

## SAS Analysis Examples Replication C7

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* SAS Analysis Examples Replication for ASDA 2nd Edition
* Berglund April 2017
* Chapter 7 ;
libname d "P:\ASDA 2\Data sets\nhanes 2011_2012\" ;
ods listing ;
ods graphics off ;
options nodate nonumber ls=125 ps=68 ;
ods rtf style=normalprinter bodytitle file='P:\ASDA 2\Analysis Example Replication\SAS\Analysis Example Replication SAS C7.rtf' ;

data c7_nhanes ;
  set d.nhanes1112_sub_8aug2016 ;
  bpxdil_1=bpxdil ;
  if bpxdil=0 then bpxdil_1=. ;
  agec=age-46.36 ;
  agecsq=agec*agec ;
run ;
title " Section 7.5: Application of Linear Regression, Bivariate relationships " ;
proc surveyreg data=c7_nhanes ;
  strata sdmvstra ; cluster sdmvpsu ; weight wtme2yr ;
  domain age18p ;
  class ridreth1 (ref=first);
  model bpxdil_1=ridreth1 / solution ;
run ;
proc surveyreg data=c7_nhanes ;
  strata sdmvstra ; cluster sdmvpsu ; weight wtme2yr ;
  domain age18p ;
  class marcat (ref=first);
  model bpxdil_1=marcat / solution ;
run ;
proc surveyreg data=c7_nhanes ;
  strata sdmvstra ; cluster sdmvpsu ; weight wtme2yr ;
  domain age18p ;
  class riagendr (ref=first) ;
  model bpxdil_1=riagendr / solution ;
run ;
proc surveyreg data=c7_nhanes ;
  strata sdmvstra ; cluster sdmvpsu ; weight wtme2yr ;
  domain age18p ;
  model bpxdil_1=agec / solution ;
run ;
title "Naive analysis Table 7.2" ;
proc surveyreg data=c7_nhanes ;
  where age18p=1 ;
  class ridreth1 (ref=first) riagendr (ref=first) ;
  model bpxdil_1=ridreth1 riagendr agec / solution clparm ;
run ;
title "Weighted regression analysis Table 7.3 " ;
proc surveyreg data=c7_nhanes ;
  where age18p=1 ;
  weight wtme2yr ;
  class ridreth1 (ref=first) riagendr (ref=first) ;
  model bpxdil_1=ridreth1 riagendr agec / solution clparm ;
run ;
title "Correct analysis with weights and complex sample features, Table 7.4" ;
proc surveyreg data=c7_nhanes ;
  strata sdmvstra ; cluster sdmvpsu ; weight wtme2yr ;
  domain age18p ;
  class ridreth1 (ref=first) riagendr (ref=first) ;
  model bpxdil_1=ridreth1 riagendr agec / solution clparm deff ;
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output out=outdiag1 p=phat r=resid ;
run ;
proc sgplot data=outdiag1 ;
where domain="Age >=18: 1=Yes 0=No=1" ;
title "Scatter Plot, Residual by Age Centered" ;
scatter y=resid x=agec ;
run ;
title "Analysis with weights and complex sample features plus Age Squared" ;
proc surveyreg data=c7_nhanes ;
strata sdmvstra ; cluster sdmvpsu ; weight wtme2yr ;
domain age18p ;
class ridreth1 (ref=first) riagendr (ref=first) ;
model bpxdil_1=ridreth1 riagendr agec agecsq / solution clparm deff ;
output out=outdiag2 p=phat2 r=resid2 ;
run ;
*plot of residual v. age centered using output data set from previous step, among those age 18 +
;
title "Scatter Plot, Residual by Age Centered" ;
proc sgplot data=outdiag2 ;
where domain="Age >=18: 1=Yes 0=No=1" ;
scatter y=resid2 x=agec ;
run ;
title "Interaction Tests for Preliminary Model: Test Race/Ethnicity X Age" ;
proc surveyreg data=c7_nhanes ;
strata sdmvstra ; cluster sdmvpsu ; weight wtme2yr ;
domain age18p ;
class ridreth1 (ref=first) riagendr (ref=first) ;
model bpxdil_1=ridreth1 riagendr agec agecsq riagendr*agec riagendr*agecsq / solution clparm deff ;
* note: these are for demonstration purposes, not needed since these tests are in output ;
contrast 'Race 4 levels' ridreth1 1 0 0 0 -1, ridreth1 0 1 0 0 -1, ridreth1 0 0 1 0 -1, ridreth1 0 0 0 1 -1 ;
contrast 'Gender X AGESQ' riagendr*agecsq 1 -1 ;
contrast 'Gender X agec' riagendr*agec 1 -1 ;
contrast 'gender x age' riagendr*agec 1 -1 , riagendr*agecsq 1 -1 ;
run ;
title "Interaction Tests for Preliminary Model: Test Race/Ethnicity X AgeC and AgeCsq" ;
proc surveyreg data=c7_nhanes ;
strata sdmvstra ; cluster sdmvpsu ; weight wtme2yr ;
domain age18p ;
class ridreth1 (ref=first) riagendr (ref=first) ;
model bpxdil_1=ridreth1 riagendr agec agecsq ridreth1*agec ridreth1*agecsq / solution clparm deff ;
contrast 'Race 4 levels' ridreth1 1 0 0 0 -1, ridreth1 0 1 0 0 -1, ridreth1 0 0 1 0 -1, ridreth1 0 0 0 1 -1 ;
contrast 'Race X AgeC ' ridreth1*agec -1 1 0 0 0 , ridreth1*agec -1 0 1 0 0 , ridreth1*agec -1 0 0 1 0 , ridreth1*agec -1 0 0 0 1 ;
contrast 'Race X Agecsq' ridreth1*agecsq -1 1 0 0 0 , ridreth1*agecsq -1 0 1 0 0 , ridreth1*agecsq -1 0 0 1 0 , ridreth1*agecsq -1 0 0 0 1 ;
contrast 'Race X AgeC and Race X Agecsq' ridreth1*agec -1 1 0 0 0 , ridreth1*agec -1 0 1 0 0 , ridreth1*agec -1 0 0 1 0 , ridreth1*agec -1 0 0 0 1 ,
ridreth1*agecsq -1 1 0 0 0 , ridreth1*agecsq -1 0 1 0 0 , ridreth1*agecsq -1 0 0 1 0 , ridreth1*agecsq -1 0 0 0 1 ;
run ;
proc surveyreg data=c7_nhanes ;
strata sdmvstra ; cluster sdmvpsu ; weight wtme2yr ;
domain age18p ;
class ridreth1 (ref=first) riagendr (ref=first) ;
model bpxdil_1=ridreth1 riagendr agec agecsq riagendr*agec riagendr*agecsq / solution clparm deff ;
contrast 'Gender X agesq' riagendr*agecsq 1 -1 ;
contrast 'Gender X agec' riagendr*agec 1 -1 ;

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contrast 'Gender X Agec and Gender X Agecsq ' riagendr*agec 1 -1 , riagendr*agecsq 1 -1 ;
run ;
title "Marginal predicted values by Race from model including significant interactions" ;
* rescale agec to avoid problem with ill-specified matrix when using LSMEANS, this does not affect
the numbers, just a rescaling approach;
data c7_nhanes_scale ;
  set c7_nhanes ;
  agec = agec/10;
  agecsq=agec*agec ;
run ;
* formats for race category ;
proc format ;
  value rf 1='Mexican' 2='Other Hispanic' 3='NH White' 4='NH Black' 5='Other' ;
  value gf 1='Male' 2='Female' ;
run ;
proc surveyreg data=c7_nhanes_scale ;
  strata sdmvstra ; cluster sdmvpsu ; weight wtme2yr ;
  domain age18p ;
  class ridreth1 (ref=first) riagendr (ref=first) ;
  model bpxdil_1=ridreth1 riagendr agec agec*agec ridreth1*agec ridreth1*agec*agec riagendr*agec
riagendr*agec*agec / solution clparm deff ;
  lsmeans ridreth1 / at agec=-3.0 e cl ;
  lsmeans ridreth1 / at agec=-2.5 e cl ;
  lsmeans ridreth1 / at agec=-2.0 e cl;
  lsmeans ridreth1 / at agec=-1.5 e cl;
  lsmeans ridreth1 / at agec=-1 e cl;
  lsmeans ridreth1 / at agec=-.5 e cl;
  lsmeans ridreth1 / at agec=0 e cl;
  lsmeans ridreth1 / at agec=.5 e cl;
  lsmeans ridreth1 / at agec=1.0 e cl;
  lsmeans ridreth1 / at agec=1.5 e cl;
  lsmeans ridreth1 / at agec=2.0 e cl;
  lsmeans ridreth1 / at agec=2.5 e cl;
  lsmeans ridreth1 / at agec=3 e cl;
  ods output lsmeans=lsmeans_est ;
  output out=outp p=predicted ;
run ;
title "Plot of Marginal Predicted Values by Age and Race: Figure 7.4" ;
proc sgplot data=lsmeans_est ;
  where domain eq 'Age >=18: 1=Yes 0=No=1' ;
  format agec 2. ridreth1 rf. ;
  highlow x=agec high=upper low=lower / group=ridreth1 highcap=serif lowcap=serif;
  series x=agec y=estimate / group=ridreth1 ;
  xaxis label ='Centered Age' ; yaxis label='Marginal Predicted DBP' ;
  run;
proc surveyreg data=c7_nhanes_scale ;
  strata sdmvstra ; cluster sdmvpsu ; weight wtme2yr ;
  domain age18p ;
  class ridreth1 (ref=first) riagendr (ref=first) ;
  model bpxdil_1=ridreth1 riagendr agec agec*agec ridreth1*agec ridreth1*agec*agec riagendr*agec
riagendr*agec*agec / solution clparm deff ;
  lsmeans riagendr / at (agec)=(-3.0) e cl ;
  lsmeans riagendr / at agec=-2.5 e cl ;
  lsmeans riagendr / at agec=-2.0 e cl;
  lsmeans riagendr / at agec=-1.5 e cl;
  lsmeans riagendr / at agec=-1 e cl;
  lsmeans riagendr / at agec=-.5 e cl;
  lsmeans riagendr / at agec=0 e cl;
  lsmeans riagendr / at agec=.5 e cl;
  lsmeans riagendr / at agec=1.0 e cl;
  lsmeans riagendr / at agec=1.5 e cl;
  lsmeans riagendr / at agec=2.0 e cl;
  lsmeans riagendr / at agec=2.5 e cl;
  lsmeans riagendr / at agec=3 e cl;

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lsmeans riagendr / at agec=2.5 e cl;
lsmeans riagendr / at agec=3 e cl;
ods output lsmeans=lsmeans_est ;
output out=outp p=predicted ;
run ;
title "Plot of Marginal Predicted Values by Age and Gender: Figure 7.4 " ;
proc sgplot data=lsmeans_est ;
where domain eq 'Age >=18: 1=Yes 0=No=1' ;
format agec 2. riagendr gf. ;
highlow x=agec high=upper low=lower / group=riagendr highcap=serif lowcap=serif;
series x=agec y=estimate / group=riagendr;
xaxis label ='Centered Age' ; yaxis label='Marginal Predicted DBP' ;
run;
* "final" model diagnostics;
proc surveyreg data=c7_nhanes plots=fit ;
strata sdmvstra ; cluster sdmvpsu ; weight wtmec2yr ;
domain age18p ;
class ridreth1 (ref=first) riagendr (ref=first) ;
model bpxdil_1=ridreth1 riagendr agec agecsq ridreth1*agec ridreth1*agecsq riagendr*agec
riagendr*agecsq / solution clparm deff ;
output out=outdiag p=pred r=resid ;
run ;
* diagnostic plots using PROC SGPlot: Histogram and Scatter Plot using PROC SGPlot ;
title "Histogram of Residuals Plot" ;
proc sgplot data=outdiag ;
histogram resid ;
density resid ;
where domain="Age >=18: 1=Yes 0=No=1" ;
run ;
title "Scatter Plot of Residual by Predicted " ;
proc sgplot data=outdiag ;
where domain="Age >=18: 1=Yes 0=No=1" ;
scatter y=resid x=pred ;
run ;
* QQ plot from PROC UNIVARIATE ;
title "QQ Plot of Residuals " ;
proc univariate data=outdiag ;
where domain="Age >=18: 1=Yes 0=No=1" ;
var resid ;
qqplot resid ;
run;
title " Use Pfeffermann method (Q weighted)" ;
proc glm data=c7_nhanes ;
class ridreth1 (ref=first) riagendr (ref=first) ;
model wtmec2yr=ridreth1 riagendr agec / solution ;
output out=outq predicted=w_hat ;
run ;
* create new weight and re-run final model ;
data c7_nhanes_Q ;
set outq ;
q_wtmec2yr=wtmec2yr/w_hat ;
run ;
proc surveyreg data=c7_nhanes_Q ;
strata sdmvstra ; cluster sdmvpsu ; weight q_wtmec2yr ;
domain age18p ;
class ridreth1 (ref=first) riagendr (ref=first) ;
model bpxdil_1=ridreth1 riagendr agec agecsq ridreth1*agec ridreth1*agecsq riagendr*agec
riagendr*agecsq / solution clparm deff ;
run ;
ods rtf close ;

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## Section 7.5: Application of Linear Regression, Bivariate relationships

### The SURVEYREG Procedure

#### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	250508512
Weighted Mean of bpxdi1_1	69.55356
Weighted Sum of bpxdi1_1	1.74238E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.009411
Root MSE	12.4078
Denominator DF	17

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	4	8.34	0.0006	
Intercept	1	14971.8	<.0001	
RIDRETH1	4	8.34	0.0006	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients					
Parameter	Estimate	Standard Error	t Value	Pr >  t	
Intercept	66.3974418	0.56321000	117.89	<.0001	
RIDRETH1 2	1.2060048	1.56274728	0.77	0.4509	
RIDRETH1 3	3.8563043	0.83278066	4.63	0.0002	
RIDRETH1 4	3.0642660	0.80084629	3.83	0.0014	
RIDRETH1 5	2.7334240	0.64580616	4.23	0.0006	
RIDRETH1 1	0.0000000	0.00000000	.	.	

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Section 7.5: Application of Linear Regression, Bivariate relationships

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	1564
Number of Observations Not in Domain	5112
Sum of Weights in Domain	37760598
Weighted Mean of bpxdi1_1	57.97422
Weighted Sum of bpxdi1_1	2189141217

Fit Statistics	
R-Square	0.007365
Root MSE	11.5760
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	4	2.14	0.1206	
Intercept	1	6958.05	<.0001	
RIDRETH1	4	2.14	0.1206	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients					
Parameter	Estimate	Standard Error	t Value	Pr >  t	
Intercept	55.8381383	0.62761292	88.97	<.0001	
RIDRETH1 2	1.7490988	1.46337396	1.20	0.2484	
RIDRETH1 3	2.8288303	1.58948281	1.78	0.0930	
RIDRETH1 4	1.5346097	0.85192960	1.80	0.0894	
RIDRETH1 5	2.5456195	1.00084632	2.54	0.0210	
RIDRETH1 1	0.0000000	0.00000000	.	.	

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Section 7.5: Application of Linear Regression, Bivariate relationships

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	5112
Number of Observations Not in Domain	1564
Sum of Weights in Domain	212747914
Weighted Mean of bpxdi1_1	71.60877
Weighted Sum of bpxdi1_1	1.52346E10

Fit Statistics	
R-Square	0.004955
Root MSE	11.4170
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	4	4.77	0.0092	
Intercept	1	17079.4	<.0001	
RIDRETH1	4	4.77	0.0092	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients					
Parameter	Estimate	Standard Error	t Value	Pr >  t	
Intercept	69.8040886	0.45337163	153.97	<.0001	
RIDRETH1 2	-0.1548915	1.45599533	-0.11	0.9165	
RIDRETH1 3	2.1846975	0.74287741	2.94	0.0091	
RIDRETH1 4	2.2902279	0.70322613	3.26	0.0046	
RIDRETH1 5	1.3056136	0.70463842	1.85	0.0813	
RIDRETH1 1	0.0000000	0.00000000	.	.	

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Section 7.5: Application of Linear Regression, Bivariate relationships

### The SURVEYREG Procedure

#### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	4845
Sum of Weights	205481295
Weighted Mean of bpxdi1_1	71.92817
Weighted Sum of bpxdi1_1	1.47799E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.001496
Root MSE	11.3304
Denominator DF	17

Class Level Information				
CLASS Variable	Label	Levels	Values	
marcat	1=married 2=prev married 3=never married	3	2 3 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	2	0.90	0.4243	
Intercept	1	16732.6	<.0001	
marcat	2	0.90	0.4243	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients				
Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	72.1795504	0.51504280	140.14	<.0001
marcat 2	-0.1450875	0.69794643	-0.21	0.8378
marcat 3	-1.1210302	0.84384121	-1.33	0.2016
marcat 1	0.0000000	0.00000000	.	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Section 7.5: Application of Linear Regression, Bivariate relationships

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	4845
Number of Observations in Domain	4845
Number of Observations Not in Domain	0
Sum of Weights in Domain	205481295
Weighted Mean of bpxdi1_1	71.92817
Weighted Sum of bpxdi1_1	1.47799E10

Fit Statistics	
R-Square	0.001496
Root MSE	11.3304
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	2	0.90	0.4243	
Intercept	1	16732.6	<.0001	
marcat	2	0.90	0.4243	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients				
Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	72.1795504	0.51504280	140.14	<.0001
marcat 2	-0.1450875	0.69794643	-0.21	0.8378
marcat 3	-1.1210302	0.84384121	-1.33	0.2016
marcat 1	0.0000000	0.00000000	.	.

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Section 7.5: Application of Linear Regression, Bivariate relationships

### The SURVEYREG Procedure

#### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	250508512
Weighted Mean of bpxdi1_1	69.55356
Weighted Sum of bpxdi1_1	1.74238E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.005168
Root MSE	12.4316
Denominator DF	17

Class Level Information			
CLASS Variable	Label	Levels	Values
RIAGENDR	Gender	2	2 1

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	1	13.12	0.0021	
Intercept	1	16209.1	<.0001	
RIAGENDR	1	13.12	0.0021	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients				
Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	70.4667737	0.64990231	108.43	<.0001
RIAGENDR 2	-1.7920491	0.49466428	-3.62	0.0021
RIAGENDR 1	0.0000000	0.00000000	.	.

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Section 7.5: Application of Linear Regression, Bivariate relationships

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	1564
Number of Observations Not in Domain	5112
Sum of Weights in Domain	37760598
Weighted Mean of bpxdi1_1	57.97422
Weighted Sum of bpxdi1_1	2189141217

Fit Statistics	
R-Square	0.002453
Root MSE	11.6020
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	1	2.79	0.1135	
Intercept	1	3471.67	<.0001	
RIAGENDR	1	2.79	0.1135	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients					
Parameter	Estimate	Standard Error	t Value	Pr >  t	
Intercept	57.3739050	0.82767860	69.32	<.0001	
RIAGENDR 2	1.1515524	0.69002515	1.67	0.1135	
RIAGENDR 1	0.0000000	0.00000000	.	.	

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Section 7.5: Application of Linear Regression, Bivariate relationships

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	5112
Number of Observations Not in Domain	1564
Sum of Weights in Domain	212747914
Weighted Mean of bpxdi1_1	71.60877
Weighted Sum of bpxdi1_1	1.52346E10

Fit Statistics	
R-Square	0.009245
Root MSE	11.3898
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	1	15.01	0.0012	
Intercept	1	20210.2	<.0001	
RIAGENDR	1	15.01	0.0012	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients					
Parameter	Estimate	Standard Error	t Value	Pr >  t	
Intercept	72.7255304	0.59013132	123.24	<.0001	
RIAGENDR 2	-2.2004481	0.56797167	-3.87	0.0012	
RIAGENDR 1	0.0000000	0.00000000	.	.	

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Section 7.5: Application of Linear Regression, Bivariate relationships

### The SURVEYREG Procedure

#### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	250508512
Weighted Mean of bpxdi1_1	69.55356
Weighted Sum of bpxdi1_1	1.74238E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.07882
Root MSE	11.9626
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	1	115.38	<.0001	
Intercept	1	18687.3	<.0001	
agec	1	115.38	<.0001	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients				
Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	70.4172916	0.51511667	136.70	<.0001
agec	0.1734368	0.01614643	10.74	<.0001

Note: The degrees of freedom for the t tests is 17.

## Section 7.5: Application of Linear Regression, Bivariate relationships

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	1564
Number of Observations Not in Domain	5112
Sum of Weights in Domain	37760598
Weighted Mean of bpxdi1_1	57.97422
Weighted Sum of bpxdi1_1	2189141217

Fit Statistics	
R-Square	0.05948
Root MSE	11.2655
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	1	47.81	<.0001	
Intercept	1	418.64	<.0001	
agec	1	47.81	<.0001	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients				
Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	91.7923765	4.48629439	20.46	<.0001
agec	1.0013268	0.14482174	6.91	<.0001

Note: The degrees of freedom for the t tests is 17.

## Section 7.5: Application of Linear Regression, Bivariate relationships

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	5112
Number of Observations Not in Domain	1564
Sum of Weights in Domain	212747914
Weighted Mean of bpxdi1_1	71.60877
Weighted Sum of bpxdi1_1	1.52346E10

Fit Statistics	
R-Square	0.003612
Root MSE	11.4222
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	1	4.35	0.0523	
Intercept	1	20485.9	<.0001	
agec	1	4.35	0.0523	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients				
Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	71.6036334	0.50027293	143.13	<.0001
agec	0.0394091	0.01888777	2.09	0.0523

Note: The degrees of freedom for the t tests is 17.

**Naive analysis Table 7.2**  
**The SURVEYREG Procedure**  
**Regression Analysis for Dependent Variable bpxdi1\_1**

Data Summary	
Number of Observations	5112
Mean of bpxdi1_1	71.01682
Sum of bpxdi1_1	363038.0

Fit Statistics	
R-Square	0.01798
Root MSE	11.8394
Denominator DF	5111

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	
RIAGENDR	Gender	2	2 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	6	14.82	<.0001	
Intercept	1	149698	<.0001	
RIDRETH1	4	5.39	0.0003	
RIAGENDR	1	52.57	<.0001	
agec	1	18.57	<.0001	

**Note:** The denominator degrees of freedom for the F tests is 5111.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	
Intercept	70.7835251	0.52932158	133.72	<.0001	69.7458281	71.8212220
RIDRETH1 2	0.2551924	0.70823078	0.36	0.7186	-1.1332432	1.6436280
RIDRETH1 3	1.1925411	0.57892551	2.06	0.0395	0.0575992	2.3274830
RIDRETH1 4	2.2054136	0.61766715	3.57	0.0004	0.9945215	3.4163057
RIDRETH1 5	2.0131114	0.63046903	3.19	0.0014	0.7771221	3.2491007
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000
RIAGENDR 2	-2.4036772	0.33151308	-7.25	<.0001	-3.0535848	-1.7537696
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000
agec	0.0413555	0.00959724	4.31	<.0001	0.0225408	0.0601702

**Note:** The degrees of freedom for the t tests is 5111.  
Matrix X'X is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Weighted regression analysis Table 7.3

### The SURVEYREG Procedure

#### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	5112
Sum of Weights	212747914
Weighted Mean of bpxdi1_1	71.60877
Weighted Sum of bpxdi1_1	1.52346E10

Fit Statistics	
R-Square	0.01742
Root MSE	11.3488
Denominator DF	5111

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	
RIAGENDR	Gender	2	2 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	6	10.41	<.0001	
Intercept	1	124755	<.0001	
RIDRETH1	4	6.25	<.0001	
RIAGENDR	1	28.14	<.0001	
agec	1	10.08	0.0015	

**Note:** The denominator degrees of freedom for the F tests is 5111.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	
Intercept	71.1486968	0.56620591	125.66	<.0001	70.0386908	72.2587029
RIDRETH1 2	-0.1414120	0.72106572	-0.20	0.8445	-1.5550096	1.2721856
RIDRETH1 3	1.9041990	0.61086701	3.12	0.0018	0.7066381	3.1017599
RIDRETH1 4	2.3019532	0.64525460	3.57	0.0004	1.0369779	3.5669286
RIDRETH1 5	1.2617860	0.70523082	1.79	0.0736	-0.1207684	2.6443404
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000
RIAGENDR 2	-2.2911357	0.43187093	-5.31	<.0001	-3.1377877	-1.4444838
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000
agec	0.0368234	0.01159818	3.17	0.0015	0.0140860	0.0595608

**Note:** The degrees of freedom for the t tests is 5111.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Correct analysis with weights and complex sample features, Table 7.4

### The SURVEYREG Procedure Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	250508512
Weighted Mean of bpxdi1_1	69.55356
Weighted Sum of bpxdi1_1	1.74238E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.08795
Root MSE	11.9076
Denominator DF	17

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	
RIAGENDR	Gender	2	2 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	6	65.91	<.0001	
Intercept	1	15945.5	<.0001	
RIDRETH1	4	3.54	0.0281	
RIAGENDR	1	19.52	0.0004	
agec	1	88.21	<.0001	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
Intercept	69.7896762	0.56403668	123.73	<.0001	68.5996629	70.9796896	1.17
RIDRETH1 2	0.4778439	1.33002874	0.36	0.7238	-2.3282715	3.2839592	3.16
RIDRETH1 3	1.8924060	0.89965840	2.10	0.0506	-0.0057073	3.7905193	2.87
RIDRETH1 4	2.1993856	0.76745230	2.87	0.0107	0.5802028	3.8185684	1.41
RIDRETH1 5	1.7076557	0.71078940	2.40	0.0280	0.2080212	3.2072903	0.98
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
RIAGENDR 2	-2.0433991	0.46246053	-4.42	0.0004	-3.0191056	-1.0676927	2.51
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec	0.1704855	0.01815180	9.39	<.0001	0.1321886	0.2087825	6.06

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Correct analysis with weights and complex sample features, Table 7.4

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	1564
Number of Observations Not in Domain	5112
Sum of Weights in Domain	37760598
Weighted Mean of bpxdi1_1	57.97422
Weighted Sum of bpxdi1_1	2189141217

Fit Statistics	
R-Square	0.06712
Root MSE	11.2239
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	6	39.95	<.0001	
Intercept	1	397.10	<.0001	
RIDRETH1	4	1.24	0.3310	
RIAGENDR	1	1.92	0.1833	
agec	1	46.91	<.0001	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect	
Intercept	89.0460111	5.18540361	17.17	<.0001	78.1057658 99.9862564	9.20	
RIDRETH1 2	1.6974638	1.47527311	1.15	0.2658	-1.4150904 4.8100180	5.68	
RIDRETH1 3	2.5036751	1.67864266	1.49	0.1542	-1.0379513 6.0453015	16.89	
RIDRETH1 4	1.0099916	0.89170653	1.13	0.2731	-0.8713447 2.8913279	3.01	
RIDRETH1 5	2.1855638	1.00857617	2.17	0.0447	0.0576541 4.3134735	2.77	
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.	
RIAGENDR 2	0.8313817	0.59932235	1.39	0.1833	-0.4330780 2.0958413	4.73	
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.	
agec	0.9875076	0.14418219	6.85	<.0001	0.6833098 1.2917055	8.77	

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Correct analysis with weights and complex sample features, Table 7.4

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	5112
Number of Observations Not in Domain	1564
Sum of Weights in Domain	212747914
Weighted Mean of bpxdi1_1	71.60877
Weighted Sum of bpxdi1_1	1.52346E10

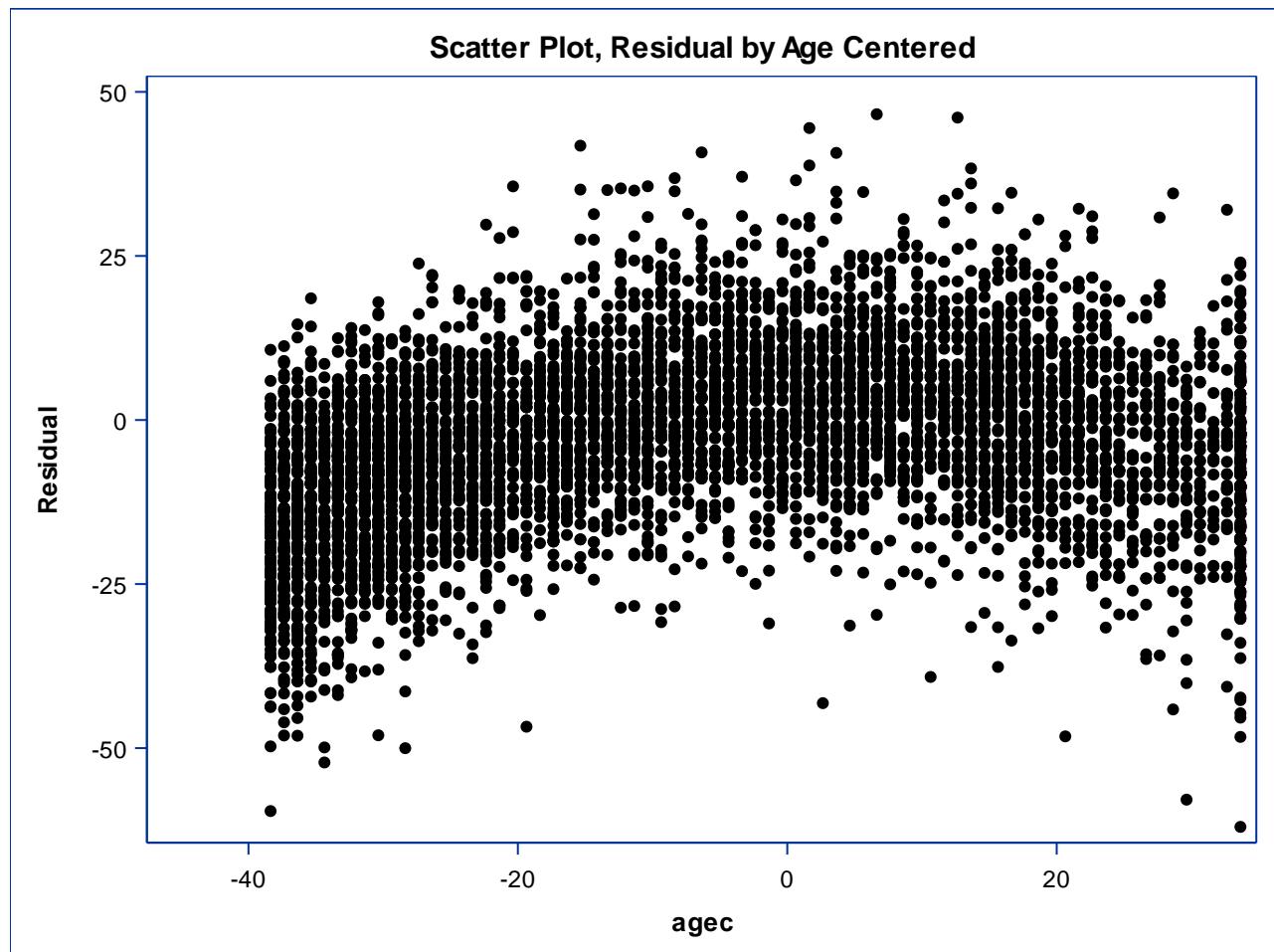
Fit Statistics	
R-Square	0.01742
Root MSE	11.3470
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	6	14.33	<.0001	
Intercept	1	17554.1	<.0001	
RIDRETH1	4	4.80	0.0089	
RIAGENDR	1	17.44	0.0006	
agec	1	3.13	0.0948	

