor Covariance of denominator  
None 0.07910

Table irregular	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
0	3642	7.270614e+007	0.99581	0.00154
1	11	305579.8	0.00419	0.00154
	Lower Bound	Upper Bound	T Test	Prob >  T
0	0.99257	0.99906	647.71840	0.00000
1	0.00094	0.00743	2.72232	0.01448
	Unweighted Proportion	Bias	Design Effect	
0	0.99699	0.11791	2.07112	
1	0.00301	-28.05329	2.07112	

By Condition

age18p  
1

Problem 2

Degrees of freedom

17

Factor Covariance of denominator  
None 0.06112

Table irregular	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
0	5264	2.196305e+008	0.98358	0.00168
1	110	3666308	0.01642	0.00168
	Lower Bound	Upper Bound	T Test	Prob >  T
0	0.98004	0.98712	586.21233	0.00000
1	0.01288	0.01996	9.78568	0.00000

"Example 6.1 Proportion of US Adults with Irregular Hear Beat"

	Unweighted Proportion	Bias	Design Effect
0	0.97953	-0.41175	0.93664
1	0.02047	24.66618	0.93664

Setup listing:

```

title "Example 6.1 Proportion of US Adults with Irregular Hear Beat" ;
datain c6_nhanes ;
stratum sdmvstra ; cluster sdmvpsu ; weight wtmec2yr ;
by age18p ;
mean irregular ;
run;

```

"Example 6.1 Proportion of US Adults with Irregular Hear Beat"

```

By variables:      age18p  Age >=18: 1=Yes 0=No
Stratum variable:  SDMVSTRA  Masked variance pseudo-stratum
Cluster variable:  SDMVPSU   Masked variance pseudo-PSU
Weight variable:   WTMEC2YR  Full sample 2 year MEC exam weight

```

Analysis description:

```

      5  Variables
     14  Strata
     31  Secus

Strata  Model
     14  Multiple PSU
      0  Paired Selection
      0  Successive Differences

9338  Cases Read

```

"Example 6.1 Proportion of US Adults with Irregular Hear Beat"

By Condition

age18p  
0

Problem 1

Degrees of freedom

17

Factor Covariance of denominator  
None 0.07910

Mean irregular	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	3653	7.301172e+007	0.004185353	0.001537419
	Lower Bound	Upper Bound	T Test	Prob >  T
	0.0009416818	0.007429024	2.72232	0.01448
	Unweighted Mean	Bias	Design Effect	
	0.003011224	-28.05329	2.07112	

By Condition

age18p  
1

Problem 2

Degrees of freedom

17

Factor Covariance of denominator  
None 0.06112

Mean irregular	Number of Cases	Sum of Weights	Weighted Mean	Standard Error
	5374	2.232968e+008	0.01641899	0.001677858
	Lower Bound	Upper Bound	T Test	Prob >  T
	0.01287902	0.01995896	9.78568	0.00000
	Unweighted Mean	Bias	Design Effect	
	0.02046892	24.66618	0.93664	

Setup listing:

```

title "Example 6.2 Proportion of US Adults by Race and Ethnicity" ;
datain c6_nhanes ;
stratum sdmvstra ; cluster sdmvpsu ; weight wtmec2yr ;
by age18p ;
table ridreth1 ;
run;
    
```

"Example 6.2 Proportion of US Adults by Race and Ethnicity"

By variables:            age18p  Age >=18: 1=Yes 0=No  
 Stratum variable:       SDMVSTRA  Masked variance pseudo-stratum  
 Cluster variable:      SDMVPSU  Masked variance pseudo-PSU  
 Weight variable:       WTMEC2YR  Full sample 2 year MEC exam weight

Analysis description:

```

         5  Variables
        14  Strata
        31  Secus

Strata  Model
        14  Multiple PSU
         0  Paired Selection
         0  Successive Differences

    9338  Cases Read
    
```



"Example 6.2 Proportion of US Adults by Race and Ethnicity"

By Condition  
 age18p  
 0

Problem 1

Degrees of freedom

17

Factor Covariance of denominator  
 None 0.08075

Table	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
RIDRETH1				
1	747	1.144517e+007	0.15344	0.03166
2	434	6051942	0.08114	0.01693
3	827	3.974194e+007	0.53282	0.04960
4	1077	1.094441e+007	0.14673	0.02809
5	638	6404678	0.08587	0.01146

	Lower Bound	Upper Bound	T Test	Prob >  T
1	0.08665	0.22024	4.84668	0.00015
2	0.04542	0.11685	4.79307	0.00017
3	0.42817	0.63747	10.74165	0.00000
4	0.08747	0.20599	5.22394	0.00007
5	0.06168	0.11005	7.49119	0.00000

