ASDA2 ANALYSIS EXAMPLE REPLICATION SPSS C7

```
* Syntax for Analysis Example Replication C7
GET
  SAS DATA='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes1112_sub_8aug2016.sas7bdat'.
DATASET NAME DataSet1 WINDOW=FRONT.

* ANALYSIS EXAMPLE 7.5: DIASTOLIC BLOOD PRESSURE PREDICTED BY RACE/ETHNICITY NHANES ADULT DATA
* Complex Samples General Linear Model.

* Bivariate Tests

* reverse coding for categorical predictors, need first category as reference to match Stata.
compute revrace=6 - ridreth1.
compute revmarcat= 4 - marcat.
compute revgender=3 - riagendr.
* center age.
compute agec=age-46.36.
* set 0 to missing on dependent variable.
compute bpxdi1_1 = bpxdi1.
RECODE BPXDI1 (0=SYSMIS) INTO bpxdi1_1.
execute.


CSGLM bpxdi1_1  BY revrace
 /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
 /DOMAIN VARIABLE=age18p(1)
 /MODEL revrace
 /INTERCEPT INCLUDE=YES SHOW=YES
 /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
 /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
 /TEST TYPE=F PADJUST=LSD
 /MISSING CLASSMISSING=EXCLUDE
 /CRITERIA CILEVEL=95.

CSGLM bpxdi1_1  BY revmarcat
 /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
 /DOMAIN VARIABLE=age18p(1)
 /MODEL revmarcat
 /INTERCEPT INCLUDE=YES SHOW=YES
 /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
 /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
 /TEST TYPE=F PADJUST=LSD
 /MISSING CLASSMISSING=EXCLUDE
 /CRITERIA CILEVEL=95.

CSGLM bpxdi1_1  BY revgender
 /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
 /DOMAIN VARIABLE=age18p(1)
 /MODEL revgender
 /INTERCEPT INCLUDE=YES SHOW=YES
 /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
 /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
 /TEST TYPE=F PADJUST=LSD
 /MISSING CLASSMISSING=EXCLUDE
 /CRITERIA CILEVEL=95.


CSGLM bpxdi1_1  with agec
 /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
 /DOMAIN VARIABLE=age18p(1)
 /MODEL agec
 /INTERCEPT INCLUDE=YES SHOW=YES
 /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
 /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
 /TEST TYPE=F PADJUST=LSD
 /MISSING CLASSMISSING=EXCLUDE
 /CRITERIA CILEVEL=95.
```

```
* Naive Analysis Ignoring Weights and Design Variables. * Filter those age 18plus.
USE ALL.
COMPUTE filter_$=(age18p=1).
VARIABLE LABELS filter_$ 'age18p=1 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

GENLIN bpxdi1_1 BY revrace revgender WITH agec
 /MODEL revrace agec revgender INTERCEPT=YES
DISTRIBUTION=NORMAL LINK=IDENTITY
 /CRITERIA SCALE=1 COVB=MODEL PCONVERGE=1E-006(ABSOLUTE)
SINGULAR=1E-012 ANALYSISTYPE=3(WALD) CILEVEL=95 CITYPE=WALD LIKELIHOOD=FULL
 /MISSING CLASSMISSING=EXCLUDE
 /PRINT CPS DESCRIPTIVES MODELINFO FIT SUMMARY SOLUTION.

* Weighted Model without Design Variables.
WEIGHT BY WTMEC2YR.
GENLIN bpxdi1_1 BY revrace revgender WITH agec
 /MODEL revrace agec revgender INTERCEPT=YES
DISTRIBUTION=NORMAL LINK=IDENTITY
 /CRITERIA SCALE=1 COVB=MODEL PCONVERGE=1E-006(ABSOLUTE)
SINGULAR=1E-012 ANALYSISTYPE=3(WALD) CILEVEL=95 CITYPE=WALD LIKELIHOOD=FULL
 /MISSING CLASSMISSING=EXCLUDE
 /PRINT CPS DESCRIPTIVES MODELINFO FIT SUMMARY SOLUTION.

* ANALYSIS EXAMPLE 7.5: ALL PREDICTORS IN MODEL AND WEIGHT APPLIED AND USE OF COMPLEX DESIGN VARIABLES
* Complex Samples General Linear Model.

CSGLM bpxdi1_1 by revrace revgender with agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
 /DOMAIN VARIABLE=age18p(1)
 /MODEL revrace revgender agec
 /INTERCEPT INCLUDE=YES SHOW=YES
 /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
 /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
 /TEST TYPE=F PADJUST=LSD
 /SAVE PRED RESID
 /MISSING CLASSMISSING=EXCLUDE
 /CRITERIA CILEVEL=95.

GRAPH
  /SCATTERPLOT(BIVAR)=agec WITH Residual
  /MISSING=LISTWISE
  /TITLE='Residuals v. Age without Age Squared Term in Model'.

compute agecsq=agec*agec.
execute.

* ANALYSIS EXAMPLE 7.5: ALL PREDICTORS IN MODEL AND WEIGHT APPLIED AND USE OF COMPLEX DESIGN VARIABLES,
ADD AGEC SQUARED TO DEAL WITH NON-LINEAR IMPACT OF AGE.
* Complex Samples General Linear Model.
* Save predicted and residuals for graphing.

CSGLM  bpxdi1_1 BY revgender revrace WITH agecsq agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
  /DOMAIN VARIABLE=age18p(1)
  /MODEL revgender revrace agecsq agec
  /INTERCEPT INCLUDE=YES SHOW=YES
  /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
  /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
  /TEST TYPE=ADJF PADJUST=LSD
  /SAVE PRED (PREDF)  RESID (RESIDF)
  /MISSING CLASSMISSING=EXCLUDE
  /CRITERIA CILEVEL=95.
```

```
GRAPH
  /SCATTERPLOT(BIVAR)=agec WITH RESIDF
  /MISSING=LISTWISE
  /TITLE='Residuals v. Age with Age Squared Term in Model'.

*ANALYSIS EXAMPLE 7.5: ALL PREDICTORS PLUS INTERACTION OF RACE TIMES AGE AND AGE SQUARED, INTERACTION
TESTING.
CSGLM  bpxdi1_1 BY revgender revrace WITH agecsq agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
  /DOMAIN VARIABLE=age18p(1)
  /MODEL revgender revrace agecsq agec revrace*agec revrace*agecsq
  /INTERCEPT INCLUDE=YES SHOW=YES
  /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
  /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
  /TEST TYPE=F PADJUST=LSD
  /MISSING CLASSMISSING=EXCLUDE
  /CRITERIA CILEVEL=95
  /CUSTOM LABEL="RACE TIMES AGE AND AGE SQUARED "
 LMATRIX =
 REVRACE*AGEC 1 0 0 0 -1 ;
 REVRACE*AGEC 1 0 0 -1 0 ;
 REVRACE*AGEC 1 0 -1 0 0 ;
 REVRACE*AGEC 1 -1 0 0 0 ;
 REVRACE*AGECSQ 1 0 0 0 -1 ;
 REVRACE*AGECSQ 1 0 0 -1 0 ;
 REVRACE*AGECSQ 1 0 -1 0 0 ;
 REVRACE*AGECSQ 1 -1 0 0 0
 KMATRIX =0 ; 0 ; 0 ; 0; 0 ; 0 ; 0 ; 0.

*ANALYSIS EXAMPLE 7.5: ALL PREDICTORS PLUS INTERACTION OF GENDER TIMES AGE AND AGE SQUARED, INTERACTION
TESTING.
CSGLM  bpxdi1_1 BY revgender revrace WITH agecsq agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
  /DOMAIN VARIABLE=age18p(1)
  /MODEL revgender revrace agecsq agec revgender*agec revgender*agecsq
  /INTERCEPT INCLUDE=YES SHOW=YES
  /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
  /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
  /TEST TYPE=F PADJUST=LSD
  /MISSING CLASSMISSING=EXCLUDE
  /CRITERIA CILEVEL=95
  /CUSTOM LABEL="GENDER TIMES AGE AND AGE SQUARED "
 LMATRIX =
 REVGENDER*AGEC 1  -1 ;
 REVGENDER*AGECSQ 1 -1
 KMATRIX =0 ; 0.

* Analysis Example 7.5 Use Interactions in Preliminary Final Model and Obtain Numbers for Predicted
Marginal Value Plot for Gender.
CSGLM  bpxdi1_1 BY revgender revrace WITH agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
  /DOMAIN VARIABLE=age18p(1)
  /MODEL revgender revrace agec*agec agec revgender*agec revgender*agec*agec revrace*agec
revrace*agec*agec
  /INTERCEPT INCLUDE=YES SHOW=YES
  /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
  /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
  /TEST TYPE=F PADJUST=LSD
  /MISSING CLASSMISSING=EXCLUDE
  /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-30)  ]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-25)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-20)]
```

```
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-15)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-10)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-5)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (0)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (5)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (10)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (15)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (20)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (25)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (30)]
   /SAVE PRED RESID
  /CRITERIA CILEVEL=95.

* Analysis Example 7.5 Use Interactions in Preliminary Final Model and Obtain Numbers for Predicted
Marginal Value Plot for Race.
CSGLM  bpxdi1_1 BY revgender revrace WITH agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
  /DOMAIN VARIABLE=age18p(1)
  /MODEL revgender revrace agec*agec agec revgender*agec revgender*agec*agec revrace*agec
revrace*agec*agec
  /INTERCEPT INCLUDE=YES SHOW=YES
  /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
  /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
  /TEST TYPE=F PADJUST=LSD
  /MISSING CLASSMISSING=EXCLUDE
  /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-30)  ]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-25)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-20)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-15)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-10)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-5)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (0)]
 /EMMEANS
   TABLES=REVRACE
```

```
    OTHER = [AGEC (5)]
  /EMMEANS
    TABLES=REVRACE
    OTHER = [AGEC (10)]
  /EMMEANS
    TABLES=REVRACE
    OTHER = [AGEC (15)]
  /EMMEANS
    TABLES=REVRACE
    OTHER = [AGEC (20)]
  /EMMEANS
    TABLES=REVRACE
    OTHER = [AGEC (25)]
  /EMMEANS
    TABLES=REVRACE
    OTHER = [AGEC (30)]
   /SAVE PRED RESID
   /CRITERIA CILEVEL=95.

* residual v. predicted plot from above model.
GRAPH
   /SCATTERPLOT(BIVAR)=predf  WITH Residf
   /MISSING=LISTWISE
   /TITLE='Predicted v. Residuals'.
GRAPH
   /HISTOGRAM(NORMAL)=Residf
  /title ='Histogram of Residuals'.

* Prepare weight for Pfefferman Q Method.
* Turn weight off and use non-filtered data.
WEIGHT OFF.
* remove age 18+ filter.
FILTER OFF.
USE ALL.
EXECUTE.

GENLIN wtmec2yr BY revrace revgender WITH agec
  /MODEL revrace agec revgender INTERCEPT=YES
  DISTRIBUTION=NORMAL LINK=IDENTITY
  /CRITERIA SCALE=1 COVB=MODEL PCONVERGE=1E-006(ABSOLUTE)
SINGULAR=1E-012 ANALYSISTYPE=3(WALD) CILEVEL=95 CITYPE=WALD LIKELIHOOD=FULL
  /MISSING CLASSMISSING=EXCLUDE
  /SAVE XBPRED (PREDQ1)
  /PRINT CPS DESCRIPTIVES MODELINFO FIT SUMMARY SOLUTION.

COMPUTE Q_WTMEC2YR=WTMEC2YR/ PREDQ1.
EXECUTE.

* Analysis Preparation Wizard.
CSPLAN ANALYSIS
   /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_Q.csaplan'
   /PLANVARS ANALYSISWEIGHT=Q_WTMEC2YR
   /SRSESTIMATOR TYPE=WOR
   /PRINT PLAN
   /DESIGN STRATA=SDMVSTRA CLUSTER=SDMVPSU
   /ESTIMATOR TYPE=WR.

* Final Model with Q Weight.
CSGLM  bpxdi1_1 BY revgender revrace WITH agec
   /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_Q.csaplan'
   /DOMAIN VARIABLE=age18p(1)
   /MODEL  revrace revgender agec*agec agec  revrace*agec revrace*agec*agec revgender*agec
revgender*agec*agec
   /INTERCEPT INCLUDE=YES SHOW=YES
   /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
   /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
   /TEST TYPE=F PADJUST=LSD
   /MISSING CLASSMISSING=EXCLUDE
```

```
  /CRITERIA CILEVEL=95.


* Export Output.
OUTPUT EXPORT
  /CONTENTS  EXPORT=ALL  LAYERS=PRINTSETTING  MODELVIEWS=PRINTSETTING
  /DOC  DOCUMENTFILE='P:\ASDA 2\Analysis Example Replication\SPSS\Analysis Example Replication '+
    'SPSS C7.doc'
     NOTESCAPTIONS=YES  WIDETABLES=WRAP PAGEBREAKS=YES
     PAGESIZE=INCHES(8.5, 11.0)  TOPMARGIN=INCHES(1.0)  BOTTOMMARGIN=INCHES(1.0)
     LEFTMARGIN=INCHES(.5)  RIGHTMARGIN=INCHES(.5).
```