**Note:** The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect	
Intercept	71.1486968	0.51818890	137.30	<.0001	70.0554138 72.2419798	1.00	
RIDRETH1 2	-0.1414120	1.37523091	-0.10	0.9193	-3.0428956 2.7600716	3.49	
RIDRETH1 3	1.9041990	0.80943923	2.35	0.0310	0.1964315 3.6119665	2.32	
RIDRETH1 4	2.3019532	0.66492023	3.46	0.0030	0.8990942 3.7048123	1.07	
RIDRETH1 5	1.2617860	0.70699447	1.78	0.0922	-0.2298419 2.7534140	1.01	
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.	
RIAGENDR 2	-2.2911357	0.54859697	-4.18	0.0006	-3.4485742 -1.1336973	3.88	
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.	
agec	0.0368234	0.02081714	1.77	0.0948	-0.0070969 0.0807438	6.56	

**Note:** The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.



# Analysis with weights and complex sample features plus Age Squared

## The SURVEYREG Procedure

### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	250508512
Weighted Mean of bpxdi1_1	69.55356
Weighted Sum of bpxdi1_1	1.74238E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.2410
Root MSE	10.8631
Denominator DF	17

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	
RIAGENDR	Gender	2	2 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	7	210.02	<.0001	
Intercept	1	25268.8	<.0001	
RIDRETH1	4	3.35	0.0340	
RIAGENDR	1	18.07	0.0005	
agec	1	30.26	<.0001	
agecsq	1	562.37	<.0001	

**Note:** The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	74.3090921	0.58342430	127.37	<.0001	73.0781744 75.5400098	1.41
RIDRETH1 2	0.4908919	1.15085687	0.43	0.6751	-1.9372039 2.9189877	2.84
RIDRETH1 3	2.1765998	0.95714986	2.27	0.0362	0.1571901 4.1960095	3.90
RIDRETH1 4	2.2466403	0.72483061	3.10	0.0065	0.7173814 3.7758992	1.51
RIDRETH1 5	1.5383369	0.63896384	2.41	0.0277	0.1902410 2.8864327	0.95
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
RIAGENDR 2	-1.7134326	0.40302944	-4.25	0.0005	-2.5637503 -0.8631148	2.29
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
agec	0.0814563	0.01480856	5.50	<.0001	0.0502130	0.1126996
agecsq	-0.0122947	0.00051845	-23.71	<.0001	-0.0133885	-0.0112009

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Analysis with weights and complex sample features plus Age Squared

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
<b>Number of Observations</b>	6676
<b>Number of Observations in Domain</b>	1564
<b>Number of Observations Not in Domain</b>	5112
<b>Sum of Weights in Domain</b>	37760598
<b>Weighted Mean of bpxdi1_1</b>	57.97422
<b>Weighted Sum of bpxdi1_1</b>	2189141217

Fit Statistics	
R-Square	0.06905
Root MSE	11.2131
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
<b>Model</b>	7	35.88	<.0001	
<b>Intercept</b>	1	0.05	0.8252	
<b>RIDRETH1</b>	4	1.25	0.3264	
<b>RIAGENDR</b>	1	1.78	0.2003	
<b>agec</b>	1	1.89	0.1869	
<b>agecsq</b>	1	2.99	0.1018	

**Note:** The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect	
<b>Intercept</b>	8.5037141	46.5466709	0.18	0.8572	-89.701177	106.708606	4.59
<b>RIDRETH1 2</b>	1.7085867	1.4737696	1.16	0.2623	-1.400795	4.817969	5.68
<b>RIDRETH1 3</b>	2.5281532	1.6855861	1.50	0.1520	-1.028123	6.084429	17.06
<b>RIDRETH1 4</b>	1.0274362	0.8871333	1.16	0.2628	-0.844251	2.899124	2.98
<b>RIDRETH1 5</b>	2.2156884	1.0183428	2.18	0.0440	0.067173	4.364204	2.83
<b>RIDRETH1 1</b>	0.0000000	0.0000000	.	.	0.000000	0.000000	.
<b>RIAGENDR 2</b>	0.8271233	0.6207256	1.33	0.2003	-0.482493	2.136740	5.08
<b>RIAGENDR 1</b>	0.0000000	0.0000000	.	.	0.000000	0.000000	.
<b>agec</b>	-3.7994757	2.7624827	-1.38	0.1869	-9.627805	2.028853	4.60
<b>agecsq</b>	-0.0706464	0.0408485	-1.73	0.1018	-0.156829	0.015536	4.63

**Note:** The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Analysis with weights and complex sample features plus Age Squared

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
<b>Number of Observations</b>	6676
<b>Number of Observations in Domain</b>	5112
<b>Number of Observations Not in Domain</b>	1564
<b>Sum of Weights in Domain</b>	212747914
<b>Weighted Mean of bpxdi1_1</b>	71.60877
<b>Weighted Sum of bpxdi1_1</b>	1.52346E10

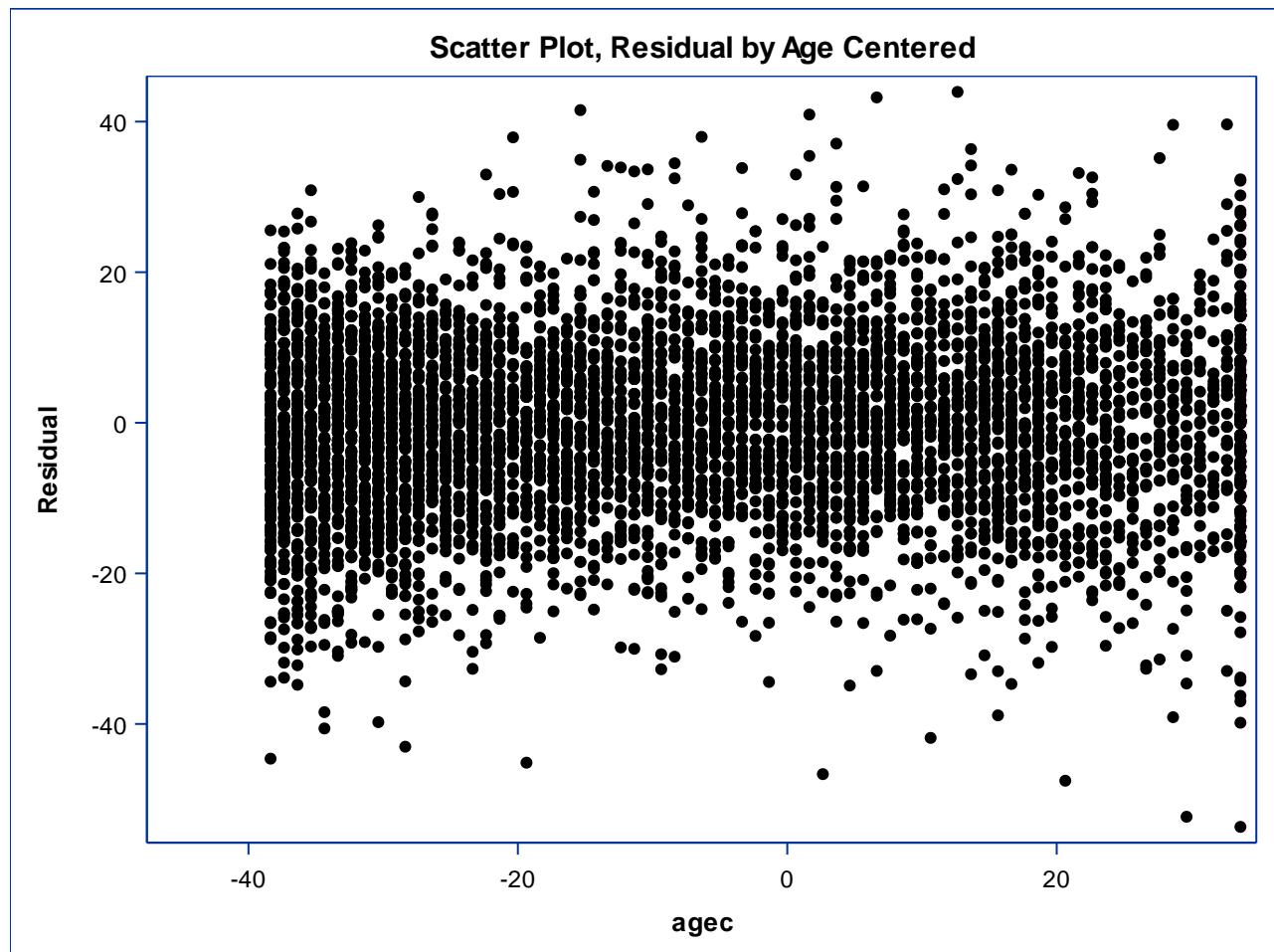
Fit Statistics	
R-Square	0.1141
Root MSE	10.7754
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
<b>Model</b>	7	246.80	<.0001	
<b>Intercept</b>	1	24761.7	<.0001	
<b>RIDRETH1</b>	4	3.90	0.0201	
<b>RIAGENDR</b>	1	19.63	0.0004	
<b>agec</b>	1	23.04	0.0002	
<b>agecsq</b>	1	264.90	<.0001	

**Note:** The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
<b>Intercept</b>	74.4622832	0.56555603	131.66	<.0001	73.2690643 75.6555021	1.25
<b>RIDRETH1 2</b>	0.2178048	1.21781663	0.18	0.8602	-2.3515637 2.7871733	3.03
<b>RIDRETH1 3</b>	2.0844882	0.85766201	2.43	0.0264	0.2749795 3.8939969	2.88
<b>RIDRETH1 4</b>	2.5108637	0.73404040	3.42	0.0033	0.9621739 4.0595536	1.45
<b>RIDRETH1 5</b>	1.4095682	0.68770336	2.05	0.0561	-0.0413591 2.8604954	1.06
<b>RIDRETH1 1</b>	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
<b>RIAGENDR 2</b>	-2.1692000	0.48954380	-4.43	0.0004	-3.2020471 -1.1363528	3.43
<b>RIAGENDR 1</b>	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
<b>agec</b>	0.0748534	0.01559599	4.80	0.0002	0.0419487 0.1077581	3.95
<b>agecsq</b>	-0.0116898	0.00071823	-16.28	<.0001	-0.0132051 -0.0101744	2.75

**Note:** The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.



## Interaction Tests for Preliminary Model: Test Race/Ethnicity X Age

### The SURVEYREG Procedure

#### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	250508512
Weighted Mean of bpxdi1_1	69.55356
Weighted Sum of bpxdi1_1	1.74238E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.2457
Root MSE	10.8319
Denominator DF	17

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	
RIAGENDR	Gender	2	2 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	2	0.00	1.0000	
Intercept	1	25585.2	<.0001	
RIDRETH1	4	3.44	0.0310	
RIAGENDR	1	23.89	0.0001	
agec	1	27.43	<.0001	
agecsq	0	.	.	
agec*RIAGENDR	1	2.89	0.1075	
agecsq*RIAGENDR	0	.	.	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	75.1528932	0.61894039	121.42	<.0001	73.8470431 76.4587433	1.48
RIDRETH1 2	0.5000839	1.14420498	0.44	0.6676	-1.9139776 2.9141454	2.82
RIDRETH1 3	2.1926769	0.95457827	2.30	0.0346	0.1786928 4.2066610	3.90
RIDRETH1 4	2.2906740	0.72341341	3.17	0.0056	0.7644051 3.8169428	1.51
RIDRETH1 5	1.5704772	0.64181044	2.45	0.0256	0.2163755 2.9245789	0.97
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
<b>RIAGENDR 2</b>	-3.3917508	0.69393230	-4.89	0.0001	-4.8558200	-1.9276817	3.33
<b>RIAGENDR 1</b>	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
<b>agec</b>	0.0600528	0.01571761	3.82	0.0014	0.0268915	0.0932141	2.24
<b>agecsq</b>	0.0643831	0.00000000	Infty	<.0001	0.0643831	0.0643831	.
<b>agec*RIAGENDR 2</b>	0.0356556	0.02098631	1.70	0.1075	-0.0086216	0.0799329	2.23
<b>agec*RIAGENDR 1</b>	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
<b>agecsq*RIAGENDR 2</b>	-0.0746852	0.00000000	-Infty	<.0001	-0.0746852	-0.0746852	.
<b>agecsq*RIAGENDR 1</b>	-0.0790030	0.00000000	-Infty	<.0001	-0.0790030	-0.0790030	.

**Note:** The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Analysis of Contrasts				
Contrast	Num DF	F Value	Pr > F	
Race 4 levels	4	3.44	0.0310	
Gender X AGESQ	0	.	.	
Gender X agec	1	2.89	0.1075	
gender x age	1	2.89	0.1075	

**Note:** The denominator degrees of freedom for the F tests is 17.

## Interaction Tests for Preliminary Model: Test Race/Ethnicity X Age

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	1564
Number of Observations Not in Domain	5112
Sum of Weights in Domain	37760598
Weighted Mean of bpxdi1_1	57.97422
Weighted Sum of bpxdi1_1	2189141217

Fit Statistics	
R-Square	0.07215
Root MSE	11.1970
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	1	0.00	1.0000	
Intercept	1	0.15	0.7018	
RIDRETH1	4	1.34	0.2940	
RIAGENDR	1	1.68	0.2121	
agec	1	1.42	0.2493	
agecsq	1	0.00	1.0000	
agec*RIAGENDR	1	1.53	0.2336	
agecsq*RIAGENDR	2	0.00	1.0000	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
Intercept	76.53633	68.54154	1.12	0.2797	-68.0737	221.14635	4.78
RIDRETH1 2	1.72481	1.43847	1.20	0.2470	-1.3101	4.75971	5.41
RIDRETH1 3	2.65946	1.67279	1.59	0.1303	-0.8698	6.18873	16.77
RIDRETH1 4	1.03355	0.87041	1.19	0.2514	-0.8028	2.86995	2.88
RIDRETH1 5	2.27345	1.01120	2.25	0.0381	0.1400	4.40690	2.79
RIDRETH1 1	0.00000	0.00000	.	.	0.0000	0.00000	.
RIAGENDR 2	-119.48862	92.14904	-1.30	0.2121	-313.9061	74.92886	4.45
RIAGENDR 1	0.00000	0.00000	.	.	0.0000	0.00000	.
agec	0.03377	4.11285	0.01	0.9935	-8.6436	8.71113	4.92
agecsq	-0.05914	2675.49600	-0.00	1.0000	-5644.8623	5644.74400	0.74
agec*RIAGENDR 2	-6.75465	5.46926	-1.24	0.2336	-18.2938	4.78448	4.46
agec*RIAGENDR 1	0.00000	0.00000	.	.	0.0000	0.00000	.
agecsq*RIAGENDR 2	-0.05194	4634.09501	-0.00	1.0000	-9777.1378	9777.03389	2.22

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agecsq*RIAGENDR 1	0.04193	3783.72273	0.00	1.0000	-7982.9152	7982.99908	1.48

**Note:** The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Analysis of Contrasts			
Contrast	Num DF	F Value	Pr > F
Race 4 levels	4	1.34	0.2940
Gender X AGESQ	1	0.00	1.0000
Gender X agec	1	1.53	0.2336
gender x age	2	0.76	0.4817

**Note:** The denominator degrees of freedom for the F tests is 17.

## Interaction Tests for Preliminary Model: Test Race/Ethnicity X Age

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	5112
Number of Observations Not in Domain	1564
Sum of Weights in Domain	212747914
Weighted Mean of bpxdi1_1	71.60877
Weighted Sum of bpxdi1_1	1.52346E10

Fit Statistics	
R-Square	0.1179
Root MSE	10.7536
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	9	392.65	<.0001	
Intercept	1	24931.2	<.0001	
RIDRETH1	4	4.01	0.0181	
RIAGENDR	1	17.51	0.0006	
agec	1	20.48	0.0003	
agecsq	1	284.73	<.0001	
agec*RIAGENDR	1	4.29	0.0538	
agecsq*RIAGENDR	1	4.13	0.0579	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
Intercept	74.9846596	0.64614618	116.05	<.0001	73.6214103	76.3479089	1.52
RIDRETH1 2	0.2056088	1.20959655	0.17	0.8670	-2.3464169	2.7576344	3.00
RIDRETH1 3	2.0990068	0.84590923	2.48	0.0238	0.3142944	3.8837193	2.82
RIDRETH1 4	2.5401774	0.73329601	3.46	0.0030	0.9930580	4.0872967	1.45
RIDRETH1 5	1.4274416	0.69246583	2.06	0.0549	-0.0335336	2.8884168	1.08
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
RIAGENDR 2	-3.1707086	0.75773648	-4.18	0.0006	-4.7693928	-1.5720244	4.14
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec	0.0481536	0.01632574	2.95	0.0090	0.0137093	0.0825979	2.18
agecsq	-0.0135697	0.00084000	-16.15	<.0001	-0.0153419	-0.0117974	1.77
agec*RIAGENDR 2	0.0476044	0.02297186	2.07	0.0538	-0.0008620	0.0960708	2.22
agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agecsq*RIAGENDR 2	0.0033007	0.00162337	2.03	0.0579	-0.0001243	0.0067257	3.49

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
agecsq*RIAGENDR 1	0.0000000	0.0000000	.	.	0.0000000	0.0000000

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Analysis of Contrasts			
Contrast	Num DF	F Value	Pr > F
Race 4 levels	4	4.01	0.0181
Gender X AGESQ	1	4.13	0.0579
Gender X agec	1	4.29	0.0538
gender x age	2	5.35	0.0158

Note: The denominator degrees of freedom for the F tests is 17.

# Interaction Tests for Preliminary Model: Test Race/Ethnicity X AgeC and AgeCsq

## The SURVEYREG Procedure

### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	250508512
Weighted Mean of bpxdi1_1	69.55356
Weighted Sum of bpxdi1_1	1.74238E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.2427
Root MSE	10.8585
Denominator DF	17

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	
RIAGENDR	Gender	2	2 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	3	0.00	1.0000	
Intercept	1	26564.6	<.0001	
RIDRETH1	4	4.41	0.0126	
RIAGENDR	1	18.54	0.0005	
agec	1	32.95	<.0001	
agecsq	1	0.00	1.0000	
agec*RIDRETH1	4	0.87	0.5046	
agecsq*RIDRETH1	3	0.00	1.0000	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
Intercept	74.6632498	0.58860	126.85	<.0001	73.4214	75.90508	0.78
RIDRETH1 2	0.0263161	0.99104	0.03	0.9791	-2.0646	2.11722	0.99
RIDRETH1 3	1.5753296	0.81184	1.94	0.0691	-0.1375	3.28816	1.36
RIDRETH1 4	3.1340565	0.85435	3.67	0.0019	1.3315	4.93659	0.99
RIDRETH1 5	1.1436094	0.75102	1.52	0.1462	-0.4409	2.72812	0.63
RIDRETH1 1	0.0000000	0.00000	.	.	0.0000	0.00000	.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
<b>RIAGENDR 2</b>	-1.7278289	0.40132	-4.31	0.0005	-2.5745	-0.88111	2.27
<b>RIAGENDR 1</b>	0.0000000	0.00000	.	.	0.0000	0.00000	.
<b>agec</b>	0.0601803	0.03420	1.76	0.0964	-0.0120	0.13233	0.82
<b>agecsq</b>	0.0733953	2028.42602	0.00	1.0000	-4279.5314	4279.67821	0.29
<b>agec*RIDRETH1 2</b>	0.0436911	0.05320	0.82	0.4228	-0.0685	0.15593	1.20
<b>agec*RIDRETH1 3</b>	0.0158846	0.04787	0.33	0.7441	-0.0851	0.11687	1.54
<b>agec*RIDRETH1 4</b>	0.0330769	0.03527	0.94	0.3615	-0.0413	0.10749	0.65
<b>agec*RIDRETH1 5</b>	0.0212385	0.05123	0.41	0.6837	-0.0869	0.12933	1.20
<b>agec*RIDRETH1 1</b>	0.0000000	0.00000	.	.	0.0000	0.00000	.
<b>agecsq*RIDRETH1 2</b>	-0.0849598	2236.16358	-0.00	1.0000	-4717.9777	4717.80780	0.35
<b>agecsq*RIDRETH1 3</b>	-0.0851147	1489.28438	-0.00	1.0000	-3142.2005	3142.03028	0.16
<b>agecsq*RIDRETH1 4</b>	-0.0882311	2621.32250	-0.00	1.0000	-5530.5953	5530.41882	0.48
<b>agecsq*RIDRETH1 5</b>	-0.0855777	1147.99792	-0.00	0.9999	-2422.1495	2421.97831	0.09
<b>agecsq*RIDRETH1 1</b>	-0.0870356	0.00000	-lnfty	<.0001	-0.0870	-0.08704	.

**Note:** The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Analysis of Contrasts				
Contrast	Num DF	F Value	Pr > F	
Race 4 levels	4	4.41	0.0126	
Race X AgeC	4	0.87	0.5046	
Race X Agecsq	3	0.00	1.0000	
Race X AgeC and Race X Agecsq	7	0.49	0.8258	

**Note:** The denominator degrees of freedom for the F tests is 17.

## Interaction Tests for Preliminary Model: Test Race/Ethnicity X AgeC and AgeCsq

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	1564
Number of Observations Not in Domain	5112
Sum of Weights in Domain	37760598
Weighted Mean of bpxdi1_1	57.97422
Weighted Sum of bpxdi1_1	2189141217

Fit Statistics	
R-Square	0.07199
Root MSE	11.2029
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	5	0.00	1.0000	
Intercept	1	1.10	0.3084	
RIDRETH1	4	2.18	0.1153	
RIAGENDR	1	2.07	0.1680	
agec	1	0.08	0.7820	
agecsq	0	.	.	
agec*RIDRETH1	4	2.21	0.1116	
agecsq*RIDRETH1	0	.	.	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	35.643576	70.306326	0.51	0.6187	-112.68981 183.976958	1.40
RIDRETH1 2	-19.437283	179.227617	-0.11	0.9149	-397.57450 358.699936	3.44
RIDRETH1 3	-85.351857	94.751745	-0.90	0.3803	-285.26057 114.556851	2.05
RIDRETH1 4	103.117449	103.285758	1.00	0.3321	-114.79645 321.031350	1.59
RIDRETH1 5	121.766208	174.825742	0.70	0.4955	-247.08387 490.616282	3.16
RIDRETH1 1	0.000000	0.000000	.	.	0.00000 0.00000	.
RIAGENDR 2	0.883542	0.613534	1.44	0.1680	-0.41090 2.177985	4.90
RIAGENDR 1	0.000000	0.000000	.	.	0.00000 0.00000	.
agec	-2.252853	4.102667	-0.55	0.5901	-10.90872 6.403017	1.37
agecsq	0.071897	0.000000	Infty	<.0001	0.07190 0.071897	.
agec*RIDRETH1 2	-1.520229	10.525899	-0.14	0.8869	-23.72793 20.687477	3.40
agec*RIDRETH1 3	-5.038632	5.568505	-0.90	0.3782	-16.78715 6.709887	2.03
agec*RIDRETH1 4	6.044361	6.147428	0.98	0.3393	-6.92558 19.014300	1.60

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agec*RIDRETH1 5	7.008284	10.377707	0.68	0.5086	-14.88676	28.903331	3.17
agec*RIDRETH1 1	0.000000	0.000000	.	.	0.00000	0.000000	.
agecsq*RIDRETH1 2	-0.146948	0.000000	-Infty	<.0001	-0.14695	-0.146948	.
agecsq*RIDRETH1 3	-0.192360	0.000000	-Infty	<.0001	-0.19236	-0.192360	.
agecsq*RIDRETH1 4	-0.031896	0.000000	-Infty	<.0001	-0.03190	-0.031896	.
agecsq*RIDRETH1 5	-0.018769	0.000000	-Infty	<.0001	-0.01877	-0.018769	.
agecsq*RIDRETH1 1	-0.120699	0.000000	-Infty	<.0001	-0.12070	-0.120699	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Analysis of Contrasts				
Contrast	Num DF	F Value	Pr > F	
Race 4 levels	4	2.18	0.1153	
Race X AgeC	4	2.21	0.1116	
Race X Agecsq	4	0.00	1.0000	
Race X AgeC and Race X Agecsq	8	1.10	0.4076	

Note: The denominator degrees of freedom for the F tests is 17.

## Interaction Tests for Preliminary Model: Test Race/Ethnicity X AgeC and AgeCsq

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	5112
Number of Observations Not in Domain	1564
Sum of Weights in Domain	212747914
Weighted Mean of bpxdi1_1	71.60877
Weighted Sum of bpxdi1_1	1.52346E10

Fit Statistics	
R-Square	0.1165
Root MSE	10.7668
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	15	2008.59	<.0001	
Intercept	1	24876.9	<.0001	
RIDRETH1	4	4.85	0.0085	
RIAGENDR	1	19.55	0.0004	
agec	1	42.15	<.0001	
agecsq	1	277.92	<.0001	
agec*RIDRETH1	4	3.90	0.0201	
agecsq*RIDRETH1	4	7.02	0.0016	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	74.8592013	0.76161698	98.29	<.0001	73.2523300 76.4660727	1.22
RIDRETH1 2	0.2240800	0.92873001	0.24	0.8122	-1.7353691 2.1835290	0.83
RIDRETH1 3	1.3989931	0.90799285	1.54	0.1418	-0.5167044 3.3146905	1.61
RIDRETH1 4	3.3415833	0.96307661	3.47	0.0029	1.3096693 5.3734974	1.22
RIDRETH1 5	1.0847841	0.90072509	1.20	0.2450	-0.8155798 2.9851479	0.88
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
RIAGENDR 2	-2.1684555	0.49043660	-4.42	0.0004	-3.2031863 -1.1337247	3.44
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
agec	0.0611597	0.03296999	1.86	0.0810	-0.0084009 0.1307203	0.88
agecsq	-0.0136111	0.00182281	-7.47	<.0001	-0.0174569 -0.0097654	0.91
agec*RIDRETH1 2	0.0558551	0.04741021	1.18	0.2550	-0.0441717 0.1558819	1.04
agec*RIDRETH1 3	-0.0011241	0.04985741	-0.02	0.9823	-0.1063141 0.1040658	1.87
agec*RIDRETH1 4	0.0400011	0.03608346	1.11	0.2831	-0.0361283 0.1161306	0.74

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agec*RIDRETH1 5	0.0190378	0.04570674	0.42	0.6822	-0.0773950	0.1154706	1.03
agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agecsq*RIDRETH1 2	0.0012086	0.00321744	0.38	0.7118	-0.0055796	0.0079969	1.51
agecsq*RIDRETH1 3	0.0029605	0.00156895	1.89	0.0764	-0.0003497	0.0062707	0.63
agecsq*RIDRETH1 4	-0.0019481	0.00180349	-1.08	0.2952	-0.0057531	0.0018570	0.61
agecsq*RIDRETH1 5	0.0017277	0.00271350	0.64	0.5328	-0.0039973	0.0074527	1.16
agecsq*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Analysis of Contrasts				
Contrast	Num DF	F Value	Pr > F	
Race 4 levels	4	4.85	0.0085	
Race X AgeC	4	3.90	0.0201	
Race X Agecsq	4	7.02	0.0016	
Race X AgeC and Race X Agecsq	8	11.87	<.0001	

Note: The denominator degrees of freedom for the F tests is 17.

# Interaction Tests for Preliminary Model: Test Race/Ethnicity X AgeC and AgeCsq

## The SURVEYREG Procedure

### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	250508512
Weighted Mean of bpxdi1_1	69.55356
Weighted Sum of bpxdi1_1	1.74238E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.2457
Root MSE	10.8319
Denominator DF	17

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	
RIAGENDR	Gender	2	2 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	2	0.00	1.0000	
Intercept	1	25585.2	<.0001	
RIDRETH1	4	3.44	0.0310	
RIAGENDR	1	23.89	0.0001	
agec	1	27.43	<.0001	
agecsq	0	.	.	
agec*RIAGENDR	1	2.89	0.1075	
agecsq*RIAGENDR	0	.	.	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	75.1528932	0.61894039	121.42	<.0001	73.8470431 76.4587433	1.48
RIDRETH1 2	0.5000839	1.14420498	0.44	0.6676	-1.9139776 2.9141454	2.82
RIDRETH1 3	2.1926769	0.95457827	2.30	0.0346	0.1786928 4.2066610	3.90
RIDRETH1 4	2.2906740	0.72341341	3.17	0.0056	0.7644051 3.8169428	1.51
RIDRETH1 5	1.5704772	0.64181044	2.45	0.0256	0.2163755 2.9245789	0.97
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
<b>RIAGENDR 2</b>	-3.3917508	0.69393230	-4.89	0.0001	-4.8558200	-1.9276817	3.33
<b>RIAGENDR 1</b>	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
<b>agec</b>	0.0600528	0.01571761	3.82	0.0014	0.0268915	0.0932141	2.24
<b>agecsq</b>	0.0643831	0.00000000	Infty	<.0001	0.0643831	0.0643831	.
<b>agec*RIAGENDR 2</b>	0.0356556	0.02098631	1.70	0.1075	-0.0086216	0.0799329	2.23
<b>agec*RIAGENDR 1</b>	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
<b>agecsq*RIAGENDR 2</b>	-0.0746852	0.00000000	-Infty	<.0001	-0.0746852	-0.0746852	.
<b>agecsq*RIAGENDR 1</b>	-0.0790030	0.00000000	-Infty	<.0001	-0.0790030	-0.0790030	.

