

IVEware Analysis Example Replication C8

* IVEware Analysis Examples Replication for ASDA 2nd Edition
* Berglund April 2017
* Chapter 8 ;

```
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_15feb2017\sas" sasautos=('!srclib' sasautos) maautosource ;  
title ;  
libname ncsr "P:\ASDA 2\Data sets\ncsr\" ;  
data c8_ncsr ;  
  set ncsr.ncsr_sub_13nov2015 ;  
  * reverse coding for correct omitted group ;  
  r_ag4cat=5-ag4cat ;  
  r_mar3cat=4-mar3cat ;  
  r_sex=3-sex ;  
  r_ald=2-ald ;  
  r_mde=2-mde ;  
  r_ed4cat=5-ed4cat ;  
run ;
```

```
proc format ;  
  value af 1='18-29' 2='30-44' 3='45-59' 4='60+' ;  
  value sf 1='M' 2='F' ;  
  value edf 1='0-11' 2='12' 3='13-15' 4='16+' ;  
  value mf 1='Currently Married' 2='Previously Married' 3='Never Married' ;  
  value yn 1='Yes' 0='No' ;  
run ;
```

```
ods rtf style=normalprinter bodytitle ;
```

*Note: bad strata message, program aborts ;

```
%describe (setup=new, name="Example 8.1", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;  
title "Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS-R Data, Numbers for Table 8.5 " ;  
;  
datain c8_ncsr ;  
  stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;  
  mean mde ;  
  by ag4cat ;  
run ;
```

```
%describe (setup=new, name="Example 8.1", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;  
title "Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS-R Data, Numbers for Table 8.5 " ;  
;  
datain c8_ncsr ;  
  stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;  
  table mde ;  
  by sex ;  
run ;
```

```
*Note: bad strata message, program aborts ;  
%describe (setup=new, name="Example 8.1", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;  
title "Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS-R Data, Numbers for Table 8.5 " ;  
;  
datain c8_ncsr ;  
  stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;  
  table mde ;  
  by ed4cat ;  
run ;
```

```
%describe (setup=new, name="Example 8.1", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;  
title "Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS-R Data, Numbers for Table 8.5 " ;  
;  
datain c8_ncsr ;  
  stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;  
  table mde ;  
  by mar3cat ;  
run ;
```

```
%regress (setup=new, name="Example 8.1 Numbers for 8.6 and 8.7 (8.8 not available in IVEware) ", dir=P:\ASDA 2\Analysis Example  
Replication\IVEware\IVEware files) ;
```

```

title Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS-R Data, Numbers for Table 8.6, 8.7
;
datain c8_ncsr ;
stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;
class r_ag4cat sex r_ald r_ed4cat r_mar3cat ;
dependent r_mde ;
predictor r_ag4cat sex r_ald r_ed4cat r_mar3cat ;
link logistic ;
run;

ods text ="Margins Plot and GOF test are not available in IVEware" ;

data c8_ncsr1 ;
set c8_ncsr ;
* interactions variables created manually for models ;
a1_m=(ag4cat=1)*(sex=1) ;
a2_m=(ag4cat=2)*(sex=1) ;
a3_m=(ag4cat=3)*(sex=1) ;
a4_m=(ag4cat=4)*(sex=1) ;
e1_m=(ed4cat=1)*(sex=1) ;
e2_m=(ed4cat=2)*(sex=1) ;
e3_m=(ed4cat=3)*(sex=1) ;
e4_m=(ed4cat=4)*(sex=1) ;
ald_m=(ald=1)*(sex=1) ;
mar1_m=(mar3cat=1)*(sex=1) ;
mar2_m=(mar3cat=2)*(sex=1) ;
mar3_m=(mar3cat=3)*(sex=1) ;
run ;

%regress (setup=new, name="Example 8.1 Interaction Tests ", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files)
;
title Example 8.1: Interaction Tests for Preliminary Model ;
datain c8_ncsr1 ;
stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;
class r_ag4cat sex r_ald r_ed4cat r_mar3cat ;
dependent r_mde ;
predictor r_ag4cat sex r_ald r_ed4cat r_mar3cat a2_m a3_m a4_m ald_m e2_m e3_m e4_m mar2_m mar3_m ;
link logistic ;
run;

%regress (setup=new, name="Example 8.1 Model Predicting Alcohol Dependence", dir=P:\ASDA 2\Analysis Example
Replication\IVEware\IVEware files) ;
title Example 8.1: Numbers for Tables 8.9 ;
datain c8_ncsr1 ;
stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;
class r_ag4cat sex r_ald r_ed4cat r_mar3cat ;
dependent r_ald ;
predictor r_ag4cat sex r_ed4cat r_mar3cat ;
link logistic ;
run;

ods text="Probit and CLOGLOG Models are Not Available in IVEware" ;

ods rtf close ;