OUTPUT **ASDA2 ANALYSIS EXAMPLE REPLICATION SPSS C7**

```
GET
  SAS DATA='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes1112_sub_8aug2016.sas7bdat'.
DATASET NAME DataSet1 WINDOW=FRONT.

* ANALYSIS EXAMPLE 7.5: DIASTOLIC BLOOD PRESSURE PREDICTED BY RACE/ETHNICITY NHANES ADULT DATA
* Complex Samples General Linear Model.

* Bivariate Tests

* reverse coding for categorical predictors, need first category as reference to match Stata.
compute revrace=6 - ridreth1.
compute revmarcat= 4 - marcat.
compute revgender=3 - riagendr.
* center age.
compute agec=age-46.36.
* set 0 to missing on dependent variable.
compute bpxdi1_1 = bpxdi1.
RECODE BPXDI1 (0=SYSMIS) INTO bpxdi1_1.
execute.


CSGLM bpxdi1_1  BY revrace
 /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
 /DOMAIN VARIABLE=age18p(1)
 /MODEL revrace
 /INTERCEPT INCLUDE=YES SHOW=YES
 /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
 /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
 /TEST TYPE=F PADJUST=LSD
 /MISSING CLASSMISSING=EXCLUDE
 /CRITERIA CILEVEL=95.
```

Complex Samples: General Linear Model

Sample Design Information

		N
Unweighted Cases	Valid	6676
	Invalid	3080
	Total	9756
Population Size		250508512.376
Subpopulation Size		212747914.346[a]
Stage 1	Strata	14
	Units	31
Sampling Design Degrees of Freedom		17

a. Subpopulation: Age >=18: 1=Yes 0=No = 1

Variable Information

		Mean
Dependent Variable	bpxdi1_1	71.6088

Subpopulation: Age >=18: 1=Yes 0=No = 1

Factor Information

		Weighted Count	Weighted Percent
revrace	1.00	16540366.462	7.8%
	2.00	24960921.765	11.7%
	3.00	140677592.241	66.1%
	4.00	13924721.349	6.5%
	5.00	16644312.529	7.8%
Subpopulation Size		212747914.346	100.0%

Subpopulation: Age >=18: 1=Yes 0=No = 1

Model Summary[a]

R Square	.005

Subpopulation: Age >=18:
1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 =
(Intercept) + revrace

Tests of Model Effects[a]

Source	df1	df2	Wald F	Sig.
(Corrected Model)	4.000	14.000	3.929	.024
(Intercept)	1.000	17.000	17089.652	.000
revrace	4.000	14.000	3.929	.024

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revrace

Parameter Estimates[a]

Parameter	Estimate	Std. Error	95% Confidence Interval		Hypothesis Test			Design Effect
			Lower	Upper	t	df	Sig.	
(Intercept)	69.804	.453	68.848	70.760	154.013	17.000	.000	.714
[revrace=1.00]	1.306	.704	-.181	2.792	1.853	17.000	.081	.875
[revrace=2.00]	2.290	.703	.807	3.773	3.258	17.000	.005	.913
[revrace=3.00]	2.185	.743	.618	3.752	2.942	17.000	.009	1.718
[revrace=4.00]	-.155	1.456	-3.226	2.916	-.106	17.000	.916	3.452
[revrace=5.00]	.000[b]	.	.	.	.	.	.	.

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revrace

b. Set to zero because this parameter is redundant.

```
CSGLM bpxdi1_1  BY revmarcat
 /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
 /DOMAIN VARIABLE=age18p(1)
 /MODEL revmarcat
 /INTERCEPT INCLUDE=YES SHOW=YES
 /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
 /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
 /TEST TYPE=F PADJUST=LSD
 /MISSING CLASSMISSING=EXCLUDE
 /CRITERIA CILEVEL=95.
```

Complex Samples: General Linear Model

Sample Design Information

		N
Unweighted Cases	Valid	4845
	Invalid	4911
	Total	9756
Population Size		205481294.609
Subpopulation Size		205481294.609[a]
Stage 1	Strata	14
	Units	31
Sampling Design Degrees of Freedom		17

a. Subpopulation: Age >=18: 1=Yes 0=No = 1

Variable Information

		Mean
Dependent Variable	bpxdi1_1	71.9282

Subpopulation: Age >=18: 1=Yes 0=No = 1

Factor Information

		Weighted Count	Weighted Percent
revmarcat	1.00	41125108.825	20.0%
	2.00	38262967.426	18.6%
	3.00	126093218.357	61.4%
Subpopulation Size		205481294.609	100.0%

Subpopulation: Age >=18: 1=Yes 0=No = 1

Model Summary[a]

R Square	.001

Subpopulation: Age >=18:
1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 =
(Intercept) + revmarcat

Tests of Model Effects[a]

Source	df1	df2	Wald F	Sig.
(Corrected Model)	2.000	16.000	.849	.446
(Intercept)	1.000	17.000	16739.526	.000
revmarcat	2.000	16.000	.849	.446

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revmarcat

Parameter Estimates[a]

			95% Confidence Interval		Hypothesis Test			
Parameter	Estimate	Std. Error	Lower	Upper	t	df	Sig.	Design Effect
(Intercept)	72.180	.515	71.093	73.266	140.172	17.000	.000	6.598
[revmarcat=1.00]	-1.121	.844	-2.901	.659	-1.329	17.000	.201	3.787
[revmarcat=2.00]	-.145	.698	-1.617	1.327	-.208	17.000	.838	2.473
[revmarcat=3.00]	.000[b]	.	.	.	.	.	.	.

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revmarcat

b. Set to zero because this parameter is redundant.

```
CSGLM bpxdi1_1  BY revgender
 /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
 /DOMAIN VARIABLE=age18p(1)
 /MODEL revgender
 /INTERCEPT INCLUDE=YES SHOW=YES
 /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
 /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
 /TEST TYPE=F PADJUST=LSD
 /MISSING CLASSMISSING=EXCLUDE
 /CRITERIA CILEVEL=95.
```

Complex Samples: General Linear Model

Sample Design Information

		N
Unweighted Cases	Valid	6676
	Invalid	3080
	Total	9756
Population Size		250508512.376
Subpopulation Size		212747914.346[a]
Stage 1	Strata	14
	Units	31
Sampling Design Degrees of Freedom		17

a. Subpopulation: Age >=18: 1=Yes 0=No = 1

Variable Information

		Mean
Dependent Variable	bpxdi1_1	71.6088

Subpopulation: Age >=18: 1=Yes 0=No = 1

Factor Information

		Weighted Count	Weighted Percent
revgender	1.00	107972538.690	50.8%
	2.00	104775375.657	49.2%
Subpopulation Size		212747914.346	100.0%

Subpopulation: Age >=18: 1=Yes 0=No = 1

Model Summary[a]

R Square	.009

Subpopulation: Age >=18:
1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 =
(Intercept) + revgender

Tests of Model Effects[a]

Source	df1	df2	Wald F	Sig.
(Corrected Model)	1.000	17.000	15.012	.001
(Intercept)	1.000	17.000	20213.233	.000
revgender	1.000	17.000	15.012	.001

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender

Parameter Estimates[a]

			95% Confidence Interval		Hypothesis Test			
Parameter	Estimate	Std. Error	Lower	Upper	t	df	Sig.	Design Effect
(Intercept)	72.726	.590	71.481	73.971	123.245	17.000	.000	6.949
[revgender=1.00]	-2.200	.568	-3.399	-1.002	-3.875	17.000	.001	3.516
[revgender=2.00]	.000[b]	.	.	.	.	.	.	.

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender

b. Set to zero because this parameter is redundant.

```
CSGLM bpxdi1_1  with agec
 /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
 /DOMAIN VARIABLE=age18p(1)
 /MODEL agec
 /INTERCEPT INCLUDE=YES SHOW=YES
 /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
 /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
 /TEST TYPE=F PADJUST=LSD
 /MISSING CLASSMISSING=EXCLUDE
 /CRITERIA CILEVEL=95.
```

Complex Samples: General Linear Model

Sample Design Information

		N
Unweighted Cases	Valid	6676
	Invalid	3080
	Total	9756
Population Size		250508512.376
Subpopulation Size		212747914.346[a]
Stage 1	Strata	14
	Units	31
Sampling Design Degrees of Freedom		17

a. Subpopulation: Age >=18: 1=Yes 0=No = 1

Variable Information

		Mean
Dependent Variable	bpxdi1_1	71.6088
Covariates	agec	.1304

Subpopulation: Age >=18: 1=Yes 0=No = 1

Model Summary[a]

R Square	.004

Subpopulation: Age >=18:
1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 =
(Intercept) + agec

Tests of Model Effects[a]

Source	df1	df2	Wald F	Sig.
(Corrected Model)	1.000	17.000	4.354	.052
(Intercept)	1.000	17.000	20489.019	.000
agec	1.000	17.000	4.354	.052

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + agec

Parameter Estimates[a]

			95% Confidence Interval		Hypothesis Test			
Parameter	Estimate	Std. Error	Lower	Upper	t	df	Sig.	Design Effect
(Intercept)	71.604	.500	70.548	72.659	143.140	17.000	.000	10.889
agec	.039	.019	.000	.079	2.087	17.000	.052	4.249

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + agec

```
* Naive Analysis Ignoring Weights and Design Variables. * Filter those age 18plus.
USE ALL.
COMPUTE filter_$=(age18p=1).
VARIABLE LABELS filter_$ 'age18p=1 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

GENLIN bpxdi1_1 BY revrace revgender WITH agec
 /MODEL revrace agec revgender INTERCEPT=YES
DISTRIBUTION=NORMAL LINK=IDENTITY
 /CRITERIA SCALE=1 COVB=MODEL PCONVERGE=1E-006(ABSOLUTE)
SINGULAR=1E-012 ANALYSISTYPE=3(WALD) CILEVEL=95 CITYPE=WALD LIKELIHOOD=FULL
 /MISSING CLASSMISSING=EXCLUDE
 /PRINT CPS DESCRIPTIVES MODELINFO FIT SUMMARY SOLUTION.
```