**Note:** The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Analysis of Contrasts				
Contrast	Num DF	F Value	Pr > F	
Gender X agesq	0	.	.	.
Gender X agec	1	2.89	0.1075	
Gender X Agec and Gender X Agecsq	1	2.89	0.1075	

**Note:** The denominator degrees of freedom for the F tests is 17.

## Interaction Tests for Preliminary Model: Test Race/Ethnicity X AgeC and AgeCsq

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	1564
Number of Observations Not in Domain	5112
Sum of Weights in Domain	37760598
Weighted Mean of bpxdi1_1	57.97422
Weighted Sum of bpxdi1_1	2189141217

Fit Statistics	
R-Square	0.07215
Root MSE	11.1970
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	1	0.00	1.0000	
Intercept	1	0.15	0.7018	
RIDRETH1	4	1.34	0.2940	
RIAGENDR	1	1.68	0.2121	
agec	1	1.42	0.2493	
agecsq	1	0.00	1.0000	
agec*RIAGENDR	1	1.53	0.2336	
agecsq*RIAGENDR	2	0.00	1.0000	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
Intercept	76.53633	68.54154	1.12	0.2797	-68.0737	221.14635	4.78
RIDRETH1 2	1.72481	1.43847	1.20	0.2470	-1.3101	4.75971	5.41
RIDRETH1 3	2.65946	1.67279	1.59	0.1303	-0.8698	6.18873	16.77
RIDRETH1 4	1.03355	0.87041	1.19	0.2514	-0.8028	2.86995	2.88
RIDRETH1 5	2.27345	1.01120	2.25	0.0381	0.1400	4.40690	2.79
RIDRETH1 1	0.00000	0.00000	.	.	0.0000	0.00000	.
RIAGENDR 2	-119.48862	92.14904	-1.30	0.2121	-313.9061	74.92886	4.45
RIAGENDR 1	0.00000	0.00000	.	.	0.0000	0.00000	.
agec	0.03377	4.11285	0.01	0.9935	-8.6436	8.71113	4.92
agecsq	-0.05914	2675.49600	-0.00	1.0000	-5644.8623	5644.74400	0.74
agec*RIAGENDR 2	-6.75465	5.46926	-1.24	0.2336	-18.2938	4.78448	4.46
agec*RIAGENDR 1	0.00000	0.00000	.	.	0.0000	0.00000	.
agecsq*RIAGENDR 2	-0.05194	4634.09501	-0.00	1.0000	-9777.1378	9777.03389	2.22

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agecsq*RIAGENDR 1	0.04193	3783.72273	0.00	1.0000	-7982.9152	7982.99908	1.48

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Analysis of Contrasts				
Contrast	Num DF	F Value	Pr > F	
Gender X agesq	1	0.00	1.0000	
Gender X agec	1	1.53	0.2336	
Gender X Agec and Gender X Agecsq	2	0.76	0.4817	

Note: The denominator degrees of freedom for the F tests is 17.

## Interaction Tests for Preliminary Model: Test Race/Ethnicity X AgeC and AgeCsq

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	5112
Number of Observations Not in Domain	1564
Sum of Weights in Domain	212747914
Weighted Mean of bpxdi1_1	71.60877
Weighted Sum of bpxdi1_1	1.52346E10

Fit Statistics	
R-Square	0.1179
Root MSE	10.7536
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	9	392.65	<.0001	
Intercept	1	24931.2	<.0001	
RIDRETH1	4	4.01	0.0181	
RIAGENDR	1	17.51	0.0006	
agec	1	20.48	0.0003	
agecsq	1	284.73	<.0001	
agec*RIAGENDR	1	4.29	0.0538	
agecsq*RIAGENDR	1	4.13	0.0579	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
Intercept	74.9846596	0.64614618	116.05	<.0001	73.6214103	76.3479089	1.52
RIDRETH1 2	0.2056088	1.20959655	0.17	0.8670	-2.3464169	2.7576344	3.00
RIDRETH1 3	2.0990068	0.84590923	2.48	0.0238	0.3142944	3.8837193	2.82
RIDRETH1 4	2.5401774	0.73329601	3.46	0.0030	0.9930580	4.0872967	1.45
RIDRETH1 5	1.4274416	0.69246583	2.06	0.0549	-0.0335336	2.8884168	1.08
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
RIAGENDR 2	-3.1707086	0.75773648	-4.18	0.0006	-4.7693928	-1.5720244	4.14
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec	0.0481536	0.01632574	2.95	0.0090	0.0137093	0.0825979	2.18
agecsq	-0.0135697	0.00084000	-16.15	<.0001	-0.0153419	-0.0117974	1.77
agec*RIAGENDR 2	0.0476044	0.02297186	2.07	0.0538	-0.0008620	0.0960708	2.22
agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agecsq*RIAGENDR 2	0.0033007	0.00162337	2.03	0.0579	-0.0001243	0.0067257	3.49

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
agecsq*RIAGENDR 1	0.0000000	0.0000000	.	.	0.0000000 0.0000000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Analysis of Contrasts				
Contrast	Num DF	F Value	Pr > F	
Gender X agesq	1	4.13	0.0579	
Gender X agec	1	4.29	0.0538	
Gender X Agec and Gender X Agecsq	2	5.35	0.0158	

Note: The denominator degrees of freedom for the F tests is 17.

## Marginal predicted values by Race from model including significant interactions

### The SURVEYREG Procedure

#### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	250508512
Weighted Mean of bpxdi1_1	69.55356
Weighted Sum of bpxdi1_1	1.74238E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.2474
Root MSE	10.8255
Denominator DF	17

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	
RIAGENDR	Gender	2	2 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	17	2813.29	<.0001	
Intercept	1	26759.4	<.0001	
RIDRETH1	4	4.76	0.0093	
RIAGENDR	1	24.18	0.0001	
agec	1	28.34	<.0001	
agec*agec	1	698.53	<.0001	
agec*RIDRETH1	4	0.57	0.6854	
agec*agec*RIDRETH1	4	5.83	0.0038	
agec*RIAGENDR	1	2.71	0.1183	
agec*agec*RIAGENDR	1	16.78	0.0008	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	75.4816175	0.67973857	111.05	<.0001	74.0474945 76.9157405	1.01
RIDRETH1 2	0.0308887	0.96713577	0.03	0.9749	-2.0095894 2.0713668	0.95
RIDRETH1 3	1.6229848	0.79987216	2.03	0.0584	-0.0645979 3.3105675	1.33
RIDRETH1 4	3.2495985	0.84813375	3.83	0.0013	1.4601927 5.0390043	0.98

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
RIDRETH1 5	1.1847914	0.73814299	1.61	0.1269	-0.3725542	2.7421369	0.61
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
RIAGENDR 2	-3.4128307	0.69403120	-4.92	0.0001	-4.8771086	-1.9485529	3.33
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec	0.4306409	0.37769970	1.14	0.2700	-0.3662358	1.2275176	0.98
agec*agec	-1.5790972	0.10214014	-15.46	<.0001	-1.7945940	-1.3636003	0.53
agec*RIDRETH1 2	0.3743707	0.55947844	0.67	0.5124	-0.8060256	1.5547670	1.33
agec*RIDRETH1 3	0.1214725	0.51168294	0.24	0.8152	-0.9580841	1.2010292	1.77
agec*RIDRETH1 4	0.2716418	0.38329156	0.71	0.4881	-0.5370328	1.0803163	0.77
agec*RIDRETH1 5	0.1642873	0.55558129	0.30	0.7710	-1.0078867	1.3364614	1.42
agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*agec*RIDRETH1 2	0.1924973	0.18250497	1.05	0.3063	-0.1925545	0.5775492	0.88
agec*agec*RIDRETH1 3	0.1736396	0.10027867	1.73	0.1015	-0.0379299	0.3852091	0.49
agec*agec*RIDRETH1 4	-0.1505095	0.12259070	-1.23	0.2363	-0.4091533	0.1081342	0.51
agec*agec*RIDRETH1 5	0.1311487	0.14299393	0.92	0.3719	-0.1705421	0.4328395	0.59
agec*agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*RIAGENDR 2	0.3524244	0.21419598	1.65	0.1183	-0.0994896	0.8043384	2.32
agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*agec*RIAGENDR 2	0.4328618	0.10568291	4.10	0.0008	0.2098904	0.6558333	2.48
agec*agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Coefficients for RIDRETH1 Least Squares Means At agec=-3							
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept			1	1	1	1	1
RIDRETH1	2		1				
RIDRETH1	3			1			
RIDRETH1	4				1		
RIDRETH1	5					1	
RIDRETH1	1						1
RIAGENDR		2	0.5	0.5	0.5	0.5	0.5
RIAGENDR		1	0.5	0.5	0.5	0.5	0.5
agec			-3	-3	-3	-3	-3
agec*agec			9	9	9	9	9
agec*RIDRETH1	2		-3				
agec*RIDRETH1	3			-3			
agec*RIDRETH1	4				-3		
agec*RIDRETH1	5					-3	
agec*RIDRETH1	1						-3
agec*agec*RIDRETH1	2		9				
agec*agec*RIDRETH1	3			9			
agec*agec*RIDRETH1	4				9		

Coefficients for RIDRETH1 Least Squares Means At agec=-3								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*agec*RIDRETH1	5						9	
agec*agec*RIDRETH1	1							9
agec*RIAGENDR		2		-1.5	-1.5	-1.5	-1.5	-1.5
agec*RIAGENDR		1		-1.5	-1.5	-1.5	-1.5	-1.5
agec*agec*RIAGENDR		2		4.5	4.5	4.5	4.5	4.5
agec*agec*RIAGENDR		1		4.5	4.5	4.5	4.5	4.5

RIDRETH1 Least Squares Means										
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper	
2	-3.00	60.3309	1.1726	17	51.45	<.0001	0.05	57.8569	62.8049	
3	-3.00	62.5120	1.3315	17	46.95	<.0001	0.05	59.7027	65.3213	
4	-3.00	60.7707	0.7916	17	76.77	<.0001	0.05	59.1006	62.4409	
5	-3.00	61.5629	0.4997	17	123.20	<.0001	0.05	60.5086	62.6172	
1	-3.00	59.6906	0.4985	17	119.74	<.0001	0.05	58.6389	60.7424	

Coefficients for RIDRETH1 Least Squares Means At agec=-2.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2				1			
RIDRETH1	3					1		
RIDRETH1	4						1	
RIDRETH1	5							1
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				-2.5	-2.5	-2.5	-2.5	-2.5
agec*agec				6.25	6.25	6.25	6.25	6.25
agec*RIDRETH1	2			-2.5				
agec*RIDRETH1	3				-2.5			
agec*RIDRETH1	4					-2.5		
agec*RIDRETH1	5						-2.5	
agec*RIDRETH1	1							-2.5
agec*agec*RIDRETH1	2			6.25				
agec*agec*RIDRETH1	3				6.25			
agec*agec*RIDRETH1	4					6.25		
agec*agec*RIDRETH1	5						6.25	
agec*agec*RIDRETH1	1							6.25
agec*RIAGENDR		2		-1.25	-1.25	-1.25	-1.25	-1.25

Coefficients for RIDRETH1 Least Squares Means At agec=-2.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*RIAGENDR		1		-1.25	-1.25	-1.25	-1.25	-1.25
agec*agec*RIAGENDR		2		3.125	3.125	3.125	3.125	3.125
agec*agec*RIAGENDR		1		3.125	3.125	3.125	3.125	3.125

RIDRETH1 Least Squares Means										
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper	
2	-2.50	64.0395	0.9618	17	66.58	<.0001	0.05	62.0102	66.0688	
3	-2.50	66.1460	1.1144	17	59.36	<.0001	0.05	63.7948	68.4971	
4	-2.50	65.3712	0.7321	17	89.29	<.0001	0.05	63.8266	66.9158	
5	-2.50	65.3352	0.5329	17	122.61	<.0001	0.05	64.2109	66.4594	
1	-2.50	63.7414	0.5708	17	111.68	<.0001	0.05	62.5372	64.9456	

Coefficients for RIDRETH1 Least Squares Means At agec=-2								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2			1				
RIDRETH1	3				1			
RIDRETH1	4					1		
RIDRETH1	5						1	
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				-2	-2	-2	-2	-2
agec*agec				4	4	4	4	4
agec*RIDRETH1	2			-2				
agec*RIDRETH1	3				-2			
agec*RIDRETH1	4					-2		
agec*RIDRETH1	5						-2	
agec*RIDRETH1	1							-2
agec*agec*RIDRETH1	2			4				
agec*agec*RIDRETH1	3				4			
agec*agec*RIDRETH1	4					4		
agec*agec*RIDRETH1	5						4	
agec*agec*RIDRETH1	1							4
agec*RIAGENDR		2		-1	-1	-1	-1	-1
agec*RIAGENDR		1		-1	-1	-1	-1	-1
agec*agec*RIAGENDR		2		2	2	2	2	2
agec*agec*RIAGENDR		1		2	2	2	2	2

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-2.00	67.1630	0.8304	17	80.88	<.0001	0.05	65.4109	68.9150
3	-2.00	69.1854	0.9320	17	74.24	<.0001	0.05	67.2191	71.1517
4	-2.00	69.2151	0.7137	17	96.99	<.0001	0.05	67.7094	70.7208
5	-2.00	68.4916	0.5797	17	118.15	<.0001	0.05	67.2686	69.7147
1	-2.00	67.1108	0.6193	17	108.36	<.0001	0.05	65.8042	68.4175

Coefficients for RIDRETH1 Least Squares Means At agec=-1.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2			1				
RIDRETH1	3				1			
RIDRETH1	4					1		
RIDRETH1	5						1	
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				-1.5	-1.5	-1.5	-1.5	-1.5
agec*agec				2.25	2.25	2.25	2.25	2.25
agec*RIDRETH1	2			-1.5				
agec*RIDRETH1	3				-1.5			
agec*RIDRETH1	4					-1.5		
agec*RIDRETH1	5						-1.5	
agec*RIDRETH1	1							-1.5
agec*agec*RIDRETH1	2			2.25				
agec*agec*RIDRETH1	3				2.25			
agec*agec*RIDRETH1	4					2.25		
agec*agec*RIDRETH1	5						2.25	
agec*agec*RIDRETH1	1							2.25
agec*RIAGENDR		2		-0.75	-0.75	-0.75	-0.75	-0.75
agec*RIAGENDR		1		-0.75	-0.75	-0.75	-0.75	-0.75
agec*agec*RIAGENDR		2		1.125	1.125	1.125	1.125	1.125
agec*agec*RIAGENDR		1		1.125	1.125	1.125	1.125	1.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.50	69.7014	0.7763	17	89.79	<.0001	0.05	68.0635	71.3392
3	-1.50	71.6304	0.7834	17	91.44	<.0001	0.05	69.9777	73.2831

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
4	-1.50	72.3024	0.7206	17	100.34	<.0001	0.05	70.7821	73.8227
5	-1.50	71.0324	0.6182	17	114.91	<.0001	0.05	69.7281	72.3366
1	-1.50	69.7989	0.6342	17	110.06	<.0001	0.05	68.4609	71.1370

Coefficients for RIDRETH1 Least Squares Means At agec=-1								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2			1				
RIDRETH1	3				1			
RIDRETH1	4					1		
RIDRETH1	5						1	
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				-1	-1	-1	-1	-1
agec*agec				1	1	1	1	1
agec*RIDRETH1	2			-1				
agec*RIDRETH1	3				-1			
agec*RIDRETH1	4					-1		
agec*RIDRETH1	5						-1	
agec*RIDRETH1	1							-1
agec*agec*RIDRETH1	2			1				
agec*agec*RIDRETH1	3				1			
agec*agec*RIDRETH1	4					1		
agec*agec*RIDRETH1	5						1	
agec*agec*RIDRETH1	1							1
agec*RIAGENDR		2		-0.5	-0.5	-0.5	-0.5	-0.5
agec*RIAGENDR		1		-0.5	-0.5	-0.5	-0.5	-0.5
agec*agec*RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
agec*agec*RIAGENDR		1		0.5	0.5	0.5	0.5	0.5

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.00	71.6547	0.7933	17	90.32	<.0001	0.05	69.9809	73.3285
3	-1.00	73.4808	0.6665	17	110.25	<.0001	0.05	72.0747	74.8870
4	-1.00	74.6331	0.7380	17	101.13	<.0001	0.05	73.0760	76.1902
5	-1.00	72.9573	0.6445	17	113.20	<.0001	0.05	71.5976	74.3171
1	-1.00	71.8057	0.6154	17	116.68	<.0001	0.05	70.5073	73.1040

Coefficients for RIDRETH1 Least Squares Means At agec=-0.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
				Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2			1				
RIDRETH1	3				1			
RIDRETH1	4					1		
RIDRETH1	5						1	
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				-0.5	-0.5	-0.5	-0.5	-0.5
agec*agec				0.25	0.25	0.25	0.25	0.25
agec*RIDRETH1	2			-0.5				
agec*RIDRETH1	3				-0.5			
agec*RIDRETH1	4					-0.5		
agec*RIDRETH1	5						-0.5	
agec*RIDRETH1	1							-0.5
agec*agec*RIDRETH1	2			0.25				
agec*agec*RIDRETH1	3				0.25			
agec*agec*RIDRETH1	4					0.25		
agec*agec*RIDRETH1	5						0.25	
agec*agec*RIDRETH1	1							0.25
agec*RIAGENDR		2		-0.25	-0.25	-0.25	-0.25	-0.25
agec*RIAGENDR		1		-0.25	-0.25	-0.25	-0.25	-0.25
agec*agec*RIAGENDR		2		0.125	0.125	0.125	0.125	0.125
agec*agec*RIAGENDR		1		0.125	0.125	0.125	0.125	0.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-0.50	73.0229	0.8752	17	83.44	<.0001	0.05	71.1764	74.8695
3	-0.50	74.7368	0.5780	17	129.31	<.0001	0.05	73.5173	75.9562
4	-0.50	76.2073	0.7556	17	100.86	<.0001	0.05	74.6131	77.8014
5	-0.50	74.2665	0.6678	17	111.21	<.0001	0.05	72.8576	75.6755
1	-0.50	73.1311	0.5717	17	127.92	<.0001	0.05	71.9249	74.3373

Coefficients for RIDRETH1 Least Squares Means At agec=0								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
				Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1

Coefficients for RIDRETH1 Least Squares Means At agec=0								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
RIDRETH1		2		1				
RIDRETH1		3			1			
RIDRETH1		4				1		
RIDRETH1		5					1	
RIDRETH1		1						1
RIAGENDR			2	0.5	0.5	0.5	0.5	0.5
RIAGENDR			1	0.5	0.5	0.5	0.5	0.5
agec								
agec*agec								
agec*RIDRETH1		2						
agec*RIDRETH1		3						
agec*RIDRETH1		4						
agec*RIDRETH1		5						
agec*RIDRETH1		1						
agec*agec*RIDRETH1		2						
agec*agec*RIDRETH1		3						
agec*agec*RIDRETH1		4						
agec*agec*RIDRETH1		5						
agec*agec*RIDRETH1		1						
agec*RIAGENDR			2					
agec*RIAGENDR			1					
agec*agec*RIAGENDR			2					
agec*agec*RIAGENDR			1					

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.00	73.8061	1.0195	17	72.39	<.0001	0.05	71.6551	75.9571
3	0.00	75.3982	0.5135	17	146.85	<.0001	0.05	74.3149	76.4815
4	0.00	77.0248	0.7679	17	100.31	<.0001	0.05	75.4047	78.6449
5	0.00	74.9600	0.7079	17	105.88	<.0001	0.05	73.4664	76.4536
1	0.00	73.7752	0.5264	17	140.15	<.0001	0.05	72.6646	74.8858

Coefficients for RIDRETH1 Least Squares Means At agec=0.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1		2		1				
RIDRETH1		3			1			
RIDRETH1		4				1		

Coefficients for RIDRETH1 Least Squares Means At agec=0.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
RIDRETH1		5					1	
RIDRETH1		1						1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				0.5	0.5	0.5	0.5	0.5
agec*agec				0.25	0.25	0.25	0.25	0.25
agec*RIDRETH1		2		0.5				
agec*RIDRETH1		3			0.5			
agec*RIDRETH1		4				0.5		
agec*RIDRETH1		5					0.5	
agec*RIDRETH1		1						0.5
agec*agec*RIDRETH1		2		0.25				
agec*agec*RIDRETH1		3			0.25			
agec*agec*RIDRETH1		4				0.25		
agec*agec*RIDRETH1		5					0.25	
agec*agec*RIDRETH1		1						0.25
agec*RIAGENDR		2		0.25	0.25	0.25	0.25	0.25
agec*RIAGENDR		1		0.25	0.25	0.25	0.25	0.25
agec*agec*RIAGENDR		2		0.125	0.125	0.125	0.125	0.125
agec*agec*RIAGENDR		1		0.125	0.125	0.125	0.125	0.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.50	74.0042	1.2278	17	60.27	<.0001	0.05	71.4137	76.5947
3	0.50	75.4651	0.4690	17	160.89	<.0001	0.05	74.4755	76.4547
4	0.50	77.0858	0.7739	17	99.61	<.0001	0.05	75.4531	78.7184
5	0.50	75.0377	0.7908	17	94.89	<.0001	0.05	73.3692	76.7061
1	0.50	73.7380	0.5261	17	140.16	<.0001	0.05	72.6280	74.8479

Coefficients for RIDRETH1 Least Squares Means At agec=1								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1		2		1				
RIDRETH1		3			1			
RIDRETH1		4				1		
RIDRETH1		5					1	
RIDRETH1		1						1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5

Coefficients for RIDRETH1 Least Squares Means At agec=1								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
<b>RIAGENDR</b>		1		0.5	0.5	0.5	0.5	0.5
<b>agec</b>				1	1	1	1	1
<b>agec*agec</b>				1	1	1	1	1
<b>agec*RIDRETH1</b>		2		1				
<b>agec*RIDRETH1</b>		3			1			
<b>agec*RIDRETH1</b>		4				1		
<b>agec*RIDRETH1</b>		5					1	
<b>agec*RIDRETH1</b>		1						1
<b>agec*agec*RIDRETH1</b>		2		1				
<b>agec*agec*RIDRETH1</b>		3			1			
<b>agec*agec*RIDRETH1</b>		4				1		
<b>agec*agec*RIDRETH1</b>		5					1	
<b>agec*agec*RIDRETH1</b>		1						1
<b>agec*RIAGENDR</b>			2	0.5	0.5	0.5	0.5	0.5
<b>agec*RIAGENDR</b>			1	0.5	0.5	0.5	0.5	0.5
<b>agec*agec*RIAGENDR</b>			2	0.5	0.5	0.5	0.5	0.5
<b>agec*agec*RIAGENDR</b>			1	0.5	0.5	0.5	0.5	0.5

RIDRETH1 Least Squares Means										
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper	
2	1.00	73.6171	1.5031	17	48.98	<.0001	0.05	70.4459	76.7884	
3	1.00	74.9375	0.4437	17	168.88	<.0001	0.05	74.0013	75.8737	
4	1.00	76.3901	0.7765	17	98.38	<.0001	0.05	74.7519	78.0284	
5	1.00	74.4996	0.9380	17	79.42	<.0001	0.05	72.5205	76.4787	
1	1.00	73.0194	0.6243	17	116.96	<.0001	0.05	71.7022	74.3366	

Coefficients for RIDRETH1 Least Squares Means At agec=1.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
<b>Intercept</b>				1	1	1	1	1
<b>RIDRETH1</b>		2		1				
<b>RIDRETH1</b>		3			1			
<b>RIDRETH1</b>		4				1		
<b>RIDRETH1</b>		5					1	
<b>RIDRETH1</b>		1						1
<b>RIAGENDR</b>			2	0.5	0.5	0.5	0.5	0.5
<b>RIAGENDR</b>			1	0.5	0.5	0.5	0.5	0.5
<b>agec</b>				1.5	1.5	1.5	1.5	1.5
<b>agec*agec</b>				2.25	2.25	2.25	2.25	2.25

Coefficients for RIDRETH1 Least Squares Means At agec=1.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
<i>agec</i> *RIDRETH1		2		1.5				
<i>agec</i> *RIDRETH1		3			1.5			
<i>agec</i> *RIDRETH1		4				1.5		
<i>agec</i> *RIDRETH1		5					1.5	
<i>agec</i> *RIDRETH1		1						1.5
<i>agec</i> * <i>agec</i> *RIDRETH1		2		2.25				
<i>agec</i> * <i>agec</i> *RIDRETH1		3			2.25			
<i>agec</i> * <i>agec</i> *RIDRETH1		4				2.25		
<i>agec</i> * <i>agec</i> *RIDRETH1		5					2.25	
<i>agec</i> * <i>agec</i> *RIDRETH1		1						2.25
<i>agec</i> *RIAGENDR			2	0.75	0.75	0.75	0.75	0.75
<i>agec</i> *RIAGENDR			1	0.75	0.75	0.75	0.75	0.75
<i>agec</i> * <i>agec</i> *RIAGENDR			2	1.125	1.125	1.125	1.125	1.125
<i>agec</i> * <i>agec</i> *RIAGENDR			1	1.125	1.125	1.125	1.125	1.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	1.50	72.6450	1.8478	17	39.31	<.0001	0.05	68.7465	76.5436
3	1.50	73.8154	0.4412	17	167.30	<.0001	0.05	72.8845	74.7463
4	1.50	74.9379	0.7827	17	95.74	<.0001	0.05	73.2865	76.5893
5	1.50	73.3458	1.1590	17	63.28	<.0001	0.05	70.9005	75.7911
1	1.50	71.6195	0.8348	17	85.79	<.0001	0.05	69.8582	73.3807

Coefficients for RIDRETH1 Least Squares Means At agec=2								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1		2		1				
RIDRETH1		3			1			
RIDRETH1		4				1		
RIDRETH1		5					1	
RIDRETH1		1						1
RIAGENDR			2	0.5	0.5	0.5	0.5	0.5
RIAGENDR			1	0.5	0.5	0.5	0.5	0.5
agec				2	2	2	2	2
agec*agec				4	4	4	4	4
agec*RIDRETH1		2		2				
agec*RIDRETH1		3			2			
agec*RIDRETH1		4				2		

Coefficients for RIDRETH1 Least Squares Means At agec=2								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*RIDRETH1	5						2	
agec*RIDRETH1	1							2
agec*agec*RIDRETH1	2			4				
agec*agec*RIDRETH1	3				4			
agec*agec*RIDRETH1	4					4		
agec*agec*RIDRETH1	5						4	
agec*agec*RIDRETH1	1							4
agec*RIAGENDR		2		1	1	1	1	1
agec*RIAGENDR		1		1	1	1	1	1
agec*agec*RIAGENDR		2		2	2	2	2	2
agec*agec*RIAGENDR		1		2	2	2	2	2

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	2.00	71.0879	2.2635	17	31.41	<.0001	0.05	66.3122	75.8635
3	2.00	72.0987	0.4694	17	153.59	<.0001	0.05	71.1083	73.0892
4	2.00	72.7291	0.8032	17	90.55	<.0001	0.05	71.0345	74.4237
5	2.00	71.5762	1.4529	17	49.26	<.0001	0.05	68.5109	74.6416
1	2.00	69.5382	1.1382	17	61.09	<.0001	0.05	67.1369	71.9396

Coefficients for RIDRETH1 Least Squares Means At agec=2.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2				1			
RIDRETH1	3					1		
RIDRETH1	4						1	
RIDRETH1	5							1
RIDRETH1	1							
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				2.5	2.5	2.5	2.5	2.5
agec*agec				6.25	6.25	6.25	6.25	6.25
agec*RIDRETH1	2				2.5			
agec*RIDRETH1	3					2.5		
agec*RIDRETH1	4						2.5	
agec*RIDRETH1	5							2.5
agec*RIDRETH1	1							2.5
agec*agec*RIDRETH1	2			6.25				

Coefficients for RIDRETH1 Least Squares Means At agec=2.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
<b>agec*agec*RIDRETH1</b>		3			6.25			
<b>agec*agec*RIDRETH1</b>		4				6.25		
<b>agec*agec*RIDRETH1</b>		5					6.25	
<b>agec*agec*RIDRETH1</b>		1						6.25
<b>agec*RIAGENDR</b>			2	1.25	1.25	1.25	1.25	1.25
<b>agec*RIAGENDR</b>			1	1.25	1.25	1.25	1.25	1.25
<b>agec*agec*RIAGENDR</b>			2	3.125	3.125	3.125	3.125	3.125
<b>agec*agec*RIAGENDR</b>			1	3.125	3.125	3.125	3.125	3.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	2.50	68.9456	2.7511	17	25.06	<.0001	0.05	63.1414	74.7498
3	2.50	69.7876	0.5363	17	130.12	<.0001	0.05	68.6560	70.9191
4	2.50	69.7637	0.8508	17	82.00	<.0001	0.05	67.9686	71.5587
5	2.50	69.1909	1.8153	17	38.11	<.0001	0.05	65.3608	73.0209
1	2.50	66.7757	1.5165	17	44.03	<.0001	0.05	63.5761	69.9752

Coefficients for RIDRETH1 Least Squares Means At agec=3								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
<b>Intercept</b>				1	1	1	1	1
<b>RIDRETH1</b>		2			1			
<b>RIDRETH1</b>		3				1		
<b>RIDRETH1</b>		4					1	
<b>RIDRETH1</b>		5						1
<b>RIDRETH1</b>		1						1
<b>RIAGENDR</b>			2	0.5	0.5	0.5	0.5	0.5
<b>RIAGENDR</b>			1	0.5	0.5	0.5	0.5	0.5
<b>agec</b>				3	3	3	3	3
<b>agec*agec</b>				9	9	9	9	9
<b>agec*RIDRETH1</b>		2			3			
<b>agec*RIDRETH1</b>		3				3		
<b>agec*RIDRETH1</b>		4					3	
<b>agec*RIDRETH1</b>		5						3
<b>agec*RIDRETH1</b>		1						3
<b>agec*agec*RIDRETH1</b>		2				9		
<b>agec*agec*RIDRETH1</b>		3					9	
<b>agec*agec*RIDRETH1</b>		4						9
<b>agec*agec*RIDRETH1</b>		5						9

Coefficients for RIDRETH1 Least Squares Means At agec=3								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*agec*RIDRETH1	1							9
agec*RIAGENDR		2		1.5	1.5	1.5	1.5	1.5
agec*RIAGENDR		1		1.5	1.5	1.5	1.5	1.5
agec*agec*RIAGENDR		2		4.5	4.5	4.5	4.5	4.5
agec*agec*RIAGENDR		1		4.5	4.5	4.5	4.5	4.5

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	3.00	66.2182	3.3108	17	20.00	<.0001	0.05	59.2331	73.2033
3	3.00	66.8819	0.6456	17	103.59	<.0001	0.05	65.5198	68.2441
4	3.00	66.0417	0.9374	17	70.45	<.0001	0.05	64.0640	68.0194
5	3.00	66.1898	2.2420	17	29.52	<.0001	0.05	61.4596	70.9199
1	3.00	63.3318	1.9598	17	32.32	<.0001	0.05	59.1970	67.4666

## Marginal predicted values by Race from model including significant interactions

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	1564
Number of Observations Not in Domain	5112
Sum of Weights in Domain	37760598
Weighted Mean of bpxdi1_1	57.97422
Weighted Sum of bpxdi1_1	2189141217

Fit Statistics	
R-Square	0.07446
Root MSE	11.1889
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	17	701.22	<.0001	
Intercept	1	1.12	0.3047	
RIDRETH1	4	2.26	0.1059	
RIAGENDR	1	1.52	0.2339	
agec	1	0.07	0.7969	
agec*agec	1	0.34	0.5685	
agec*RIDRETH1	4	2.25	0.1066	
agec*agec*RIDRETH1	4	2.20	0.1129	
agec*RIAGENDR	1	1.39	0.2544	
agec*agec*RIAGENDR	1	1.25	0.2794	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect	
Intercept	77.59236	55.817676	1.39	0.1824	-40.17264 195.357363	0.79	
RIDRETH1 2	-7.15937	186.244532	-0.04	0.9698	-400.10098 385.782248	3.72	
RIDRETH1 3	-57.07703	101.797047	-0.56	0.5823	-271.85003 157.695962	2.35	
RIDRETH1 4	114.70964	102.379828	1.12	0.2781	-101.29292 330.712198	1.56	
RIDRETH1 5	138.50325	175.579375	0.79	0.4411	-231.93685 508.943346	3.19	
RIDRETH1 1	0.00000	0.000000	.	.	0.00000 0.000000	.	
RIAGENDR 2	-108.71029	88.077169	-1.23	0.2339	-294.53687 77.116294	4.01	
RIAGENDR 1	0.00000	0.000000	.	.	0.00000 0.000000	.	
agec	0.90884	33.003879	0.03	0.9784	-68.72326 70.540939	0.79	
agec*agec	-1.64557	4.868354	-0.34	0.7395	-11.91690 8.625758	0.80	
agec*RIDRETH1 2	-7.85972	109.412724	-0.07	0.9436	-238.70039 222.980951	3.68	

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agec*RIDRETH1 3	-34.26986	59.695080	-0.57	0.5734	-160.21547	91.675749	2.32
agec*RIDRETH1 4	67.13930	60.980467	1.10	0.2862	-61.51824	195.796836	1.57
agec*RIDRETH1 5	79.63757	104.157524	0.76	0.4550	-140.11559	299.390741	3.19
agec*RIDRETH1 1	0.00000	0.000000	.	.	0.00000	0.000000	.
agec*agec*RIDRETH1 2	-1.53326	16.013365	-0.10	0.9248	-35.31850	32.251990	3.65
agec*agec*RIDRETH1 3	-4.87730	8.742153	-0.56	0.5842	-23.32164	13.567026	2.30
agec*agec*RIDRETH1 4	9.84214	9.084295	1.08	0.2937	-9.32405	29.008326	1.61
agec*agec*RIDRETH1 5	11.55120	15.354399	0.75	0.4622	-20.84375	43.946151	3.20
agec*agec*RIDRETH1 1	0.00000	0.000000	.	.	0.00000	0.000000	.
agec*RIAGENDR 2	-61.55298	52.184387	-1.18	0.2544	-171.65241	48.546453	4.01
agec*RIAGENDR 1	0.00000	0.000000	.	.	0.00000	0.000000	.
agec*agec*RIAGENDR 2	-8.55939	7.661195	-1.12	0.2794	-24.72310	7.604322	3.98
agec*agec*RIAGENDR 1	0.00000	0.000000	.	.	0.00000	0.000000	.