```

Output IVEware Analysis Example Replication C8

*Note: bad strata message, causes program abort ;

```
%describe (setup=new, name="Example 8.1", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
title "Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS-R Data, Numbers for Table 8.5 "
;
  datain c8_ncsr ;
  stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;
  mean mde ;
  by ag4cat ;
run;
```

Setup listing:

```
title "Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode
in the NCS-R Data, Numbers for Table 8.5 " ;
datain c8_ncsr ;
stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;
table mde ;
by sex ;
run;
```

"Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS

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

Analysis description:

```
      5 Variables
     42 Strata
     84 Secus

Strata Model
     42 Multiple PSU
      0 Paired Selection
      0 Successive Differences

5692 Cases Read
```

"Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS-R Data, Numbers for Table 8.5 "

By Condition

SEX
1

Problem 1

Degrees of freedom

42

Factor Covariance of denominator
None 0.04535

| Table mde | Number of Cases | Sum of Weights | Weighted Proportion | Standard Error |
|-----------|-----------------|----------------|---------------------|----------------|
| 0 | 1779 | 2263.942 | 0.84711 | 0.00914 |
| 1 | 603 | 408.6142 | 0.15289 | 0.00914 |

| | Lower Bound | Upper Bound | T Test | Prob > T |
|---|-------------|-------------|----------|-----------|
| 0 | 0.82867 | 0.86555 | 92.70577 | 0.00000 |
| 1 | 0.13445 | 0.17133 | 16.73227 | 0.00000 |

| | Unweighted Proportion | Bias | Design Effect |
|---|-----------------------|-----------|---------------|
| 0 | 0.74685 | -11.83510 | 1.53496 |
| 1 | 0.25315 | 65.57279 | 1.53496 |

By Condition

SEX
2

Problem 2

Degrees of freedom

42

Factor Covariance of denominator
None 0.05119

| Table mde | Number of Cases | Sum of Weights | Weighted Proportion | Standard Error |
|-----------|-----------------|----------------|---------------------|----------------|
| 0 | 2117 | 2336.535 | 0.77383 | 0.00673 |
| 1 | 1193 | 682.9091 | 0.22617 | 0.00673 |

| | Lower Bound | Upper Bound | T Test | Prob > T |
|---|-------------|-------------|-----------|-----------|
| 0 | 0.76025 | 0.78741 | 115.02296 | 0.00000 |
| 1 | 0.21259 | 0.23975 | 33.61826 | 0.00000 |

"Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS-R Data, Numbers for Table 8.5 "

| | Unweighted Proportion | Bias | Design Effect |
|---|-----------------------|-----------|---------------|
| 0 | 0.63958 | -17.34910 | 0.85573 |
| 1 | 0.36042 | 59.35897 | 0.85573 |

```
*Note: bad strata message, program aborts ;
%describe (setup=new, name="Example 8.1", dir=P:\ASDA 2\Analysis Example Replication\IVEware\IVEware files) ;
title "Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS-R Data, Numbers for Table 8.5 "
;
datain c8_ncsr ;
stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;
table mde ;
by ed4cat ;
run;
```

Setup listing:

```
title "Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode
in the NCS-R Data, Numbers for Table 8.5 " ;
datain c8_ncsr ;
stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;
table mde ;
by mar3cat ;
run;
```

"Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS

```
By variables:          MAR3CAT  Marital Status 1=Married 2=Previously Married 3=Never Married
Stratum variable:     SESTRAT  SAMPLING ERROR STRATUM
Cluster variable:     SECLUSTR  SAMPLING ERROR CLUSTER
Weight variable:      NCSRWTLG  NCSR sample part 2 weight
```

Analysis description:

```
    5  Variables
   42  Strata
   84  Secus

Strata Model
   42  Multiple PSU
    0  Paired Selection
    0  Successive Differences

5692  Cases Read
```

"Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS-R Data, Numbers for Table 8.5 "

By Condition

MAR3CAT

1

Problem 1

Degrees of freedom

42

Factor Covariance of denominator
None 0.05107

| Table | Number of | Sum of | Weighted | Standard |
|-------|------------|-----------|------------|-----------|
| mde | Cases | Weights | Proportion | Error |
| 0 | 2316 | 2632.704 | 0.82674 | 0.00742 |
| 1 | 920 | 551.742 | 0.17326 | 0.00742 |
| | Lower | Upper | T Test | Prob > T |
| | Bound | Bound | | |
| 0 | 0.81177 | 0.84171 | 111.42600 | 0.00000 |
| 1 | 0.15829 | 0.18823 | 23.35181 | 0.00000 |
| | Unweighted | Bias | Design | |
| | Proportion | | Effect | |
| 0 | 0.71570 | -13.43110 | 1.24327 | |
| 1 | 0.28430 | 64.08812 | 1.24327 | |

By Condition

MAR3CAT

2

Problem 2

Degrees of freedom

42

Factor Covariance of denominator
None 0.05023

| Table | Number of | Sum of | Weighted | Standard |
|-------|-----------|----------|------------|-----------|
| mde | Cases | Weights | Proportion | Error |
| 0 | 750 | 901.3201 | 0.76098 | 0.01449 |
| 1 | 489 | 283.1011 | 0.23902 | 0.01449 |
| | Lower | Upper | T Test | Prob > T |
| | Bound | Bound | | |
| 0 | 0.73173 | 0.79023 | 52.50353 | 0.00000 |
| 1 | 0.20977 | 0.26827 | 16.49116 | 0.00000 |

"Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NCS-R Data, Numbers for Table 8.5 "

| | Unweighted Proportion | Bias | Design Effect |
|---|--------------------------|-----------|------------------|
| 0 | 0.60533 | -20.45423 | 1.42982 |
| 1 | 0.39467 | 65.12094 | 1.42982 |

By Condition

MAR3CAT

3

Problem 3

Degrees of freedom

42

Factor Covariance of denominator

None 0.06665

| Table mde | Number of Cases | Sum of Weights | Weighted Proportion | Standard Error |
|--------------|--------------------|-------------------|------------------------|-------------------|
| 0 | 830 | 1066.453 | 0.80601 | 0.01155 |
| 1 | 387 | 256.6802 | 0.19399 | 0.01155 |

| | Lower Bound | Upper Bound | T Test | Prob > T |
|---|----------------|----------------|----------|-----------|
| 0 | 0.78270 | 0.82931 | 69.78806 | 0.00000 |
| 1 | 0.17069 | 0.21730 | 16.79700 | 0.00000 |

| | Unweighted Proportion | Bias | Design Effect |
|---|--------------------------|-----------|------------------|
| 0 | 0.68200 | -15.38461 | 1.03734 |
| 1 | 0.31800 | 63.91986 | 1.03734 |

Setup listing:

```

title Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in
the NCS-R Data, Numbers for Table 8.6, 8.7 ;
datain c8_ncsr ;
stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;
class r_ag4cat sex r_ald r_ed4cat r_mar3cat ;
dependent r_mde ;
predictor r_ag4cat sex r_ald r_ed4cat r_mar3cat ;
link logistic ;
run;