Generalized Linear Models

Model Information

Dependent Variable	bpxdi1_1
Probability Distribution	Normal
Link Function	Identity

Case Processing Summary

	N	Percent
Included	5112	87.2%
Excluded	752	12.8%
Total	5864	100.0%

Categorical Variable Information

			N	Percent
Factor	revrace	1.00	865	16.9%
		2.00	1380	27.0%
		3.00	1832	35.8%
		4.00	526	10.3%
		5.00	509	10.0%
		Total	5112	100.0%
	revgender	1.00	2534	49.6%
		2.00	2578	50.4%
		Total	5112	100.0%

Continuous Variable Information

		N	Minimum	Maximum	Mean	Std. Deviation
Dependent Variable	bpxdi1_1	5112	10.00	120.00	71.0168	11.94029
Covariate	agec	5112	-28.36	33.64	.8503	18.54853

Goodness of Fit[a]

	Value	df	Value/df
Deviance	715577.703	5105	140.172
Scaled Deviance	715577.703	5105	
Pearson Chi-Square	715577.703	5105	140.172
Scaled Pearson Chi-Square	715577.703	5105	
Log Likelihood[b]	-362486.465		
Akaike's Information Criterion (AIC)	724986.931		
Finite Sample Corrected AIC (AICC)	724986.953		
Bayesian Information Criterion (BIC)	725032.706		
Consistent AIC (CAIC)	725039.706		

Dependent Variable: bpxdi1_1

Model: (Intercept), revrace, agec, revgender[a]

a. Information criteria are in smaller-is-better form.

b. The full log likelihood function is displayed and used in computing information criteria.

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
13100.850	6	.000

Dependent Variable: bpxdi1_1

Model: (Intercept), revrace, agec, revgender[a]

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	19866135.886	1	.000
revrace	2985.294	4	.000
agec	2937.260	1	.000
revgender	7370.165	1	.000

Dependent Variable: bpxdi1_1

Model: (Intercept), revrace, agec, revgender

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	70.784	.0463	70.693	70.874	2339834.417	1	.000
[revrace=1.00]	2.013	.0559	1.904	2.123	1298.121	1	.000
[revrace=2.00]	2.205	.0520	2.104	2.307	1800.217	1	.000
[revrace=3.00]	1.193	.0505	1.094	1.291	558.599	1	.000
[revrace=4.00]	.255	.0623	.133	.377	16.761	1	.000
[revrace=5.00]	0[a]	.	.	.	.	.	.
agec	.041	.0008	.040	.043	2937.260	1	.000
[revgender=1.00]	-2.404	.0280	-2.459	-2.349	7370.165	1	.000
[revgender=2.00]	0[a]	.	.	.	.	.	.
(Scale)	1[b]						

Dependent Variable: bpxdi1_1

Model: (Intercept), revrace, agec, revgender

a. Set to zero because this parameter is redundant.

b. Fixed at the displayed value.

```
* Weighted Model without Design Variables.
WEIGHT BY WTMEC2YR.
GENLIN bpxdi1_1 BY revrace revgender WITH agec
 /MODEL revrace agec revgender INTERCEPT=YES
DISTRIBUTION=NORMAL LINK=IDENTITY
 /CRITERIA SCALE=1 COVB=MODEL PCONVERGE=1E-006(ABSOLUTE)
SINGULAR=1E-012 ANALYSISTYPE=3(WALD) CILEVEL=95 CITYPE=WALD LIKELIHOOD=FULL
 /MISSING CLASSMISSING=EXCLUDE
 /PRINT CPS DESCRIPTIVES MODELINFO FIT SUMMARY SOLUTION.
```

Generalized Linear Models

Model Information

Dependent Variable	bpxdi1_1
Probability Distribution	Normal
Link Function	Identity

Case Processing Summary

	N	Percent	Unweighted N
Included	212747872.00	91.7%	5112
Excluded	19254625.00	8.3%	503
Total	232002497.00	100.0%	5615

Categorical Variable Information

			N	Percent	Unweighted N
Factor	revrace	1.00	16540362.00	7.8%	865
		2.00	24960928.00	11.7%	1380
		3.00	140677575.00	66.1%	1832
		4.00	13924698.00	6.5%	526
		5.00	16644309.00	7.8%	509
		Total	212747872.00	100.0%	5112
	revgender	1.00	107972528.00	50.8%	2534
		2.00	104775344.00	49.2%	2578
		Total	212747872.00	100.0%	5112

Continuous Variable Information

		N	Minimum	Maximum	Mean	Std. Deviation	Unweighted N
Dependent Variable	bpxdi1_1	212747872.00	10.00	120.00	71.6088	11.44115	5112
Covariate	agec	212747872.00	-28.36	33.64	.1304	17.44851	5112

Goodness of Fit[a]

	Value	df	Value/df
Deviance	27363442221.280	212747865	128.619
Scaled Deviance	27363442221.280	212747865	
Pearson Chi-Square	27363442221.280	212747865	128.619
Scaled Pearson Chi-Square	27363442221.280	212747865	
Log Likelihood[b]	-13877223328.078		
Akaike's Information Criterion (AIC)	27754446670.156		
Finite Sample Corrected AIC (AICC)	27754446670.156		
Bayesian Information Criterion (BIC)	27754446790.385		
Consistent AIC (CAIC)	27754446797.385		

Dependent Variable: bpxdi1_1

Model: (Intercept), revrace, agec, revgender[a]

a. Information criteria are in smaller-is-better form.

b. The full log likelihood function is displayed and used in computing information criteria.

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
485215895.094	6	.000

Dependent Variable: bpxdi1_1

Model: (Intercept), revrace, agec, revgender[a]

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

	Type III		
Source	Wald Chi-Square	df	Sig.
(Intercept)	518316842454.400	1	.000
revrace	109672645.282	4	.000
agec	84225672.116	1	.000
revgender	277961964.946	1	.000

Dependent Variable: bpxdi1_1

Model: (Intercept), revrace, agec, revgender

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	71.149	.0003	71.148	71.149	77535076057.572	1	.000
[revrace=1.00]	1.262	.0003	1.261	1.262	13161392.677	1	.000
[revrace=2.00]	2.302	.0003	2.301	2.303	52649852.778	1	.000
[revrace=3.00]	1.904	.0003	1.904	1.905	52625096.178	1	.000
[revrace=4.00]	-.141	.0004	-.142	-.141	151339.264	1	.000
[revrace=5.00]	0[a]	.	.	.	.	.	.
agec	.037	4.0124E-6	.037	.037	84225672.116	1	.000
[revgender=1.00]	-2.291	.0001	-2.291	-2.291	277961964.946	1	.000
[revgender=2.00]	0[a]	.	.	.	.	.	.
(Scale)	1[b]						

Dependent Variable: bpxdi1_1

Model: (Intercept), revrace, agec, revgender

a. Set to zero because this parameter is redundant.

b. Fixed at the displayed value.

```
Warning # 3211
On at least one case, the value of the weight variable was zero, negative, or
missing.  Such cases are invisible to statistical procedures and graphs which
need positively weighted cases, but remain on the file and are processed by
non-statistical facilities such as LIST and SAVE.
```

```
* ANALYSIS EXAMPLE 7.5: ALL PREDICTORS IN MODEL AND WEIGHT APPLIED AND USE OF COMPLEX DESIGN VARIABLES
* Complex Samples General Linear Model.

CSGLM bpxdi1_1 by revrace revgender with agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
 /DOMAIN VARIABLE=age18p(1)
 /MODEL revrace revgender agec
 /INTERCEPT INCLUDE=YES SHOW=YES
 /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
 /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
 /TEST TYPE=F PADJUST=LSD
 /SAVE PRED RESID
 /MISSING CLASSMISSING=EXCLUDE
 /CRITERIA CILEVEL=95.
```

Complex Samples: General Linear Model

Sample Design Information

		N
Unweighted Cases	Valid	5112
	Invalid	752
	Total	5864
Population Size		212747914.346
Subpopulation Size		212747914.346[a]
Stage 1	Strata	14
	Units	31
Sampling Design Degrees of Freedom		17

a. Subpopulation: Age >=18: 1=Yes 0=No = 1

Variable Information

		Mean
Dependent Variable	bpxdi1_1	71.6088
Covariates	agec	.1304

Subpopulation: Age >=18: 1=Yes 0=No = 1

Factor Information

		Weighted Count	Weighted Percent
revrace	1.00	16540366.462	7.8%
	2.00	24960921.765	11.7%
	3.00	140677592.241	66.1%
	4.00	13924721.349	6.5%
	5.00	16644312.529	7.8%
revgender	1.00	107972538.690	50.8%
	2.00	104775375.657	49.2%
Subpopulation Size		212747914.346	100.0%

Subpopulation: Age >=18: 1=Yes 0=No = 1

Model Summary[a]

R Square	.017

Subpopulation: Age >=18:
1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 =
(Intercept) + revrace +
revgender + agec

Tests of Model Effects[a]

Source	df1	df2	Wald F	Sig.
(Corrected Model)	6.000	12.000	10.126	.000
(Intercept)	1.000	17.000	17569.902	.000
revrace	4.000	14.000	3.959	.024
revgender	1.000	17.000	17.458	.001
agec	1.000	17.000	3.132	.095

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revrace + revgender + agec

Parameter Estimates[a]

Parameter	Estimate	Std. Error	95% Confidence Interval		Hypothesis Test			Design Effect
			Lower	Upper	t	df	Sig.	
(Intercept)	71.149	.518	70.056	72.241	137.364	17.000	.000	.792
[revrace=1.00]	1.262	.707	-.229	2.753	1.786	17.000	.092	.817
[revrace=2.00]	2.302	.665	.900	3.704	3.464	17.000	.003	.749
[revrace=3.00]	1.904	.809	.197	3.611	2.354	17.000	.031	1.841
[revrace=4.00]	-.141	1.375	-3.042	2.759	-.103	17.000	.919	2.881
[revrace=5.00]	.000[b]	.	.	.	.	.	.	.
[revgender=1.00]	-2.291	.548	-3.448	-1.134	-4.178	17.000	.001	2.965
[revgender=2.00]	.000[b]	.	.	.	.	.	.	.
agec	.037	.021	-.007	.081	1.770	17.000	.095	4.495

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revrace + revgender + agec

b. Set to zero because this parameter is redundant.

```
GRAPH
  /SCATTERPLOT(BIVAR)=agec WITH Residual
  /MISSING=LISTWISE
  /TITLE='Residuals v. Age without Age Squared Term in Model'.
```

Graph

```
* ANALYSIS EXAMPLE 7.5: ALL PREDICTORS IN MODEL AND WEIGHT APPLIED AND USE OF COMPLEX DESIGN VARIABLES,
ADD AGEC SQUARED TO DEAL WITH NON-LINEAR IMPACT OF AGE.
* Complex Samples General Linear Model.
* Save predicted and residuals for graphing.

CSGLM  bpxdi1_1 BY revgender revrace WITH agecsq agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
  /DOMAIN VARIABLE=age18p(1)
  /MODEL revgender revrace agecsq agec
  /INTERCEPT INCLUDE=YES SHOW=YES
  /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
  /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
  /TEST TYPE=ADJF PADJUST=LSD
  /SAVE PRED (PREDF)  RESID (RESIDF)
  /MISSING CLASSMISSING=EXCLUDE
  /CRITERIA CILEVEL=95.
```

Complex Samples: General Linear Model

Warnings

This procedure ignores the weight variable.