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Coefficients for RIDRETH1 Least Squares Means At agec=-3							
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept			1	1	1	1	1
RIDRETH1	2		1				
RIDRETH1	3			1			
RIDRETH1	4				1		
RIDRETH1	5					1	
RIDRETH1	1						1
RIAGENDR		2	0.5	0.5	0.5	0.5	0.5
RIAGENDR		1	0.5	0.5	0.5	0.5	0.5
agec			-3	-3	-3	-3	-3
agec*agec			9	9	9	9	9
agec*RIDRETH1	2		-3				
agec*RIDRETH1	3			-3			
agec*RIDRETH1	4				-3		
agec*RIDRETH1	5					-3	
agec*RIDRETH1	1						-3
agec*agec*RIDRETH1	2		9				
agec*agec*RIDRETH1	3			9			
agec*agec*RIDRETH1	4				9		
agec*agec*RIDRETH1	5					9	
agec*agec*RIDRETH1	1						9
agec*RIAGENDR		2	-1.5	-1.5	-1.5	-1.5	-1.5
agec*RIAGENDR		1	-1.5	-1.5	-1.5	-1.5	-1.5
agec*agec*RIAGENDR	2		4.5	4.5	4.5	4.5	4.5
agec*agec*RIAGENDR	1		4.5	4.5	4.5	4.5	4.5

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-3.00	62.1333	2.3269	17	26.70	<.0001	0.05	57.2239	67.0426
3	-3.00	61.3496	1.4556	17	42.15	<.0001	0.05	58.2786	64.4205
4	-3.00	61.3838	1.3620	17	45.07	<.0001	0.05	58.5102	64.2574
5	-3.00	63.0641	1.3337	17	47.28	<.0001	0.05	60.2502	65.8780
1	-3.00	59.5128	1.2357	17	48.16	<.0001	0.05	56.9056	62.1199

Coefficients for RIDRETH1 Least Squares Means At agec=-2.5										
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5		
Intercept				1	1	1	1	1		
RIDRETH1	2			1						
RIDRETH1	3				1					
RIDRETH1	4					1				
RIDRETH1	5						1			
RIDRETH1	1							1		
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5		
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5		
agec				-2.5	-2.5	-2.5	-2.5	-2.5		
agec*agec				6.25	6.25	6.25	6.25	6.25		
agec*RIDRETH1	2			-2.5						
agec*RIDRETH1	3				-2.5					
agec*RIDRETH1	4					-2.5				
agec*RIDRETH1	5						-2.5			
agec*RIDRETH1	1							-2.5		
agec*agec*RIDRETH1	2			6.25						
agec*agec*RIDRETH1	3				6.25					
agec*agec*RIDRETH1	4					6.25				
agec*agec*RIDRETH1	5						6.25			
agec*agec*RIDRETH1	1							6.25		
agec*RIAGENDR		2		-1.25	-1.25	-1.25	-1.25	-1.25		
agec*RIAGENDR		1		-1.25	-1.25	-1.25	-1.25	-1.25		
agec*agec*RIAGENDR		2		3.125	3.125	3.125	3.125	3.125		
agec*agec*RIAGENDR		1		3.125	3.125	3.125	3.125	3.125		

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-2.50	63.7805	10.6666	17	5.98	<.0001	0.05	41.2760	86.2850
3	-2.50	58.9879	4.3171	17	13.66	<.0001	0.05	49.8797	68.0961
4	-2.50	69.2482	6.6153	17	10.47	<.0001	0.05	55.2912	83.2052

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
5	-2.50	72.4777	8.9065	17	8.14	<.0001	0.05	53.6866	91.2689
1	-2.50	60.8734	5.2235	17	11.65	<.0001	0.05	49.8527	71.8941

Coefficients for RIDRETH1 Least Squares Means At agec=-2										
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5		
Intercept				1	1	1	1	1		
RIDRETH1	2			1						
RIDRETH1	3				1					
RIDRETH1	4					1				
RIDRETH1	5						1			
RIDRETH1	1							1		
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5		
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5		
agec				-2	-2	-2	-2	-2		
agec*agec				4	4	4	4	4		
agec*RIDRETH1	2			-2						
agec*RIDRETH1	3				-2					
agec*RIDRETH1	4					-2				
agec*RIDRETH1	5						-2			
agec*RIDRETH1	1							-2		
agec*agec*RIDRETH1	2			4						
agec*agec*RIDRETH1	3				4					
agec*agec*RIDRETH1	4					4				
agec*agec*RIDRETH1	5						4			
agec*agec*RIDRETH1	1							4		
agec*RIAGENDR		2		-1	-1	-1	-1	-1		
agec*RIAGENDR		1		-1	-1	-1	-1	-1		
agec*agec*RIAGENDR		2		2	2	2	2	2		
agec*agec*RIAGENDR		1		2	2	2	2	2		

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-2.00	61.6985	25.7630	17	2.39	0.0284	0.05	7.3432	116.05
3	-2.00	51.2249	10.3798	17	4.94	0.0001	0.05	29.3255	73.1243
4	-2.00	79.0711	16.5612	17	4.77	0.0002	0.05	44.1300	114.01
5	-2.00	84.7044	22.5061	17	3.76	0.0015	0.05	37.2207	132.19
1	-2.00	59.2715	12.3632	17	4.79	0.0002	0.05	33.1873	85.3556

Coefficients for RIDRETH1 Least Squares Means At agec=-1.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2			1				
RIDRETH1	3				1			
RIDRETH1	4					1		
RIDRETH1	5						1	
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				-1.5	-1.5	-1.5	-1.5	-1.5
agec*agec				2.25	2.25	2.25	2.25	2.25
agec*RIDRETH1	2			-1.5				
agec*RIDRETH1	3				-1.5			
agec*RIDRETH1	4					-1.5		
agec*RIDRETH1	5						-1.5	
agec*RIDRETH1	1							-1.5
agec*agec*RIDRETH1	2			2.25				
agec*agec*RIDRETH1	3				2.25			
agec*agec*RIDRETH1	4					2.25		
agec*agec*RIDRETH1	5						2.25	
agec*agec*RIDRETH1	1							2.25
agec*RIAGENDR		2		-0.75	-0.75	-0.75	-0.75	-0.75
agec*RIAGENDR		1		-0.75	-0.75	-0.75	-0.75	-0.75
agec*agec*RIAGENDR		2		1.125	1.125	1.125	1.125	1.125
agec*agec*RIAGENDR		1		1.125	1.125	1.125	1.125	1.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.50	55.8872	47.3831	17	1.18	0.2545	0.05	-44.0824	155.86
3	-1.50	38.0607	19.2145	17	1.98	0.0640	0.05	-2.4783	78.5996
4	-1.50	90.8523	31.0463	17	2.93	0.0094	0.05	25.3504	156.35
5	-1.50	99.7439	41.9621	17	2.38	0.0295	0.05	11.2117	188.28
1	-1.50	54.7068	22.5500	17	2.43	0.0267	0.05	7.1305	102.28

Coefficients for RIDRETH1 Least Squares Means At agec=-1								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2			1				
RIDRETH1	3				1			

Coefficients for RIDRETH1 Least Squares Means At agec=-1								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
RIDRETH1		4				1		
RIDRETH1		5					1	
RIDRETH1		1						1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				-1	-1	-1	-1	-1
agec*agec				1	1	1	1	1
agec*RIDRETH1		2		-1				
agec*RIDRETH1		3			-1			
agec*RIDRETH1		4				-1		
agec*RIDRETH1		5					-1	
agec*RIDRETH1		1						-1
agec*agec*RIDRETH1		2		1				
agec*agec*RIDRETH1		3			1			
agec*agec*RIDRETH1		4				1		
agec*agec*RIDRETH1		5					1	
agec*agec*RIDRETH1		1						1
agec*RIAGENDR		2		-0.5	-0.5	-0.5	-0.5	-0.5
agec*RIAGENDR		1		-0.5	-0.5	-0.5	-0.5	-0.5
agec*agec*RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
agec*agec*RIAGENDR		1		0.5	0.5	0.5	0.5	0.5

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.00	46.3467	75.5081	17	0.61	0.5475	0.05	-112.96	205.65
3	-1.00	19.4951	30.7762	17	0.63	0.5349	0.05	-45.4370	84.4272
4	-1.00	104.59	50.0555	17	2.09	0.0520	0.05	-1.0158	210.20
5	-1.00	117.60	67.2696	17	1.75	0.0985	0.05	-24.3299	259.52
1	-1.00	47.1796	35.7733	17	1.32	0.2047	0.05	-28.2954	122.65

Coefficients for RIDRETH1 Least Squares Means At agec=-0.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1		2		1				
RIDRETH1		3			1			
RIDRETH1		4				1		
RIDRETH1		5					1	
RIDRETH1		1						1

Coefficients for RIDRETH1 Least Squares Means At agec=-0.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				-0.5	-0.5	-0.5	-0.5	-0.5
agec*agec				0.25	0.25	0.25	0.25	0.25
agec*RIDRETH1	2			-0.5				
agec*RIDRETH1	3				-0.5			
agec*RIDRETH1	4					-0.5		
agec*RIDRETH1	5						-0.5	
agec*RIDRETH1	1							-0.5
agec*agec*RIDRETH1	2			0.25				
agec*agec*RIDRETH1	3				0.25			
agec*agec*RIDRETH1	4					0.25		
agec*agec*RIDRETH1	5						0.25	
agec*agec*RIDRETH1	1							0.25
agec*RIAGENDR		2		-0.25	-0.25	-0.25	-0.25	-0.25
agec*RIAGENDR		1		-0.25	-0.25	-0.25	-0.25	-0.25
agec*agec*RIAGENDR		2		0.125	0.125	0.125	0.125	0.125
agec*agec*RIAGENDR		1		0.125	0.125	0.125	0.125	0.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-0.50	33.0769	110.13	17	0.30	0.7676	0.05	-199.29	265.44
3	-0.50	-4.4717	45.0583	17	-0.10	0.9221	0.05	-99.5365	90.5931
4	-0.50	120.29	73.5855	17	1.63	0.1205	0.05	-34.9617	275.54
5	-0.50	138.26	98.4285	17	1.40	0.1781	0.05	-69.4040	345.93
1	-0.50	36.6897	52.0307	17	0.71	0.4903	0.05	-73.0855	146.46

Coefficients for RIDRETH1 Least Squares Means At agec=0								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2				1			
RIDRETH1	3					1		
RIDRETH1	4						1	
RIDRETH1	5							1
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec								

Coefficients for RIDRETH1 Least Squares Means At agec=0								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*agec								
agec*RIDRETH1		2						
agec*RIDRETH1		3						
agec*RIDRETH1		4						
agec*RIDRETH1		5						
agec*RIDRETH1		1						
agec*agec*RIDRETH1		2						
agec*agec*RIDRETH1		3						
agec*agec*RIDRETH1		4						
agec*agec*RIDRETH1		5						
agec*agec*RIDRETH1		1						
agec*RIAGENDR			2					
agec*RIAGENDR			1					
agec*agec*RIAGENDR			2					
agec*agec*RIAGENDR			1					

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.00	16.0778	151.26	17	0.11	0.9166	0.05	-303.06	335.21
3	0.00	-33.8398	62.0597	17	-0.55	0.5926	0.05	-164.77	97.0948
4	0.00	137.95	101.64	17	1.36	0.1924	0.05	-76.4848	352.38
5	0.00	161.74	135.44	17	1.19	0.2488	0.05	-124.01	447.49
1	0.00	23.2372	71.3218	17	0.33	0.7485	0.05	-127.24	173.71

Coefficients for RIDRETH1 Least Squares Means At agec=0.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1		2		1				
RIDRETH1		3			1			
RIDRETH1		4				1		
RIDRETH1		5					1	
RIDRETH1		1						1
RIAGENDR			2	0.5	0.5	0.5	0.5	0.5
RIAGENDR			1	0.5	0.5	0.5	0.5	0.5
agec				0.5	0.5	0.5	0.5	0.5
agec*agec				0.25	0.25	0.25	0.25	0.25
agec*RIDRETH1		2		0.5				
agec*RIDRETH1		3			0.5			

Coefficients for RIDRETH1 Least Squares Means At agec=0.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*RIDRETH1	4				0.5			
agec*RIDRETH1	5					0.5		
agec*RIDRETH1	1						0.5	
agec*agec*RIDRETH1	2		0.25					
agec*agec*RIDRETH1	3			0.25				
agec*agec*RIDRETH1	4				0.25			
agec*agec*RIDRETH1	5					0.25		
agec*agec*RIDRETH1	1						0.25	
agec*RIAGENDR		2	0.25	0.25	0.25	0.25	0.25	0.25
agec*RIAGENDR		1	0.25	0.25	0.25	0.25	0.25	0.25
agec*agec*RIAGENDR		2	0.125	0.125	0.125	0.125	0.125	0.125
agec*agec*RIAGENDR		1	0.125	0.125	0.125	0.125	0.125	0.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.50	-4.6505	198.89	17	-0.02	0.9816	0.05	-424.27	414.97
3	0.50	-68.6092	81.7804	17	-0.84	0.4131	0.05	-241.15	103.93
4	0.50	157.56	134.20	17	1.17	0.2566	0.05	-125.58	440.71
5	0.50	188.03	178.30	17	1.05	0.3064	0.05	-188.15	564.22
1	0.50	6.8221	93.6460	17	0.07	0.9428	0.05	-190.75	204.40

Coefficients for RIDRETH1 Least Squares Means At agec=1								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2			1				
RIDRETH1	3				1			
RIDRETH1	4					1		
RIDRETH1	5						1	
RIDRETH1	1							1
RIAGENDR		2	0.5	0.5	0.5	0.5	0.5	0.5
RIAGENDR		1	0.5	0.5	0.5	0.5	0.5	0.5
agec				1	1	1	1	1
agec*agec				1	1	1	1	1
agec*RIDRETH1	2			1				
agec*RIDRETH1	3				1			
agec*RIDRETH1	4					1		
agec*RIDRETH1	5						1	
agec*RIDRETH1	1							1

Coefficients for RIDRETH1 Least Squares Means At agec=1								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*agec*RIDRETH1	2			1				
agec*agec*RIDRETH1	3				1			
agec*agec*RIDRETH1	4					1		
agec*agec*RIDRETH1	5						1	
agec*agec*RIDRETH1	1							1
agec*RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
agec*RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec*agec*RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
agec*agec*RIAGENDR		1		0.5	0.5	0.5	0.5	0.5

RIDRETH1 Least Squares Means										
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper	
2	1.00	-29.1080	253.02	17	-0.12	0.9098	0.05	-562.93	504.72	
3	1.00	-108.78	104.22	17	-1.04	0.3112	0.05	-328.67	111.11	
4	1.00	179.14	171.29	17	1.05	0.3103	0.05	-182.26	540.53	
5	1.00	217.14	227.02	17	0.96	0.3522	0.05	-261.83	696.10	
1	1.00	-12.5557	119.00	17	-0.11	0.9172	0.05	-263.63	238.52	

Coefficients for RIDRETH1 Least Squares Means At agec=1.5									
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5	
Intercept				1	1	1	1	1	
RIDRETH1	2				1				
RIDRETH1	3					1			
RIDRETH1	4						1		
RIDRETH1	5							1	
RIDRETH1	1								1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5	0.5
agec				1.5	1.5	1.5	1.5	1.5	1.5
agec*agec				2.25	2.25	2.25	2.25	2.25	2.25
agec*RIDRETH1	2			1.5					
agec*RIDRETH1	3				1.5				
agec*RIDRETH1	4					1.5			
agec*RIDRETH1	5						1.5		
agec*RIDRETH1	1								1.5
agec*agec*RIDRETH1	2			2.25					
agec*agec*RIDRETH1	3				2.25				
agec*agec*RIDRETH1	4					2.25			

Coefficients for RIDRETH1 Least Squares Means At agec=1.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
<i>agec*agec*RIDRETH1</i>		5					2.25	
<i>agec*agec*RIDRETH1</i>		1						2.25
<i>agec*RIAGENDR</i>			2	0.75	0.75	0.75	0.75	0.75
<i>agec*RIAGENDR</i>			1	0.75	0.75	0.75	0.75	0.75
<i>agec*agec*RIAGENDR</i>		2	1.125	1.125	1.125	1.125	1.125	1.125
<i>agec*agec*RIAGENDR</i>		1	1.125	1.125	1.125	1.125	1.125	1.125

RIDRETH1 Least Squares Means										
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper	
2	1.50	-57.2949	313.65	17	-0.18	0.8572	0.05	-719.03	604.44	
3	1.50	-154.35	129.38	17	-1.19	0.2493	0.05	-427.32	118.62	
4	1.50	202.67	212.90	17	0.95	0.3545	0.05	-246.51	651.84	
5	1.50	249.05	281.59	17	0.88	0.3888	0.05	-345.04	843.15	
1	1.50	-34.8961	147.39	17	-0.24	0.8157	0.05	-345.87	276.08	

Coefficients for RIDRETH1 Least Squares Means At agec=2									
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5	
Intercept				1	1	1	1	1	
RIDRETH1		2		1					
RIDRETH1		3			1				
RIDRETH1		4				1			
RIDRETH1		5					1		
RIDRETH1		1						1	
RIAGENDR			2	0.5	0.5	0.5	0.5	0.5	
RIAGENDR			1	0.5	0.5	0.5	0.5	0.5	
agec				2	2	2	2	2	
agec*agec				4	4	4	4	4	
agec*RIDRETH1		2		2					
agec*RIDRETH1		3			2				
agec*RIDRETH1		4				2			
agec*RIDRETH1		5					2		
agec*RIDRETH1		1						2	
agec*agec*RIDRETH1		2		4					
agec*agec*RIDRETH1		3			4				
agec*agec*RIDRETH1		4				4			
agec*agec*RIDRETH1		5					4		
agec*agec*RIDRETH1		1						4	
agec*RIAGENDR			2	1	1	1	1	1	

Coefficients for RIDRETH1 Least Squares Means At agec=2								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*RIAGENDR		1		1	1	1	1	1
agec*agec*RIAGENDR		2		2	2	2	2	2
agec*agec*RIAGENDR		1		2	2	2	2	2

RIDRETH1 Least Squares Means										
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper	
2	2.00	-89.2110	380.78	17	-0.23	0.8176	0.05	-892.58	714.16	
3	2.00	-205.33	157.26	17	-1.31	0.2091	0.05	-537.11	126.46	
4	2.00	228.16	259.02	17	0.88	0.3907	0.05	-318.34	774.65	
5	2.00	283.78	342.01	17	0.83	0.4182	0.05	-437.78	1005.35	
1	2.00	-60.1991	178.82	17	-0.34	0.7405	0.05	-437.47	317.07	

Coefficients for RIDRETH1 Least Squares Means At agec=2.5									
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5	
Intercept				1	1	1	1	1	
RIDRETH1	2				1				
RIDRETH1	3					1			
RIDRETH1	4						1		
RIDRETH1	5							1	
RIDRETH1	1								1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5	0.5
agec				2.5	2.5	2.5	2.5	2.5	2.5
agec*agec				6.25	6.25	6.25	6.25	6.25	6.25
agec*RIDRETH1	2			2.5					
agec*RIDRETH1	3				2.5				
agec*RIDRETH1	4					2.5			
agec*RIDRETH1	5						2.5		
agec*RIDRETH1	1								2.5
agec*agec*RIDRETH1	2			6.25					
agec*agec*RIDRETH1	3				6.25				
agec*agec*RIDRETH1	4					6.25			
agec*agec*RIDRETH1	5						6.25		
agec*agec*RIDRETH1	1								6.25
agec*RIAGENDR		2		1.25	1.25	1.25	1.25	1.25	1.25
agec*RIAGENDR		1		1.25	1.25	1.25	1.25	1.25	1.25
agec*agec*RIAGENDR		2		3.125	3.125	3.125	3.125	3.125	3.125
agec*agec*RIAGENDR		1		3.125	3.125	3.125	3.125	3.125	3.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	2.50	-124.86	454.41	17	-0.27	0.7868	0.05	-1083.57	833.86
3	2.50	-261.70	187.86	17	-1.39	0.1815	0.05	-658.05	134.65
4	2.50	255.61	309.67	17	0.83	0.4206	0.05	-397.74	908.95
5	2.50	321.33	408.28	17	0.79	0.4421	0.05	-540.07	1182.72
1	2.50	-88.4648	213.27	17	-0.41	0.6835	0.05	-538.43	361.51

Coefficients for RIDRETH1 Least Squares Means At agec=3							
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept			1	1	1	1	1
RIDRETH1	2		1				
RIDRETH1	3			1			
RIDRETH1	4				1		
RIDRETH1	5					1	
RIDRETH1	1						1
RIAGENDR		2	0.5	0.5	0.5	0.5	0.5
RIAGENDR		1	0.5	0.5	0.5	0.5	0.5
agec			3	3	3	3	3
agec*agec			9	9	9	9	9
agec*RIDRETH1	2		3				
agec*RIDRETH1	3			3			
agec*RIDRETH1	4				3		
agec*RIDRETH1	5					3	
agec*RIDRETH1	1						3
agec*agec*RIDRETH1	2		9				
agec*agec*RIDRETH1	3			9			
agec*agec*RIDRETH1	4				9		
agec*agec*RIDRETH1	5					9	
agec*agec*RIDRETH1	1						9
agec*RIAGENDR		2	1.5	1.5	1.5	1.5	1.5
agec*RIAGENDR		1	1.5	1.5	1.5	1.5	1.5
agec*agec*RIAGENDR		2	4.5	4.5	4.5	4.5	4.5
agec*agec*RIAGENDR		1	4.5	4.5	4.5	4.5	4.5

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	3.00	-164.23	534.54	17	-0.31	0.7624	0.05	-1292.01	963.55
3	3.00	-323.48	221.18	17	-1.46	0.1618	0.05	-790.12	143.17

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
4	3.00	285.01	364.83	17	0.78	0.4454	0.05	-484.72	1054.74
5	3.00	361.68	480.40	17	0.75	0.4618	0.05	-651.88	1375.25
1	3.00	-119.69	250.76	17	-0.48	0.6392	0.05	-648.76	409.37

## Marginal predicted values by Race from model including significant interactions

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	5112
Number of Observations Not in Domain	1564
Sum of Weights in Domain	212747914
Weighted Mean of bpxdi1_1	71.60877
Weighted Sum of bpxdi1_1	1.52346E10

Fit Statistics	
R-Square	0.1203
Root MSE	10.7452
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	17	2987.50	<.0001	
Intercept	1	25022.6	<.0001	
RIDRETH1	4	5.18	0.0065	
RIAGENDR	1	17.67	0.0006	
agec	1	36.65	<.0001	
agec*agec	1	275.91	<.0001	
agec*RIDRETH1	4	3.08	0.0447	
agec*agec*RIDRETH1	4	6.42	0.0024	
agec*RIAGENDR	1	3.75	0.0697	
agec*agec*RIAGENDR	1	4.14	0.0579	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	75.3464498	0.82011243	91.87	<.0001	73.6161638 77.0767358	1.38
RIDRETH1 2	0.2714371	0.92217646	0.29	0.7721	-1.6741852 2.2170594	0.82
RIDRETH1 3	1.4611713	0.91162242	1.60	0.1274	-0.4621839 3.3845265	1.63
RIDRETH1 4	3.4500173	0.96227934	3.59	0.0023	1.4197854 5.4802493	1.22
RIDRETH1 5	1.1441363	0.89600412	1.28	0.2188	-0.7462671 3.0345398	0.88
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
RIAGENDR 2	-3.1953718	0.76025991	-4.20	0.0006	-4.7993800 -1.5913636	4.17
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
agec	0.3922655	0.39823459	0.99	0.3384	-0.4479360 1.2324671	1.24
agec*agec	-1.5235576	0.18104432	-8.42	<.0001	-1.9055277 -1.1415874	0.86
agec*RIDRETH1 2	0.4963768	0.49755685	1.00	0.3324	-0.5533764 1.5461300	1.15

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agec*RIDRETH1 3	-0.0447546	0.53246995	-0.08	0.9340	-1.1681681	1.0786588	2.14
agec*RIDRETH1 4	0.3454883	0.38776916	0.89	0.3854	-0.4726331	1.1636097	0.86
agec*RIDRETH1 5	0.1490591	0.49282074	0.30	0.7660	-0.8907017	1.1888200	1.20
agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*agec*RIDRETH1 2	0.0836542	0.34523731	0.24	0.8114	-0.6447329	0.8120413	1.74
agec*agec*RIDRETH1 3	0.2662321	0.17171368	1.55	0.1395	-0.0960521	0.6285163	0.75
agec*agec*RIDRETH1 4	-0.2368008	0.19841895	-1.19	0.2491	-0.6554282	0.1818266	0.74
agec*agec*RIDRETH1 5	0.1444580	0.29858582	0.48	0.6347	-0.4855030	0.7744190	1.41
agec*agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*RIAGENDR 2	0.4549443	0.23500066	1.94	0.0697	-0.0408637	0.9507524	2.32
agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*agec*RIAGENDR 2	0.3386353	0.16648154	2.03	0.0579	-0.0126100	0.6898807	3.66
agec*agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.