```

Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NC

```

Regression type:      Logistic
Dependent variable:  r_mde
Predictors:          r_ag4cat
                   SEX Sex 1=Male 2=Female
                   r_ald
                   r_ed4cat
                   r_mar3cat
Cat. var. ref. codes: SEX 2
                   r_ag4cat 4
                   r_mar3cat 3
                   r_ald 2
                   r_mde 2
                   r_ed4cat 4
Stratum variable:    SESTRAT SAMPLING ERROR STRATUM
Cluster variable:    SECLUSTR SAMPLING ERROR CLUSTER
Weight variable:     NCSRWTLG NCSR sample part 2 weight

```

```

Valid cases          5692
Sum weights          5692.000478
Replicates           42
Degr freedom         42

```

```
-2 LogLike          5268.526425
```

| Variable | Estimate | Std Error | T Test | Prob > T |
|-------------|------------|-----------|-----------|-----------|
| Intercept | -1.5830767 | 0.1223398 | -12.94000 | 0.00000 |
| r_ag4cat.1 | -0.6757863 | 0.1407557 | -4.80113 | 0.00002 |
| r_ag4cat.2 | 0.2064465 | 0.0918258 | 2.24824 | 0.02987 |
| r_ag4cat.3 | 0.2556185 | 0.0941162 | 2.71599 | 0.00955 |
| SEX | -0.5773452 | 0.0790030 | -7.30789 | 0.00000 |
| r_ald | 1.4236762 | 0.1592221 | 8.94145 | 0.00000 |
| r_ed4cat.1 | 0.1629254 | 0.1120799 | 1.45365 | 0.15347 |
| r_ed4cat.2 | 0.2305111 | 0.0942888 | 2.44473 | 0.01877 |
| r_ed4cat.3 | 0.0792550 | 0.1003241 | 0.78999 | 0.43397 |
| r_mar3cat.1 | 0.1155794 | 0.1082687 | 1.06752 | 0.29183 |
| r_mar3cat.2 | 0.4864225 | 0.0854730 | 5.69095 | 0.00000 |

| Variable | Odds Ratio | 95% Confidence Interval | |
|-------------|------------|-------------------------|-----------|
| | | Lower | Upper |
| Intercept | | | |
| r_ag4cat.1 | 0.5087563 | 0.3829532 | 0.6758865 |
| r_ag4cat.2 | 1.2293019 | 1.0213597 | 1.4795798 |
| r_ag4cat.3 | 1.2912600 | 1.0678898 | 1.5613524 |
| SEX | 0.5613867 | 0.4786530 | 0.6584208 |
| r_ald | 4.1523575 | 3.0112447 | 5.7258955 |
| r_ed4cat.1 | 1.1769489 | 0.9386988 | 1.4756690 |
| r_ed4cat.2 | 1.2592434 | 1.0410490 | 1.5231694 |
| r_ed4cat.3 | 1.0824803 | 0.8840807 | 1.3254034 |
| r_mar3cat.1 | 1.1225236 | 0.9022033 | 1.3966467 |
| r_mar3cat.2 | 1.6264870 | 1.3687957 | 1.9326917 |

Example 8.1: Examining Predictors of a Lifetime Major Depressive Episode in the NC

| Variable | Design | SRS | % Diff |
|-------------|---------|------------|-----------|
| | Effect | Estimate | SRS v Est |
| Intercept | 1.21741 | -1.0248795 | -35.26027 |
| r_ag4cat.1 | 1.58217 | -0.3924731 | -41.92349 |
| r_ag4cat.2 | 0.98084 | 0.2273644 | 10.13236 |
| r_ag4cat.3 | 1.19952 | 0.2939657 | 15.00176 |
| SEX | 1.63252 | -0.5432110 | -5.91227 |
| r_ald | 2.35892 | 0.8256041 | -42.00900 |
| r_ed4cat.1 | 1.26256 | 0.1589701 | -2.42771 |
| r_ed4cat.2 | 0.96931 | 0.1941795 | -15.76131 |
| r_ed4cat.3 | 1.09843 | 0.1257221 | 58.62986 |
| r_mar3cat.1 | 1.69379 | 0.1903295 | 64.67425 |
| r_mar3cat.2 | 1.32065 | 0.5092616 | 4.69532 |