	Unweighted Proportion	Bias	Design Effect
1	0.20064	30.76008	28.72003
2	0.11657	43.67186	14.30616
3	0.22213	-58.30987	36.78983
4	0.28928	97.15143	23.45404
5	0.17137	99.57225	6.23008

By Condition  
 age18p  
 1

Problem 2

Degrees of freedom

17

Factor Covariance of denominator  
 None 0.06037

Table	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
RIDRETH1				
1	569	1.836715e+007	0.07917	0.01725

"Example 6.2 Proportion of US Adults by Race and Ethnicity"

Table	Number of	Sum of	Weighted	Standard
RIDRETH1	Cases	Weights	Proportion	Error
2	577	1.536422e+007	0.06622	0.01519
3	2014	1.529793e+008	0.65939	0.03889
4	1505	2.718712e+007	0.11718	0.02337
5	950	1.810472e+007	0.07804	0.01092
	Lower	Upper	T Test	Prob >  T
	Bound	Bound		
1	0.04277	0.11556	4.58929	0.00026
2	0.03417	0.09828	4.35897	0.00043
3	0.57733	0.74144	16.95450	0.00000
4	0.06788	0.16649	5.01433	0.00011
5	0.05500	0.10107	7.14811	0.00000
	Unweighted	Bias	Design	
	Proportion		Effect	
1	0.10134	28.00105	22.91659	
2	0.10276	55.17016	20.95462	
3	0.35868	-45.60366	37.80772	
4	0.26803	128.72636	29.63794	
5	0.16919	116.80775	9.29983	

Setup listing:

```
title " Example 6.3: Estimating the Proportions of U.S. Adults by Blood Pressure
Category using the 2011-2012 NHANES Data." ;
datain c6_nhanes ;
stratum sdmvstra ; cluster sdmvpsu ; weight wtmec2yr ;
by agel8p ;
table bp cat ;
run;
```

" Example 6.3: Estimating the Proportions of U.S. Adults by Blood Pressure Category

```
By variables:          agel8p  Age >=18: 1=Yes 0=No
Stratum variable:     SDMVSTRA  Masked variance pseudo-stratum
Cluster variable:    SDMVPSU   Masked variance pseudo-PSU
Weight variable:     WTMEC2YR  Full sample 2 year MEC exam weight
```

Analysis description:

```
      5  Variables
     14  Strata
     31  Secus

Strata Model
     14  Multiple PSU
      0  Paired Selection
      0  Successive Differences

9338  Cases Read
```

" Example 6.3: Estimating the Proportions of U.S. Adults by Blood Pressure Category using the 2011-2012 NHANES Data."

By Condition  
 age18p  
 0

Problem 1

Degrees of freedom

17

Factor Covariance of denominator  
 None 0.07745

Table bp_cat	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	1543	3.671991e+007	0.90383	0.00972
2	154	3870348	0.09527	0.00955
3	2	36604.36	0.00090	0.00066
4	0	3.907189e-009	0.00000	0.00000

	Lower Bound	Upper Bound	T Test	Prob >  T
1	0.88332	0.92435	92.94489	0.00000
2	0.07511	0.11542	9.97194	0.00000
3	-0.00049	0.00229	1.36958	0.18864
4	0.00000	0.00000	0.00000	0.00000

	Unweighted Proportion	Bias	Design Effect
1	0.90818	0.48106	1.84735
2	0.09064	-4.85398	1.79802
3	0.00118	30.65229	0.81634
4	0.00000	0.00000	0.00000

By Condition  
 age18p  
 1

Problem 2

Degrees of freedom

17

Factor Covariance of denominator  
 None 0.06127

Table bp_cat	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	2438	1.051854e+008	0.47222	0.01552
2	2284	9.533164e+007	0.42799	0.01204
3	489	1.777016e+007	0.07978	0.00582
4	145	4457862	0.02001	0.00438

" Example 6.3: Estimating the Proportions of U.S. Adults by Blood Pressure Category using the 2011-2012 NHANES Data."