Note: The degrees of freedom for the t tests is 17.  
Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Coefficients for RIDRETH1 Least Squares Means At agec=-3							
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept			1	1	1	1	1
RIDRETH1	2		1				
RIDRETH1	3			1			
RIDRETH1	4				1		
RIDRETH1	5					1	
RIDRETH1	1						1
RIAGENDR		2	0.5	0.5	0.5	0.5	0.5
RIAGENDR		1	0.5	0.5	0.5	0.5	0.5
agec			-3	-3	-3	-3	-3
agec*agec			9	9	9	9	9
agec*RIDRETH1	2		-3				
agec*RIDRETH1	3			-3			
agec*RIDRETH1	4				-3		
agec*RIDRETH1	5					-3	
agec*RIDRETH1	1						-3
agec*agec*RIDRETH1	2		9				
agec*agec*RIDRETH1	3			9			
agec*agec*RIDRETH1	4				9		
agec*agec*RIDRETH1	5					9	
agec*agec*RIDRETH1	1						9
agec*RIAGENDR		2	-1.5	-1.5	-1.5	-1.5	-1.5
agec*RIAGENDR		1	-1.5	-1.5	-1.5	-1.5	-1.5
agec*agec*RIAGENDR	2		4.5	4.5	4.5	4.5	4.5
agec*agec*RIAGENDR	1		4.5	4.5	4.5	4.5	4.5

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-3.00	59.2366	1.9743	17	30.00	<.0001	0.05	55.0711	63.4020
3	-3.00	63.6929	1.6630	17	38.30	<.0001	0.05	60.1843	67.2015
4	-3.00	59.9837	0.9903	17	60.57	<.0001	0.05	57.8944	62.0731
5	-3.00	61.6985	0.9976	17	61.85	<.0001	0.05	59.5938	63.8031
1	-3.00	59.7014	0.8512	17	70.14	<.0001	0.05	57.9055	61.4973

Coefficients for RIDRETH1 Least Squares Means At agec=-2.5										
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5		
<b>Intercept</b>				1	1	1	1	1		
<b>RIDRETH1</b>		2		1						
<b>RIDRETH1</b>		3			1					
<b>RIDRETH1</b>		4				1				
<b>RIDRETH1</b>		5					1			
<b>RIDRETH1</b>		1						1		
<b>RIAGENDR</b>			2	0.5	0.5	0.5	0.5	0.5		
<b>RIAGENDR</b>			1	0.5	0.5	0.5	0.5	0.5		
<b>agec</b>				-2.5	-2.5	-2.5	-2.5	-2.5		
<b>agec*agec</b>				6.25	6.25	6.25	6.25	6.25		
<b>agec*RIDRETH1</b>		2		-2.5						
<b>agec*RIDRETH1</b>		3			-2.5					
<b>agec*RIDRETH1</b>		4				-2.5				
<b>agec*RIDRETH1</b>		5					-2.5			
<b>agec*RIDRETH1</b>		1						-2.5		
<b>agec*agec*RIDRETH1</b>		2		6.25						
<b>agec*agec*RIDRETH1</b>		3			6.25					
<b>agec*agec*RIDRETH1</b>		4				6.25				
<b>agec*agec*RIDRETH1</b>		5					6.25			
<b>agec*agec*RIDRETH1</b>		1						6.25		
<b>agec*RIAGENDR</b>			2	-1.25	-1.25	-1.25	-1.25	-1.25		
<b>agec*RIAGENDR</b>			1	-1.25	-1.25	-1.25	-1.25	-1.25		
<b>agec*agec*RIAGENDR</b>			2	3.125	3.125	3.125	3.125	3.125		
<b>agec*agec*RIAGENDR</b>			1	3.125	3.125	3.125	3.125	3.125		

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-2.50	63.2888	1.4288	17	44.29	<.0001	0.05	60.2742	66.3033
3	-2.50	66.9724	1.3403	17	49.97	<.0001	0.05	64.1447	69.8001
4	-2.50	64.8417	0.8446	17	76.77	<.0001	0.05	63.0597	66.6237

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
5	-2.50	65.4098	0.6502	17	100.60	<.0001	0.05	64.0380	66.7815
1	-2.50	63.7354	0.5653	17	112.74	<.0001	0.05	62.5427	64.9281

Coefficients for RIDRETH1 Least Squares Means At agec=-2										
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5		
Intercept				1	1	1	1	1		
RIDRETH1	2			1						
RIDRETH1	3				1					
RIDRETH1	4					1				
RIDRETH1	5						1			
RIDRETH1	1							1		
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5		
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5		
agec				-2	-2	-2	-2	-2		
agec*agec				4	4	4	4	4		
agec*RIDRETH1	2			-2						
agec*RIDRETH1	3				-2					
agec*RIDRETH1	4					-2				
agec*RIDRETH1	5						-2			
agec*RIDRETH1	1							-2		
agec*agec*RIDRETH1	2			4						
agec*agec*RIDRETH1	3				4					
agec*agec*RIDRETH1	4					4				
agec*agec*RIDRETH1	5						4			
agec*agec*RIDRETH1	1							4		
agec*RIAGENDR		2		-1	-1	-1	-1	-1		
agec*RIAGENDR		1		-1	-1	-1	-1	-1		
agec*agec*RIAGENDR		2		2	2	2	2	2		
agec*agec*RIAGENDR		1		2	2	2	2	2		

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-2.00	66.7056	1.0322	17	64.63	<.0001	0.05	64.5279	68.8833
3	-2.00	69.7079	1.0717	17	65.04	<.0001	0.05	67.4468	71.9691
4	-2.00	68.9042	0.7719	17	89.26	<.0001	0.05	67.2755	70.5328
5	-2.00	68.5162	0.5072	17	135.09	<.0001	0.05	67.4461	69.5863
1	-2.00	67.0923	0.5088	17	131.85	<.0001	0.05	66.0188	68.1659

Coefficients for RIDRETH1 Least Squares Means At agec=-1.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2			1				
RIDRETH1	3				1			
RIDRETH1	4					1		
RIDRETH1	5						1	
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				-1.5	-1.5	-1.5	-1.5	-1.5
agec*agec				2.25	2.25	2.25	2.25	2.25
agec*RIDRETH1	2			-1.5				
agec*RIDRETH1	3				-1.5			
agec*RIDRETH1	4					-1.5		
agec*RIDRETH1	5						-1.5	
agec*RIDRETH1	1							-1.5
agec*agec*RIDRETH1	2			2.25				
agec*agec*RIDRETH1	3				2.25			
agec*agec*RIDRETH1	4					2.25		
agec*agec*RIDRETH1	5						2.25	
agec*agec*RIDRETH1	1							2.25
agec*RIAGENDR		2		-0.75	-0.75	-0.75	-0.75	-0.75
agec*RIAGENDR		1		-0.75	-0.75	-0.75	-0.75	-0.75
agec*agec*RIAGENDR		2		1.125	1.125	1.125	1.125	1.125
agec*agec*RIAGENDR		1		1.125	1.125	1.125	1.125	1.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.50	69.4872	0.8021	17	86.63	<.0001	0.05	67.7949	71.1796
3	-1.50	71.8994	0.8581	17	83.79	<.0001	0.05	70.0891	73.7098
4	-1.50	72.1711	0.7532	17	95.82	<.0001	0.05	70.5820	73.7602
5	-1.50	71.0177	0.5563	17	127.66	<.0001	0.05	69.8440	72.1914
1	-1.50	69.7721	0.5891	17	118.45	<.0001	0.05	68.5293	71.0149

Coefficients for RIDRETH1 Least Squares Means At agec=-1								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2			1				
RIDRETH1	3				1			

Coefficients for RIDRETH1 Least Squares Means At agec=-1								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
RIDRETH1		4				1		
RIDRETH1		5					1	
RIDRETH1		1						1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				-1	-1	-1	-1	-1
agec*agec				1	1	1	1	1
agec*RIDRETH1		2		-1				
agec*RIDRETH1		3			-1			
agec*RIDRETH1		4				-1		
agec*RIDRETH1		5					-1	
agec*RIDRETH1		1						-1
agec*agec*RIDRETH1		2		1				
agec*agec*RIDRETH1		3			1			
agec*agec*RIDRETH1		4				1		
agec*agec*RIDRETH1		5					1	
agec*agec*RIDRETH1		1						1
agec*RIAGENDR		2		-0.5	-0.5	-0.5	-0.5	-0.5
agec*RIAGENDR		1		-0.5	-0.5	-0.5	-0.5	-0.5
agec*agec*RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
agec*agec*RIAGENDR		1		0.5	0.5	0.5	0.5	0.5

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.00	71.6335	0.7356	17	97.39	<.0001	0.05	70.0816	73.1854
3	-1.00	73.5469	0.6983	17	105.33	<.0001	0.05	72.0738	75.0201
4	-1.00	74.6425	0.7620	17	97.96	<.0001	0.05	73.0349	76.2501
5	-1.00	72.9143	0.6660	17	109.47	<.0001	0.05	71.5091	74.3196
1	-1.00	71.7748	0.6699	17	107.14	<.0001	0.05	70.3614	73.1882

Coefficients for RIDRETH1 Least Squares Means At agec=-0.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1		2			1			
RIDRETH1		3				1		
RIDRETH1		4					1	
RIDRETH1		5						1
RIDRETH1		1						1

Coefficients for RIDRETH1 Least Squares Means At agec=-0.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				-0.5	-0.5	-0.5	-0.5	-0.5
agec*agec				0.25	0.25	0.25	0.25	0.25
agec*RIDRETH1	2			-0.5				
agec*RIDRETH1	3				-0.5			
agec*RIDRETH1	4					-0.5		
agec*RIDRETH1	5						-0.5	
agec*RIDRETH1	1							-0.5
agec*agec*RIDRETH1	2			0.25				
agec*agec*RIDRETH1	3				0.25			
agec*agec*RIDRETH1	4					0.25		
agec*agec*RIDRETH1	5						0.25	
agec*agec*RIDRETH1	1							0.25
agec*RIAGENDR		2		-0.25	-0.25	-0.25	-0.25	-0.25
agec*RIAGENDR		1		-0.25	-0.25	-0.25	-0.25	-0.25
agec*agec*RIAGENDR		2		0.125	0.125	0.125	0.125	0.125
agec*agec*RIAGENDR		1		0.125	0.125	0.125	0.125	0.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-0.50	73.1445	0.7844	17	93.25	<.0001	0.05	71.4896	74.7994
3	-0.50	74.6504	0.5872	17	127.12	<.0001	0.05	73.4115	75.8894
4	-0.50	76.3184	0.7759	17	98.36	<.0001	0.05	74.6814	77.9554
5	-0.50	74.2061	0.7597	17	97.67	<.0001	0.05	72.6032	75.8089
1	-0.50	73.1003	0.7000	17	104.43	<.0001	0.05	71.6234	74.5773

Coefficients for RIDRETH1 Least Squares Means At agec=0								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2				1			
RIDRETH1	3					1		
RIDRETH1	4						1	
RIDRETH1	5							1
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec								

Coefficients for RIDRETH1 Least Squares Means At agec=0								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*agec								
agec*RIDRETH1		2						
agec*RIDRETH1		3						
agec*RIDRETH1		4						
agec*RIDRETH1		5						
agec*RIDRETH1		1						
agec*agec*RIDRETH1		2						
agec*agec*RIDRETH1		3						
agec*agec*RIDRETH1		4						
agec*agec*RIDRETH1		5						
agec*agec*RIDRETH1		1						
agec*RIAGENDR			2					
agec*RIAGENDR			1					
agec*agec*RIAGENDR			2					
agec*agec*RIAGENDR			1					

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.00	74.0202	0.9026	17	82.01	<.0001	0.05	72.1159	75.9245
3	0.00	75.2099	0.5145	17	146.17	<.0001	0.05	74.1243	76.2955
4	0.00	77.1988	0.7821	17	98.71	<.0001	0.05	75.5487	78.8489
5	0.00	74.8929	0.8252	17	90.75	<.0001	0.05	73.1518	76.6340
1	0.00	73.7488	0.6760	17	109.09	<.0001	0.05	72.3224	75.1751

Coefficients for RIDRETH1 Least Squares Means At agec=0.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1		2		1				
RIDRETH1		3			1			
RIDRETH1		4				1		
RIDRETH1		5					1	
RIDRETH1		1						1
RIAGENDR			2	0.5	0.5	0.5	0.5	0.5
RIAGENDR			1	0.5	0.5	0.5	0.5	0.5
agec				0.5	0.5	0.5	0.5	0.5
agec*agec				0.25	0.25	0.25	0.25	0.25
agec*RIDRETH1		2		0.5				
agec*RIDRETH1		3			0.5			

Coefficients for RIDRETH1 Least Squares Means At agec=0.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*RIDRETH1	4					0.5		
agec*RIDRETH1	5						0.5	
agec*RIDRETH1	1							0.5
agec*agec*RIDRETH1	2			0.25				
agec*agec*RIDRETH1	3				0.25			
agec*agec*RIDRETH1	4					0.25		
agec*agec*RIDRETH1	5						0.25	
agec*agec*RIDRETH1	1							0.25
agec*RIAGENDR		2		0.25	0.25	0.25	0.25	0.25
agec*RIAGENDR		1		0.25	0.25	0.25	0.25	0.25
agec*agec*RIAGENDR		2		0.125	0.125	0.125	0.125	0.125
agec*agec*RIAGENDR		1		0.125	0.125	0.125	0.125	0.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.50	74.2606	1.0860	17	68.38	<.0001	0.05	71.9694	76.5518
3	0.50	75.2254	0.4672	17	161.02	<.0001	0.05	74.2397	76.2111
4	0.50	77.2836	0.7767	17	99.51	<.0001	0.05	75.6450	78.9222
5	0.50	74.9749	0.8828	17	84.93	<.0001	0.05	73.1123	76.8374
1	0.50	73.7201	0.6299	17	117.03	<.0001	0.05	72.3911	75.0491

Coefficients for RIDRETH1 Least Squares Means At agec=1								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2				1			
RIDRETH1	3					1		
RIDRETH1	4						1	
RIDRETH1	5							1
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				1	1	1	1	1
agec*agec				1	1	1	1	1
agec*RIDRETH1	2			1				
agec*RIDRETH1	3				1			
agec*RIDRETH1	4					1		
agec*RIDRETH1	5						1	
agec*RIDRETH1	1							1

Coefficients for RIDRETH1 Least Squares Means At agec=1								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*agec*RIDRETH1	2			1				
agec*agec*RIDRETH1	3				1			
agec*agec*RIDRETH1	4					1		
agec*agec*RIDRETH1	5						1	
agec*agec*RIDRETH1	1							1
agec*RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
agec*RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec*agec*RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
agec*agec*RIAGENDR		1		0.5	0.5	0.5	0.5	0.5

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	1.00	73.8657	1.3568	17	54.44	<.0001	0.05	71.0032	76.7283
3	1.00	74.6969	0.4365	17	171.11	<.0001	0.05	73.7759	75.6179
4	1.00	76.5730	0.7640	17	100.23	<.0001	0.05	74.9611	78.1849
5	1.00	74.4519	0.9745	17	76.40	<.0001	0.05	72.3959	76.5079
1	1.00	73.0143	0.6457	17	113.07	<.0001	0.05	71.6519	74.3767

Coefficients for RIDRETH1 Least Squares Means At agec=1.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2				1			
RIDRETH1	3					1		
RIDRETH1	4						1	
RIDRETH1	5							1
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				1.5	1.5	1.5	1.5	1.5
agec*agec				2.25	2.25	2.25	2.25	2.25
agec*RIDRETH1	2			1.5				
agec*RIDRETH1	3				1.5			
agec*RIDRETH1	4					1.5		
agec*RIDRETH1	5						1.5	
agec*RIDRETH1	1							1.5
agec*agec*RIDRETH1	2			2.25				
agec*agec*RIDRETH1	3				2.25			
agec*agec*RIDRETH1	4					2.25		

Coefficients for RIDRETH1 Least Squares Means At agec=1.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
<b>agec*agec*RIDRETH1</b>		5					2.25	
<b>agec*agec*RIDRETH1</b>		1						2.25
<b>agec*RIAGENDR</b>			2	0.75	0.75	0.75	0.75	0.75
<b>agec*RIAGENDR</b>			1	0.75	0.75	0.75	0.75	0.75
<b>agec*agec*RIAGENDR</b>		2	1.125	1.125	1.125	1.125	1.125	1.125
<b>agec*agec*RIAGENDR</b>		1	1.125	1.125	1.125	1.125	1.125	1.125

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	1.50	72.8356	1.7385	17	41.89	<.0001	0.05	69.1676	76.5035
3	1.50	73.6244	0.4256	17	173.00	<.0001	0.05	72.7265	74.5223
4	1.50	75.0668	0.7577	17	99.08	<.0001	0.05	73.4683	76.6653
5	1.50	73.3241	1.1501	17	63.75	<.0001	0.05	70.8975	75.7506
1	1.50	71.6313	0.8282	17	86.49	<.0001	0.05	69.8840	73.3787

Coefficients for RIDRETH1 Least Squares Means At agec=2								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
<b>Intercept</b>				1	1	1	1	1
<b>RIDRETH1</b>		2		1				
<b>RIDRETH1</b>		3			1			
<b>RIDRETH1</b>		4				1		
<b>RIDRETH1</b>		5					1	
<b>RIDRETH1</b>		1						1
<b>RIAGENDR</b>			2	0.5	0.5	0.5	0.5	0.5
<b>RIAGENDR</b>			1	0.5	0.5	0.5	0.5	0.5
<b>agec</b>				2	2	2	2	2
<b>agec*agec</b>				4	4	4	4	4
<b>agec*RIDRETH1</b>		2		2				
<b>agec*RIDRETH1</b>		3			2			
<b>agec*RIDRETH1</b>		4				2		
<b>agec*RIDRETH1</b>		5					2	
<b>agec*RIDRETH1</b>		1						2
<b>agec*agec*RIDRETH1</b>		2		4				
<b>agec*agec*RIDRETH1</b>		3			4			
<b>agec*agec*RIDRETH1</b>		4				4		
<b>agec*agec*RIDRETH1</b>		5					4	
<b>agec*agec*RIDRETH1</b>		1						4
<b>agec*RIAGENDR</b>			2	1	1	1	1	1

Coefficients for RIDRETH1 Least Squares Means At agec=2								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
agec*RIAGENDR		1		1	1	1	1	1
agec*agec*RIAGENDR		2		2	2	2	2	2
agec*agec*RIAGENDR		1		2	2	2	2	2

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	2.00	71.1701	2.2448	17	31.70	<.0001	0.05	66.4340	75.9061
3	2.00	72.0079	0.4513	17	159.57	<.0001	0.05	71.0558	72.9600
4	2.00	72.7651	0.7801	17	93.27	<.0001	0.05	71.1191	74.4110
5	2.00	71.5914	1.4433	17	49.60	<.0001	0.05	68.5463	74.6364
1	2.00	69.5713	1.1969	17	58.13	<.0001	0.05	67.0460	72.0966

Coefficients for RIDRETH1 Least Squares Means At agec=2.5								
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept				1	1	1	1	1
RIDRETH1	2			1				
RIDRETH1	3				1			
RIDRETH1	4					1		
RIDRETH1	5						1	
RIDRETH1	1							1
RIAGENDR		2		0.5	0.5	0.5	0.5	0.5
RIAGENDR		1		0.5	0.5	0.5	0.5	0.5
agec				2.5	2.5	2.5	2.5	2.5
agec*agec				6.25	6.25	6.25	6.25	6.25
agec*RIDRETH1	2			2.5				
agec*RIDRETH1	3				2.5			
agec*RIDRETH1	4					2.5		
agec*RIDRETH1	5						2.5	
agec*RIDRETH1	1							2.5
agec*agec*RIDRETH1	2			6.25				
agec*agec*RIDRETH1	3				6.25			
agec*agec*RIDRETH1	4					6.25		
agec*agec*RIDRETH1	5						6.25	
agec*agec*RIDRETH1	1							6.25
agec*RIAGENDR		2		1.25	1.25	1.25	1.25	1.25
agec*RIAGENDR		1		1.25	1.25	1.25	1.25	1.25
agec*agec*RIAGENDR		2		3.125	3.125	3.125	3.125	3.125
agec*agec*RIAGENDR		1		3.125	3.125	3.125	3.125	3.125

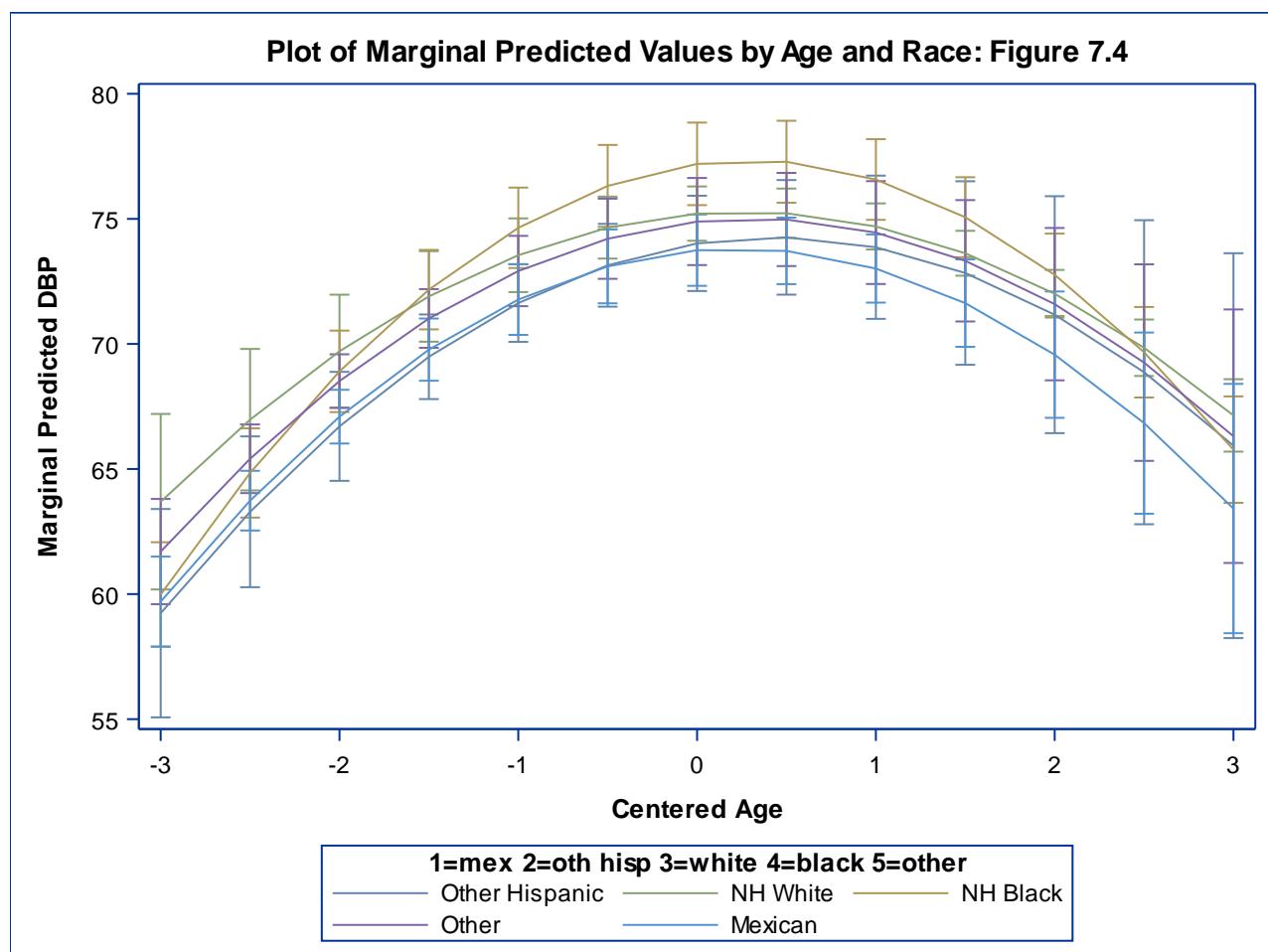
RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	2.50	68.8693	2.8804	17	23.91	<.0001	0.05	62.7922	74.9464
3	2.50	69.8473	0.5349	17	130.58	<.0001	0.05	68.7188	70.9759
4	2.50	69.6678	0.8576	17	81.24	<.0001	0.05	67.8585	71.4772
5	2.50	69.2538	1.8623	17	37.19	<.0001	0.05	65.3247	73.1828
1	2.50	66.8341	1.7166	17	38.93	<.0001	0.05	63.2124	70.4558

Coefficients for RIDRETH1 Least Squares Means At agec=3							
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	Row3	Row4	Row5
Intercept			1	1	1	1	1
RIDRETH1	2		1				
RIDRETH1	3			1			
RIDRETH1	4				1		
RIDRETH1	5					1	
RIDRETH1	1						1
RIAGENDR		2	0.5	0.5	0.5	0.5	0.5
RIAGENDR		1	0.5	0.5	0.5	0.5	0.5
agec			3	3	3	3	3
agec*agec			9	9	9	9	9
agec*RIDRETH1	2		3				
agec*RIDRETH1	3			3			
agec*RIDRETH1	4				3		
agec*RIDRETH1	5					3	
agec*RIDRETH1	1						3
agec*agec*RIDRETH1	2		9				
agec*agec*RIDRETH1	3			9			
agec*agec*RIDRETH1	4				9		
agec*agec*RIDRETH1	5					9	
agec*agec*RIDRETH1	1						9
agec*RIAGENDR		2	1.5	1.5	1.5	1.5	1.5
agec*RIAGENDR		1	1.5	1.5	1.5	1.5	1.5
agec*agec*RIAGENDR		2	4.5	4.5	4.5	4.5	4.5
agec*agec*RIAGENDR		1	4.5	4.5	4.5	4.5	4.5

RIDRETH1 Least Squares Means									
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	3.00	65.9333	3.6460	17	18.08	<.0001	0.05	58.2409	73.6257
3	3.00	67.1428	0.6862	17	97.85	<.0001	0.05	65.6951	68.5905

RIDRETH1 Least Squares Means										
1=mex 2=oth hisp 3=white 4=black 5=other	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper	
4	3.00	65.7751	1.0080	17	65.25	<.0001	0.05	63.6484	67.9018	
5	3.00	66.3113	2.4018	17	27.61	<.0001	0.05	61.2440	71.3785	
1	3.00	63.4198	2.3619	17	26.85	<.0001	0.05	58.4367	68.4029	

**Plot of Marginal Predicted Values by Age and Race: Figure 7.4**



## Marginal Predicted Values for Gender and Selected Ages

### The SURVEYREG Procedure

#### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	250508512
Weighted Mean of bpxdi1_1	69.55356
Weighted Sum of bpxdi1_1	1.74238E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.2474
Root MSE	10.8255
Denominator DF	17

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	
RIAGENDR	Gender	2	2 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	17	2813.29	<.0001	
Intercept	1	26759.4	<.0001	
RIDRETH1	4	4.76	0.0093	
RIAGENDR	1	24.18	0.0001	
agec	1	28.34	<.0001	
agec*agec	1	698.53	<.0001	
agec*RIDRETH1	4	0.57	0.6854	
agec*agec*RIDRETH1	4	5.83	0.0038	
agec*RIAGENDR	1	2.71	0.1183	
agec*agec*RIAGENDR	1	16.78	0.0008	

**Note:** The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	75.4816175	0.67973857	111.05	<.0001	74.0474945 76.9157405	1.01
RIDRETH1 2	0.0308887	0.96713577	0.03	0.9749	-2.0095894 2.0713668	0.95

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
RIDRETH1 3	1.6229848	0.79987216	2.03	0.0584	-0.0645979 3.3105675	1.33
RIDRETH1 4	3.2495985	0.84813375	3.83	0.0013	1.4601927 5.0390043	0.98
RIDRETH1 5	1.1847914	0.73814299	1.61	0.1269	-0.3725542 2.7421369	0.61
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
RIAGENDR 2	-3.4128307	0.69403120	-4.92	0.0001	-4.8771086 -1.9485529	3.33
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
agec	0.4306409	0.37769970	1.14	0.2700	-0.3662358 1.2275176	0.98
agec*agec	-1.5790972	0.10214014	-15.46	<.0001	-1.7945940 -1.3636003	0.53
agec*RIDRETH1 2	0.3743707	0.55947844	0.67	0.5124	-0.8060256 1.5547670	1.33
agec*RIDRETH1 3	0.1214725	0.51168294	0.24	0.8152	-0.9580841 1.2010292	1.77
agec*RIDRETH1 4	0.2716418	0.38329156	0.71	0.4881	-0.5370328 1.0803163	0.77
agec*RIDRETH1 5	0.1642873	0.55558129	0.30	0.7710	-1.0078867 1.3364614	1.42
agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
agec*agec*RIDRETH1 2	0.1924973	0.18250497	1.05	0.3063	-0.1925545 0.5775492	0.88
agec*agec*RIDRETH1 3	0.1736396	0.10027867	1.73	0.1015	-0.0379299 0.3852091	0.49
agec*agec*RIDRETH1 4	-0.1505095	0.12259070	-1.23	0.2363	-0.4091533 0.1081342	0.51
agec*agec*RIDRETH1 5	0.1311487	0.14299393	0.92	0.3719	-0.1705421 0.4328395	0.59
agec*agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
agec*RIAGENDR 2	0.3524244	0.21419598	1.65	0.1183	-0.0994896 0.8043384	2.32
agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
agec*agec*RIAGENDR 2	0.4328618	0.10568291	4.10	0.0008	0.2098904 0.6558333	2.48
agec*agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Coefficients for RIAGENDR Least Squares Means At agec=-3					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-3	-3	
agec*agec			9	9	
agec*RIDRETH1	2		-0.6	-0.6	
agec*RIDRETH1	3		-0.6	-0.6	
agec*RIDRETH1	4		-0.6	-0.6	
agec*RIDRETH1	5		-0.6	-0.6	
agec*RIDRETH1	1		-0.6	-0.6	
agec*agec*RIDRETH1	2		1.8	1.8	

Coefficients for RIAGENDR Least Squares Means At agec=-3					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*agec*RIDRETH1	3		1.8	1.8	
agec*agec*RIDRETH1	4		1.8	1.8	
agec*agec*RIDRETH1	5		1.8	1.8	
agec*agec*RIDRETH1	1		1.8	1.8	
agec*RIAGENDR		2	-3		
agec*RIAGENDR		1		-3	
agec*agec*RIAGENDR		2	9		
agec*agec*RIAGENDR		1		9	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-3.00	60.6863	0.6640	17	91.40	<.0001	0.05	59.2854	62.0871
1	-3.00	61.2606	0.5364	17	114.22	<.0001	0.05	60.1290	62.3922

Coefficients for RIAGENDR Least Squares Means At agec=-2.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-2.5	-2.5	
agec*agec			6.25	6.25	
agec*RIDRETH1	2		-0.5	-0.5	
agec*RIDRETH1	3		-0.5	-0.5	
agec*RIDRETH1	4		-0.5	-0.5	
agec*RIDRETH1	5		-0.5	-0.5	
agec*RIDRETH1	1		-0.5	-0.5	
agec*agec*RIDRETH1	2		1.25	1.25	
agec*agec*RIDRETH1	3		1.25	1.25	
agec*agec*RIDRETH1	4		1.25	1.25	
agec*agec*RIDRETH1	5		1.25	1.25	
agec*agec*RIDRETH1	1		1.25	1.25	
agec*RIAGENDR		2	-2.5		
agec*RIAGENDR		1		-2.5	
agec*agec*RIAGENDR		2	6.25		

Coefficients for RIAGENDR Least Squares Means At agec=-2.5						
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2		
agec*agec*RIAGENDR		1		6.25		

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-2.50	64.1324	0.5529	17	116.00	<.0001	0.05	62.9659	65.2989
1	-2.50	65.7209	0.4944	17	132.93	<.0001	0.05	64.6778	66.7640

Coefficients for RIAGENDR Least Squares Means At agec=-2						
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2		
Intercept			1	1		
RIDRETH1	2		0.2	0.2		
RIDRETH1	3		0.2	0.2		
RIDRETH1	4		0.2	0.2		
RIDRETH1	5		0.2	0.2		
RIDRETH1	1		0.2	0.2		
RIAGENDR		2	1			
RIAGENDR		1		1		
agec			-2	-2		
agec*agec			4	4		
agec*RIDRETH1	2		-0.4	-0.4		
agec*RIDRETH1	3		-0.4	-0.4		
agec*RIDRETH1	4		-0.4	-0.4		
agec*RIDRETH1	5		-0.4	-0.4		
agec*RIDRETH1	1		-0.4	-0.4		
agec*agec*RIDRETH1	2		0.8	0.8		
agec*agec*RIDRETH1	3		0.8	0.8		
agec*agec*RIDRETH1	4		0.8	0.8		
agec*agec*RIDRETH1	5		0.8	0.8		
agec*agec*RIDRETH1	1		0.8	0.8		
agec*RIAGENDR		2	-2			
agec*RIAGENDR		1			-2	
agec*agec*RIAGENDR		2		4		
agec*agec*RIAGENDR		1			4	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-2.00	67.0401	0.5082	17	131.93	<.0001	0.05	65.9680	68.1122
1	-2.00	69.4263	0.4847	17	143.24	<.0001	0.05	68.4037	70.4489

Coefficients for RIAGENDR Least Squares Means At agec=-1.5					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
Intercept				1	1
RIDRETH1	2			0.2	0.2
RIDRETH1	3			0.2	0.2
RIDRETH1	4			0.2	0.2
RIDRETH1	5			0.2	0.2
RIDRETH1	1			0.2	0.2
RIAGENDR		2		1	
RIAGENDR		1			1
agec				-1.5	-1.5
agec*agec				2.25	2.25
agec*RIDRETH1	2			-0.3	-0.3
agec*RIDRETH1	3			-0.3	-0.3
agec*RIDRETH1	4			-0.3	-0.3
agec*RIDRETH1	5			-0.3	-0.3
agec*RIDRETH1	1			-0.3	-0.3
agec*agec*RIDRETH1	2			0.45	0.45
agec*agec*RIDRETH1	3			0.45	0.45
agec*agec*RIDRETH1	4			0.45	0.45
agec*agec*RIDRETH1	5			0.45	0.45
agec*agec*RIDRETH1	1			0.45	0.45
agec*RIAGENDR		2		-1.5	
agec*RIAGENDR		1			-1.5
agec*agec*RIAGENDR		2		2.25	
agec*agec*RIAGENDR		1			2.25

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.50	69.4093	0.5124	17	135.46	<.0001	0.05	68.3282	70.4904
1	-1.50	72.3769	0.4924	17	146.98	<.0001	0.05	71.3379	73.4158