Margins Plot and GOF test are not available in IVEware

Setup listing:

```

title Example 8.1: Interaction Tests for Preliminary Model ;
datain c8_ncsr1 ;
stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;
class r_ag4cat sex r_ald r_ed4cat r_mar3cat ;
dependent r_mde ;
predictor r_ag4cat sex r_ald r_ed4cat r_mar3cat a2_m a3_m a4_m ald_m e2_m e3_m
e4_m mar2_m mar3_m ;
link logistic ;
run;

```

Example 8.1: Interaction Tests for Preliminary Model

```

Regression type:      Logistic
Dependent variable:  r_mde
Predictors:          r_ag4cat
                    SEX Sex 1=Male 2=Female
                    r_ald
                    r_ed4cat
                    r_mar3cat
                    a2_m
                    a3_m
                    a4_m
                    ald_m
                    e2_m
                    e3_m
                    e4_m
                    mar2_m
                    mar3_m
Cat. var. ref. codes: SEX 2
                    r_ag4cat 4
                    r_mar3cat 3
                    r_ald 2
                    r_mde 2
                    r_ed4cat 4
Stratum variable:    SESTRAT SAMPLING ERROR STRATUM
Cluster variable:    SECLUSTR SAMPLING ERROR CLUSTER
Weight variable:     NCSRWTLG NCSR sample part 2 weight

```

```

Valid cases          5692
Sum weights          5692.000478
Replicates           42
Degr freedom         42
-2 LogLike           5264.857536

```

| Variable | Estimate | Std Error | T Test | Prob > T |
|-------------|------------|-----------|-----------|-----------|
| Intercept | -1.5998893 | 0.1346657 | -11.88045 | 0.00000 |
| r_ag4cat.1 | -0.6455558 | 0.1748696 | -3.69164 | 0.00064 |
| r_ag4cat.2 | 0.2146410 | 0.1040597 | 2.06267 | 0.04536 |
| r_ag4cat.3 | 0.2204041 | 0.1134640 | 1.94250 | 0.05880 |
| SEX | -0.5464415 | 0.3737739 | -1.46196 | 0.15120 |
| r_ald | 1.5531400 | 0.2145938 | 7.23758 | 0.00000 |
| r_ed4cat.1 | 0.2422184 | 0.1508935 | 1.60523 | 0.11594 |
| r_ed4cat.2 | 0.2973241 | 0.1167067 | 2.54762 | 0.01460 |
| r_ed4cat.3 | 0.1305184 | 0.0836146 | 1.56095 | 0.12604 |
| r_mar3cat.1 | 0.0173370 | 0.1303200 | 0.13303 | 0.89480 |
| r_mar3cat.2 | 0.4177856 | 0.1103824 | 3.78489 | 0.00048 |
| a2_m | 0.0967431 | 0.2009836 | 0.48135 | 0.63277 |
| a3_m | 0.0026370 | 0.2141225 | 0.01232 | 0.99023 |
| a4_m | -0.0378099 | 0.3032617 | -0.12468 | 0.90137 |
| ald_m | -0.2004168 | 0.2450479 | -0.81787 | 0.41805 |
| e2_m | -0.1377802 | 0.2825224 | -0.48768 | 0.62831 |