Sample Design Information

		N
Unweighted Cases	Valid	5112
	Invalid	752
	Total	5864
Population Size		212747914.346
Subpopulation Size		212747914.346[a]
Stage 1	Strata	14
	Units	31
Sampling Design Degrees of Freedom		17

a. Subpopulation: Age >=18: 1=Yes 0=No = 1

Variable Information

		Mean
Dependent Variable	bpxdi1_1	71.6088
Covariates	agecsq	304.4674
	agec	.1304

Subpopulation: Age >=18: 1=Yes 0=No = 1

Factor Information

		Weighted Count	Weighted Percent
revgender	1.00	107972538.690	50.8%
	2.00	104775375.657	49.2%
revrace	1.00	16540366.462	7.8%
	2.00	24960921.765	11.7%
	3.00	140677592.241	66.1%
	4.00	13924721.349	6.5%
	5.00	16644312.529	7.8%
Subpopulation Size		212747914.346	100.0%

Subpopulation: Age >=18: 1=Yes 0=No = 1

Model Summary[a]

R Square	.114

Subpopulation: Age >=18:
1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 =
(Intercept) + revgender +
revrace + agecsq + agec

Tests of Model Effects[a]

Source	df1	df2	Adjusted Wald F	Sig.
(Corrected Model)	3.475	59.072	34.110	.000
(Intercept)	1.000	17.000	24787.665	.000
revgender	1.000	17.000	19.655	.000
revrace	2.144	36.442	2.150	.128
agecsq	1.000	17.000	265.179	.000
agec	1.000	17.000	23.060	.000

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agecsq + agec

Parameter Estimates[a]

			95% Confidence Interval		Hypothesis Test			
Parameter	Estimate	Std. Error	Lower	Upper	t	df	Sig.	Design Effect

(Intercept)	74.462	.565	73.270	75.655	131.731	17.000	.000	.988
[revgender=1.00]	-2.169	.489	-3.202	-1.137	-4.433	17.000	.000	2.627
[revgender=2.00]	.000[b]	.	.	.	.	.	.	.
[revrace=1.00]	1.410	.687	-.041	2.860	2.051	17.000	.056	.864
[revrace=2.00]	2.511	.734	.963	4.059	3.422	17.000	.003	1.035
[revrace=3.00]	2.084	.857	.276	3.893	2.432	17.000	.026	2.306
[revrace=4.00]	.218	1.217	-2.350	2.786	.179	17.000	.860	2.555
[revrace=5.00]	.000[b]	.	.	.	.	.	.	.
agecsq	-.012	.001	-.013	-.010	-16.284	17.000	.000	1.926
agec	.075	.016	.042	.108	4.802	17.000	.000	2.984

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agecsq + agec

b. Set to zero because this parameter is redundant.

```
GRAPH
  /SCATTERPLOT(BIVAR)=agec WITH RESIDF
  /MISSING=LISTWISE
  /TITLE='Residuals v. Age with Age Squared Term in Model'.
```

Graph

```
*ANALYSIS EXAMPLE 7.5: ALL PREDICTORS PLUS INTERACTION OF RACE TIMES AGE AND AGE SQUARED, INTERACTION
TESTING.
CSGLM  bpxdi1_1 BY revgender revrace WITH agecsq agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
  /DOMAIN VARIABLE=age18p(1)
  /MODEL revgender revrace agecsq agec revrace*agec revrace*agecsq
  /INTERCEPT INCLUDE=YES SHOW=YES
  /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
  /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
  /TEST TYPE=F PADJUST=LSD
  /MISSING CLASSMISSING=EXCLUDE
  /CRITERIA CILEVEL=95
  /CUSTOM LABEL="RACE TIMES AGE AND AGE SQUARED "
 LMATRIX =
 REVRACE*AGEC 1 0 0 0 -1 ;
 REVRACE*AGEC 1 0 0 -1 0 ;
 REVRACE*AGEC 1 0 -1 0 0 ;
 REVRACE*AGEC 1 -1 0 0 0 ;
 REVRACE*AGECSQ 1 0 0 0 -1 ;
 REVRACE*AGECSQ 1 0 0 -1 0 ;
 REVRACE*AGECSQ 1 0 -1 0 0 ;
 REVRACE*AGECSQ 1 -1 0 0 0
 KMATRIX =0 ; 0 ; 0 ; 0; 0 ; 0 ; 0 ; 0.
```

Complex Samples: General Linear Model

Sample Design Information

		N
Unweighted Cases	Valid	5112
	Invalid	752
	Total	5864
Population Size		212747914.346
Subpopulation Size		212747914.346[a]
Stage 1	Strata	14
	Units	31
Sampling Design Degrees of Freedom		17

a. Subpopulation: Age >=18: 1=Yes 0=No = 1

Variable Information

		Mean
Dependent Variable	bpxdi1_1	71.6088
Covariates	agecsq	304.4674
	agec	.1304

Subpopulation: Age >=18: 1=Yes 0=No = 1

Factor Information

		Weighted Count	Weighted Percent
revgender	1.00	107972538.690	50.8%
	2.00	104775375.657	49.2%
revrace	1.00	16540366.462	7.8%
	2.00	24960921.765	11.7%
	3.00	140677592.241	66.1%
	4.00	13924721.349	6.5%
	5.00	16644312.529	7.8%
Subpopulation Size		212747914.346	100.0%

Subpopulation: Age >=18: 1=Yes 0=No = 1

Model Summary[a]

R Square	.117

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agecsq + agec + revrace * agec + revrace * agecsq

Tests of Model Effects[a]

Source	df1	df2	Wald F	Sig.
(Corrected Model)	15.000	3.000	355.255	.000
(Intercept)	1.000	17.000	24932.974	.000
revgender	1.000	17.000	19.594	.000
revrace	4.000	14.000	4.005	.023
agecsq	1.000	17.000	278.547	.000
agec	1.000	17.000	42.244	.000
revrace * agec	4.000	14.000	3.216	.045
revrace * agecsq	4.000	14.000	5.795	.006

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agecsq + agec + revrace * agec + revrace * agecsq

Parameter Estimates[a]

Parameter	Estimate	Std. Error	95% Confidence Interval		Hypothesis Test		
			Lower	Upper	t	df	Sig.
(Intercept)	74.859	.761	73.254	76.464	98.400	17.000	.000
[revgender=1.00]	-2.168	.490	-3.202	-1.135	-4.426	17.000	.000
[revgender=2.00]	.000[b]	.	.	.	.	.	.
[revrace=1.00]	1.085	.900	-.813	2.983	1.206	17.000	.244
[revrace=2.00]	3.342	.962	1.312	5.371	3.474	17.000	.003
[revrace=3.00]	1.399	.907	-.515	3.313	1.542	17.000	.141
[revrace=4.00]	.224	.928	-1.733	2.181	.242	17.000	.812
[revrace=5.00]	.000[b]	.	.	.	.	.	.
agecsq	-.014	.002	-.017	-.010	-7.476	17.000	.000
agec	.061	.033	-.008	.131	1.857	17.000	.081
[revrace=1.00] * agec	.019	.046	-.077	.115	.417	17.000	.682
[revrace=2.00] * agec	.040	.036	-.036	.116	1.110	17.000	.283
[revrace=3.00] * agec	-.001	.050	-.106	.104	-.023	17.000	.982
[revrace=4.00] * agec	.056	.047	-.044	.156	1.179	17.000	.254
[revrace=5.00] * agec	.000[b]	.	.	.	.	.	.
[revrace=1.00] * agecsq	.002	.003	-.004	.007	.637	17.000	.532
[revrace=2.00] * agecsq	-.002	.002	-.006	.002	-1.081	17.000	.295
[revrace=3.00] * agecsq	.003	.002	.000	.006	1.889	17.000	.076
[revrace=4.00] * agecsq	.001	.003	-.006	.008	.376	17.000	.712
[revrace=5.00] * agecsq	.000[b]	.	.	.	.	.	.

Parameter Estimates[a]

Parameter	Design Effect
(Intercept)	.959
[revgender=1.00]	2.638
[revgender=2.00]	.
[revrace=1.00]	.743
[revrace=2.00]	.868
[revrace=3.00]	1.271
[revrace=4.00]	.691
[revrace=5.00]	.
agecsq	.683
agec	.674
[revrace=1.00] * agec	.758
[revrace=2.00] * agec	.530
[revrace=3.00] * agec	1.436
[revrace=4.00] * agec	.745
[revrace=5.00] * agec	.
[revrace=1.00] * agecsq	.846
[revrace=2.00] * agecsq	.424

[revrace=3.00] * agecsq	.469
[revrace=4.00] * agecsq	1.048
[revrace=5.00] * agecsq	.

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agecsq + agec + revrace * agec + revrace * agecsq

b. Set to zero because this parameter is redundant.

Custom Hypothesis Tests : RACE TIMES AGE AND AGE SQUARED

Contrast Coefficients[a]

	Contrast							
Parameter	L1	L2	L3	L4	L5	L6	L7	L8
(Intercept)	.000	.000	.000	.000	.000	.000	.000	.000
[revgender=1.00]	.000	.000	.000	.000	.000	.000	.000	.000
[revgender=2.00]	.000	.000	.000	.000	.000	.000	.000	.000
[revrace=1.00]	.000	.000	.000	.000	.000	.000	.000	.000
[revrace=2.00]	.000	.000	.000	.000	.000	.000	.000	.000
[revrace=3.00]	.000	.000	.000	.000	.000	.000	.000	.000
[revrace=4.00]	.000	.000	.000	.000	.000	.000	.000	.000
[revrace=5.00]	.000	.000	.000	.000	.000	.000	.000	.000
agecsq	.000	.000	.000	.000	.000	.000	.000	.000
agec	.000	.000	.000	.000	.000	.000	.000	.000
[revrace=1.00] * agec	1.000	1.000	1.000	1.000	.000	.000	.000	.000
[revrace=2.00] * agec	.000	.000	.000	-1.000	.000	.000	.000	.000
[revrace=3.00] * agec	.000	.000	-1.000	.000	.000	.000	.000	.000
[revrace=4.00] * agec	.000	-1.000	.000	.000	.000	.000	.000	.000
[revrace=5.00] * agec	-1.000	.000	.000	.000	.000	.000	.000	.000
[revrace=1.00] * agecsq	.000	.000	.000	.000	1.000	1.000	1.000	1.000
[revrace=2.00] * agecsq	.000	.000	.000	.000	.000	.000	.000	-1.000
[revrace=3.00] * agecsq	.000	.000	.000	.000	.000	.000	-1.000	.000
[revrace=4.00] * agecsq	.000	.000	.000	.000	.000	-1.000	.000	.000
[revrace=5.00] * agecsq	.000	.000	.000	.000	-1.000	.000	.000	.000

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. The default display of this matrix is the transpose of the corresponding L matrix.