Coefficients for RIAGENDR Least Squares Means At agec=-1					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
Intercept				1	1
RIDRETH1	2			0.2	0.2
RIDRETH1	3			0.2	0.2
RIDRETH1	4			0.2	0.2
RIDRETH1	5			0.2	0.2
RIDRETH1	1			0.2	0.2

Coefficients for RIAGENDR Least Squares Means At agec=-1					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
RIAGENDR			2	1	
RIAGENDR			1		1
agec				-1	-1
agec*agec				1	1
agec*RIDRETH1		2		-0.2	-0.2
agec*RIDRETH1		3		-0.2	-0.2
agec*RIDRETH1		4		-0.2	-0.2
agec*RIDRETH1		5		-0.2	-0.2
agec*RIDRETH1		1		-0.2	-0.2
agec*agec*RIDRETH1		2		0.2	0.2
agec*agec*RIDRETH1		3		0.2	0.2
agec*agec*RIDRETH1		4		0.2	0.2
agec*agec*RIDRETH1		5		0.2	0.2
agec*agec*RIDRETH1		1		0.2	0.2
agec*RIAGENDR			2	-1	
agec*RIAGENDR			1		-1
agec*agec*RIAGENDR			2	1	
agec*agec*RIAGENDR			1		1

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.00	71.2401	0.5403	17	131.86	<.0001	0.05	70.1003	72.3800
1	-1.00	74.5725	0.5068	17	147.14	<.0001	0.05	73.5032	75.6418

Coefficients for RIAGENDR Least Squares Means At agec=-0.5					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
Intercept				1	1
RIDRETH1		2		0.2	0.2
RIDRETH1		3		0.2	0.2
RIDRETH1		4		0.2	0.2
RIDRETH1		5		0.2	0.2
RIDRETH1		1		0.2	0.2
RIAGENDR			2	1	
RIAGENDR			1		1
agec				-0.5	-0.5
agec*agec				0.25	0.25
agec*RIDRETH1		2		-0.1	-0.1
agec*RIDRETH1		3		-0.1	-0.1
agec*RIDRETH1		4		-0.1	-0.1

Coefficients for RIAGENDR Least Squares Means At agec=-0.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*RIDRETH1	5		-0.1	-0.1	
agec*RIDRETH1	1		-0.1	-0.1	
agec*agec*RIDRETH1	2		0.05	0.05	
agec*agec*RIDRETH1	3		0.05	0.05	
agec*agec*RIDRETH1	4		0.05	0.05	
agec*agec*RIDRETH1	5		0.05	0.05	
agec*agec*RIDRETH1	1		0.05	0.05	
agec*RIAGENDR		2	-0.5		
agec*RIAGENDR		1		-0.5	
agec*agec*RIAGENDR		2	0.25		
agec*agec*RIAGENDR		1		0.25	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-0.50	72.5325	0.5732	17	126.54	<.0001	0.05	71.3231	73.7419
1	-0.50	76.0133	0.5236	17	145.16	<.0001	0.05	74.9086	77.1181

Coefficients for RIAGENDR Least Squares Means At agec=0					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec					
agec*agec					
agec*RIDRETH1	2				
agec*RIDRETH1	3				
agec*RIDRETH1	4				
agec*RIDRETH1	5				
agec*RIDRETH1	1				
agec*agec*RIDRETH1	2				
agec*agec*RIDRETH1	3				
agec*agec*RIDRETH1	4				
agec*agec*RIDRETH1	5				
agec*agec*RIDRETH1	1				

Coefficients for RIAGENDR Least Squares Means At agec=0					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*RIAGENDR	2				
agec*RIAGENDR	1				
agec*agec*RIAGENDR	2				
agec*agec*RIAGENDR	1				

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.00	73.2864	0.6035	17	121.44	<.0001	0.05	72.0132	74.5596
1	0.00	76.6993	0.5450	17	140.74	<.0001	0.05	75.5495	77.8491

Coefficients for RIAGENDR Least Squares Means At agec=0.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			0.5	0.5	
agec*agec			0.25	0.25	
agec*RIDRETH1	2		0.1	0.1	
agec*RIDRETH1	3		0.1	0.1	
agec*RIDRETH1	4		0.1	0.1	
agec*RIDRETH1	5		0.1	0.1	
agec*RIDRETH1	1		0.1	0.1	
agec*agec*RIDRETH1	2		0.05	0.05	
agec*agec*RIDRETH1	3		0.05	0.05	
agec*agec*RIDRETH1	4		0.05	0.05	
agec*agec*RIDRETH1	5		0.05	0.05	
agec*agec*RIDRETH1	1		0.05	0.05	
agec*RIAGENDR		2	0.5		
agec*RIAGENDR		1		0.5	
agec*agec*RIAGENDR		2	0.25		
agec*agec*RIAGENDR		1		0.25	

RIAGENDR Least Squares Means

Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.50	73.5019	0.6320	17	116.30	<.0001	0.05	72.1685	74.8353
1	0.50	76.6303	0.5781	17	132.56	<.0001	0.05	75.4107	77.8500

Coefficients for RIAGENDR Least Squares Means At agec=1						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1		Row2
				Row1	Row2	
Intercept				1	1	
RIDRETH1	2			0.2	0.2	
RIDRETH1	3			0.2	0.2	
RIDRETH1	4			0.2	0.2	
RIDRETH1	5			0.2	0.2	
RIDRETH1	1			0.2	0.2	
RIAGENDR		2		1		
RIAGENDR		1			1	
agec				1	1	
agec*agec				1	1	
agec*RIDRETH1	2			0.2	0.2	
agec*RIDRETH1	3			0.2	0.2	
agec*RIDRETH1	4			0.2	0.2	
agec*RIDRETH1	5			0.2	0.2	
agec*RIDRETH1	1			0.2	0.2	
agec*agec*RIDRETH1	2			0.2	0.2	
agec*agec*RIDRETH1	3			0.2	0.2	
agec*agec*RIDRETH1	4			0.2	0.2	
agec*agec*RIDRETH1	5			0.2	0.2	
agec*agec*RIDRETH1	1			0.2	0.2	
agec*RIAGENDR		2		1		
agec*RIAGENDR		1			1	
agec*agec*RIAGENDR		2		1		
agec*agec*RIAGENDR		1			1	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	1.00	73.1790	0.6665	17	109.80	<.0001	0.05	71.7728	74.5851
1	1.00	75.8065	0.6333	17	119.71	<.0001	0.05	74.4705	77.1426

Coefficients for RIAGENDR Least Squares Means At agec=1.5						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1		Row2
				Row1	Row2	
Intercept				1	1	
RIDRETH1	2			0.2	0.2	

Coefficients for RIAGENDR Least Squares Means At agec=1.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			1.5	1.5	
agec*agec			2.25	2.25	
agec*RIDRETH1	2		0.3	0.3	
agec*RIDRETH1	3		0.3	0.3	
agec*RIDRETH1	4		0.3	0.3	
agec*RIDRETH1	5		0.3	0.3	
agec*RIDRETH1	1		0.3	0.3	
agec*agec*RIDRETH1	2		0.45	0.45	
agec*agec*RIDRETH1	3		0.45	0.45	
agec*agec*RIDRETH1	4		0.45	0.45	
agec*agec*RIDRETH1	5		0.45	0.45	
agec*agec*RIDRETH1	1		0.45	0.45	
agec*RIAGENDR		2	1.5		
agec*RIAGENDR		1		1.5	
agec*agec*RIAGENDR		2	2.25		
agec*agec*RIAGENDR		1		2.25	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	1.50	72.3176	0.7194	17	100.52	<.0001	0.05	70.7997	73.8355
1	1.50	74.2278	0.7206	17	103.01	<.0001	0.05	72.7076	75.7481

Coefficients for RIAGENDR Least Squares Means At agec=2					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			2	2	

Coefficients for RIAGENDR Least Squares Means At agec=2					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
<b>agec*agec</b>				4	4
<b>agec*RIDRETH1</b>		2		0.4	0.4
<b>agec*RIDRETH1</b>		3		0.4	0.4
<b>agec*RIDRETH1</b>		4		0.4	0.4
<b>agec*RIDRETH1</b>		5		0.4	0.4
<b>agec*RIDRETH1</b>		1		0.4	0.4
<b>agec*agec*RIDRETH1</b>		2		0.8	0.8
<b>agec*agec*RIDRETH1</b>		3		0.8	0.8
<b>agec*agec*RIDRETH1</b>		4		0.8	0.8
<b>agec*agec*RIDRETH1</b>		5		0.8	0.8
<b>agec*agec*RIDRETH1</b>		1		0.8	0.8
<b>agec*RIAGENDR</b>			2	2	
<b>agec*RIAGENDR</b>			1		2
<b>agec*agec*RIAGENDR</b>			2	4	
<b>agec*agec*RIAGENDR</b>			1		4

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	2.00	70.9178	0.8049	17	88.11	<.0001	0.05	69.2196	72.6159
1	2.00	71.8943	0.8467	17	84.92	<.0001	0.05	70.1080	73.6806

Coefficients for RIAGENDR Least Squares Means At agec=2.5					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
<b>Intercept</b>				1	1
<b>RIDRETH1</b>		2		0.2	0.2
<b>RIDRETH1</b>		3		0.2	0.2
<b>RIDRETH1</b>		4		0.2	0.2
<b>RIDRETH1</b>		5		0.2	0.2
<b>RIDRETH1</b>		1		0.2	0.2
<b>RIAGENDR</b>			2	1	
<b>RIAGENDR</b>			1		1
<b>agec</b>				2.5	2.5
<b>agec*agec</b>				6.25	6.25
<b>agec*RIDRETH1</b>		2		0.5	0.5
<b>agec*RIDRETH1</b>		3		0.5	0.5
<b>agec*RIDRETH1</b>		4		0.5	0.5
<b>agec*RIDRETH1</b>		5		0.5	0.5
<b>agec*RIDRETH1</b>		1		0.5	0.5
<b>agec*agec*RIDRETH1</b>		2		1.25	1.25

Coefficients for RIAGENDR Least Squares Means At agec=2.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*agec*RIDRETH1	3		1.25	1.25	
agec*agec*RIDRETH1	4		1.25	1.25	
agec*agec*RIDRETH1	5		1.25	1.25	
agec*agec*RIDRETH1	1		1.25	1.25	
agec*RIAGENDR		2	2.5		
agec*RIAGENDR		1		2.5	
agec*agec*RIAGENDR		2	6.25		
agec*agec*RIAGENDR		1		6.25	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	2.50	68.9795	0.9340	17	73.85	<.0001	0.05	67.0089	70.9500
1	2.50	68.8059	1.0141	17	67.85	<.0001	0.05	66.6664	70.9454

Coefficients for RIAGENDR Least Squares Means At agec=3					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			3	3	
agec*agec			9	9	
agec*RIDRETH1	2		0.6	0.6	
agec*RIDRETH1	3		0.6	0.6	
agec*RIDRETH1	4		0.6	0.6	
agec*RIDRETH1	5		0.6	0.6	
agec*RIDRETH1	1		0.6	0.6	
agec*agec*RIDRETH1	2		1.8	1.8	
agec*agec*RIDRETH1	3		1.8	1.8	
agec*agec*RIDRETH1	4		1.8	1.8	
agec*agec*RIDRETH1	5		1.8	1.8	
agec*agec*RIDRETH1	1		1.8	1.8	
agec*RIAGENDR		2	3		
agec*RIAGENDR		1		3	
agec*agec*RIAGENDR		2	9		

Coefficients for RIAGENDR Least Squares Means At agec=3					
Effect	1=mex	2=oth	hisp	Gender	Row1
	3=white	4=black	5=other		Row2
agec*agec*RIAGENDR			1		9

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	3.00	66.5028	1.1125	17	59.78	<.0001	0.05	64.1556	68.8500
1	3.00	64.9626	1.2225	17	53.14	<.0001	0.05	62.3833	67.5419

## The SURVEYREG Procedure

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

### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
<b>Number of Observations</b>	6676
<b>Number of Observations in Domain</b>	1564
<b>Number of Observations Not in Domain</b>	5112
<b>Sum of Weights in Domain</b>	37760598
<b>Weighted Mean of bpxdi1_1</b>	57.97422
<b>Weighted Sum of bpxdi1_1</b>	2189141217

Fit Statistics	
R-Square	0.07446
Root MSE	11.1889
Denominator DF	17

Tests of Model Effects			
Effect	Num DF	F Value	Pr > F
<b>Model</b>	17	701.22	<.0001
<b>Intercept</b>	1	1.12	0.3047
<b>RIDRETH1</b>	4	2.26	0.1059
<b>RIAGENDR</b>	1	1.52	0.2339
<b>agec</b>	1	0.07	0.7969
<b>agec*agec</b>	1	0.34	0.5685
<b>agec*RIDRETH1</b>	4	2.25	0.1066
<b>agec*agec*RIDRETH1</b>	4	2.20	0.1129
<b>agec*RIAGENDR</b>	1	1.39	0.2544
<b>agec*agec*RIAGENDR</b>	1	1.25	0.2794

**Note:** The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
<b>Intercept</b>	77.59236	55.817676	1.39	0.1824	-40.17264 195.357363	0.79
<b>RIDRETH1 2</b>	-7.15937	186.244532	-0.04	0.9698	-400.10098 385.782248	3.72
<b>RIDRETH1 3</b>	-57.07703	101.797047	-0.56	0.5823	-271.85003 157.695962	2.35
<b>RIDRETH1 4</b>	114.70964	102.379828	1.12	0.2781	-101.29292 330.712198	1.56
<b>RIDRETH1 5</b>	138.50325	175.579375	0.79	0.4411	-231.93685 508.943346	3.19
<b>RIDRETH1 1</b>	0.00000	0.000000	.	.	0.00000 0.000000	.
<b>RIAGENDR 2</b>	-108.71029	88.077169	-1.23	0.2339	-294.53687 77.116294	4.01
<b>RIAGENDR 1</b>	0.00000	0.000000	.	.	0.00000 0.000000	.
<b>agec</b>	0.90884	33.003879	0.03	0.9784	-68.72326 70.540939	0.79
<b>agec*agec</b>	-1.64557	4.868354	-0.34	0.7395	-11.91690 8.625758	0.80
<b>agec*RIDRETH1 2</b>	-7.85972	109.412724	-0.07	0.9436	-238.70039 222.980951	3.68
<b>agec*RIDRETH1 3</b>	-34.26986	59.695080	-0.57	0.5734	-160.21547 91.675749	2.32
<b>agec*RIDRETH1 4</b>	67.13930	60.980467	1.10	0.2862	-61.51824 195.796836	1.57

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agec*RIDRETH1 5	79.63757	104.157524	0.76	0.4550	-140.11559	299.390741	3.19
agec*RIDRETH1 1	0.00000	0.000000	.	.	0.00000	0.000000	.
agec*agec*RIDRETH1 2	-1.53326	16.013365	-0.10	0.9248	-35.31850	32.251990	3.65
agec*agec*RIDRETH1 3	-4.87730	8.742153	-0.56	0.5842	-23.32164	13.567026	2.30
agec*agec*RIDRETH1 4	9.84214	9.084295	1.08	0.2937	-9.32405	29.008326	1.61
agec*agec*RIDRETH1 5	11.55120	15.354399	0.75	0.4622	-20.84375	43.946151	3.20
agec*agec*RIDRETH1 1	0.00000	0.000000	.	.	0.00000	0.000000	.
agec*RIAGENDR 2	-61.55298	52.184387	-1.18	0.2544	-171.65241	48.546453	4.01
agec*RIAGENDR 1	0.00000	0.000000	.	.	0.00000	0.000000	.
agec*agec*RIAGENDR 2	-8.55939	7.661195	-1.12	0.2794	-24.72310	7.604322	3.98
agec*agec*RIAGENDR 1	0.00000	0.000000	.	.	0.00000	0.000000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Coefficients for RIAGENDR Least Squares Means At agec=-3					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-3	-3	
agec*agec			9	9	
agec*RIDRETH1	2		-0.6	-0.6	
agec*RIDRETH1	3		-0.6	-0.6	
agec*RIDRETH1	4		-0.6	-0.6	
agec*RIDRETH1	5		-0.6	-0.6	
agec*RIDRETH1	1		-0.6	-0.6	
agec*agec*RIDRETH1	2		1.8	1.8	
agec*agec*RIDRETH1	3		1.8	1.8	
agec*agec*RIDRETH1	4		1.8	1.8	
agec*agec*RIDRETH1	5		1.8	1.8	
agec*agec*RIDRETH1	1		1.8	1.8	
agec*RIAGENDR		2	-3		
agec*RIAGENDR		1		-3	
agec*agec*RIAGENDR		2	9		
agec*agec*RIAGENDR		1		9	

#### RIAGENDR Least Squares Means

Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-3.00	60.9458	0.9466	17	64.38	<.0001	0.05	58.9485	62.9430
1	-3.00	62.0316	0.8722	17	71.12	<.0001	0.05	60.1913	63.8719

Coefficients for RIAGENDR Least Squares Means At agec=-2.5						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1		Row2
Intercept					1	1
RIDRETH1	2				0.2	0.2
RIDRETH1	3				0.2	0.2
RIDRETH1	4				0.2	0.2
RIDRETH1	5				0.2	0.2
RIDRETH1	1				0.2	0.2
RIAGENDR		2		1		
RIAGENDR		1			1	
agec					-2.5	-2.5
agec*agec					6.25	6.25
agec*RIDRETH1	2				-0.5	-0.5
agec*RIDRETH1	3				-0.5	-0.5
agec*RIDRETH1	4				-0.5	-0.5
agec*RIDRETH1	5				-0.5	-0.5
agec*RIDRETH1	1				-0.5	-0.5
agec*agec*RIDRETH1	2				1.25	1.25
agec*agec*RIDRETH1	3				1.25	1.25
agec*agec*RIDRETH1	4				1.25	1.25
agec*agec*RIDRETH1	5				1.25	1.25
agec*agec*RIDRETH1	1				1.25	1.25
agec*RIAGENDR		2		-2.5		
agec*RIAGENDR		1			-2.5	
agec*agec*RIAGENDR		2		6.25		
agec*agec*RIAGENDR		1			6.25	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-2.50	60.9115	3.8636	17	15.77	<.0001	0.05	52.7600	69.0631
1	-2.50	69.2356	5.3736	17	12.88	<.0001	0.05	57.8982	80.5729

Coefficients for RIAGENDR Least Squares Means At agec=-2						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1		Row2
Intercept					1	1
RIDRETH1	2				0.2	0.2

Coefficients for RIAGENDR Least Squares Means At agec=-2					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-2	-2	
agec*agec			4	4	
agec*RIDRETH1	2		-0.4	-0.4	
agec*RIDRETH1	3		-0.4	-0.4	
agec*RIDRETH1	4		-0.4	-0.4	
agec*RIDRETH1	5		-0.4	-0.4	
agec*RIDRETH1	1		-0.4	-0.4	
agec*agec*RIDRETH1	2		0.8	0.8	
agec*agec*RIDRETH1	3		0.8	0.8	
agec*agec*RIDRETH1	4		0.8	0.8	
agec*agec*RIDRETH1	5		0.8	0.8	
agec*agec*RIDRETH1	1		0.8	0.8	
agec*RIAGENDR		2	-2		
agec*RIAGENDR		1		-2	
agec*agec*RIAGENDR		2	4		
agec*agec*RIAGENDR		1		4	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-2.00	57.2731	9.8957	17	5.79	<.0001	0.05	36.3951	78.1511
1	-2.00	77.1150	13.6274	17	5.66	<.0001	0.05	48.3637	105.87

Coefficients for RIAGENDR Least Squares Means At agec=-1.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-1.5	-1.5	

Coefficients for RIAGENDR Least Squares Means At agec=-1.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*agec			2.25	2.25	
agec*RIDRETH1	2		-0.3	-0.3	
agec*RIDRETH1	3		-0.3	-0.3	
agec*RIDRETH1	4		-0.3	-0.3	
agec*RIDRETH1	5		-0.3	-0.3	
agec*RIDRETH1	1		-0.3	-0.3	
agec*agec*RIDRETH1	2		0.45	0.45	
agec*agec*RIDRETH1	3		0.45	0.45	
agec*agec*RIDRETH1	4		0.45	0.45	
agec*agec*RIDRETH1	5		0.45	0.45	
agec*agec*RIDRETH1	1		0.45	0.45	
agec*RIAGENDR		2	-1.5		
agec*RIAGENDR		1		-1.5	
agec*agec*RIAGENDR		2	2.25		
agec*agec*RIAGENDR		1		2.25	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.50	50.0305	18.6246	17	2.69	0.0156	0.05	10.7360	89.3250
1	-1.50	85.6699	25.4893	17	3.36	0.0037	0.05	31.8921	139.45

Coefficients for RIAGENDR Least Squares Means At agec=-1					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-1	-1	
agec*agec			1	1	
agec*RIDRETH1	2		-0.2	-0.2	
agec*RIDRETH1	3		-0.2	-0.2	
agec*RIDRETH1	4		-0.2	-0.2	
agec*RIDRETH1	5		-0.2	-0.2	
agec*RIDRETH1	1		-0.2	-0.2	
agec*agec*RIDRETH1	2		0.2	0.2	

Coefficients for RIAGENDR Least Squares Means At agec=-1					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*agec*RIDRETH1	3		0.2	0.2	
agec*agec*RIDRETH1	4		0.2	0.2	
agec*agec*RIDRETH1	5		0.2	0.2	
agec*agec*RIDRETH1	1		0.2	0.2	
agec*RIAGENDR		2	-1		
agec*RIAGENDR		1		-1	
agec*agec*RIAGENDR		2	1		
agec*agec*RIAGENDR		1		1	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.00	39.1836	30.0169	17	1.31	0.2092	0.05	-24.1464	102.51
1	-1.00	94.9003	40.9537	17	2.32	0.0332	0.05	8.4956	181.31

Coefficients for RIAGENDR Least Squares Means At agec=-0.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-0.5	-0.5	
agec*agec			0.25	0.25	
agec*RIDRETH1	2		-0.1	-0.1	
agec*RIDRETH1	3		-0.1	-0.1	
agec*RIDRETH1	4		-0.1	-0.1	
agec*RIDRETH1	5		-0.1	-0.1	
agec*RIDRETH1	1		-0.1	-0.1	
agec*agec*RIDRETH1	2		0.05	0.05	
agec*agec*RIDRETH1	3		0.05	0.05	
agec*agec*RIDRETH1	4		0.05	0.05	
agec*agec*RIDRETH1	5		0.05	0.05	
agec*agec*RIDRETH1	1		0.05	0.05	
agec*RIAGENDR		2	-0.5		
agec*RIAGENDR		1		-0.5	
agec*agec*RIAGENDR		2	0.25		

Coefficients for RIAGENDR Least Squares Means At agec=-0.5						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*agec*RIAGENDR			1		0.25	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-0.50	24.7326	44.0658	17	0.56	0.5819	0.05	-68.2382	117.70
1	-0.50	104.81	60.0200	17	1.75	0.0988	0.05	-21.8248	231.44

Coefficients for RIAGENDR Least Squares Means At agec=0						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept				1	1	
RIDRETH1	2			0.2	0.2	
RIDRETH1	3			0.2	0.2	
RIDRETH1	4			0.2	0.2	
RIDRETH1	5			0.2	0.2	
RIDRETH1	1			0.2	0.2	
RIAGENDR		2		1		
RIAGENDR		1			1	
agec						
agec*agec						
agec*RIDRETH1	2					
agec*RIDRETH1	3					
agec*RIDRETH1	4					
agec*RIDRETH1	5					
agec*RIDRETH1	1					
agec*agec*RIDRETH1	2					
agec*agec*RIDRETH1	3					
agec*agec*RIDRETH1	4					
agec*agec*RIDRETH1	5					
agec*agec*RIDRETH1	1					
agec*RIAGENDR		2				
agec*RIAGENDR		1				
agec*agec*RIAGENDR		2				
agec*agec*RIAGENDR		1				

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.00	6.6774	60.7696	17	0.11	0.9138	0.05	-121.54	134.89
1	0.00	115.39	82.6883	17	1.40	0.1808	0.05	-59.0693	289.84

Coefficients for RIAGENDR Least Squares Means At agec=0.5					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
Intercept				1	1
RIDRETH1	2			0.2	0.2
RIDRETH1	3			0.2	0.2
RIDRETH1	4			0.2	0.2
RIDRETH1	5			0.2	0.2
RIDRETH1	1			0.2	0.2
RIAGENDR		2		1	
RIAGENDR		1			1
agec				0.5	0.5
agec*agec				0.25	0.25
agec*RIDRETH1	2			0.1	0.1
agec*RIDRETH1	3			0.1	0.1
agec*RIDRETH1	4			0.1	0.1
agec*RIDRETH1	5			0.1	0.1
agec*RIDRETH1	1			0.1	0.1
agec*agec*RIDRETH1	2			0.05	0.05
agec*agec*RIDRETH1	3			0.05	0.05
agec*agec*RIDRETH1	4			0.05	0.05
agec*agec*RIDRETH1	5			0.05	0.05
agec*agec*RIDRETH1	1			0.05	0.05
agec*RIAGENDR		2		0.5	
agec*RIAGENDR		1			0.5
agec*agec*RIAGENDR		2		0.25	
agec*agec*RIAGENDR		1			0.25

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.50	-14.9821	80.1273	17	-0.19	0.8539	0.05	-184.04	154.07
1	0.50	126.64	108.96	17	1.16	0.2612	0.05	-103.24	356.53

Coefficients for RIAGENDR Least Squares Means At agec=1					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
Intercept				1	1
RIDRETH1	2			0.2	0.2
RIDRETH1	3			0.2	0.2
RIDRETH1	4			0.2	0.2
RIDRETH1	5			0.2	0.2
RIDRETH1	1			0.2	0.2

Coefficients for RIAGENDR Least Squares Means At agec=1					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
<b>RIAGENDR</b>			2	1	
<b>RIAGENDR</b>			1		1
<b>agec</b>				1	1
<b>agec*agec</b>				1	1
<b>agec*RIDRETH1</b>		2		0.2	0.2
<b>agec*RIDRETH1</b>		3		0.2	0.2
<b>agec*RIDRETH1</b>		4		0.2	0.2
<b>agec*RIDRETH1</b>		5		0.2	0.2
<b>agec*RIDRETH1</b>		1		0.2	0.2
<b>agec*agec*RIDRETH1</b>		2		0.2	0.2
<b>agec*agec*RIDRETH1</b>		3		0.2	0.2
<b>agec*agec*RIDRETH1</b>		4		0.2	0.2
<b>agec*agec*RIDRETH1</b>		5		0.2	0.2
<b>agec*agec*RIDRETH1</b>		1		0.2	0.2
<b>agec*RIAGENDR</b>			2	1	
<b>agec*RIAGENDR</b>			1		1
<b>agec*agec*RIAGENDR</b>			2	1	
<b>agec*agec*RIAGENDR</b>			1		1

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	1.00	-40.2457	102.14	17	-0.39	0.6985	0.05	-255.74	175.25
1	1.00	138.58	138.83	17	1.00	0.3322	0.05	-154.33	431.49

Coefficients for RIAGENDR Least Squares Means At agec=1.5					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
<b>Intercept</b>				1	1
<b>RIDRETH1</b>		2		0.2	0.2
<b>RIDRETH1</b>		3		0.2	0.2
<b>RIDRETH1</b>		4		0.2	0.2
<b>RIDRETH1</b>		5		0.2	0.2
<b>RIDRETH1</b>		1		0.2	0.2
<b>RIAGENDR</b>			2	1	
<b>RIAGENDR</b>			1		1
<b>agec</b>				1.5	1.5
<b>agec*agec</b>				2.25	2.25
<b>agec*RIDRETH1</b>		2		0.3	0.3
<b>agec*RIDRETH1</b>		3		0.3	0.3
<b>agec*RIDRETH1</b>		4		0.3	0.3

Coefficients for RIAGENDR Least Squares Means At agec=1.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*RIDRETH1	5		0.3	0.3	
agec*RIDRETH1	1		0.3	0.3	
agec*agec*RIDRETH1	2		0.45	0.45	
agec*agec*RIDRETH1	3		0.45	0.45	
agec*agec*RIDRETH1	4		0.45	0.45	
agec*agec*RIDRETH1	5		0.45	0.45	
agec*agec*RIDRETH1	1		0.45	0.45	
agec*RIAGENDR		2	1.5		
agec*RIAGENDR		1		1.5	
agec*agec*RIAGENDR		2	2.25		
agec*agec*RIAGENDR		1		2.25	

RIAGENDR Least Squares Means										
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper	
2	1.50	-69.1136	126.80	17	-0.55	0.5928	0.05	-336.65	198.42	
1	1.50	151.18	172.31	17	0.88	0.3925	0.05	-212.35	514.72	

Coefficients for RIAGENDR Least Squares Means At agec=2					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			2	2	
agec*agec			4	4	
agec*RIDRETH1	2		0.4	0.4	
agec*RIDRETH1	3		0.4	0.4	
agec*RIDRETH1	4		0.4	0.4	
agec*RIDRETH1	5		0.4	0.4	
agec*RIDRETH1	1		0.4	0.4	
agec*agec*RIDRETH1	2		0.8	0.8	
agec*agec*RIDRETH1	3		0.8	0.8	
agec*agec*RIDRETH1	4		0.8	0.8	
agec*agec*RIDRETH1	5		0.8	0.8	
agec*agec*RIDRETH1	1		0.8	0.8	

Coefficients for RIAGENDR Least Squares Means At agec=2					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
agec*RIAGENDR			2	2	
agec*RIAGENDR			1		2
agec*agec*RIAGENDR			2	4	
agec*agec*RIAGENDR			1		4

RIAGENDR Least Squares Means										
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper	
2	2.00	-101.59	154.12	17	-0.66	0.5186	0.05	-426.75	223.58	
1	2.00	164.47	209.38	17	0.79	0.4430	0.05	-277.29	606.23	

Coefficients for RIAGENDR Least Squares Means At agec=2.5					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
Intercept				1	1
RIDRETH1		2		0.2	0.2
RIDRETH1		3		0.2	0.2
RIDRETH1		4		0.2	0.2
RIDRETH1		5		0.2	0.2
RIDRETH1		1		0.2	0.2
RIAGENDR			2	1	
RIAGENDR			1		1
agec				2.5	2.5
agec*agec				6.25	6.25
agec*RIDRETH1		2		0.5	0.5
agec*RIDRETH1		3		0.5	0.5
agec*RIDRETH1		4		0.5	0.5
agec*RIDRETH1		5		0.5	0.5
agec*RIDRETH1		1		0.5	0.5
agec*agec*RIDRETH1		2		1.25	1.25
agec*agec*RIDRETH1		3		1.25	1.25
agec*agec*RIDRETH1		4		1.25	1.25
agec*agec*RIDRETH1		5		1.25	1.25
agec*agec*RIDRETH1		1		1.25	1.25
agec*RIAGENDR			2	2.5	
agec*RIAGENDR			1		2.5
agec*agec*RIAGENDR			2	6.25	
agec*agec*RIAGENDR			1		6.25

