CHAPTER 6 ASDA ANALYSIS EXAMPLES REPLICATION SAS V9.2

GENERAL NOTES ABOUT ANALYSIS EXAMPLES REPLICATION

These examples are intended to provide guidance on how to use the commands/procedures for analysis of complex sample survey data and assume all data management and other preliminary work is done. The relevant syntax for the procedure of interest is shown first along with the associated output for that procedure(s). In some examples, there may be more than one block of syntax and in this case all syntax is first presented followed by the output produced.

In some software packages certain procedures or options are not available but we have made every attempt to demonstrate how to match the output produced by Stata 10+ in the textbook. Check the ASDA website for updates to the various software tools we cover.

GENERAL NOTES ON CATEGORICAL DATA ANALYSIS USING SAS

SAS does not offer any easy way to do weighted histograms or box plots/bar charts therefore these are not included in this output. Analysis of categorical data is primarily done with PROC SURVEYFREQ but we also include an example of PROC SURVEYLOGISTIC for comparative purposes in this chapter. One key point to note is that PROC SURVEYFREQ does not include an explicit DOMAIN statement but instead has an implied DOMAIN variable feature which requires that the subpopulation indicator variable be placed first in the tables statement. There are examples of the correct use of the implied DOMAIN statement in this chapter. This procedure does include a DEFF option for design effects as one of the many statistic options on the tables statement. Another useful option is the ROW option in the tables statement. This option provides row percentages with SE's, a commonly desired statistic (along with the default output of total percentages). The examples provided match the Stata output in the textbook as closely as is possible given differences between Stata and SAS. Another note is that the SMSUB.SAS macro is also used for linear contrasts of means, see the SAS Support website for download and details. For more on PROC SURVEYFREQ/PROC SURVEYLOGISTIC, see the SAS software documentation.

```
title "Analysis Example 6.1: Proportions: NHANES Data " ;
proc surveyfreq data=nhanes0506 ;
strata sdmvstra ;
cluster sdmvpsu ;
weight wtmec2yr ;
format irregular irrf. ;
tables age18p*irregular / nocellpercent row cl deff ;
run ;
```

Analysis Example 6.1: Proportions: NHANES Data

The SURVEYFREQ Procedure

Data Summary

Number of Strata	15
Number of Clusters	30
Number of Observations	10348
Number of Observations Used	9950
Number of Obs with Nonpositive Weights	398
Sum of Weights	291616892

Table of age18p by irregular

age18p	irregular	Frequency	Weighted Frequency	Std Dev of Wgt Freq	95% Confidence Limits for Percent		Design Effect	Row Percent	Std Err of Row Percent
0	No Irregular Beat	4286	69392403	5156092	22.6975	26.8174	4.7318	99.1696	0.2854
	Irregular Beat	31	581092	197984	0.0553	0.3593	2.3199	0.8304	0.2854
	Total	4317	69973495	5165703	22.9007	27.0288	4.7243	100.000	
1	No Irregular Beat	4944	204104540	12922102	70.5159	75.1228	5.5683	97.0469	0.6655
	Irregular Beat	177	6210830	1336355	1.1521	3.2796	10.8480	2.9531	0.6655
	Total	5121	210315370	12813551	72.9712	77.0993	4.7243	100.000	
Total	No Irregular Beat	9230	273496944	17022560	96.3865	98.7672	12.4480		
	Irregular Beat	208	6791922	1501492	1.2328	3.6135	12.4480		
	Total	9438	280288865	16922555					

Frequency Missing = 512

Table of age18p by irregular

age18p	irregular	95% Confidence Limits for Row Percent	
0	No Irregular Beat	98.5612	99.7779
	Irregular Beat	0.2221	1.4388
	Total		
1	No Irregular Beat	95.6285	98.4653
	Irregular Beat	1.5347	4.3715
	Total		
Total	No Irregular Beat		
	Irregular Beat		
	Total		