Individual Test Results

Contrast	Contrast Estimate	Hypothesized Value	Difference (Estimate - Hypothesized)	Std. Error	df1	df2	Wald F	Sig.
L1	.019	.000	.019	.046	1.000	17.000	.174	.682
L2	-.037	.000	-.037	.056	1.000	17.000	.433	.519
L3	.020	.000	.020	.042	1.000	17.000	.235	.634
L4	-.021	.000	-.021	.035	1.000	17.000	.357	.558
L5	.002	.000	.002	.003	1.000	17.000	.406	.532
L6	.001	.000	.001	.003	1.000	17.000	.031	.862
L7	-.001	.000	-.001	.002	1.000	17.000	.245	.627
L8	.004	.000	.004	.002	1.000	17.000	2.844	.110

Subpopulation: Age >=18: 1=Yes 0=No = 1

Overall Test Results

df1	df2	Wald F	Sig.
8.000	10.000	6.997	.003

Subpopulation: Age >=18: 1=Yes 0=No = 1

```
*ANALYSIS EXAMPLE 7.5: ALL PREDICTORS PLUS INTERACTION OF GENDER TIMES AGE AND AGE SQUARED, INTERACTION
TESTING.
CSGLM  bpxdi1_1 BY revgender revrace WITH agecsq agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
  /DOMAIN VARIABLE=age18p(1)
  /MODEL revgender revrace agecsq agec revgender*agec revgender*agecsq
  /INTERCEPT INCLUDE=YES SHOW=YES
  /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
  /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
  /TEST TYPE=F PADJUST=LSD
  /MISSING CLASSMISSING=EXCLUDE
  /CRITERIA CILEVEL=95
  /CUSTOM LABEL="GENDER TIMES AGE AND AGE SQUARED "
 LMATRIX =
 REVGENDER*AGEC 1  -1 ;
 REVGENDER*AGECSQ 1 -1
 KMATRIX =0 ; 0.
```

Complex Samples: General Linear Model

Warnings

This procedure ignores the weight variable.

Sample Design Information

		N
Unweighted Cases	Valid	5112
	Invalid	752
	Total	5864
Population Size		212747914.346
Subpopulation Size		212747914.346[a]
Stage 1	Strata	14
	Units	31
Sampling Design Degrees of Freedom		17

a. Subpopulation: Age >=18: 1=Yes 0=No = 1

Variable Information

		Mean
Dependent Variable	bpxdi1_1	71.6088
Covariates	agecsq	304.4674
	agec	.1304

Subpopulation: Age >=18: 1=Yes 0=No = 1

Factor Information

		Weighted Count	Weighted Percent
revgender	1.00	107972538.690	50.8%
	2.00	104775375.657	49.2%
revrace	1.00	16540366.462	7.8%
	2.00	24960921.765	11.7%
	3.00	140677592.241	66.1%
	4.00	13924721.349	6.5%
	5.00	16644312.529	7.8%
Subpopulation Size		212747914.346	100.0%

Subpopulation: Age >=18: 1=Yes 0=No = 1

Model Summary[a]

R Square	.118

Subpopulation: Age >=18:
1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 =
(Intercept) + revgender +
revrace + agecsq + agec +
revgender * agec + revgender
* agecsq

Tests of Model Effects[a]

Source	df1	df2	Wald F	Sig.
(Corrected Model)	9.000	9.000	208.153	.000
(Intercept)	1.000	17.000	24964.815	.000
revgender	1.000	17.000	17.533	.001
revrace	4.000	14.000	3.304	.042
agecsq	1.000	17.000	285.111	.000
agec	1.000	17.000	20.503	.000
revgender * agec	1.000	17.000	4.300	.054
revgender * agecsq	1.000	17.000	4.140	.058

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agecsq + agec + revgender *
agec + revgender * agecsq

Parameter Estimates[a]

Parameter	Estimate	Std. Error	95% Confidence Interval		Hypothesis Test		
			Lower	Upper	t	df	Sig.
(Intercept)	74.985	.646	73.622	76.347	116.127	17.000	.000
[revgender=1.00]	-3.171	.757	-4.768	-1.573	-4.187	17.000	.001
[revgender=2.00]	.000[b]	.	.	.	.	.	.
[revrace=1.00]	1.427	.692	-.033	2.887	2.063	17.000	.055
[revrace=2.00]	2.540	.733	.994	4.086	3.466	17.000	.003
[revrace=3.00]	2.099	.845	.315	3.883	2.483	17.000	.024
[revrace=4.00]	.206	1.209	-2.345	2.756	.170	17.000	.867
[revrace=5.00]	.000[b]	.	.	.	.	.	.
agecsq	-.014	.001	-.015	-.012	-16.165	17.000	.000
agec	.048	.016	.014	.083	2.952	17.000	.009
[revgender=1.00] * agec	.048	.023	-.001	.096	2.074	17.000	.054
[revgender=2.00] * agec	.000[b]	.	.	.	.	.	.
[revgender=1.00] * agecsq	.003	.002	.000	.007	2.035	17.000	.058
[revgender=2.00] * agecsq	.000[b]	.	.	.	.	.	.

Parameter Estimates[a]

Parameter	Design Effect
(Intercept)	1.171
[revgender=1.00]	3.106
[revgender=2.00]	.
[revrace=1.00]	.871
[revrace=2.00]	1.029
[revrace=3.00]	2.226
[revrace=4.00]	2.515
[revrace=5.00]	.
agecsq	1.210
agec	1.563
[revgender=1.00] * agec	1.688
[revgender=2.00] * agec	.
[revgender=1.00] * agecsq	2.464
[revgender=2.00] * agecsq	.

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agecsq + agec + revgender * agec + revgender * agecsq

b. Set to zero because this parameter is redundant.

Custom Hypothesis Tests : GENDER TIMES AGE AND AGE SQUARED

Contrast Coefficients[a]

Parameter	Contrast L1	Contrast L2
(Intercept)	.000	.000
[revgender=1.00]	.000	.000
[revgender=2.00]	.000	.000
[revrace=1.00]	.000	.000
[revrace=2.00]	.000	.000
[revrace=3.00]	.000	.000
[revrace=4.00]	.000	.000
[revrace=5.00]	.000	.000
agecsq	.000	.000
agec	.000	.000
[revgender=1.00] * agec	1.000	.000
[revgender=2.00] * agec	-1.000	.000
[revgender=1.00] * agecsq	.000	1.000
[revgender=2.00] * agecsq	.000	-1.000

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. The default display of this matrix is the transpose of the corresponding L matrix.

Individual Test Results

Contrast	Contrast Estimate	Hypothesized Value	Difference (Estimate - Hypothesized)	Std. Error	df1	df2	Wald F	Sig.
L1	.048	.000	.048	.023	1.000	17.000	4.300	.054
L2	.003	.000	.003	.002	1.000	17.000	4.140	.058

Subpopulation: Age >=18: 1=Yes 0=No = 1

Overall Test Results

df1	df2	Wald F	Sig.
2.000	16.000	5.042	.020

Subpopulation: Age >=18: 1=Yes 0=No = 1

```
* Analysis Example 7.5 Use Interactions in Preliminary Final Model and Obtain Numbers for Predicted
Marginal Value Plot for Gender.
CSGLM  bpxdi1_1 BY revgender revrace WITH agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
  /DOMAIN VARIABLE=age18p(1)
  /MODEL revgender revrace agec*agec agec revgender*agec revgender*agec*agec revrace*agec
revrace*agec*agec
  /INTERCEPT INCLUDE=YES SHOW=YES
  /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
  /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
  /TEST TYPE=F PADJUST=LSD
  /MISSING CLASSMISSING=EXCLUDE
  /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-30)  ]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-25)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-20)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-15)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-10)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (-5)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (0)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (5)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (10)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (15)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (20)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (25)]
 /EMMEANS
   TABLES=REVGENDER
   OTHER = [AGEC (30)]
   /SAVE PRED RESID
  /CRITERIA CILEVEL=95.
```

Complex Samples: General Linear Model

Warnings

This procedure ignores the weight variable.

The design-based covariance matrix is singular. The validity of results is uncertain.

Sample Design Information

		N
Unweighted Cases	Valid	5112
	Invalid	752
	Total	5864
Population Size		212747914.346
Subpopulation Size		212747914.346[a]
Stage 1	Strata	14
	Units	31
Sampling Design Degrees of Freedom		17

a. Subpopulation: Age >=18: 1=Yes 0=No = 1

Variable Information

		Mean
Dependent Variable	bpxdi1_1	71.6088
Covariates	agec	.1304

Subpopulation: Age >=18: 1=Yes 0=No = 1

Factor Information

		Weighted Count	Weighted Percent
revgender	1.00	107972538.690	50.8%
	2.00	104775375.657	49.2%
revrace	1.00	16540366.462	7.8%
	2.00	24960921.765	11.7%
	3.00	140677592.241	66.1%
	4.00	13924721.349	6.5%
	5.00	16644312.529	7.8%
Subpopulation Size		212747914.346	100.0%

Subpopulation: Age >=18: 1=Yes 0=No = 1

Model Summary[a]

R Square	.120

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agec * agec + agec + revgender * agec + revgender * agec * agec + revrace * agec + revrace * agec * agec

Tests of Model Effects[a]

Source	df1	df2	Wald F	Sig.
(Corrected Model)	17.000	1.000	176.184	.059
(Intercept)	1.000	17.000	25086.489	.000
revgender	1.000	17.000	17.710	.001
revrace	4.000	14.000	4.277	.018
agec * agec	1.000	17.000	276.619	.000
agec	1.000	17.000	36.740	.000
revgender * agec	1.000	17.000	3.757	.069
revgender * agec * agec	1.000	17.000	4.148	.058
revrace * agec	4.000	14.000	2.540	.087
revrace * agec * agec	4.000	14.000	5.303	.008

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agec * agec + agec + revgender * agec + revgender * agec * agec + revrace * agec + revrace * agec * agec

Parameter Estimates[a]

Parameter	Estimate	Std. Error	95% Confidence Interval		Hypothesis Test		
			Lower	Upper	t	df	Sig.
(Intercept)	75.346	.819	73.618	77.075	91.991	17.000	.000
[revgender=1.00]	-3.195	.759	-4.797	-1.593	-4.208	17.000	.001
[revgender=2.00]	.000[b]	.	.	.	.	.	.
[revrace=1.00]	1.144	.895	-.744	3.032	1.279	17.000	.218
[revrace=2.00]	3.450	.961	1.422	5.478	3.590	17.000	.002
[revrace=3.00]	1.461	.910	-.460	3.382	1.605	17.000	.127
[revrace=4.00]	.271	.921	-1.672	2.215	.295	17.000	.772
[revrace=5.00]	.000[b]	.	.	.	.	.	.
agec * agec	-.015	.002	-.019	-.011	-8.426	17.000	.000
agec	.039	.040	-.045	.123	.986	17.000	.338
[revgender=1.00] * agec	.045	.023	-.004	.095	1.938	17.000	.069
[revgender=2.00] * agec	.000[b]	.	.	.	.	.	.
[revgender=1.00] * agec * agec	.003	.002	.000	.007	2.037	17.000	.058
[revgender=2.00] * agec * agec	.000[b]	.	.	.	.	.	.
[revrace=1.00] * agec	.015	.049	-.089	.119	.303	17.000	.766
[revrace=2.00] * agec	.035	.039	-.047	.116	.892	17.000	.385
[revrace=3.00] * agec	-.004	.053	-.117	.108	-.084	17.000	.934
[revrace=4.00] * agec	.050	.050	-.055	.154	.999	17.000	.332
[revrace=5.00] * agec	.000[b]	.	.	.	.	.	.
[revrace=1.00] * agec * agec	.001	.003	-.005	.008	.484	17.000	.634
[revrace=2.00] * agec * agec	-.002	.002	-.007	.002	-1.195	17.000	.249
[revrace=3.00] * agec * agec	.003	.002	-.001	.006	1.552	17.000	.139
[revrace=4.00] * agec * agec	.001	.003	-.006	.008	.243	17.000	.811
[revrace=5.00] * agec * agec	.000[b]	.	.	.	.	.	.