### RIAGENDR Least Squares Means

Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	2.50	-137.66	184.09	17	-0.75	0.4648	0.05	-526.07	250.74
1	2.50	178.43	250.06	17	0.71	0.4852	0.05	-349.16	706.02

Coefficients for RIAGENDR Least Squares Means At agec=3						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept				1	1	
RIDRETH1	2			0.2	0.2	
RIDRETH1	3			0.2	0.2	
RIDRETH1	4			0.2	0.2	
RIDRETH1	5			0.2	0.2	
RIDRETH1	1			0.2	0.2	
RIAGENDR		2		1		
RIAGENDR		1			1	
agec				3	3	
agec*agec				9	9	
agec*RIDRETH1	2			0.6	0.6	
agec*RIDRETH1	3			0.6	0.6	
agec*RIDRETH1	4			0.6	0.6	
agec*RIDRETH1	5			0.6	0.6	
agec*RIDRETH1	1			0.6	0.6	
agec*agec*RIDRETH1	2			1.8	1.8	
agec*agec*RIDRETH1	3			1.8	1.8	
agec*agec*RIDRETH1	4			1.8	1.8	
agec*agec*RIDRETH1	5			1.8	1.8	
agec*agec*RIDRETH1	1			1.8	1.8	
agec*RIAGENDR		2		3		
agec*RIAGENDR		1			3	
agec*agec*RIAGENDR		2		9		
agec*agec*RIAGENDR		1			9	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	3.00	-177.34	216.72	17	-0.82	0.4245	0.05	-634.58	279.89
1	3.00	193.06	294.35	17	0.66	0.5207	0.05	-427.95	814.08

## The SURVEYREG Procedure

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

### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	5112
Number of Observations Not in Domain	1564
Sum of Weights in Domain	212747914
Weighted Mean of bpxdi1_1	71.60877
Weighted Sum of bpxdi1_1	1.52346E10

Fit Statistics	
R-Square	0.1203
Root MSE	10.7452
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	17	2987.50	<.0001	
Intercept	1	25022.6	<.0001	
RIDRETH1	4	5.18	0.0065	
RIAGENDR	1	17.67	0.0006	
agec	1	36.65	<.0001	
agec*agec	1	275.91	<.0001	
agec*RIDRETH1	4	3.08	0.0447	
agec*agec*RIDRETH1	4	6.42	0.0024	
agec*RIAGENDR	1	3.75	0.0697	
agec*agec*RIAGENDR	1	4.14	0.0579	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	75.3464498	0.82011243	91.87	<.0001	73.6161638 77.0767358	1.38
RIDRETH1 2	0.2714371	0.92217646	0.29	0.7721	-1.6741852 2.2170594	0.82
RIDRETH1 3	1.4611713	0.91162242	1.60	0.1274	-0.4621839 3.3845265	1.63
RIDRETH1 4	3.4500173	0.96227934	3.59	0.0023	1.4197854 5.4802493	1.22
RIDRETH1 5	1.1441363	0.89600412	1.28	0.2188	-0.7462671 3.0345398	0.88
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
RIAGENDR 2	-3.1953718	0.76025991	-4.20	0.0006	-4.7993800 -1.5913636	4.17
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
agec	0.3922655	0.39823459	0.99	0.3384	-0.4479360 1.2324671	1.24
agec*agec	-1.5235576	0.18104432	-8.42	<.0001	-1.9055277 -1.1415874	0.86
agec*RIDRETH1 2	0.4963768	0.49755685	1.00	0.3324	-0.5533764 1.5461300	1.15
agec*RIDRETH1 3	-0.0447546	0.53246995	-0.08	0.9340	-1.1681681 1.0786588	2.14
agec*RIDRETH1 4	0.3454883	0.38776916	0.89	0.3854	-0.4726331 1.1636097	0.86

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agec*RIDRETH1 5	0.1490591	0.49282074	0.30	0.7660	-0.8907017	1.1888200	1.20
agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*agec*RIDRETH1 2	0.0836542	0.34523731	0.24	0.8114	-0.6447329	0.8120413	1.74
agec*agec*RIDRETH1 3	0.2662321	0.17171368	1.55	0.1395	-0.0960521	0.6285163	0.75
agec*agec*RIDRETH1 4	-0.2368008	0.19841895	-1.19	0.2491	-0.6554282	0.1818266	0.74
agec*agec*RIDRETH1 5	0.1444580	0.29858582	0.48	0.6347	-0.4855030	0.7744190	1.41
agec*agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*RIAGENDR 2	0.4549443	0.23500066	1.94	0.0697	-0.0408637	0.9507524	2.32
agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*agec*RIAGENDR 2	0.3386353	0.16648154	2.03	0.0579	-0.0126100	0.6898807	3.66
agec*agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

Coefficients for RIAGENDR Least Squares Means At agec=-3					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-3	-3	
agec*agec			9	9	
agec*RIDRETH1	2		-0.6	-0.6	
agec*RIDRETH1	3		-0.6	-0.6	
agec*RIDRETH1	4		-0.6	-0.6	
agec*RIDRETH1	5		-0.6	-0.6	
agec*RIDRETH1	1		-0.6	-0.6	
agec*agec*RIDRETH1	2		1.8	1.8	
agec*agec*RIDRETH1	3		1.8	1.8	
agec*agec*RIDRETH1	4		1.8	1.8	
agec*agec*RIDRETH1	5		1.8	1.8	
agec*agec*RIDRETH1	1		1.8	1.8	
agec*RIAGENDR		2	-3		
agec*RIAGENDR		1		-3	
agec*agec*RIAGENDR		2	9		
agec*agec*RIAGENDR		1		9	

#### RIAGENDR Least Squares Means

Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-3.00	60.1064	1.0244	17	58.67	<.0001	0.05	57.9450	62.2678
1	-3.00	61.6189	0.7882	17	78.18	<.0001	0.05	59.9560	63.2818

Coefficients for RIAGENDR Least Squares Means At agec=-2.5						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept				1	1	
RIDRETH1	2			0.2	0.2	
RIDRETH1	3			0.2	0.2	
RIDRETH1	4			0.2	0.2	
RIDRETH1	5			0.2	0.2	
RIDRETH1	1			0.2	0.2	
RIAGENDR		2		1		
RIAGENDR		1			1	
agec				-2.5	-2.5	
agec*agec				6.25	6.25	
agec*RIDRETH1	2			-0.5	-0.5	
agec*RIDRETH1	3			-0.5	-0.5	
agec*RIDRETH1	4			-0.5	-0.5	
agec*RIDRETH1	5			-0.5	-0.5	
agec*RIDRETH1	1			-0.5	-0.5	
agec*agec*RIDRETH1	2			1.25	1.25	
agec*agec*RIDRETH1	3			1.25	1.25	
agec*agec*RIDRETH1	4			1.25	1.25	
agec*agec*RIDRETH1	5			1.25	1.25	
agec*agec*RIDRETH1	1			1.25	1.25	
agec*RIAGENDR		2		-2.5		
agec*RIAGENDR		1			-2.5	
agec*agec*RIAGENDR		2		6.25		
agec*agec*RIAGENDR		1			6.25	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-2.50	63.7415	0.7548	17	84.45	<.0001	0.05	62.1491	65.3339
1	-2.50	65.9577	0.5786	17	113.99	<.0001	0.05	64.7369	67.1786

Coefficients for RIAGENDR Least Squares Means At agec=-2						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept				1	1	
RIDRETH1	2			0.2	0.2	

Coefficients for RIAGENDR Least Squares Means At agec=-2					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-2	-2	
agec*agec			4	4	
agec*RIDRETH1	2		-0.4	-0.4	
agec*RIDRETH1	3		-0.4	-0.4	
agec*RIDRETH1	4		-0.4	-0.4	
agec*RIDRETH1	5		-0.4	-0.4	
agec*RIDRETH1	1		-0.4	-0.4	
agec*agec*RIDRETH1	2		0.8	0.8	
agec*agec*RIDRETH1	3		0.8	0.8	
agec*agec*RIDRETH1	4		0.8	0.8	
agec*agec*RIDRETH1	5		0.8	0.8	
agec*agec*RIDRETH1	1		0.8	0.8	
agec*RIAGENDR		2	-2		
agec*RIAGENDR		1		-2	
agec*agec*RIAGENDR		2	4		
agec*agec*RIAGENDR		1		4	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-2.00	66.8099	0.5875	17	113.72	<.0001	0.05	65.5704	68.0494
1	-2.00	69.5606	0.4728	17	147.11	<.0001	0.05	68.5630	70.5582

Coefficients for RIAGENDR Least Squares Means At agec=-1.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-1.5	-1.5	

Coefficients for RIAGENDR Least Squares Means At agec=-1.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*agec			2.25	2.25	
agec*RIDRETH1	2		-0.3	-0.3	
agec*RIDRETH1	3		-0.3	-0.3	
agec*RIDRETH1	4		-0.3	-0.3	
agec*RIDRETH1	5		-0.3	-0.3	
agec*RIDRETH1	1		-0.3	-0.3	
agec*agec*RIDRETH1	2		0.45	0.45	
agec*agec*RIDRETH1	3		0.45	0.45	
agec*agec*RIDRETH1	4		0.45	0.45	
agec*agec*RIDRETH1	5		0.45	0.45	
agec*agec*RIDRETH1	1		0.45	0.45	
agec*RIAGENDR		2	-1.5		
agec*RIAGENDR		1		-1.5	
agec*agec*RIAGENDR		2	2.25		
agec*agec*RIAGENDR		1		2.25	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.50	69.3116	0.5276	17	131.36	<.0001	0.05	68.1984	70.4248
1	-1.50	72.4274	0.4647	17	155.85	<.0001	0.05	71.4470	73.4079

Coefficients for RIAGENDR Least Squares Means At agec=-1					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-1	-1	
agec*agec			1	1	
agec*RIDRETH1	2		-0.2	-0.2	
agec*RIDRETH1	3		-0.2	-0.2	
agec*RIDRETH1	4		-0.2	-0.2	
agec*RIDRETH1	5		-0.2	-0.2	
agec*RIDRETH1	1		-0.2	-0.2	
agec*agec*RIDRETH1	2		0.2	0.2	

Coefficients for RIAGENDR Least Squares Means At agec=-1					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*agec*RIDRETH1	3		0.2	0.2	
agec*agec*RIDRETH1	4		0.2	0.2	
agec*agec*RIDRETH1	5		0.2	0.2	
agec*agec*RIDRETH1	1		0.2	0.2	
agec*RIAGENDR		2	-1		
agec*RIAGENDR		1		-1	
agec*agec*RIAGENDR		2	1		
agec*agec*RIAGENDR		1		1	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-1.00	71.2466	0.5420	17	131.44	<.0001	0.05	70.1030	72.3902
1	-1.00	74.5583	0.5079	17	146.81	<.0001	0.05	73.4868	75.6297

Coefficients for RIAGENDR Least Squares Means At agec=-0.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			-0.5	-0.5	
agec*agec			0.25	0.25	
agec*RIDRETH1	2		-0.1	-0.1	
agec*RIDRETH1	3		-0.1	-0.1	
agec*RIDRETH1	4		-0.1	-0.1	
agec*RIDRETH1	5		-0.1	-0.1	
agec*RIDRETH1	1		-0.1	-0.1	
agec*agec*RIDRETH1	2		0.05	0.05	
agec*agec*RIDRETH1	3		0.05	0.05	
agec*agec*RIDRETH1	4		0.05	0.05	
agec*agec*RIDRETH1	5		0.05	0.05	
agec*agec*RIDRETH1	1		0.05	0.05	
agec*RIAGENDR		2	-0.5		
agec*RIAGENDR		1		-0.5	
agec*agec*RIAGENDR		2	0.25		

Coefficients for RIAGENDR Least Squares Means At agec=-0.5						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*agec*RIAGENDR			1		0.25	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	-0.50	72.6149	0.5809	17	124.99	<.0001	0.05	71.3892	73.8406
1	-0.50	75.9530	0.5593	17	135.81	<.0001	0.05	74.7731	77.1330

Coefficients for RIAGENDR Least Squares Means At agec=0						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept				1	1	
RIDRETH1	2			0.2	0.2	
RIDRETH1	3			0.2	0.2	
RIDRETH1	4			0.2	0.2	
RIDRETH1	5			0.2	0.2	
RIDRETH1	1			0.2	0.2	
RIAGENDR		2		1		
RIAGENDR		1			1	
agec						
agec*agec						
agec*RIDRETH1	2					
agec*RIDRETH1	3					
agec*RIDRETH1	4					
agec*RIDRETH1	5					
agec*RIDRETH1	1					
agec*agec*RIDRETH1	2					
agec*agec*RIDRETH1	3					
agec*agec*RIDRETH1	4					
agec*agec*RIDRETH1	5					
agec*agec*RIDRETH1	1					
agec*RIAGENDR		2				
agec*RIAGENDR		1				
agec*agec*RIAGENDR		2				
agec*agec*RIAGENDR		1				

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.00	73.4164	0.6144	17	119.50	<.0001	0.05	72.1202	74.7127
1	0.00	76.6118	0.6011	17	127.46	<.0001	0.05	75.3436	77.8800

Coefficients for RIAGENDR Least Squares Means At agec=0.5					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
Intercept				1	1
RIDRETH1	2			0.2	0.2
RIDRETH1	3			0.2	0.2
RIDRETH1	4			0.2	0.2
RIDRETH1	5			0.2	0.2
RIDRETH1	1			0.2	0.2
RIAGENDR		2		1	
RIAGENDR		1			1
agec				0.5	0.5
agec*agec				0.25	0.25
agec*RIDRETH1	2			0.1	0.1
agec*RIDRETH1	3			0.1	0.1
agec*RIDRETH1	4			0.1	0.1
agec*RIDRETH1	5			0.1	0.1
agec*RIDRETH1	1			0.1	0.1
agec*agec*RIDRETH1	2			0.05	0.05
agec*agec*RIDRETH1	3			0.05	0.05
agec*agec*RIDRETH1	4			0.05	0.05
agec*agec*RIDRETH1	5			0.05	0.05
agec*agec*RIDRETH1	1			0.05	0.05
agec*RIAGENDR		2		0.5	
agec*RIAGENDR		1			0.5
agec*agec*RIAGENDR		2		0.25	
agec*agec*RIAGENDR		1			0.25

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	0.50	73.6513	0.6352	17	115.95	<.0001	0.05	72.3111	74.9915
1	0.50	76.5345	0.6338	17	120.76	<.0001	0.05	75.1974	77.8717

Coefficients for RIAGENDR Least Squares Means At agec=1					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
Intercept				1	1
RIDRETH1	2			0.2	0.2
RIDRETH1	3			0.2	0.2
RIDRETH1	4			0.2	0.2
RIDRETH1	5			0.2	0.2
RIDRETH1	1			0.2	0.2

Coefficients for RIAGENDR Least Squares Means At agec=1					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
<b>RIAGENDR</b>			2	1	
<b>RIAGENDR</b>			1		1
<b>agec</b>				1	1
<b>agec*agec</b>				1	1
<b>agec*RIDRETH1</b>		2		0.2	0.2
<b>agec*RIDRETH1</b>		3		0.2	0.2
<b>agec*RIDRETH1</b>		4		0.2	0.2
<b>agec*RIDRETH1</b>		5		0.2	0.2
<b>agec*RIDRETH1</b>		1		0.2	0.2
<b>agec*agec*RIDRETH1</b>		2		0.2	0.2
<b>agec*agec*RIDRETH1</b>		3		0.2	0.2
<b>agec*agec*RIDRETH1</b>		4		0.2	0.2
<b>agec*agec*RIDRETH1</b>		5		0.2	0.2
<b>agec*agec*RIDRETH1</b>		1		0.2	0.2
<b>agec*RIAGENDR</b>			2	1	
<b>agec*RIAGENDR</b>			1		1
<b>agec*agec*RIAGENDR</b>			2	1	
<b>agec*agec*RIAGENDR</b>			1		1

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	1.00	73.3195	0.6536	17	112.18	<.0001	0.05	71.9405	74.6984
1	1.00	75.7213	0.6705	17	112.93	<.0001	0.05	74.3066	77.1359

Coefficients for RIAGENDR Least Squares Means At agec=1.5					
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2
<b>Intercept</b>				1	1
<b>RIDRETH1</b>		2		0.2	0.2
<b>RIDRETH1</b>		3		0.2	0.2
<b>RIDRETH1</b>		4		0.2	0.2
<b>RIDRETH1</b>		5		0.2	0.2
<b>RIDRETH1</b>		1		0.2	0.2
<b>RIAGENDR</b>			2	1	
<b>RIAGENDR</b>			1		1
<b>agec</b>				1.5	1.5
<b>agec*agec</b>				2.25	2.25
<b>agec*RIDRETH1</b>		2		0.3	0.3
<b>agec*RIDRETH1</b>		3		0.3	0.3
<b>agec*RIDRETH1</b>		4		0.3	0.3

Coefficients for RIAGENDR Least Squares Means At agec=1.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*RIDRETH1	5		0.3	0.3	
agec*RIDRETH1	1		0.3	0.3	
agec*agec*RIDRETH1	2		0.45	0.45	
agec*agec*RIDRETH1	3		0.45	0.45	
agec*agec*RIDRETH1	4		0.45	0.45	
agec*agec*RIDRETH1	5		0.45	0.45	
agec*agec*RIDRETH1	1		0.45	0.45	
agec*RIAGENDR		2	1.5		
agec*RIAGENDR		1		1.5	
agec*agec*RIAGENDR		2	2.25		
agec*agec*RIAGENDR		1		2.25	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	1.50	72.4209	0.6942	17	104.32	<.0001	0.05	70.9563	73.8855
1	1.50	74.1719	0.7335	17	101.12	<.0001	0.05	72.6244	75.7195

Coefficients for RIAGENDR Least Squares Means At agec=2					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			2	2	
agec*agec			4	4	
agec*RIDRETH1	2		0.4	0.4	
agec*RIDRETH1	3		0.4	0.4	
agec*RIDRETH1	4		0.4	0.4	
agec*RIDRETH1	5		0.4	0.4	
agec*RIDRETH1	1		0.4	0.4	
agec*agec*RIDRETH1	2		0.8	0.8	
agec*agec*RIDRETH1	3		0.8	0.8	
agec*agec*RIDRETH1	4		0.8	0.8	
agec*agec*RIDRETH1	5		0.8	0.8	
agec*agec*RIDRETH1	1		0.8	0.8	

Coefficients for RIAGENDR Least Squares Means At agec=2					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
agec*RIAGENDR		2	2		
agec*RIAGENDR		1		2	
agec*agec*RIAGENDR		2	4		
agec*agec*RIAGENDR		1		4	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	2.00	70.9557	0.7893	17	89.90	<.0001	0.05	69.2904	72.6209
1	2.00	71.8866	0.8470	17	84.87	<.0001	0.05	70.0996	73.6736

Coefficients for RIAGENDR Least Squares Means At agec=2.5					
Effect	1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept			1	1	
RIDRETH1	2		0.2	0.2	
RIDRETH1	3		0.2	0.2	
RIDRETH1	4		0.2	0.2	
RIDRETH1	5		0.2	0.2	
RIDRETH1	1		0.2	0.2	
RIAGENDR		2	1		
RIAGENDR		1		1	
agec			2.5	2.5	
agec*agec			6.25	6.25	
agec*RIDRETH1	2		0.5	0.5	
agec*RIDRETH1	3		0.5	0.5	
agec*RIDRETH1	4		0.5	0.5	
agec*RIDRETH1	5		0.5	0.5	
agec*RIDRETH1	1		0.5	0.5	
agec*agec*RIDRETH1	2		1.25	1.25	
agec*agec*RIDRETH1	3		1.25	1.25	
agec*agec*RIDRETH1	4		1.25	1.25	
agec*agec*RIDRETH1	5		1.25	1.25	
agec*agec*RIDRETH1	1		1.25	1.25	
agec*RIAGENDR		2	2.5		
agec*RIAGENDR		1		2.5	
agec*agec*RIAGENDR		2	6.25		
agec*agec*RIAGENDR		1		6.25	

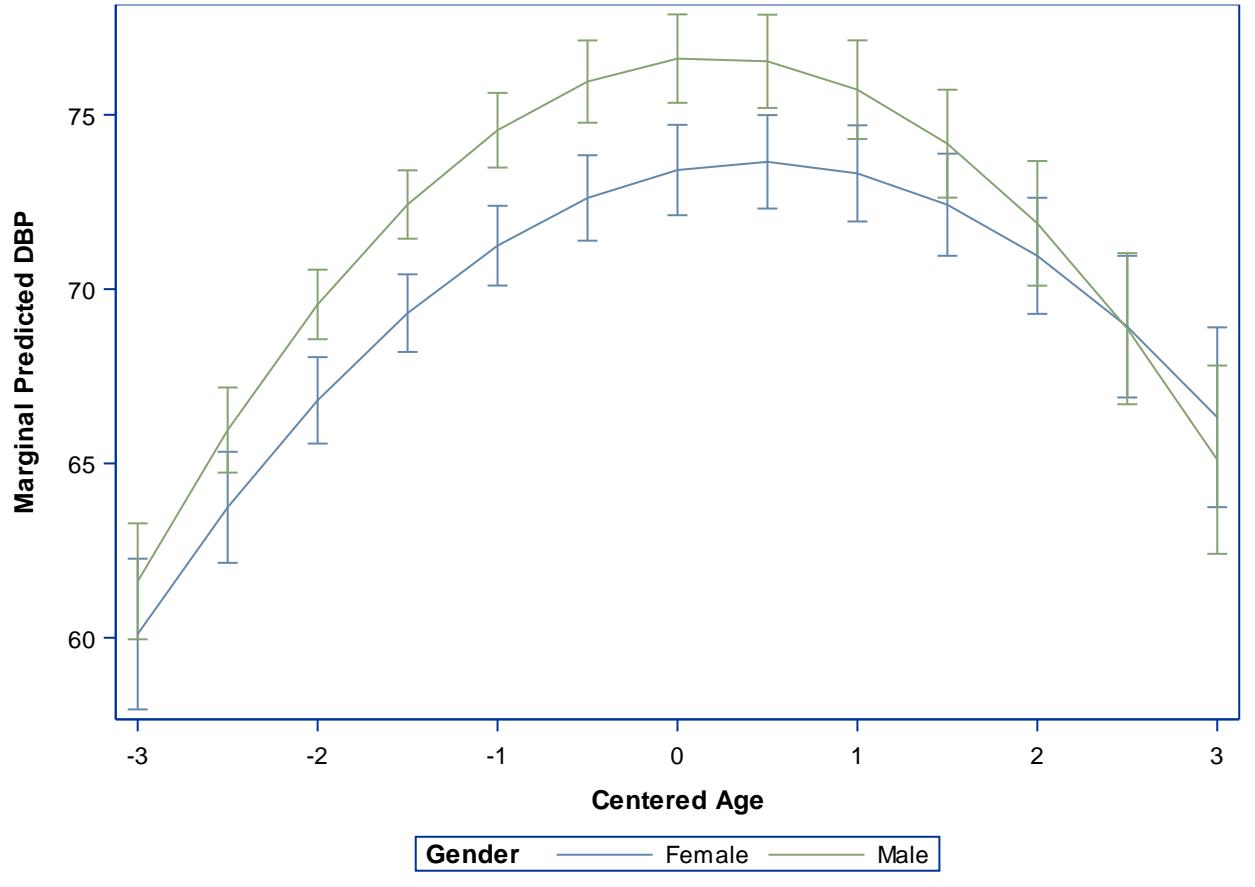
#### RIAGENDR Least Squares Means

Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	2.50	68.9237	0.9630	17	71.57	<.0001	0.05	66.8919	70.9555
1	2.50	68.8652	1.0275	17	67.02	<.0001	0.05	66.6975	71.0330

Coefficients for RIAGENDR Least Squares Means At agec=3						
Effect		1=mex 2=oth hisp 3=white 4=black 5=other	Gender	Row1	Row2	
Intercept				1	1	
RIDRETH1	2			0.2	0.2	
RIDRETH1	3			0.2	0.2	
RIDRETH1	4			0.2	0.2	
RIDRETH1	5			0.2	0.2	
RIDRETH1	1			0.2	0.2	
RIAGENDR		2		1		
RIAGENDR		1			1	
agec				3	3	
agec*agec				9	9	
agec*RIDRETH1	2			0.6	0.6	
agec*RIDRETH1	3			0.6	0.6	
agec*RIDRETH1	4			0.6	0.6	
agec*RIDRETH1	5			0.6	0.6	
agec*RIDRETH1	1			0.6	0.6	
agec*agec*RIDRETH1	2			1.8	1.8	
agec*agec*RIDRETH1	3			1.8	1.8	
agec*agec*RIDRETH1	4			1.8	1.8	
agec*agec*RIDRETH1	5			1.8	1.8	
agec*agec*RIDRETH1	1			1.8	1.8	
agec*RIAGENDR		2		3		
agec*RIAGENDR		1			3	
agec*agec*RIAGENDR		2		9		
agec*agec*RIAGENDR		1			9	

RIAGENDR Least Squares Means									
Gender	agec	Estimate	Standard Error	DF	t Value	Pr >  t	Alpha	Lower	Upper
2	3.00	66.3250	1.2223	17	54.26	<.0001	0.05	63.7462	68.9039
1	3.00	65.1079	1.2799	17	50.87	<.0001	0.05	62.4075	67.8083

**Plot of Marginal Predicted Values by Age and Gender: Figure 7.4**



## Final Model with Interactions The SURVEYREG Procedure

### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	250508512
Weighted Mean of bpxdi1_1	69.55356
Weighted Sum of bpxdi1_1	1.74238E10

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.2474
Root MSE	10.8263
Denominator DF	17

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	
RIAGENDR	Gender	2	2 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	5	3.41	0.0257	
Intercept	1	26755.3	<.0001	
RIDRETH1	4	4.75	0.0093	
RIAGENDR	1	24.18	0.0001	
agec	1	28.34	<.0001	
agecsq	1	0.00	1.0000	
agec*RIDRETH1	4	0.57	0.6855	
agecsq*RIDRETH1	3	0.00	1.0000	
agec*RIAGENDR	1	2.71	0.1183	
agecsq*RIAGENDR	1	16.77	0.0008	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect	
Intercept	75.4816175	0.67979	111.04	<.0001	74.0474 76.91585	1.01	
RIDRETH1 2	0.0308887	0.96721	0.03	0.9749	-2.0097 2.07152	0.95	
RIDRETH1 3	1.6229848	0.79993	2.03	0.0584	-0.0647 3.31069	1.33	
RIDRETH1 4	3.2495985	0.84820	3.83	0.0013	1.4601 5.03914	0.98	
RIDRETH1 5	1.1847914	0.73820	1.60	0.1269	-0.3727 2.74225	0.61	

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
RIDRETH1 1	0.0000000	0.00000	.	.	0.0000	0.00000	.
RIAGENDR 2	-3.4128307	0.69408	-4.92	0.0001	-4.8772	-1.94844	3.33
RIAGENDR 1	0.0000000	0.00000	.	.	0.0000	0.00000	.
agec	0.0430641	0.03777	1.14	0.2701	-0.0366	0.12276	0.98
agecsq	0.0745788	2873.27164	0.00	1.0000	-6061.9987	6062.14784	0.59
agec*RIDRETH1 2	0.0374371	0.05595	0.67	0.5124	-0.0806	0.15549	1.33
agec*RIDRETH1 3	0.0121473	0.05117	0.24	0.8152	-0.0958	0.12011	1.77
agec*RIDRETH1 4	0.0271642	0.03833	0.71	0.4881	-0.0537	0.10804	0.77
agec*RIDRETH1 5	0.0164287	0.05556	0.30	0.7711	-0.1008	0.13365	1.42
agec*RIDRETH1 1	0.0000000	0.00000	.	.	0.0000	0.00000	.
agecsq*RIDRETH1 2	-0.0884448	0.00000	-Infty	<.0001	-0.0884	-0.08844	.
agecsq*RIDRETH1 3	-0.0886334	0.00000	-Infty	<.0001	-0.0886	-0.08863	.
agecsq*RIDRETH1 4	-0.0918749	0.00000	-Infty	<.0001	-0.0919	-0.09187	.
agecsq*RIDRETH1 5	-0.0890583	0.00000	-Infty	<.0001	-0.0891	-0.08906	.
agecsq*RIDRETH1 1	-0.0903698	3039.91592	-0.00	1.0000	-6413.7523	6413.57159	0.66
agec*RIAGENDR 2	0.0352424	0.02142	1.65	0.1183	-0.0100	0.08044	2.32
agec*RIAGENDR 1	0.0000000	0.00000	.	.	0.0000	0.00000	.
agecsq*RIAGENDR 2	0.0043286	0.00106	4.10	0.0008	0.0021	0.00656	2.48
agecsq*RIAGENDR 1	0.0000000	0.00000	.	.	0.0000	0.00000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## The SURVEYREG Procedure

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

### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	1564
Number of Observations Not in Domain	5112
Sum of Weights in Domain	37760598
Weighted Mean of bpxdi1_1	57.97422
Weighted Sum of bpxdi1_1	2189141217

Fit Statistics	
R-Square	0.07446
Root MSE	11.1897
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	7	0.49	0.8314	
Intercept	1	1.12	0.3048	
RIDRETH1	4	2.25	0.1059	
RIAGENDR	1	1.52	0.2339	
agec	1	0.07	0.7969	
agecsq	1	0.00	1.0000	
agec*RIDRETH1	4	2.25	0.1066	
agecsq*RIDRETH1	4	0.00	1.0000	
agec*RIAGENDR	1	1.39	0.2545	
agecsq*RIAGENDR	1	1.25	0.2795	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
Intercept	77.59236	55.821869	1.39	0.1825	-40.18149	195.366209	0.79
RIDRETH1 2	-7.15937	186.258520	-0.04	0.9698	-400.13050	385.811760	3.72
RIDRETH1 3	-57.07703	101.804693	-0.56	0.5823	-271.86616	157.712093	2.35
RIDRETH1 4	114.70964	102.387518	1.12	0.2781	-101.30914	330.728421	1.56
RIDRETH1 5	138.50325	175.592562	0.79	0.4411	-231.96468	508.971168	3.19
RIDRETH1 1	0.00000	0.000000	.	.	0.00000	0.000000	.
RIAGENDR 2	-108.71029	88.083784	-1.23	0.2339	-294.55083	77.130251	4.01
RIAGENDR 1	0.00000	0.000000	.	.	0.00000	0.000000	.
agec	0.09088	3.300636	0.03	0.9784	-6.87285	7.054617	0.79
agecsq	-0.09618	0.000000	-Infty	<.0001	-0.09618	-0.096176	.
agec*RIDRETH1 2	-0.78597	10.942094	-0.07	0.9436	-23.87177	22.299829	3.68
agec*RIDRETH1 3	-3.42699	5.969956	-0.57	0.5735	-16.02249	9.168521	2.32
agec*RIDRETH1 4	6.71393	6.098505	1.10	0.2863	-6.15279	19.580650	1.57