Frequency Missing = 512

```
proc surveymeans data=nhanes0506 nobs df mean stderr clm  ;
strata sdmvstra ;
cluster sdmvpsu ;
weight wtmec2yr ;
var irregular ;
domain age18p ;
run ;
```

Analysis Example 6.1: Proportions: NHANES Data
The SURVEYMEANS Procedure

Data Summary

Number of Strata	15
Number of Clusters	30
Number of Observations	10348
Number of Observations Used	9950
Number of Obs with Nonpositive Weights	398
Sum of Weights	291616892

Statistics

Variable	Label	N	DF	Mean	Std Error of Mean	95% CL for Mean	
irregular	1=yes 0=no	9438	15	0.024232	0.005585	0.01232834	0.03613539

Domain Analysis: age18p

age18p	Variable	Label	N	DF	Mean	Std Error of Mean
0	irregular	1=yes 0=no	4317	15	0.008304	0.002854
1	irregular	1=yes 0=no	5121	15	0.029531	0.006655

Domain Analysis: age18p

age18p	Variable	95% CL for Mean	
0	irregular	0.00222080	0.01438812
1	irregular	0.01534706	0.04371501

```
title "Analysis Example 6.2: Proportions: NHANES Data " ;
proc surveyfreq data=nhanes0506 ;
strata sdmvstra ;
cluster sdmvpsu ;
weight wtmec2yr ;
tables age18p*ridreth1 / nocellpercent row cl deff ;
format ridreth1 racef. ;
run ;
```

Analysis Example 6.2: Proportions: NHANES Data

The SURVEYFREQ Procedure

Data Summary

Number of Strata	15
Number of Clusters	30
Number of Observations	10348
Number of Observations Used	9950
Number of Obs with Nonpositive Weights	398
Sum of Weights	291616892

Table of age18p by RIDRETH1

age18p	RIDRETH1	Frequency	Weighted Frequency	Std Dev of Wgt Freq	95% Confidence Limits for Percent		Design Effect
0	Mexican	1606	10201981	955112	2.6649	4.3319	4.5063
	Other Hispanic	166	3425165	705467	0.6243	1.7248	5.7120
	White	1262	44145120	5111395	13.1084	17.1677	7.0226
	Black	1315	10494875	1267568	2.3793	4.8184	9.3877
	Other	267	5649279	1120757	1.1725	2.7019	6.7411
	Total	4616	73916421	5146357	23.5373	27.1569	3.7906
1	Mexican	1133	17586581	1838046	4.4661	7.5953	9.4602
	Other Hispanic	164	7355059	1634106	1.3290	3.7154	12.6817
	White	2516	155469234	14777663	48.3559	58.2698	21.6184
	Black	1300	25528174	3317246	5.6578	11.8502	26.2822
	Other	221	11761423	1248668	3.1094	4.9569	4.8278
	Total	5334	217700471	13148397	72.8431	76.4627	3.7906
Total	Mexican	2739	27788562	2664438	7.2110	11.8473	13.6505
	Other Hispanic	330	10780224	2222471	2.0382	5.3552	16.9206
	White	3778	199614354	19378787	62.2950	74.6068	38.4279
	Black	2615	36023050	4505935	8.0824	16.6234	36.8875
	Other	488	17410702	2169147	4.4611	7.4797	8.8856
	Total	9950	291616892	17426048			