	Lower Bound	Upper Bound	T Test	Prob >  T
1	0.43948	0.50497	30.42493	0.00000
2	0.40259	0.45338	35.56085	0.00000
3	0.06751	0.09205	13.71834	0.00000
4	0.01076	0.02926	4.56436	0.00028

	Unweighted Proportion	Bias	Design Effect
1	0.45519	-3.60694	5.17604
2	0.42644	-0.36165	3.16838
3	0.09130	14.44190	2.46687
4	0.02707	35.27232	5.24926

Setup listing:

```

title " Example 6.4: Proportions of Russians Age 15+ by Marital Status" ;
datain c6_russia ;
stratum stratify ; cluster psu ; weight pspwght;
table marcat ;
run;
    
```

" Example 6.4: Proportions of Russians Age 15+ by Marital Status"

Stratum variable: stratify Stratification  
 Cluster variable: psu Primary Sampling Unit  
 Weight variable: PSPWGHT Post-stratification weight including design weight

Analysis description:

```

      4 Variables
      8 Strata
     184 Secus

Strata Model
      8 Multiple PSU
      0 Paired Selection
      0 Successive Differences

     2484 Cases Read
    
```

" Example 6.4: Proportions of Russians Age 15+ by Marital Status"

Problem 1

Degrees of freedom

176

Factor Covariance of denominator  
 None 0.03839

Table marcat	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	1066	1235.957	0.50386	0.01288
2	791	564.3472	0.23007	0.01154
3	587	652.6725	0.26607	0.01340

	Lower Bound	Upper Bound	T Test	Prob >  T
1	0.47845	0.52927	39.12645	0.00000
2	0.20730	0.25283	19.94261	0.00000
3	0.23963	0.29252	19.85402	0.00000

	Unweighted Proportion	Bias	Design Effect
1	0.43617	-13.43426	1.62065
2	0.32365	40.67677	1.83552
3	0.24018	-9.73175	2.24686

GOF for Proportions Not Available in IVEware: Example 6.4: A Goodness of Fit Test for Proportions of Russians age 15+ by Marital Status.

Weighted Plots not Available in IVEware: Example 6.5: Pie Charts and Vertical Bar Charts of the Estimated Proportions of Russians age 15+ by Marital Status.

Setup listing:

```

title " Example 6.6: Estimation of Total Proportions for the Crosstabulation of
Gender and Lifetime Major Depression Status (Source: NCS-R)." ;
datain c6_ncsr ;
stratum sestrat ; cluster seclustr ; weight ncsrwtsh ;
table sex*mde ;
run;
    
```

" Example 6.6: Estimation of Total Proportions for the Crosstabulation of Gender and

```

Stratum variable:      SESTRAT  SAMPLING ERROR STRATUM
Cluster variable:     SECLUSTR  SAMPLING ERROR CLUSTER
Weight variable:      NCSRWTSH  NCSR sample part 1 weight
    
```

Analysis description:

```

          5 Variables
          42 Strata
          84 Secus

Strata Model
          42 Multiple PSU
           0 Paired Selection
           0 Successive Differences

          9282 Cases Read
    
```

" Example 6.6: Estimation of Total Proportions for the Crosstabulation of Gender and Lifetime Major Depression Status (So  
 Problem 1

Degrees of freedom

42

```

Factor      Covariance of denominator
None        0.04886
    
```

Table	SEX	mde	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	1	0	3522	3774.474	0.40664	0.00698
1	1	1	617	670.2321	0.07221	0.00344
2	2	0	3931	3728.062	0.40164	0.00536
2	2	1	1212	1109.232	0.11950	0.00303

			Lower Bound	Upper Bound	T Test	Prob >  T
1	0	0.39256	0.39256	0.42073	58.25808	0.00000
1	1	0.06527	0.06527	0.07915	21.00460	0.00000
2	0	0.39083	0.39083	0.41246	74.92532	0.00000
2	1	0.11339	0.11339	0.12561	39.46856	0.00000

		Unweighted Proportion	Bias	Design Effect
1	0	0.37944	-6.68899	1.87406
1	1	0.06647	-7.94233	1.63719
2	0	0.42351	5.44352	1.10974
2	1	0.13058	9.26482	0.80862

Setup listing:

```
title " Example 6.6: Estimation of Row Proportions for the Crosstabulation of  
Gender and Lifetime Major Depression Status (Source: NCS-R)." ;  
datain c6_ncsr ;  
stratum sestrat ; cluster seclustr ; weight ncsrwtsh ;  
table mde ;  
by sex ;  
run;
```

" Example 6.6: Estimation of Row Proportions for the Crosstabulation of Gender and L

```
By variables:          SEX  Sex 1=Male 2=Female  
Stratum variable:     SESTRAT  SAMPLING ERROR STRATUM  
Cluster variable:     SECLUSTR  SAMPLING ERROR CLUSTER  
Weight variable:      NCSRWTSH  NCSR sample part 1 weight
```

Analysis description:

```
      5  Variables  
     42  Strata  
     84  Secus  
  
Strata Model  
     42  Multiple PSU  
      0  Paired Selection  
      0  Successive Differences  
  
    9282  Cases Read
```



" Example 6.6: Estimation of Row Proportions for the Crosstabulation of Gender and Lifetime Major Depression Status (Source: ...)