Example 8.1: Interaction Tests for Preliminary Model

| Variable | Estimate | Std Error | T Test | Prob > T |
|----------|------------|-----------|----------|-----------|
| e3_m | -0.1687904 | 0.2810361 | -0.60060 | 0.55133 |
| e4_m | -0.1940178 | 0.3579164 | -0.54208 | 0.59063 |
| mar2_m | 0.1825040 | 0.2124054 | 0.85923 | 0.39509 |
| mar3_m | 0.2318977 | 0.2115482 | 1.09619 | 0.27924 |

| Variable | Odds Ratio | 95% Confidence Interval | |
|-------------|------------|-------------------------|-----------|
| | | Lower | Upper |
| Intercept | | | |
| r_ag4cat.1 | 0.5243710 | 0.3684477 | 0.7462794 |
| r_ag4cat.2 | 1.2394169 | 1.0046512 | 1.5290423 |
| r_ag4cat.3 | 1.2465803 | 0.9914615 | 1.5673452 |
| SEX | 0.5790065 | 0.2723284 | 1.2310452 |
| r_ald | 4.7262875 | 3.0650779 | 7.2878389 |
| r_ed4cat.1 | 1.2740724 | 0.9396043 | 1.7276002 |
| r_ed4cat.2 | 1.3462516 | 1.0637505 | 1.7037768 |
| r_ed4cat.3 | 1.1394189 | 0.9624988 | 1.3488593 |
| r_mar3cat.1 | 1.0174881 | 0.7821889 | 1.3235704 |
| r_mar3cat.2 | 1.5185951 | 1.2153417 | 1.8975167 |
| a2_m | 1.1015773 | 0.7342854 | 1.6525899 |
| a3_m | 1.0026404 | 0.6508481 | 1.5445813 |
| a4_m | 0.9628960 | 0.5221419 | 1.7757024 |
| ald_m | 0.8183896 | 0.4991030 | 1.3419302 |
| e2_m | 0.8712902 | 0.4926617 | 1.5409085 |
| e3_m | 0.8446859 | 0.4790534 | 1.4893837 |
| e4_m | 0.8236432 | 0.3999878 | 1.6960220 |
| mar2_m | 1.2002190 | 0.7818076 | 1.8425578 |
| mar3_m | 1.2609908 | 0.8228156 | 1.9325081 |

| Variable | Design Effect | SRS Estimate | % Diff SRS v Est |
|-------------|---------------|--------------|------------------|
| Intercept | 0.95934 | -0.9594586 | -40.02969 |
| r_ag4cat.1 | 1.64672 | -0.3082472 | -52.25088 |
| r_ag4cat.2 | 0.81072 | 0.2225707 | 3.69440 |
| r_ag4cat.3 | 1.11290 | 0.2764957 | 25.44948 |
| SEX | 2.77084 | -0.6961233 | 27.39209 |
| r_ald | 1.74107 | 0.9021342 | -41.91546 |
| r_ed4cat.1 | 1.38489 | 0.0975990 | -59.70619 |
| r_ed4cat.2 | 0.91016 | 0.1761099 | -40.76839 |
| r_ed4cat.3 | 0.46659 | 0.1042057 | -20.16014 |
| r_mar3cat.1 | 1.51673 | 0.1465917 | 745.54464 |
| r_mar3cat.2 | 1.48447 | 0.3672797 | -12.08895 |
| a2_m | 1.25508 | 0.0459198 | -52.53431 |
| a3_m | 1.21603 | 0.0235376 | 792.60523 |
| a4_m | 1.56454 | -0.2112388 | 458.68654 |
| ald_m | 1.33110 | -0.1348661 | -32.70719 |
| e2_m | 2.04863 | 0.0276108 | -120.03975 |
| e3_m | 2.02725 | 0.0297750 | -117.64024 |
| e4_m | 3.06469 | 0.1479616 | -176.26186 |
| mar2_m | 1.78053 | 0.4219446 | 131.19743 |
| mar3_m | 1.50890 | 0.1106629 | -52.27943 |

Setup listing:

```

title Example 8.1: Numbers for Tables 8.9 ;
datain c8_ncsr1 ;
stratum sestrat ; cluster seclustr ; weight ncsrwtlg ;
class r_ag4cat sex r_ald r_ed4cat r_mar3cat ;
dependent r_ald ;
predictor r_ag4cat sex r_ed4cat r_mar3cat ;
link logistic ;
run;
    
```