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agec*RIDRETH1 5	7.96376	10.416535	0.76	0.4550	-14.01321	29.940725	3.19
agec*RIDRETH1 1	0.00000	0.000000	.	.	0.00000	0.000000	.
agecsq*RIDRETH1 2	0.06439	0.000000	Infty	<.0001	0.06439	0.064388	.
agecsq*RIDRETH1 3	0.03095	0.000000	Infty	<.0001	0.03095	0.030948	.
agecsq*RIDRETH1 4	0.17814	0.000000	Infty	<.0001	0.17814	0.178142	.
agecsq*RIDRETH1 5	0.19523	0.000000	Infty	<.0001	0.19523	0.195233	.
agecsq*RIDRETH1 1	0.07972	0.000000	Infty	<.0001	0.07972	0.079721	.
agec*RIAGENDR 2	-6.15530	5.218831	-1.18	0.2545	-17.16607	4.855472	4.01
agec*RIAGENDR 1	0.00000	0.000000	.	.	0.00000	0.000000	.
agecsq*RIAGENDR 2	-0.08559	0.076618	-1.12	0.2795	-0.24724	0.076055	3.98
agecsq*RIAGENDR 1	0.00000	0.000000	.	.	0.00000	0.000000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## The SURVEYREG Procedure

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

### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	5112
Number of Observations Not in Domain	1564
Sum of Weights in Domain	212747914
Weighted Mean of bpxdi1_1	71.60877
Weighted Sum of bpxdi1_1	1.52346E10

Fit Statistics	
R-Square	0.1203
Root MSE	10.7452
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	17	2987.50	<.0001	
Intercept	1	25022.6	<.0001	
RIDRETH1	4	5.18	0.0065	
RIAGENDR	1	17.67	0.0006	
agec	1	36.65	<.0001	
agecsq	1	275.91	<.0001	
agec*RIDRETH1	4	3.08	0.0447	
agecsq*RIDRETH1	4	6.42	0.0024	
agec*RIAGENDR	1	3.75	0.0697	
agecsq*RIAGENDR	1	4.14	0.0579	

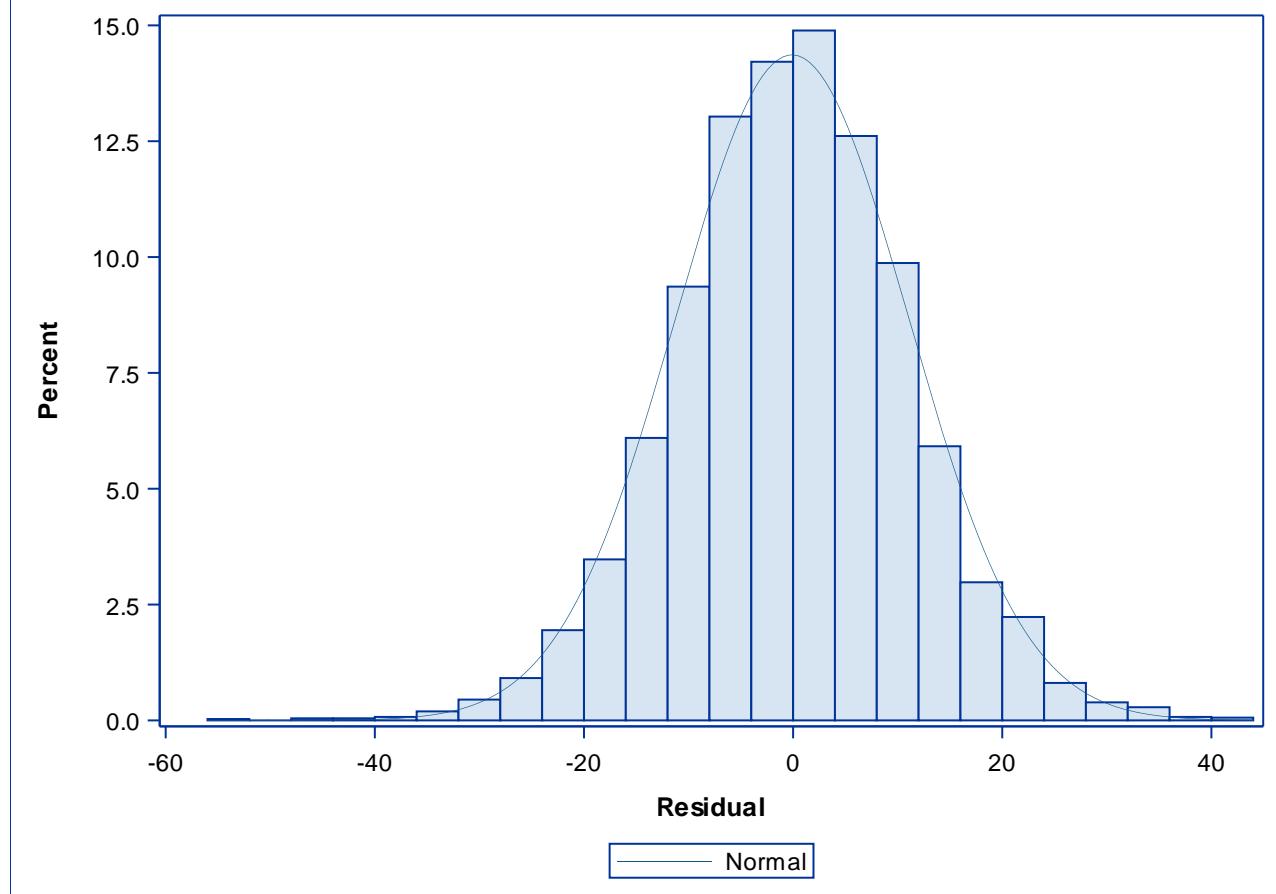
Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	75.3464498	0.82011243	91.87	<.0001	73.6161638 77.0767358	1.38
RIDRETH1 2	0.2714371	0.92217646	0.29	0.7721	-1.6741852 2.2170594	0.82
RIDRETH1 3	1.4611713	0.91162242	1.60	0.1274	-0.4621839 3.3845265	1.63
RIDRETH1 4	3.4500173	0.96227934	3.59	0.0023	1.4197854 5.4802493	1.22
RIDRETH1 5	1.1441363	0.89600412	1.28	0.2188	-0.7462671 3.0345398	0.88
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
RIAGENDR 2	-3.1953718	0.76025991	-4.20	0.0006	-4.7993800 -1.5913636	4.17
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
agec	0.0392266	0.03982346	0.99	0.3384	-0.0447936 0.1232467	1.24
agecsq	-0.0152356	0.00181044	-8.42	<.0001	-0.0190553 -0.0114159	0.86
agec*RIDRETH1 2	0.0496377	0.04975568	1.00	0.3324	-0.0553376 0.1546130	1.15
agec*RIDRETH1 3	-0.0044755	0.05324700	-0.08	0.9340	-0.1168168 0.1078659	2.14
agec*RIDRETH1 4	0.0345488	0.03877692	0.89	0.3854	-0.0472633 0.1163610	0.86

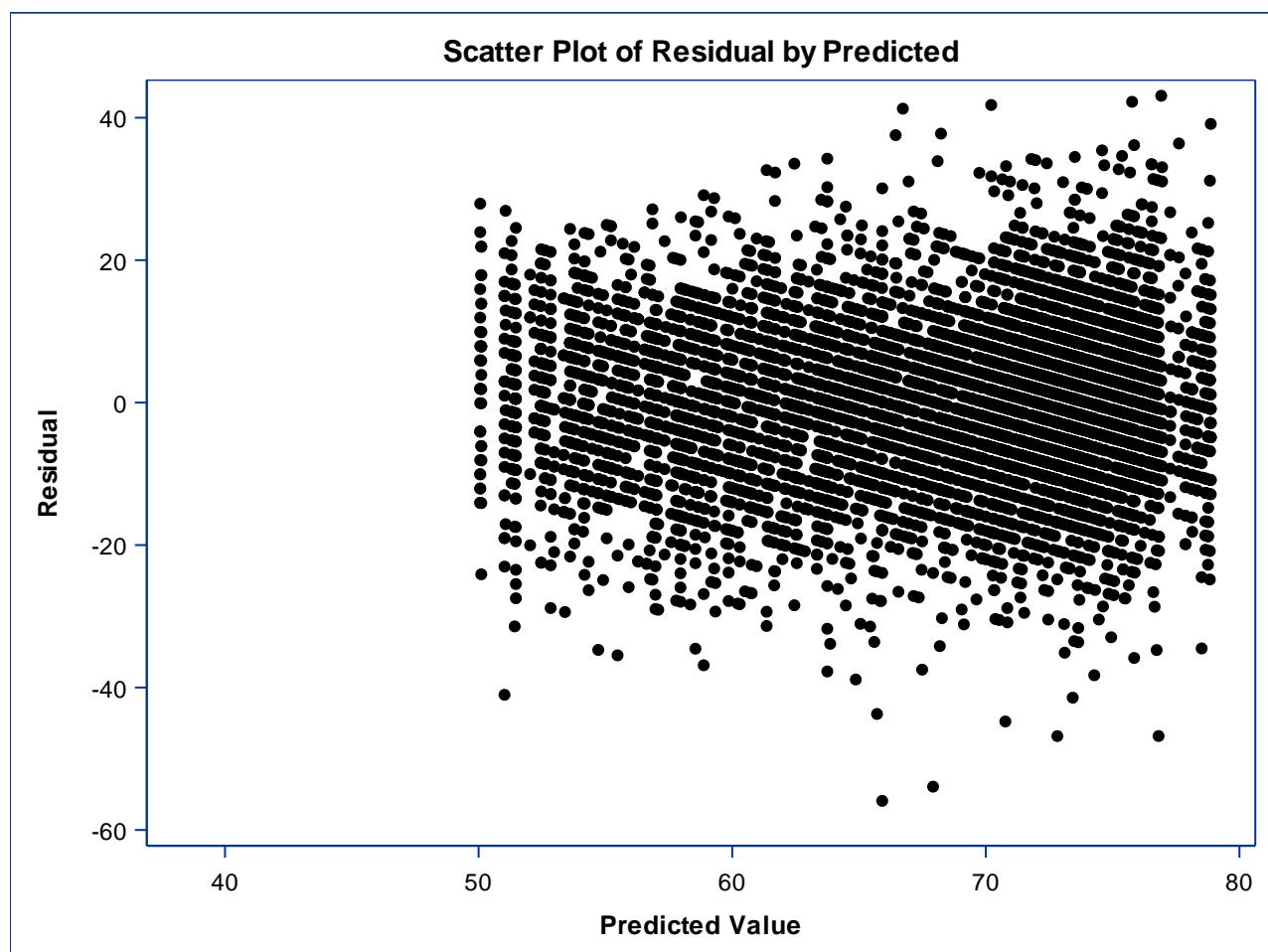
Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agec*RIDRETH1 5	0.0149059	0.04928207	0.30	0.7660	-0.0890702	0.1188820	1.20
agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agecsq*RIDRETH1 2	0.0008365	0.00345237	0.24	0.8114	-0.0064473	0.0081204	1.74
agecsq*RIDRETH1 3	0.0026623	0.00171714	1.55	0.1395	-0.0009605	0.0062852	0.75
agecsq*RIDRETH1 4	-0.0023680	0.00198419	-1.19	0.2491	-0.0065543	0.0018183	0.74
agecsq*RIDRETH1 5	0.0014446	0.00298586	0.48	0.6347	-0.0048550	0.0077442	1.41
agecsq*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*RIAGENDR 2	0.0454944	0.02350007	1.94	0.0697	-0.0040864	0.0950752	2.32
agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agecsq*RIAGENDR 2	0.0033864	0.00166482	2.03	0.0579	-0.0001261	0.0068988	3.66
agecsq*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

### Histogram of Residuals Plot



**Scatter Plot of Residual by Predicted**



## QQ Plot of Residuals

**The UNIVARIATE Procedure**  
**Variable: resid**  
**(Residual)**

Moments			
<b>N</b>	6676	<b>Sum Weights</b>	6676
<b>Mean</b>	-0.0988884	<b>Sum Observations</b>	-660.17917
<b>Std Deviation</b>	11.1098342	<b>Variance</b>	123.428415
<b>Skewness</b>	-0.0538634	<b>Kurtosis</b>	0.60842902
<b>Uncorrected SS</b>	823949.957	<b>Corrected SS</b>	823884.673
<b>Coeff Variation</b>	-11234.716	<b>Std Error Mean</b>	0.13597198

Basic Statistical Measures			
Location		Variability	
<b>Mean</b>	-0.09889	<b>Std Deviation</b>	11.10983
<b>Median</b>	0.03838	<b>Variance</b>	123.42842
<b>Mode</b>	-1.91536	<b>Range</b>	98.99889
		<b>Interquartile Range</b>	14.38442

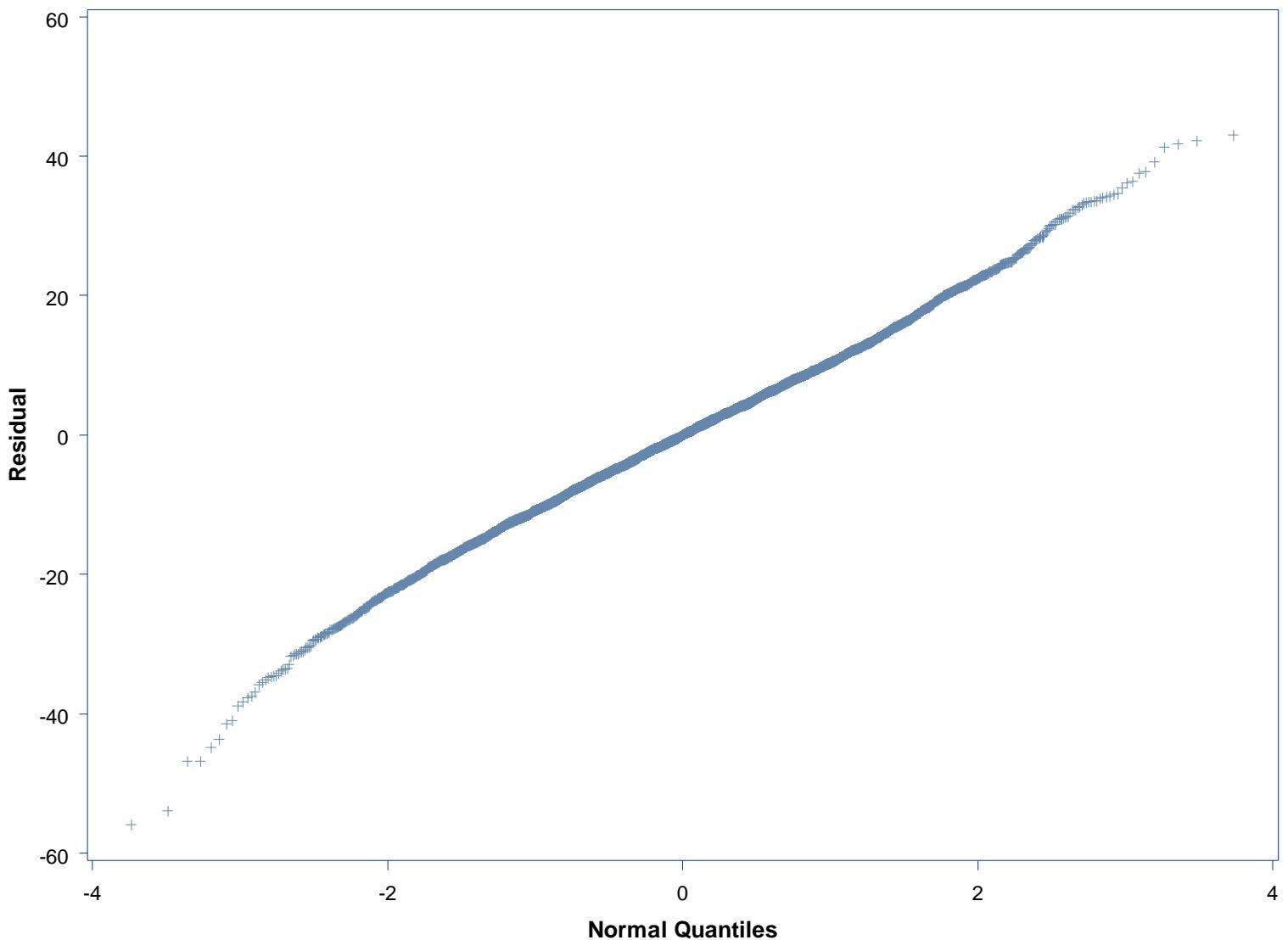
Tests for Location: Mu0=0				
Test		Statistic	p Value	
<b>Student's t</b>	<b>t</b>	-0.72727	<b>Pr &gt;  t </b>	0.4671
<b>Sign</b>	<b>M</b>	8	<b>Pr &gt;=  M </b>	0.8543
<b>Signed Rank</b>	<b>S</b>	-78181	<b>Pr &gt;=  S </b>	0.6196

Quantiles (Definition 5)	
Level	Quantile
<b>100% Max</b>	43.0835296
<b>99%</b>	26.6452862
<b>95%</b>	18.1282322
<b>90%</b>	13.4467853
<b>75% Q3</b>	7.1156886
<b>50% Median</b>	0.0383843
<b>25% Q1</b>	-7.2687335
<b>10%</b>	-13.9044758
<b>5%</b>	-18.0959189
<b>1%</b>	-27.4696719
<b>0% Min</b>	-55.9153555

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
-55.9154	23244	39.1299	28269
-53.9198	25327	41.2711	27158
-46.8199	22247	41.7878	19752
-46.8117	22650	42.2338	24001
-44.7702	20670	43.0835	29071

Missing Values			
Missing Value	Count	Percent Of	
		All Obs	Missing Obs
.	3080	31.57	100.00

### QQ Plot of Residuals



## Use Pfeffermann method (Q weighted)

### The GLM Procedure

Class Level Information		
Class	Levels	Values
RIDRETH1	5	2 3 4 5 1
RIAGENDR	2	2 1

Number of Observations Read	9756
Number of Observations Used	9756

## Use Pfeffermann method (Q weighted)

### The GLM Procedure

**Dependent Variable: WTMEC2YR Full sample 2 year MEC exam weight**

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	6	4.9921232E12	832020525279	1143.25	<.0001
<b>Error</b>	9749	7.0950221E12	727769222.08		
<b>Corrected Total</b>	9755	1.2087145E13			

R-Square	Coeff Var	Root MSE	WTMEC2YR Mean
0.413011	85.84395	26977.20	31425.86

Source	DF	Type I SS	Mean Square	F Value	Pr > F
<b>RIDRETH1</b>	4	4.8420933E12	1.2105233E12	1663.33	<.0001
<b>RIAGENDR</b>	1	8127518971.4	8127518971.4	11.17	0.0008
<b>agec</b>	1	141902371760	141902371760	194.98	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
<b>RIDRETH1</b>	4	4.4577235E12	1.1144309E12	1531.30	<.0001
<b>RIAGENDR</b>	1	7184507364.5	7184507364.5	9.87	0.0017
<b>agec</b>	1	141902371760	141902371760	194.98	<.0001

Parameter	Estimate	Standard Error	t Value	Pr >  t
<b>Intercept</b>	24948.55321 B	826.842014	30.17	<.0001
<b>RIDRETH1 2</b>	-3410.17192 B	1105.368730	-3.09	0.0020
<b>RIDRETH1 3</b>	40374.18828 B	901.335647	44.79	<.0001
<b>RIDRETH1 4</b>	-9093.87677 B	903.702190	-10.06	<.0001
<b>RIDRETH1 5</b>	-8421.65485 B	989.514053	-8.51	<.0001
<b>RIDRETH1 1</b>	0.00000 B	.	.	.
<b>RIAGENDR 2</b>	1716.86166 B	546.428883	3.14	0.0017
<b>RIAGENDR 1</b>	0.00000 B	.	.	.
<b>agec</b>	158.49692	11.350705	13.96	<.0001

**Note:** The X'X matrix has been found to be singular, and a generalized inverse was used to solve the normal equations. Terms whose estimates are followed by the letter 'B' are not uniquely estimable.

## Use Pfeffermann method (Q weighted)

### The SURVEYREG Procedure

#### Regression Analysis for Dependent Variable bpxdi1\_1

Data Summary	
Number of Observations	6676
Sum of Weights	7547.5
Weighted Mean of bpxdi1_1	68.46027
Weighted Sum of bpxdi1_1	516704.4

Design Summary	
Number of Strata	14
Number of Clusters	31

Fit Statistics	
R-Square	0.2879
Root MSE	10.8960
Denominator DF	17

Class Level Information				
CLASS Variable	Label	Levels	Values	
RIDRETH1	1=mex 2=oth hisp 3=white 4=black 5=other	5	2 3 4 5 1	
RIAGENDR	Gender	2	2 1	

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	17	972.19	<.0001	
Intercept	1	26375.4	<.0001	
RIDRETH1	4	4.73	0.0095	
RIAGENDR	1	38.63	<.0001	
agec	1	32.01	<.0001	
agecsq	1	768.84	<.0001	
agec*RIDRETH1	4	0.87	0.5046	
agecsq*RIDRETH1	4	5.52	0.0049	
agec*RIAGENDR	1	1.52	0.2339	
agecsq*RIAGENDR	1	22.13	0.0002	

Note: The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	75.5909357	0.60574556	124.79	<.0001	74.3129243 76.8689472	1.03
RIDRETH1 2	0.0383689	1.03058102	0.04	0.9707	-2.1359670 2.2127048	1.54
RIDRETH1 3	1.6620057	0.79154776	2.10	0.0510	-0.0080141 3.3320255	1.44
RIDRETH1 4	3.2701243	0.85781448	3.81	0.0014	1.4602939 5.0799546	1.56

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
RIDRETH1 5	1.2842616	0.70951604	1.81	0.0880	-0.2126864	2.7812095	0.91
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
RIAGENDR 2	-3.6963293	0.59474069	-6.22	<.0001	-4.9511224	-2.4415361	2.29
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec	0.0500877	0.03672163	1.36	0.1904	-0.0273881	0.1275636	1.06
agecsq	-0.0155371	0.00092381	-16.82	<.0001	-0.0174862	-0.0135880	0.54
agec*RIDRETH1 2	0.0389889	0.05160818	0.76	0.4603	-0.0698948	0.1478727	1.38
agec*RIDRETH1 3	0.0111835	0.04799053	0.23	0.8185	-0.0900677	0.1124347	1.69
agec*RIDRETH1 4	0.0291716	0.03545928	0.82	0.4221	-0.0456410	0.1039841	0.83
agec*RIDRETH1 5	0.0139650	0.05124257	0.27	0.7885	-0.0941473	0.1220774	1.57
agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agecsq*RIDRETH1 2	0.0019992	0.00172913	1.16	0.2636	-0.0016489	0.0056473	1.10
agecsq*RIDRETH1 3	0.0016362	0.00095470	1.71	0.1047	-0.0003780	0.0036505	0.51
agecsq*RIDRETH1 4	-0.0014684	0.00116035	-1.27	0.2228	-0.0039165	0.0009798	0.68
agecsq*RIDRETH1 5	0.0011236	0.00126150	0.89	0.3855	-0.0015379	0.0037852	0.70
agecsq*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*RIAGENDR 2	0.0243746	0.01974837	1.23	0.2339	-0.0172908	0.0660400	1.54
agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agecsq*RIAGENDR 2	0.0040161	0.00085378	4.70	0.0002	0.0022148	0.0058174	1.46
agecsq*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Use Pfeffermann method (Q weighted)

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
<b>Number of Observations</b>	6676
<b>Number of Observations in Domain</b>	1564
<b>Number of Observations Not in Domain</b>	5112
<b>Sum of Weights in Domain</b>	1513.4
<b>Weighted Mean of bpxdi1_1</b>	57.50472
<b>Weighted Sum of bpxdi1_1</b>	87025.5

Fit Statistics	
R-Square	0.08182
Root MSE	11.0764
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
<b>Model</b>	17	839.42	<.0001	
<b>Intercept</b>	1	1.09	0.3100	
<b>RIDRETH1</b>	4	2.14	0.1200	
<b>RIAGENDR</b>	1	0.11	0.7387	
<b>agec</b>	1	0.07	0.7961	
<b>agecsq</b>	1	0.34	0.5700	
<b>agec*RIDRETH1</b>	4	2.15	0.1187	
<b>agecsq*RIDRETH1</b>	4	2.12	0.1229	
<b>agec*RIAGENDR</b>	1	0.09	0.7731	
<b>agecsq*RIAGENDR</b>	1	0.06	0.8116	

**Note:** The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
<b>Intercept</b>	44.532341	65.255256	0.68	0.5042	-93.14421 182.208897	1.33
<b>RIDRETH1 2</b>	-11.589509	184.753165	-0.06	0.9507	-401.38462 378.205597	5.09
<b>RIDRETH1 3</b>	-64.156229	102.631525	-0.63	0.5402	-280.68982 152.377361	2.15
<b>RIDRETH1 4</b>	101.472087	100.012814	1.01	0.3245	-109.53651 312.480680	2.36
<b>RIDRETH1 5</b>	137.193946	181.735096	0.75	0.4606	-246.23359 520.621481	5.76
<b>RIDRETH1 1</b>	0.000000	0.000000	.	.	0.000000 0.000000	.
<b>RIAGENDR 2</b>	-32.615341	96.185764	-0.34	0.7387	-235.54956 170.318882	4.89
<b>RIAGENDR 1</b>	0.000000	0.000000	.	.	0.000000 0.000000	.
<b>agec</b>	-1.853152	3.886904	-0.48	0.6396	-10.05380 6.347498	1.35
<b>agecsq</b>	-0.044641	0.057805	-0.77	0.4506	-0.16660 0.077318	1.38
<b>agec*RIDRETH1 2</b>	-1.036382	10.835515	-0.10	0.9249	-23.89732 21.824557	5.03

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agec*RIDRETH1 3	-3.838354	6.010577	-0.64	0.5316	-16.51956	8.842855	2.11
agec*RIDRETH1 4	5.915608	5.967767	0.99	0.3355	-6.67528	18.506496	2.40
agec*RIDRETH1 5	7.902307	10.767733	0.73	0.4730	-14.81562	30.620237	5.78
agec*RIDRETH1 1	0.000000	0.000000	.	.	0.00000	0.000000	.
agecsq*RIDRETH1 2	-0.018880	0.158352	-0.12	0.9065	-0.35297	0.315212	4.98
agecsq*RIDRETH1 3	-0.054754	0.087953	-0.62	0.5418	-0.24032	0.130811	2.10
agecsq*RIDRETH1 4	0.086458	0.089090	0.97	0.3454	-0.10151	0.274422	2.47
agecsq*RIDRETH1 5	0.114801	0.158546	0.72	0.4789	-0.21970	0.449303	5.80
agecsq*RIDRETH1 1	0.000000	0.000000	.	.	0.00000	0.000000	.
agec*RIAGENDR 2	-1.679774	5.734049	-0.29	0.7731	-13.77756	10.418012	4.94
agec*RIAGENDR 1	0.000000	0.000000	.	.	0.00000	0.000000	.
agecsq*RIAGENDR 2	-0.020556	0.084926	-0.24	0.8116	-0.19973	0.158622	4.98
agecsq*RIAGENDR 1	0.000000	0.000000	.	.	0.00000	0.000000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.

## Use Pfeffermann method (Q weighted)

### The SURVEYREG Procedure

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

#### Domain Regression Analysis for Variable bpxdi1\_1

Domain Summary	
Number of Observations	6676
Number of Observations in Domain	5112
Number of Observations Not in Domain	1564
Sum of Weights in Domain	6034.1
Weighted Mean of bpxdi1_1	71.20792
Weighted Sum of bpxdi1_1	429678.8

Fit Statistics	
R-Square	0.1446
Root MSE	10.8358
Denominator DF	17

Tests of Model Effects				
Effect	Num DF	F Value	Pr > F	
Model	17	5756.23	<.0001	
Intercept	1	24227.5	<.0001	
RIDRETH1	4	5.49	0.0050	
RIAGENDR	1	29.29	<.0001	
agec	1	39.79	<.0001	
agecsq	1	299.74	<.0001	
agec*RIDRETH1	4	3.61	0.0263	
agecsq*RIDRETH1	4	6.60	0.0021	
agec*RIAGENDR	1	1.69	0.2113	
agecsq*RIAGENDR	1	3.15	0.0940	

**Note:** The denominator degrees of freedom for the F tests is 17.

Estimated Regression Coefficients						
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval	Design Effect
Intercept	75.4133925	0.77347826	97.50	<.0001	73.7814960 77.0452890	1.65
RIDRETH1 2	0.2475892	0.95508043	0.26	0.7986	-1.7674544 2.2626327	1.30
RIDRETH1 3	1.5009990	0.89591109	1.68	0.1122	-0.3892082 3.3912062	1.86
RIDRETH1 4	3.5663901	0.99050596	3.60	0.0022	1.4766052 5.6561750	2.05
RIDRETH1 5	1.2376971	0.89346800	1.39	0.1839	-0.6473556 3.1227498	1.42
RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
RIAGENDR 2	-3.4289996	0.63353841	-5.41	<.0001	-4.7656488 -2.0923504	2.72
RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000 0.0000000	.
agec	0.0467342	0.04045676	1.16	0.2640	-0.0386221 0.1320905	1.58
agecsq	-0.0148196	0.00168732	-8.78	<.0001	-0.0183795 -0.0112597	0.98
agec*RIDRETH1 2	0.0482448	0.04754675	1.01	0.3245	-0.0520701 0.1485596	1.40

Estimated Regression Coefficients							
Parameter	Estimate	Standard Error	t Value	Pr >  t	95% Confidence Interval		Design Effect
agec*RIDRETH1 3	-0.0055085	0.05135994	-0.11	0.9158	-0.1138685	0.1028515	2.27
agec*RIDRETH1 4	0.0359587	0.03706581	0.97	0.3456	-0.0422433	0.1141608	1.10
agec*RIDRETH1 5	0.0126690	0.04652266	0.27	0.7887	-0.0854853	0.1108232	1.56
agec*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agecsq*RIDRETH1 2	0.0010371	0.00337264	0.31	0.7622	-0.0060786	0.0081527	2.34
agecsq*RIDRETH1 3	0.0025174	0.00171430	1.47	0.1602	-0.0010994	0.0061343	0.90
agecsq*RIDRETH1 4	-0.0026837	0.00196390	-1.37	0.1896	-0.0068271	0.0014598	1.07
agecsq*RIDRETH1 5	0.0012444	0.00306209	0.41	0.6895	-0.0052160	0.0077048	2.28
agecsq*RIDRETH1 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agec*RIAGENDR 2	0.0343899	0.02647365	1.30	0.2113	-0.0214646	0.0902444	2.85
agec*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.
agecsq*RIAGENDR 2	0.0029241	0.00164840	1.77	0.0940	-0.0005537	0.0064019	3.30
agecsq*RIAGENDR 1	0.0000000	0.00000000	.	.	0.0000000	0.0000000	.

Note: The degrees of freedom for the t tests is 17.  
 Matrix X'WX is singular and a generalized inverse was used to solve the normal equations. Estimates are not unique.