By Condition

SEX  
1

Problem 1

Degrees of freedom

42

Factor Covariance of denominator  
None 0.04853

Table mde	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
0	3522	3774.474	0.84921	0.00775
1	617	670.2321	0.15079	0.00775

	Lower Bound	Upper Bound	T Test	Prob >  T
0	0.83357	0.86484	109.60601	0.00000
1	0.13516	0.16643	19.46270	0.00000

	Unweighted Proportion	Bias	Design Effect
0	0.85093	0.20296	1.93978
1	0.14907	-1.14296	1.93978

By Condition

SEX  
2

Problem 2

Degrees of freedom

42

Factor Covariance of denominator  
None 0.05133

Table mde	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
0	3931	3728.062	0.77069	0.00565
1	1212	1109.232	0.22931	0.00565

	Lower Bound	Upper Bound	T Test	Prob >  T
0	0.75930	0.78209	136.47193	0.00000
1	0.21791	0.24070	40.60527	0.00000

" Example 6.6: Estimation of Row Proportions for the Crosstabulation of Gender and Lifetime Major Depression Status (Source: ...)

	Unweighted Proportion	Bias	Design Effect
0	0.76434	-0.82417	0.92791
1	0.23566	2.76999	0.92791

Setup listing:

```
title " Example 6.7: Comparing the Proportions of U.S. Adult Men and Women with  
Lifetime Major Depression. " ;  
datain c6_ncsr ;  
stratum sestrat ; cluster seclustr ; weight ncsrwtsh ;  
table mde ;  
contrast sex ;  
run;
```

" Example 6.7: Comparing the Proportions of U.S. Adult Men and Women with Lifetime M

```
Stratum variable:      SESTRAT  SAMPLING ERROR STRATUM  
Cluster variable:     SECLUSTR  SAMPLING ERROR CLUSTER  
Weight variable:      NCSRWTSH  NCSR sample part 1 weight
```

Analysis description:

```
      5  Variables  
     42  Strata  
     84  Secus  
  
Strata Model  
     42  Multiple PSU  
      0  Paired Selection  
      0  Successive Differences
```

```
9282  Cases Read
```

" Example 6.7: Comparing the Proportions of U.S. Adult Men and Women with Lifetime Major Depression. "

Problem 1

Degrees of freedom

42

Factor Covariance of denominator  
SEX 0.04853  
1

Table mde	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
0	3522	3774.474	0.84921	0.00775
1	617	670.2321	0.15079	0.00775
	Lower Bound	Upper Bound	T Test	Prob >  T
0	0.83357	0.86484	109.60601	0.00000
1	0.13516	0.16643	19.46270	0.00000
	Unweighted Proportion	Bias	Design Effect	
0	0.85093	0.20296	1.93978	
1	0.14907	-1.14296	1.93978	

Factor Covariance of denominator  
SEX 0.05133  
2

Table mde	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
0	3931	3728.062	0.77069	0.00565
1	1212	1109.232	0.22931	0.00565
	Lower Bound	Upper Bound	T Test	Prob >  T
0	0.75930	0.78209	136.47193	0.00000
1	0.21791	0.24070	40.60527	0.00000
	Unweighted Proportion	Bias	Design Effect	
0	0.76434	-0.82417	0.92791	
1	0.23566	2.76999	0.92791	

Contrast  
SEX  
1 versus  
2

Table mde	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
0	7453	7502.536	0.07851	0.00955

" Example 6.7: Comparing the Proportions of U.S. Adult Men and Women with Lifetime Major Depression. "

Table mde	Number of Cases	Sum of Weights	Weighted Proportion	Standard Error
1	1829	1779.464	-0.07851	0.00955
	Lower Bound	Upper Bound	T Test	Prob >  T
0	0.05924	0.09779	8.21988	0.00000
1	-0.09779	-0.05924	-8.21988	0.00000
	Unweighted Proportion	Bias	Design Effect	
0	0.08659	10.28509	1.39688	
1	-0.08659	10.28509	1.39688	

Setup listing:

```

title Example 6.8: Testing the Independence of MDE and Gender in U.S. Adults
Using the NCS-R data. ;
datain c6_ncsr ;
stratum sestrat ; cluster seclustr ; weight ncsrwts ;
class mde sex ;
dependent mde ;
predictor sex ;
run;
    
```