Parameter Estimates[a]

Parameter	Design Effect
(Intercept)	1.066
[revgender=1.00]	3.125
[revgender=2.00]	.
[revrace=1.00]	.733
[revrace=2.00]	.862
[revrace=3.00]	1.269
[revrace=4.00]	.678
[revrace=5.00]	.
agec * agec	.612
agec	.898
[revgender=1.00] * agec	1.765
[revgender=2.00] * agec	.
[revgender=1.00] * agec * agec	2.583
[revgender=2.00] * agec * agec	.
[revrace=1.00] * agec	.844
[revrace=2.00] * agec	.584
[revrace=3.00] * agec	1.545
[revrace=4.00] * agec	.795
[revrace=5.00] * agec	.
[revrace=1.00] * agec * agec	.978
[revrace=2.00] * agec * agec	.491
[revrace=3.00] * agec * agec	.529
[revrace=4.00] * agec * agec	1.173
[revrace=5.00] * agec * agec	.

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agec * agec + agec + revgender * agec + revgender * agec * agec + revrace * agec + revrace * agec * agec

b. Set to zero because this parameter is redundant.

Estimated Marginal Means 1: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	60.1064	1.02314	57.9477	62.2650
2.00	61.6189	.78717	59.9581	63.2796

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=-30.0000

Estimated Marginal Means 2: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	63.7415	.75381	62.1511	65.3319
2.00	65.9577	.57791	64.7385	67.1770

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=-25.0000

Estimated Marginal Means 3: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	66.8099	.58674	65.5720	68.0478
2.00	69.5606	.47224	68.5643	70.5570

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=-20.0000

Estimated Marginal Means 4: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	69.3116	.52697	68.1998	70.4234
2.00	72.4274	.46413	71.4482	73.4067

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=-15.0000

Estimated Marginal Means 5: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	71.2466	.54135	70.1044	72.3887
2.00	74.5583	.50721	73.4881	75.6284

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=-10.0000

Estimated Marginal Means 6: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	72.6149	.58021	71.3907	73.8390
2.00	75.9530	.55854	74.7746	77.1315

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=-5.0000

Estimated Marginal Means 7: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	73.4164	.61360	72.1218	74.7110
2.00	76.6118	.60031	75.3453	77.8783

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=.0000

Estimated Marginal Means 8: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	73.6513	.63439	72.3128	74.9898
2.00	76.5345	.63298	75.1991	77.8700

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=5.0000

Estimated Marginal Means 9: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	73.3195	.65274	71.9423	74.6966
2.00	75.7213	.66965	74.3084	77.1341

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=10.0000

Estimated Marginal Means 10: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	72.4209	.69331	70.9582	73.8837
2.00	74.1719	.73255	72.6264	75.7175

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=15.0000

Estimated Marginal Means 11: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	70.9557	.78828	69.2925	72.6188
2.00	71.8866	.84592	70.1019	73.6713

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:
agec=20.0000

Estimated Marginal Means 12: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	68.9237	.96178	66.8945	70.9529
2.00	68.8652	1.02617	66.7002	71.0303

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:
agec=25.0000

Estimated Marginal Means 13: revgender

Estimates[a]

revgender	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	66.3250	1.22075	63.7495	68.9006
2.00	65.1079	1.27829	62.4109	67.8048

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:
agec=30.0000

```
* Analysis Example 7.5 Use Interactions in Preliminary Final Model and Obtain Numbers for Predicted
Marginal Value Plot for Race.
CSGLM  bpxdi1_1 BY revgender revrace WITH agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_csplan.csaplan'
  /DOMAIN VARIABLE=age18p(1)
  /MODEL revgender revrace agec*agec agec revgender*agec revgender*agec*agec revrace*agec
revrace*agec*agec
  /INTERCEPT INCLUDE=YES SHOW=YES
  /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
  /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
  /TEST TYPE=F PADJUST=LSD
  /MISSING CLASSMISSING=EXCLUDE
  /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-30)  ]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-25)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-20)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-15)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-10)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (-5)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (0)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (5)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (10)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (15)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (20)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (25)]
 /EMMEANS
   TABLES=REVRACE
   OTHER = [AGEC (30)]
  /SAVE PRED RESID
  /CRITERIA CILEVEL=95.
```

Complex Samples: General Linear Model

Warnings

This procedure ignores the weight variable.
The design-based covariance matrix is singular. The validity of results is uncertain.

Sample Design Information

		N
Unweighted Cases	Valid	5112
	Invalid	752
	Total	5864
Population Size		212747914.346
Subpopulation Size		212747914.346[a]
Stage 1	Strata	14
	Units	31
Sampling Design Degrees of Freedom		17

a. Subpopulation: Age >=18: 1=Yes 0=No = 1

Variable Information

		Mean
Dependent Variable	bpxdi1_1	71.6088
Covariates	agec	.1304

Subpopulation: Age >=18: 1=Yes 0=No = 1

Factor Information

		Weighted Count	Weighted Percent
revgender	1.00	107972538.690	50.8%
	2.00	104775375.657	49.2%
revrace	1.00	16540366.462	7.8%
	2.00	24960921.765	11.7%
	3.00	140677592.241	66.1%
	4.00	13924721.349	6.5%
	5.00	16644312.529	7.8%
Subpopulation Size		212747914.346	100.0%

Subpopulation: Age >=18: 1=Yes 0=No = 1

Model Summary[a]

R Square	.120

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agec * agec + agec + revgender * agec + revgender * agec * agec + revrace * agec + revrace * agec * agec

Tests of Model Effects[a]

Source	df1	df2	Wald F	Sig.
(Corrected Model)	17.000	1.000	176.184	.059
(Intercept)	1.000	17.000	25086.489	.000
revgender	1.000	17.000	17.710	.001
revrace	4.000	14.000	4.277	.018
agec * agec	1.000	17.000	276.619	.000
agec	1.000	17.000	36.740	.000
revgender * agec	1.000	17.000	3.757	.069
revgender * agec * agec	1.000	17.000	4.148	.058
revrace * agec	4.000	14.000	2.540	.087
revrace * agec * agec	4.000	14.000	5.303	.008

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agec * agec + agec + revgender * agec + revgender * agec * agec + revrace * agec + revrace * agec * agec

Parameter Estimates[a]

			95% Confidence Interval		Hypothesis Test		
Parameter	Estimate	Std. Error	Lower	Upper	t	df	Sig.
(Intercept)	75.346	.819	73.618	77.075	91.991	17.000	.000
[revgender=1.00]	-3.195	.759	-4.797	-1.593	-4.208	17.000	.001
[revgender=2.00]	.000[b]	.	.	.	.	.	.
[revrace=1.00]	1.144	.895	-.744	3.032	1.279	17.000	.218
[revrace=2.00]	3.450	.961	1.422	5.478	3.590	17.000	.002
[revrace=3.00]	1.461	.910	-.460	3.382	1.605	17.000	.127
[revrace=4.00]	.271	.921	-1.672	2.215	.295	17.000	.772
[revrace=5.00]	.000[b]	.	.	.	.	.	.
agec * agec	-.015	.002	-.019	-.011	-8.426	17.000	.000

agec	.039	.040	-.045	.123	.986	17.000	.338
[revgender=1.00] * agec	.045	.023	-.004	.095	1.938	17.000	.069
[revgender=2.00] * agec	.000[b]	.	.	.	.	.	.
[revgender=1.00] * agec * agec	.003	.002	.000	.007	2.037	17.000	.058
[revgender=2.00] * agec * agec	.000[b]	.	.	.	.	.	.
[revrace=1.00] * agec	.015	.049	-.089	.119	.303	17.000	.766
[revrace=2.00] * agec	.035	.039	-.047	.116	.892	17.000	.385
[revrace=3.00] * agec	-.004	.053	-.117	.108	-.084	17.000	.934
[revrace=4.00] * agec	.050	.050	-.055	.154	.999	17.000	.332
[revrace=5.00] * agec	.000[b]	.	.	.	.	.	.
[revrace=1.00] * agec * agec	.001	.003	-.005	.008	.484	17.000	.634
[revrace=2.00] * agec * agec	-.002	.002	-.007	.002	-1.195	17.000	.249
[revrace=3.00] * agec * agec	.003	.002	-.001	.006	1.552	17.000	.139
[revrace=4.00] * agec * agec	.001	.003	-.006	.008	.243	17.000	.811
[revrace=5.00] * agec * agec	.000[b]	.	.	.	.	.	.

Parameter Estimates[a]

Parameter	Design Effect
(Intercept)	1.066
[revgender=1.00]	3.125
[revgender=2.00]	.
[revrace=1.00]	.733
[revrace=2.00]	.862
[revrace=3.00]	1.269
[revrace=4.00]	.678
[revrace=5.00]	.
agec * agec	.612
agec	.898
[revgender=1.00] * agec	1.765
[revgender=2.00] * agec	.
[revgender=1.00] * agec * agec	2.583
[revgender=2.00] * agec * agec	.
[revrace=1.00] * agec	.844
[revrace=2.00] * agec	.584
[revrace=3.00] * agec	1.545
[revrace=4.00] * agec	.795
[revrace=5.00] * agec	.
[revrace=1.00] * agec * agec	.978
[revrace=2.00] * agec * agec	.491
[revrace=3.00] * agec * agec	.529
[revrace=4.00] * agec * agec	1.173
[revrace=5.00] * agec * agec	.

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revgender + revrace + agec * agec + agec + revgender * agec + revgender * agec * agec + revrace * agec + revrace * agec * agec

b. Set to zero because this parameter is redundant.