Table of age18p by RIDRETH1

age18p	RIDRETH1	Row Percent	Std Err of Row Percent	95% Confidence Limits for Row Percent	
0	Mexican	13.8021	1.4892	10.6278	16.9763
	Other Hispanic	4.6338	1.0308	2.4368	6.8309
	White	59.7230	3.3725	52.5347	66.9113
	Black	14.1983	2.1556	9.6038	18.7928
	Other	7.6428	1.3366	4.7940	10.4916
	Total	100.000			
1	Mexican	8.0783	1.0053	5.9355	10.2212
	Other Hispanic	3.3785	0.7421	1.7967	4.9604
	White	71.4143	2.7698	65.5106	77.3180
	Black	11.7263	1.9849	7.4956	15.9570
	Other	5.4026	0.5825	4.1610	6.6441
	Total	100.000			
Total	Mexican				
	Other Hispanic				
	White				
	Black				
	Other				
	Total				

```
title "Analysis Example 6.3: Proportions: NHANES Data " ;
proc surveyfreq data=nhanes0506 ;
strata sdmvstra ;
cluster sdmvpsu ;
weight wtmec2yr ;
tables age18p*bp_cat  / nocellpercent row cl deff ;
format ridreth1 racef. bp_cat bpf. ;
run ;
```

Analysis Example 6.3: Proportions: NHANES Data
The SURVEYFREQ Procedure

Data Summary

Number of Strata	15
Number of Clusters	30
Number of Observations	10348
Number of Observations Used	9950
Number of Obs with Nonpositive Weights	398
Sum of Weights	291616892

Table of age18p by bp_cat

age18p	bp_cat	Frequency	Weighted Frequency	Std Dev of Wgt Freq	95% Confidence Limits for Percent		Design Effect
0	Normal	2016	36158996	2829801	13.3994	15.6946	1.7158
	Pre-Hypertension	278	4323929	607013	1.2793	2.1998	2.0075
	Stage 1 Hypertension	8	95070	52144	0.0000	0.0813	0.7842
	Stage 2 Hypertension	0	.	.	.	.	.
	Total	2302	40577996	3206169	14.9790	17.6706	2.1475
1	Normal	2441	97979162	7267231	37.2538	41.5816	3.1758
	Pre-Hypertension	1988	87051866	5402566	32.9306	37.1126	3.1117
	Stage 1 Hypertension	470	17972075	1448618	6.1304	8.3302	2.9212
	Stage 2 Hypertension	158	4985247	610556	1.5640	2.4472	1.6074
	Total	5057	207988351	12896296	82.3294	85.0210	2.1475
Total	Normal	4457	134138159	9632608	51.8399	56.0896	2.9435
	Pre-Hypertension	2266	91375795	5697223	34.5978	38.9245	3.2605
	Stage 1 Hypertension	478	18067145	1478075	6.1535	8.3836	2.9876
	Stage 2 Hypertension	158	4985247	610556	1.5640	2.4472	1.6074
	Total	7359	248566347	15610827			

Frequency Missing = 2591

Table of age18p by bp_cat

age18p	bp_cat	Row Percent	Std Err of Row Percent	95% Confidence Limits for Row Percent	
0	Normal	89.1099	1.2328	86.4823	91.7375
	Pre-Hypertension	10.6558	1.1572	8.1893	13.1224
	Stage 1 Hypertension	0.2343	0.1178	0.0000	0.4854
	Stage 2 Hypertension	.	.	.	.
	Total	100.000			
1	Normal	47.1080	1.1085	44.7452	49.4708
	Pre-Hypertension	41.8542	1.1787	39.3419	44.3665
	Stage 1 Hypertension	8.6409	0.6208	7.3178	9.9640
	Stage 2 Hypertension	2.3969	0.2404	1.8844	2.9094
	Total	100.000			
Total	Normal				

Frequency Missing = 2591

Analysis Example 6.3: Proportions: NHANES Data

The SURVEYFREQ Procedure

Table of age18p by bp_cat

age18p	bp_cat	Row Percent	Std Err of Row Percent	95% Confidence Limits for Row Percent
Total	Pre-Hypertension			
	Stage 1 Hypertension			
	Stage 2 Hypertension			
	Total			