Example 6.8: Testing the Independence of MDE and Gender in U.S. Adults Using the N

```

Regression type:      Logistic
Dependent variable:  mde  Major Depressive Episode 1=Yes 0=No
Predictors:          SEX  Sex 1=Male 2=Female
Cat. var. ref. codes:  SEX  2
                    mde  1
Stratum variable:    SESTRAT  SAMPLING ERROR STRATUM
Cluster variable:    SECLUSTER  SAMPLING ERROR CLUSTER
Weight variable:     NCSRWTS  NCSR sample part 1 weight
    
```

```

Valid cases          9282
Sum weights          9282.000152
Replicates           42
Degr freedom         42
    
```

-2 LogLike 8979.023905

Variable	Estimate	Std Error	T Test	Prob >  T
Intercept	1.2122210	0.0319281	37.96720	0.00000
SEX	0.5161712	0.0693894	7.43876	0.00000

Variable	Odds Ratio	95% Confidence Interval	
		Lower	Upper
Intercept			
SEX	1.6755999	1.4566482	1.9274627

Variable	Design Effect	SRS	% Diff
		Estimate	SRS v Est
Intercept	0.94436	1.1766220	-2.93668
SEX	1.61378	0.5652933	9.51661

Note: Example 6.9: due to "Bad Strata 18", this code aborts.

Example 6.9: Testing the Independence of Alcohol Dependence and Education Level in Young Adults (Ages 18-28) using the NCS-R data.

Setup listing:

```

title "Example 6.10: Simple Logistic Regression to Estimate the NCS-R Male/Female
Odds Ratio for Lifetime Major Depressive Episode. " ;
datain c6_ncsr1 ;
stratum sestrat ; cluster seclustr ; weight ncsrwtsh ;
class mder sex ;
dependent mder ;
predictor sex ;
run;
    
```

"Example 6.10: Simple Logistic Regression to Estimate the NCS-R Male/Female  
Odds Ratio for Lifetime Major Depressive Episode. " ;

```

Regression type:      Logistic
Dependent variable:  mder
Predictors:          SEX  Sex 1=Male 2=Female
Cat. var. ref. codes:  SEX  2
                    mder  2
Stratum variable:    SESTRAT  SAMPLING ERROR STRATUM
Cluster variable:    SECLUSTR  SAMPLING ERROR CLUSTER
Weight variable:     NCSRWTSH  NCSR sample part 1 weight
    
```

```

Valid cases          9282
Sum weights          9282.000152
Replicates           42
    
```

Degr freedom 42

-2 LogLike 8979.023905

Variable	Estimate	Std Error	T Test	Prob >  T
Intercept	-1.2122210	0.0319281	-37.96720	0.00000
SEX	-0.5161712	0.0693894	-7.43876	0.00000

Variable	Odds Ratio	95% Confidence Interval	
		Lower	Upper
Intercept			
SEX	0.5968012	0.5188168	0.6865076

Variable	Design Effect	SRS Estimate	% Diff SRS v Est
Intercept	0.94436	-1.1766220	-2.93668
SEX	1.61378	-0.5652933	9.51661

Example 6.11 CMH Trend not Available in IVEware

IVEware Setup Checker, 09MAY17, 11:10:34

Setup listing:

```
title Example 6.12: A Simple Log-linear Model to Test the Association between Lifetime Major Depression Episode and Sex ;
datain c6_ncsra ;
stratum sestrat ; cluster seclustr ; weight ncsrwtsh ;
proc catmod ;
model mde*sexm= response ;
loglin mde sexm mde*sexm ;
run ;
```

IVEware Multiple Imputation Regression, Tue May 09 11:11:13 2017

1

Example 6.12: A Simple Log-linear Model to Test the Association between Lifetime Major Depression Episode and Sex ;

```
Valid cases          9282
Sum weights          9282.000152
Replicates           42
Degr freedom         42
```

```
-2 LogLike          21829.99861
```

Variable	Estimate	Std Error	T Test	Prob >  T
mde 0	0.7351533	0.0173686	42.32652	0.00000
sexm 0	0.1228566	0.0116436	10.55145	0.00000
mde*sexm 0 0	-0.1290428	0.0173474	-7.43876	0.00000

Variable	Estimate	95% Confidence Interval	
		Lower	Upper
mde 0	0.7351533	0.7001021	0.7702046
sexm 0	0.1228566	0.0993589	0.1463542
mde*sexm 0 0	-0.1290428	-0.1640511	-0.0940345