Estimated Marginal Means 1: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	61.6985	.99629	59.5965	63.8005
2.00	59.9837	.98905	57.8970	62.0705
3.00	63.6929	1.66088	60.1888	67.1971
4.00	59.2366	1.97181	55.0764	63.3967
5.00	59.7014	.85014	57.9078	61.4950

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=-30.0000

Estimated Marginal Means 2: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	65.4098	.64935	64.0398	66.7798
2.00	64.8417	.84356	63.0619	66.6215
3.00	66.9724	1.33855	64.1483	69.7965
4.00	63.2888	1.42700	60.2780	66.2995
5.00	63.7354	.56459	62.5442	64.9266

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=-25.0000

Estimated Marginal Means 3: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	68.5162	.50655	67.4475	69.5849
2.00	68.9042	.77095	67.2776	70.5307
3.00	69.7079	1.07035	67.4497	71.9662
4.00	66.7056	1.03086	64.5307	68.8806
5.00	67.0923	.50820	66.0201	68.1645

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:
agec=-20.0000

Estimated Marginal Means 4: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	71.0177	.55560	69.8455	72.1899
2.00	72.1711	.75226	70.5840	73.7582
3.00	71.8994	.85697	70.0914	73.7075
4.00	69.4872	.80111	67.7970	71.1774
5.00	69.7721	.58831	68.5309	71.0133

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:
agec=-15.0000

Estimated Marginal Means 5: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	72.9143	.66520	71.5109	74.3178
2.00	74.6425	.76099	73.0370	76.2481
3.00	73.5469	.69737	72.0756	75.0183
4.00	71.6335	.73462	70.0836	73.1834
5.00	71.7748	.66907	70.3632	73.1864

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=-10.0000

Estimated Marginal Means 6: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	74.2061	.75876	72.6052	75.8069
2.00	76.3184	.77492	74.6835	77.9533
3.00	74.6504	.58647	73.4131	75.8878
4.00	73.1445	.78340	71.4917	74.7973
5.00	73.1003	.69913	71.6253	74.5754

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=-5.0000

Estimated Marginal Means 7: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	74.8929	.82418	73.1540	76.6318
2.00	77.1988	.78112	75.5508	78.8468
3.00	75.2099	.51389	74.1257	76.2941
4.00	74.0202	.90144	72.1183	75.9221
5.00	73.7488	.67518	72.3243	75.1733

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:

agec=.0000

Estimated Marginal Means 8: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	74.9749	.88166	73.1147	76.8350
2.00	77.2836	.77566	75.6471	78.9201
3.00	75.2254	.46659	74.2410	76.2099
4.00	74.2606	1.08458	71.9723	76.5489
5.00	73.7201	.62911	72.3928	75.0474

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:
agec=5.0000

Estimated Marginal Means 9: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	74.4519	.97324	72.3986	76.5053
2.00	76.5730	.76303	74.9631	78.1828
3.00	74.6969	.43598	73.7771	75.6168
4.00	73.8657	1.35506	71.0068	76.7246
5.00	73.0143	.64492	71.6536	74.3749

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:
agec=10.0000

Estimated Marginal Means 10: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	73.3241	1.14866	70.9006	75.7476
2.00	75.0668	.75669	73.4703	76.6633
3.00	73.6244	.42504	72.7276	74.5211
4.00	72.8356	1.73632	69.1722	76.4989
5.00	71.6313	.82715	69.8862	73.3765

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:
agec=15.0000

Estimated Marginal Means 11: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	71.5914	1.44144	68.5502	74.6325
2.00	72.7651	.77914	71.1212	74.4089
3.00	72.0079	.45069	71.0570	72.9587
4.00	71.1701	2.24191	66.4401	75.9001
5.00	69.5713	1.19539	67.0492	72.0933

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:
agec=20.0000

Estimated Marginal Means 12: revrace

Estimates[a]

revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	69.2538	1.85988	65.3298	73.1778
2.00	69.6678	.85648	67.8608	71.4748
3.00	69.8473	.53422	68.7202	70.9745
4.00	68.8693	2.87672	62.8000	74.9387
5.00	66.8341	1.71440	63.2170	70.4512

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:
agec=25.0000

Estimated Marginal Means 13: revrace

Estimates[a]

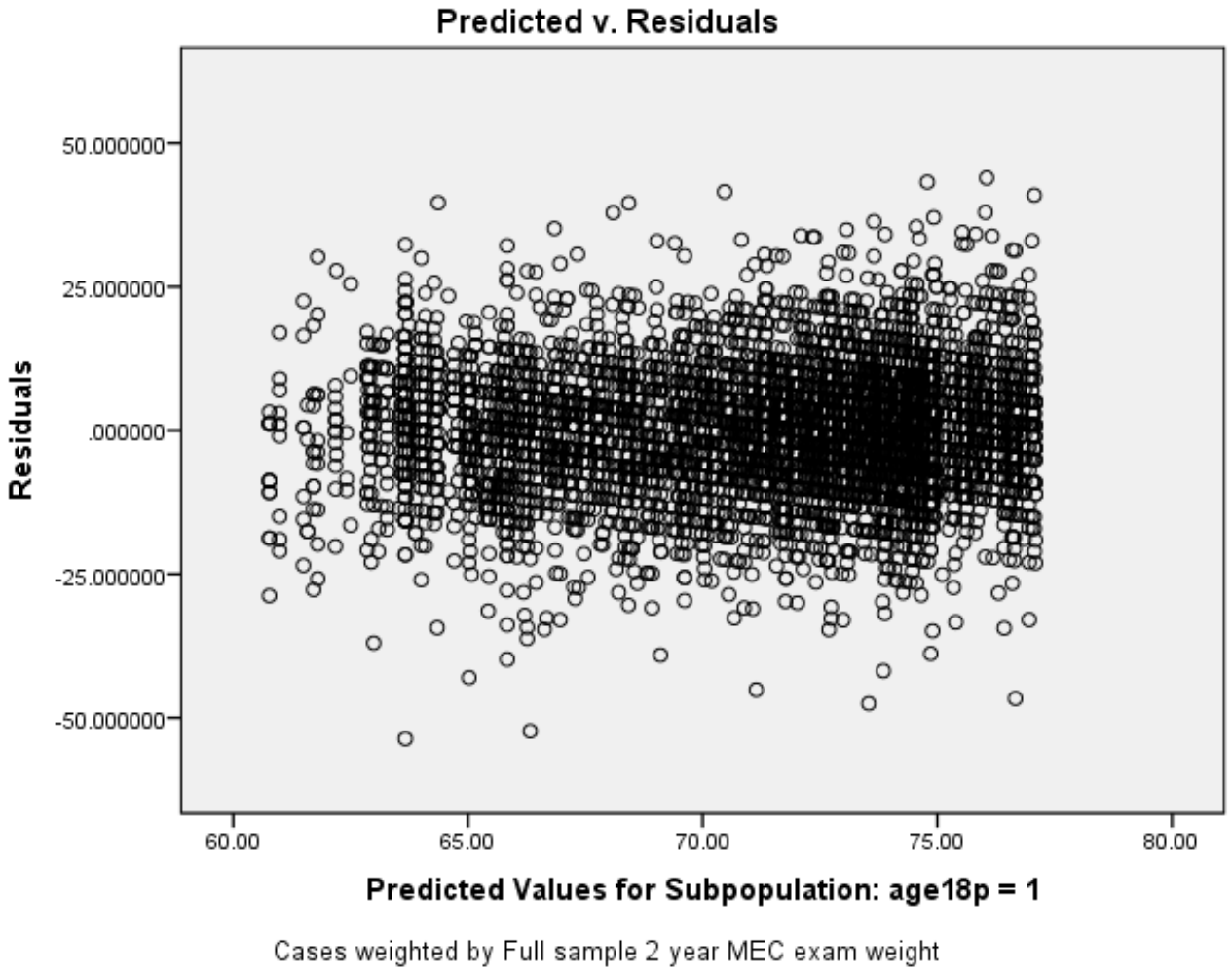
revrace	Mean	Std. Error	95% Confidence Interval	
			Lower	Upper
1.00	66.3113	2.39870	61.2504	71.3721
2.00	65.7751	1.00672	63.6511	67.8991
3.00	67.1428	.68529	65.6970	68.5887
4.00	65.9333	3.64136	58.2507	73.6159
5.00	63.4198	2.35885	58.4431	68.3966

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Covariates appearing in the model are fixed at the following values:
agec=30.0000

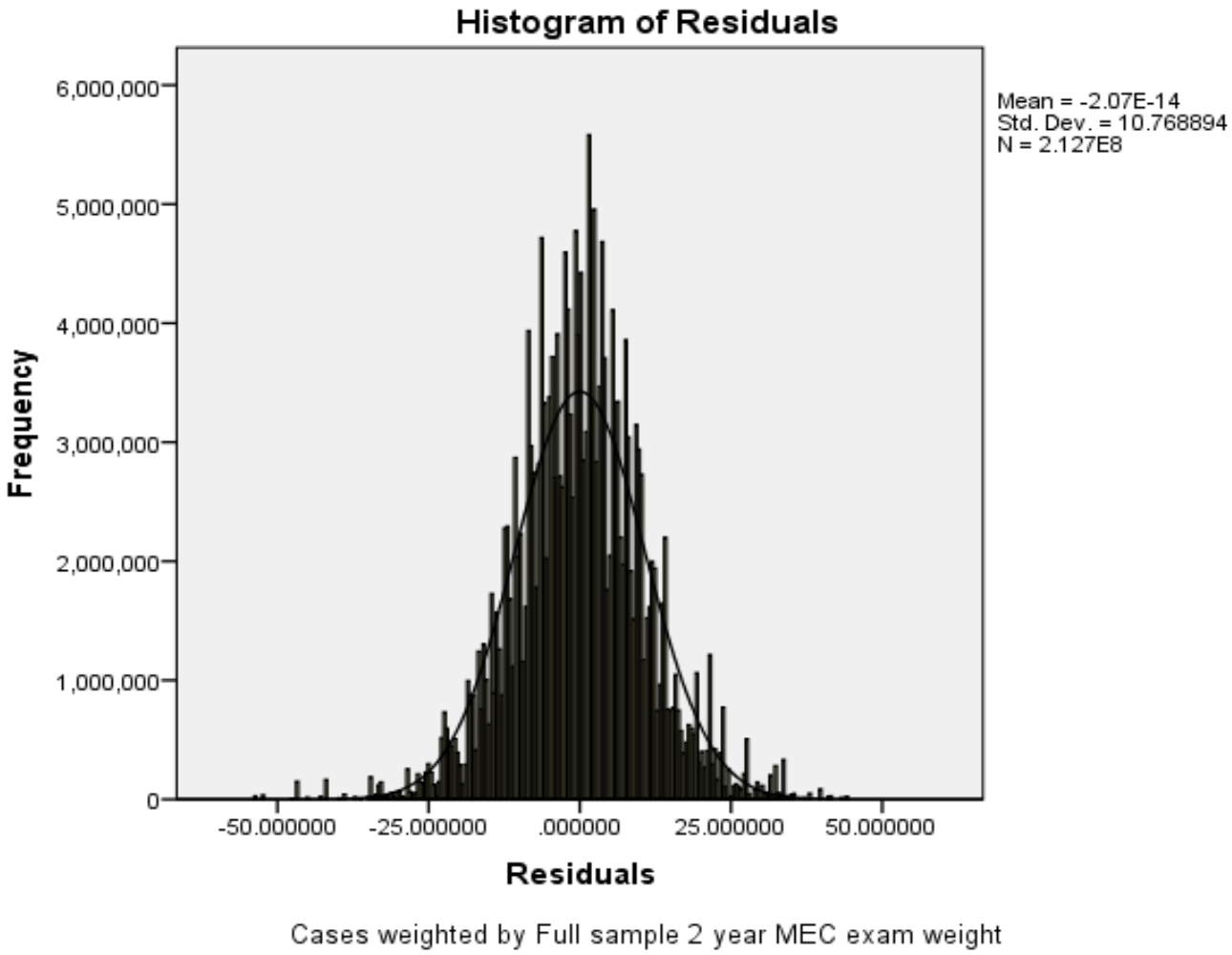
```
* residual v. predicted plot from above model.
GRAPH
  /SCATTERPLOT(BIVAR)=predf  WITH Residf
  /MISSING=LISTWISE
  /TITLE='Predicted v. Residuals'.
```

Graph



```
GRAPH
  /HISTOGRAM(NORMAL)=Residf
 /title ='Histogram of Residuals'.
```

Graph



```
* Prepare weight for Pfefferman Q Method.
* Turn weight off and use non-filtered data.
WEIGHT OFF.
* remove age 18+ filter.
FILTER OFF.
USE ALL.
EXECUTE.

GENLIN wtmec2yr BY revrace revgender WITH agec
 /MODEL revrace agec revgender INTERCEPT=YES
 DISTRIBUTION=NORMAL LINK=IDENTITY
 /CRITERIA SCALE=1 COVB=MODEL PCONVERGE=1E-006(ABSOLUTE)
SINGULAR=1E-012 ANALYSISTYPE=3(WALD) CILEVEL=95 CITYPE=WALD LIKELIHOOD=FULL
 /MISSING CLASSMISSING=EXCLUDE
 /SAVE XBPRED (PREDQ1)
 /PRINT CPS DESCRIPTIVES MODELINFO FIT SUMMARY SOLUTION.
```