Frequency Missing = 2591

```
*NOTE: NO EQUIVALENT GOF TEST IN SAS FOR COMPARISON TO DEFINED PROPORTIONS;
title "Analysis Example 6.4: Proportions: NHANES Data " ;
proc surveyfreq data=nhanes0506 ;
strata sdmvstra ;
cluster sdmvpsu ;
weight wtmec2yr ;
tables age18p*bp_cat  / nocellpercent row cl deff ;
format bp_cat bpf.  ;
run ;
```

Analysis Example 6.4: Proportions: NHANES Data

The SURVEYFREQ Procedure

Data Summary

Number of Strata	15
Number of Clusters	30
Number of Observations	10348
Number of Observations Used	9950
Number of Obs with Nonpositive Weights	398
Sum of Weights	291616892

Table of age18p by bp_cat

age18p	bp_cat	Frequency	Weighted Frequency	Std Dev of Wgt Freq	95% Confidence Limits for Percent		Design Effect
0	Normal	2016	36158996	2829801	13.3994	15.6946	1.7158
	Pre-Hypertension	278	4323929	607013	1.2793	2.1998	2.0075
	Stage 1 Hypertension	8	95070	52144	0.0000	0.0813	0.7842
	Stage 2 Hypertension	0	.	.	.	.	.
	Total	2302	40577996	3206169	14.9790	17.6706	2.1475
1	Normal	2441	97979162	7267231	37.2538	41.5816	3.1758
	Pre-Hypertension	1988	87051866	5402566	32.9306	37.1126	3.1117
	Stage 1 Hypertension	470	17972075	1448618	6.1304	8.3302	2.9212
	Stage 2 Hypertension	158	4985247	610556	1.5640	2.4472	1.6074
	Total	5057	207988351	12896296	82.3294	85.0210	2.1475
Total	Normal	4457	134138159	9632608	51.8399	56.0896	2.9435
	Pre-Hypertension	2266	91375795	5697223	34.5978	38.9245	3.2605
	Stage 1 Hypertension	478	18067145	1478075	6.1535	8.3836	2.9876
	Stage 2 Hypertension	158	4985247	610556	1.5640	2.4472	1.6074
	Total	7359	248566347	15610827			

Table of age18p by bp_cat

age18p	bp_cat	Row Percent	Std Err of Row Percent	95% Confidence Limits for Row Percent	
0	Normal	89.1099	1.2328	86.4823	91.7375
	Pre-Hypertension	10.6558	1.1572	8.1893	13.1224
	Stage 1 Hypertension	0.2343	0.1178	0.0000	0.4854
	Stage 2 Hypertension	.	.	.	.
	Total	100.000			
1	Normal	47.1080	1.1085	44.7452	49.4708
	Pre-Hypertension	41.8542	1.1787	39.3419	44.3665
	Stage 1 Hypertension	8.6409	0.6208	7.3178	9.9640
	Stage 2 Hypertension	2.3969	0.2404	1.8844	2.9094
	Total	100.000			
Total	Normal				
	Pre-Hypertension				
	Stage 1 Hypertension				
	Stage 2 Hypertension				
	Total				

Frequency Missing = 2591

ANALYSIS EXAMPLE 6.5: NOTE: NO WEIGHTED BAR AND PIE CHARTS AVAILABLE DIRECTLY FROM A PROCEDURE IN SAS V9.2 (NOT INCLUDED HERE)

Analysis Example 6.6: Proportions by Subgroups: NCSR

The SURVEYFREQ Procedure

Data Summary

Number of Strata	42
Number of Clusters	84
Number of Observations	9282
Sum of Weights	9282.00015

Table of SEX by mde

SEX	mde	Frequency	Weighted Frequency	Std Dev of Wgt Freq	Percent	Std Err of Percent
Male	No MDE	3522	3774	169.19112	40.6644	0.6980
	MDE	617	670.23208	57.70029	7.2208	0.3438
	Total	4139	4445	215.70025	47.8852	0.5315
Female	No MDE	3931	3728	195.07524	40.1644	0.5361
	MDE	1212	1109	61.50166	11.9504	0.3028
	Total	5143	4837	248.29286	52.1148	0.5315
Total	No MDE	7453	7503	349.57814	80.8289	0.4877
	MDE	1829	1779	113.95611	19.1711	0.4877
	Total	9282	9282	453.54554	100.000	