Example 8.1: Numbers for Tables 8.9

```

Regression type:      Logistic
Dependent variable:  r_ald
Predictors:          r_ag4cat
                   SEX Sex 1=Male 2=Female
                   r_ed4cat
                   r_mar3cat
Cat. var. ref. codes: SEX 2
                   r_ag4cat 4
                   r_mar3cat 3
                   r_ald 2
                   r_ed4cat 4
Stratum variable:    SESTRAT SAMPLING ERROR STRATUM
Cluster variable:    SECLUSTR SAMPLING ERROR CLUSTER
Weight variable:     NCSRWTLG NCSR sample part 2 weight
    
```

```

Valid cases          5692
Sum weights          5692.000478
Replicates           42

Degr freedom         42

-2 LogLike           2268.902472
    
```

| Variable | Estimate | Std Error | T Test | Prob > T |
|-------------|------------|-----------|-----------|-----------|
| Intercept | -3.1243207 | 0.2277487 | -13.71828 | 0.00000 |
| r_ag4cat.1 | -1.1203348 | 0.2113458 | -5.30096 | 0.00000 |
| r_ag4cat.2 | -0.0507070 | 0.1441728 | -0.35171 | 0.72681 |
| r_ag4cat.3 | 0.1462759 | 0.1769574 | 0.82662 | 0.41313 |
| SEX | 0.9979891 | 0.1185340 | 8.41943 | 0.00000 |
| r_ed4cat.1 | -0.7362285 | 0.2005004 | -3.67196 | 0.00067 |
| r_ed4cat.2 | -0.2644809 | 0.1780030 | -1.48582 | 0.14479 |
| r_ed4cat.3 | -0.2684385 | 0.1996438 | -1.34459 | 0.18598 |
| r_mar3cat.1 | 0.0653150 | 0.1694598 | 0.38543 | 0.70186 |
| r_mar3cat.2 | 0.5178315 | 0.1419002 | 3.64926 | 0.00072 |

| Variable | Odds | 95% Confidence Interval | |
|-------------|-----------|-------------------------|-----------|
| | Ratio | Lower | Upper |
| Intercept | | | |
| r_ag4cat.1 | 0.3261706 | 0.2129182 | 0.4996625 |
| r_ag4cat.2 | 0.9505571 | 0.7105904 | 1.2715606 |
| r_ag4cat.3 | 1.1575155 | 0.8099052 | 1.6543197 |
| SEX | 2.7128210 | 2.1356652 | 3.4459511 |
| r_ed4cat.1 | 0.4789167 | 0.3195460 | 0.7177722 |
| r_ed4cat.2 | 0.7676043 | 0.5359550 | 1.0993765 |
| r_ed4cat.3 | 0.7645724 | 0.5110257 | 1.1439171 |
| r_mar3cat.1 | 1.0674953 | 0.7583062 | 1.5027520 |
| r_mar3cat.2 | 1.6783841 | 1.2604460 | 2.2349018 |

| Variable | Design | SRS | % Diff |
|-----------|---------|------------|-----------|
| | Effect | Estimate | SRS v Est |
| Intercept | 1.64021 | -2.5769627 | -17.51926 |

Example 8.1: Numbers for Tables 8.9

| Variable | Design | SRS | % Diff |
|-------------|---------|------------|-----------|
| | Effect | Estimate | SRS v Est |
| r_ag4cat.1 | 0.97451 | -0.9094689 | -18.82169 |
| r_ag4cat.2 | 0.81282 | -0.0690219 | 36.11906 |
| r_ag4cat.3 | 1.53872 | 0.2406087 | 64.48968 |
| SEX | 1.30217 | 0.9141335 | -8.40245 |
| r_ed4cat.1 | 1.47219 | -0.8559178 | 16.25708 |
| r_ed4cat.2 | 1.51037 | -0.3836098 | 45.04254 |
| r_ed4cat.3 | 1.87792 | -0.4356781 | 62.30092 |
| r_mar3cat.1 | 1.44755 | 0.0752636 | 15.23171 |
| r_mar3cat.2 | 1.23332 | 0.4472200 | -13.63600 |

Probit and CLOGLOG Models are Not Available in IVEware