Generalized Linear Models

Model Information

Dependent Variable	Full sample 2 year MEC exam weight
Probability Distribution	Normal
Link Function	Identity

Case Processing Summary

	N	Percent
Included	9756	100.0%
Excluded	0	0.0%
Total	9756	100.0%

Categorical Variable Information

			N	Percent
Factor	revrace	1.00	1669	17.1%
		2.00	2683	27.5%
		3.00	2973	30.5%
		4.00	1076	11.0%
		5.00	1355	13.9%
		Total	9756	100.0%
	revgender	1.00	4900	50.2%
		2.00	4856	49.8%
		Total	9756	100.0%

Continuous Variable Information

		N	Minimum	Maximum	Mean	Std. Deviation
Dependent Variable	Full sample 2 year MEC exam weight	9756	.00	222579.78	31425.8591	35200.45154
Covariate	agec	9756	-46.36	33.64	-14.9574	24.57899

Goodness of Fit[a]

	Value	df	Value/df
Deviance	7095022146098.975	9749	727769222.084
Scaled Deviance	7095022146098.975	9749	
Pearson Chi-Square	7095022146098.975	9749	727769222.084
Scaled Pearson Chi-Square	7095022146098.975	9749	
Log Likelihood[b]	-3547511082014.652		
Akaike's Information Criterion (AIC)	7095022164043.304		
Finite Sample Corrected AIC (AICC)	7095022164043.315		
Bayesian Information Criterion (BIC)	7095022164093.604		
Consistent AIC (CAIC)	7095022164100.604		

Dependent Variable: Full sample 2 year MEC exam weight

Model: (Intercept), revrace, agec, revgender[a]

a. Information criteria are in smaller-is-better form.

b. The full log likelihood function is displayed and used in computing information criteria.

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
4992123151673.999	6	.000

Dependent Variable: Full sample 2 year MEC exam weight

Model: (Intercept), revrace, agec, revgender[a]

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	5317872761025.375	1	.000
revrace	4457723541281.714	4	.000
agec	141902371759.708	1	.000
revgender	7184507364.510	1	.000

Dependent Variable: Full sample 2 year MEC exam weight

Model: (Intercept), revrace, agec, revgender

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	24948.553	.0306	24948.493	24948.613	662581558108.478	1	.000
[revrace=1.00]	-8421.655	.0367	-8421.727	-8421.583	52716264677.942	1	.000
[revrace=2.00]	-9093.877	.0335	-9093.942	-9093.811	73695529649.400	1	.000
[revrace=3.00]	40374.188	.0334	40374.123	40374.254	1460253307127.472	1	.000
[revrace=4.00]	-3410.172	.0410	-3410.252	-3410.092	6926787806.374	1	.000
[revrace=5.00]	0[a]	.	.	.	.	.	.
agec	158.497	.0004	158.496	158.498	141902371759.708	1	.000
[revgender=1.00]	1716.862	.0203	1716.822	1716.901	7184507364.510	1	.000
[revgender=2.00]	0[a]	.	.	.	.	.	.
(Scale)	1[b]						

Dependent Variable: Full sample 2 year MEC exam weight

Model: (Intercept), revrace, agec, revgender

a. Set to zero because this parameter is redundant.

b. Fixed at the displayed value.

```
COMPUTE Q_WTMEC2YR=WTMEC2YR/ PREDQ1.
EXECUTE.

* Analysis Preparation Wizard.
CSPLAN ANALYSIS
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_Q.csaplan'
  /PLANVARS ANALYSISWEIGHT=Q_WTMEC2YR
  /SRSESTIMATOR TYPE=WOR
  /PRINT PLAN
  /DESIGN STRATA=SDMVSTRA CLUSTER=SDMVPSU
  /ESTIMATOR TYPE=WR.
```

Complex Samples: Plan

Warnings

This procedure does not check the consistency of the working data file with the plan file. We recommend looking at the output table or the plan file to check consistency before performing selection or analysis.

Summary

			Stage 1
Design Variables	Stratification	1	Masked variance pseudo-stratum
	Cluster	1	Masked variance pseudo-PSU
Analysis Information	Estimator Assumption		Sampling with replacement

Plan File: P:\ASDA 2\Data sets

hanes 2011_2012

hanes_Q.csaplan

Weight Variable: Q_WTMEC2YR

SRS Estimator: Sampling without replacement

```
* Final Model with Q Weight.
CSGLM  bpxdi1_1 BY revgender revrace WITH agec
  /PLAN FILE='P:\ASDA 2\Data sets\nhanes 2011_2012\nhanes_Q.csaplan'
  /DOMAIN VARIABLE=age18p(1)
  /MODEL  revrace revgender agec*agec agec  revrace*agec revrace*agec*agec revgender*agec
revgender*agec*agec
  /INTERCEPT INCLUDE=YES SHOW=YES
  /STATISTICS PARAMETER SE CINTERVAL TTEST DEFF
  /PRINT SUMMARY VARIABLEINFO SAMPLEINFO
  /TEST TYPE=F PADJUST=LSD
  /MISSING CLASSMISSING=EXCLUDE
  /CRITERIA CILEVEL=95.
```

Complex Samples: General Linear Model

Sample Design Information

		N
Unweighted Cases	Valid	6676
	Invalid	3080
	Total	9756
Population Size		7547.507
Subpopulation Size		6034.144[a]
Stage 1	Strata	14
	Units	31
Sampling Design Degrees of Freedom		17

a. Subpopulation: Age >=18: 1=Yes 0=No = 1

Variable Information

		Mean
Dependent Variable	bpxdi1_1	71.2079
Covariates	agec	-3.5533

Subpopulation: Age >=18: 1=Yes 0=No = 1

Factor Information

		Weighted Count	Weighted Percent
revgender	1.00	2983.478	49.4%
	2.00	3050.665	50.6%
revrace	1.00	1002.876	16.6%
	2.00	1576.429	26.1%
	3.00	2117.304	35.1%
	4.00	651.533	10.8%
	5.00	686.002	11.4%
Subpopulation Size		6034.144	100.0%

Subpopulation: Age >=18: 1=Yes 0=No = 1

Model Summary[a]

R Square	.145

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revrace + revgender + agec * agec + agec + revrace * agec + revrace * agec * agec + revgender * agec + revgender * agec * agec

Tests of Model Effects[a]

Source	df1	df2	Wald F	Sig.
(Corrected Model)	17.000	1.000	339.466	.043
(Intercept)	1.000	17.000	24289.402	.000
revrace	4.000	14.000	4.532	.015
revgender	1.000	17.000	29.369	.000
agec * agec	1.000	17.000	300.503	.000
agec	1.000	17.000	39.891	.000
revrace * agec	4.000	14.000	2.982	.056
revrace * agec * agec	4.000	14.000	5.446	.007
revgender * agec	1.000	17.000	1.692	.211
revgender * agec * agec	1.000	17.000	3.155	.094

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revrace + revgender + agec * agec + agec + revrace * agec + revrace * agec * agec + revgender * agec + revgender * agec * agec

Parameter Estimates[a]

Parameter	Estimate	Std. Error	95% Confidence Interval		Hypothesis Test		
			Lower	Upper	t	df	Sig.
(Intercept)	75.413	.772	73.784	77.043	97.623	17.000	.000
[revrace=1.00]	1.238	.892	-.645	3.120	1.387	17.000	.183
[revrace=2.00]	3.566	.989	1.479	5.654	3.605	17.000	.002
[revrace=3.00]	1.501	.895	-.387	3.389	1.678	17.000	.112
[revrace=4.00]	.248	.954	-1.765	2.260	.260	17.000	.798
[revrace=5.00]	.000[b]	.	.	.	.	.	.
[revgender=1.00]	-3.429	.633	-4.764	-2.094	-5.419	17.000	.000
[revgender=2.00]	.000[b]	.	.	.	.	.	.
agec * agec	-.015	.002	-.018	-.011	-8.794	17.000	.000
agec	.047	.040	-.039	.132	1.157	17.000	.263
[revrace=1.00] * agec	.013	.046	-.085	.111	.273	17.000	.788
[revrace=2.00] * agec	.036	.037	-.042	.114	.971	17.000	.345
[revrace=3.00] * agec	-.006	.051	-.114	.103	-.107	17.000	.916
[revrace=4.00] * agec	.048	.047	-.052	.148	1.016	17.000	.324
[revrace=5.00] * agec	.000[b]	.	.	.	.	.	.
[revrace=1.00] * agec * agec	.001	.003	-.005	.008	.407	17.000	.689
[revrace=2.00] * agec * agec	-.003	.002	-.007	.001	-1.368	17.000	.189
[revrace=3.00] * agec * agec	.003	.002	-.001	.006	1.470	17.000	.160
[revrace=4.00] * agec * agec	.001	.003	-.006	.008	.308	17.000	.762
[revrace=5.00] * agec * agec	.000[b]	.	.	.	.	.	.
[revgender=1.00] * agec	.034	.026	-.021	.090	1.301	17.000	.211
[revgender=2.00] * agec	.000[b]	.	.	.	.	.	.
[revgender=1.00] * agec * agec	.003	.002	-.001	.006	1.776	17.000	.094
[revgender=2.00] * agec * agec	.000[b]	.	.	.	.	.	.

Parameter Estimates[a]

Parameter	Design Effect
(Intercept)	11.634
[revrace=1.00]	10.807
[revrace=2.00]	13.573
[revrace=3.00]	13.166
[revrace=4.00]	9.842
[revrace=5.00]	.
[revgender=1.00]	18.583
[revgender=2.00]	.
agec * agec	6.495
agec	10.778
[revrace=1.00] * agec	10.157
[revrace=2.00] * agec	7.025
[revrace=3.00] * agec	15.453
[revrace=4.00] * agec	8.924
[revrace=5.00] * agec	.
[revrace=1.00] * agec * agec	14.686
[revrace=2.00] * agec * agec	6.673
[revrace=3.00] * agec * agec	5.866
[revrace=4.00] * agec * agec	14.614
[revrace=5.00] * agec * agec	.
[revgender=1.00] * agec	18.309
[revgender=2.00] * agec	.
[revgender=1.00] * agec * agec	20.562
[revgender=2.00] * agec * agec	.

Subpopulation: Age >=18: 1=Yes 0=No = 1[a]

a. Model: bpxdi1_1 = (Intercept) + revrace + revgender + agec * agec + agec + revrace * agec + revrace * agec * agec + revgender * agec + revgender * agec * agec

b. Set to zero because this parameter is redundant.

```
* Export Output.
OUTPUT EXPORT
  /CONTENTS  EXPORT=ALL  LAYERS=PRINTSETTING  MODELVIEWS=PRINTSETTING
  /DOC  DOCUMENTFILE='P:\ASDA 2\Analysis Example Replication\SPSS\Analysis Example Replication '+
    'SPSS C7.doc'
     NOTESCAPTIONS=YES  WIDETABLES=WRAP PAGEBREAKS=YES
     PAGESIZE=INCHES(8.5, 11.0)  TOPMARGIN=INCHES(1.0)  BOTTOMMARGIN=INCHES(1.0)
```