Table of SEX by mde

SEX	mde	95% Confidence Limits for Percent		Design Effect	Row Percent	Std Err of Row Percent	95% Confidence Limits for Row Percent	
Male	No MDE	39.2558	42.0731	1.8741	84.9207	0.7748	83.3571	86.4842
	MDE	6.5270	7.9145	1.6372	15.0793	0.7748	13.5158	16.6429
	Total	46.8125	48.9579	1.0508	100.000			
Female	No MDE	39.0826	41.2462	1.1097	77.0692	0.5647	75.9295	78.2088
	MDE	11.3393	12.5614	0.8086	22.9308	0.5647	21.7912	24.0705
	Total	51.0421	53.1875	1.0508	100.000			
Total	No MDE	79.8447	81.8131	1.4245				
	MDE	18.1869	20.1553	1.4245				
	Total							

```
* example 6.7 is a male/female comparison which can be done with the smsub.sas macro in SAS v9.2 (or using PROC SURVEYREG with a
custom contrast statement);
*this example uses the smsub.sas macro only ;
%smsub (
data=ncsr,
statistics = mean semean clmean ,
strata=sestrat ,
cluster=seclustr,
weight= ncsrwtsh,
var= mde ,
contrast= 'sex: contrasts 1 v. 2 ' sex  1 -1 ,
title= 'Example 6.7  Difference of Means with smsub.sas code' ) ;
run ;
```

```
Example 6.7  Difference of Means with smsub.sas code
The SURVEYMEANS SUBGROUP Macro
            Data Summary
Number of Observations Read:            9282      Weight Sum:         9282
Number of Strata:                         42
Number of PSUs:                           84
Denominator Degrees of Freedom:           42



            Contrast Vector(s)

        Label            Variable    Values    Coefficients

sex: contrasts 1 v. 2      sex          1            1
                                        2           -1



            Table:  Overall *Contrast


Analysis Variable:  mde

-------------------------------------------------------------------------------
|By: Overall, Contrast   |            | Std Error  | Lower 95%  | Upper 95%  |
|                        |    Mean    |  of Mean   |CL for Mean |CL for Mean |
|------------------------+------------+------------+------------+------------|
|Total                   |            |            |            |            |
|    sex: contrasts 1 v. |            |            |            |            |
|    2                   |     -0.0785|      0.0096|     -0.0978|     -0.0592|
-------------------------------------------------------------------------------
```

```
title  "Analysis Example 6.8: Proportions by Subgroups: NCSR" ;
proc surveyfreq data=ncsr ;
strata sestrat ;
cluster seclustr ;
weight ncsrwtlg ;
tables age29*ed4cat*ald / nocellpercent row deff chisq chisq1 cv ;
format ed4cat edf. ald aldf.  ;
run ;
```

Analysis Example 6.8: Proportions by Subgroups: NCSR
The SURVEYFREQ Procedure

Data Summary

Number of Strata	42
Number of Clusters	84
Number of Observations	9282
Number of Observations Used	5692
Number of Obs with Nonpositive Weights	3590
Sum of Weights	5692.00048

Table of ED4CAT by ald
Controlling for age29=0

ED4CAT	ald	Frequency	Weighted Frequency	Std Dev of Wgt Freq	CV for Percent	Design Effect
0-11 Yrs	No ALD	570	689.26106	48.65927	0.0581	2.7454
	ALD	71	43.64177	5.63734	0.1357	0.8094
	Total	641	732.90283	49.40849	0.0559	2.7427
12 Yrs	No ALD	1223	1362	89.50257	0.0349	2.3876
	ALD	107	84.49599	11.21382	0.1148	1.1323
	Total	1330	1447	95.77820	0.0347	2.5815
13-15 Yrs	No ALD	1145	1064	50.18931	0.0363	1.8397
	ALD	106	69.16919	7.39750	0.0889	0.5542
	Total	1251	1133	54.43718	0.0352	1.8826
16+ Yrs	No ALD	1138	1077	70.55346	0.0514	3.7546
	ALD	57	35.07967	4.91665	0.1456	0.7485
	Total	1195	1112	70.44264	0.0497	3.6547
Total	No ALD	4076	4193	184.54693	0.0033	0.8542
	ALD	341	232.38662	17.38587	0.0591	0.8542
	Total	4417	4425	194.71240		

Table of ED4CAT by ald
Controlling for age29=0

ED4CAT	ald	Row Percent	Std Err of Row Percent	CV for Row Percent
0-11 Yrs	No ALD	94.0454	0.7976	0.0085
	ALD	5.9546	0.7976	0.1339
	Total	100.000		
12 Yrs	No ALD	94.1603	0.6250	0.0066
	ALD	5.8397	0.6250	0.1070
	Total	100.000		
13-15 Yrs	No ALD	93.8975	0.5242	0.0056
	ALD	6.1025	0.5242	0.0859
	Total	100.000		
16+ Yrs	No ALD	96.8458	0.4829	0.0050
	ALD	3.1542	0.4829	0.1531

```
             Total     100.000
-------------------------------------------------------------
Total        No ALD
             ALD

             Total
-------------------------------------------------------------


  Rao-Scott Chi-Square Test

Pearson Chi-Square    13.1918
Design Correction      0.7972

Rao-Scott Chi-Square  16.5469
DF                          3
Pr > ChiSq             0.0009

F Value                5.5156
Num DF                      3
Den DF                    126
Pr > F                 0.0014

     Sample Size = 5692


Rao-Scott Modified Chi-Square Test

Pearson Chi-Square    13.1918
Design Correction      0.8128

Rao-Scott Chi-Square  16.2305
DF                          3
Pr > ChiSq             0.0010

F Value                5.4102
Num DF                      3
Den DF                    126
Pr > F                 0.0016

     Sample Size = 5692
```

Table of ED4CAT by ald
Controlling for age29=1

ED4CAT	ald	Frequency	Weighted Frequency	Std Dev of Wgt Freq	CV for Percent	Design Effect
0-11 Yrs	No ALD	186	200.86597	21.26023	0.0920	2.0332
	ALD	22	20.17818	6.69593	0.3270	2.2056
	Total	208	221.04416	21.91184	0.0840	1.8990
12 Yrs	No ALD	356	384.76486	26.45399	0.0735	3.0059
	ALD	26	19.63715	5.96079	0.2718	1.4824
	Total	382	404.40202	28.73956	0.0694	2.8750
13-15 Yrs	No ALD	424	413.14106	46.87778	0.0575	2.0385
	ALD	34	21.26768	4.69579	0.2141	0.9973
	Total	458	434.40873	48.50085	0.0568	2.1427
16+ Yrs	No ALD	207	192.43145	30.56315	0.1189	3.2274
	ALD	20	14.27020	3.30762	0.1934	0.5433
	Total	227	206.70164	32.22052	0.1134	3.1935
Total	No ALD	1173	1191	87.85136	0.0094	1.7667
	ALD	102	75.35321	13.36129	0.1481	1.7667
	Total	1275	1267	94.77459		

Table of ED4CAT by ald
Controlling for age29=1

ED4CAT	ald	Row Percent	Std Err of Row Percent	CV for Row Percent
0-11 Yrs	No ALD	90.8714	2.9380	0.0323
	ALD	9.1286	2.9380	0.3218
	Total	100.000		
12 Yrs	No ALD	95.1442	1.3460	0.0141
	ALD	4.8558	1.3460	0.2772
	Total	100.000		
13-15 Yrs	No ALD	95.1042	1.0042	0.0106
	ALD	4.8958	1.0042	0.2051
	Total	100.000		
16+ Yrs	No ALD	93.0962	1.3640	0.0147
	ALD	6.9038	1.3640	0.1976
	Total	100.000		
Total	No ALD			
	ALD			
	Total			

Rao-Scott Chi-Square Test

Pearson Chi-Square	6.0957
Design Correction	1.2301
Rao-Scott Chi-Square	4.9554
DF	3
Pr > ChiSq	0.1751

F Value	1.6518
Num DF	3
Den DF	126
Pr > F	0.1808

Sample Size = 5692

Rao-Scott Modified Chi-Square Test

Pearson Chi-Square	6.0957
Design Correction	1.4828
Rao-Scott Chi-Square	4.1109
DF	3
Pr > ChiSq	0.2497
F Value	1.3703
Num DF	3
Den DF	126
Pr > F	0.2549

Sample Size = 5692

```
title "Analysis Example 6.9: Simple Logistic Regression: NCSR " ;
proc surveylogistic data=ncsr ;
strata sestrat ;
cluster seclustr ;
weight ncsrwtsh ;
model mde (event='1') = sexm ;
run ;
```

```
Analysis Example 6.9: Simple Logistic Regression
The SURVEYLOGISTIC Procedure
                                Model Information
Data Set                        WORK.NCSR
Response Variable               mde
Number of Response Levels       2
Stratum Variable                SESTRAT                     SAMPLING ERROR STRATUM
Number of Strata                42
Cluster Variable                SECLUSTR                    SAMPLING ERROR CLUSTER
Number of Clusters              84
Weight Variable                 NCSRWTSH                    NCSR sample part 1 weight
Model                           Binary Logit
Optimization Technique          Fisher's Scoring
Variance Adjustment             Degrees of Freedom (DF)

            Variance Estimation
Method                            Taylor Series
Variance Adjustment    Degrees of Freedom (DF)

Number of Observations Read        9282
Number of Observations Used        9282
Sum of Weights Read                9282
Sum of Weights Used                9282

                  Response Profile
 Ordered                        Total            Total
   Value          mde     Frequency           Weight

       1            0          7453        7502.5364
       2            1          1829        1779.4637

Probability modeled is mde=1.
                    Model Convergence Status
         Convergence criterion (GCONV=1E-8) satisfied.
         Model Fit Statistics
                               Intercept
              Intercept            and
Criterion          Only     Covariates

AIC            9074.130       8983.024
SC             9081.266       8997.296
-2 Log L       9072.130       8979.024

        Testing Global Null Hypothesis: BETA=0
Test                 Chi-Square       DF     Pr > ChiSq
Likelihood Ratio        93.1063        1         <.0001
Score                   92.1499        1         <.0001
Wald                    57.2554        1         <.0001

             Analysis of Maximum Likelihood Estimates
                                Standard          Wald
Parameter    DF    Estimate       Error    Chi-Square    Pr > ChiSq

Intercept     1     -1.2122      0.0320     1438.8649        <.0001
sexm          1     -0.5160      0.0682       57.2554        <.0001

           Odds Ratio Estimates
             Point          95% Wald
Effect    Estimate      Confidence Limits
sexm         0.597       0.522       0.682


Association of Predicted Probabilities and Observed Responses
Percent Concordant        31.3    Somers' D    0.135
Percent Discordant        17.8    Gamma        0.275
Percent Tied              50.9    Tau-a        0.043
Pairs                 13631537    c            0.568
```

ANALYSIS EXAMPLE NOTE: EXAMPLE 6.10 WEIGHTED BAR AND PIE CHARTS NOT AVAILABLE IN SAS V9.2

ANALYSIS EXAMPLE NOTE: EXAMPLE 6.11 CMH TEST FOR TREND ANALYSIS NOT AVAILABLE IN SAS V9.2