MPLUS Analysis Examples Replication Chapter 7

Mplus includes all input code and output in the *.out file. This document contains selected output from each analysis presented in Chapter 7. All data preparation and management was previously done using SAS and then read into Mplus from a text file.

Plots in Mplus that require additional coding are not included here, see the Mplus documentation for details and examples. In addition, use of type=complex with Bayesian methods is not available in Mplus.

```
  TITLE: C7 NHANES ADSA3 BIVARIATE RACE

  DATA:
   FILE IS "p:\asda3\replication mplus\c7_nhanes_asda3.txt";

   VARIABLE:
   NAMES ARE
   seqn riagendr wtmec2yr sdmvpsu sdmvstra indfmpir bpxdi1 bmxbmi lbxtc
   irregular edcat age marcat bp_cat ag1829 ag3044 ag4559 ag60
   mex othhis white black other lbdhdd lbdhddsi lbdtcsi age18p
   agec agecsq numsecu bpxdi1_1 married prevmar nevmar female
   femaleagec femaleagecsq
   othhisagec blackagec otheragec whiteagec othhisagecsq blackagecsq
   otheragecsq
   whiteagecsq  ;

   USEVARIABLES ARE bpxdi1_1 black other white othhis wtmec2yr sdmvstra
   numsecu ;
   missing are . ;
   WEIGHT IS wtmec2yr ;
   stratification is sdmvstra ;
   cluster is numsecu ;
   subpopulation = (age18p eq 1) ;

   ANALYSIS:
   type is complex;
   estimator is mlr ;

   Model:
   bpxdi1_1 on othhis white black other ;


C7 NHANES ADSA3 BIVARIATE RACE ;

SUMMARY OF ANALYSIS

Number of groups                                                 1
Number of observations                                        5112

Number of dependent variables                                    1
Number of independent variables                                  4
Number of continuous latent variables                            0

Observed dependent variables

  Continuous
   BPXDI1_1

Observed independent variables
   BLACK       OTHER       WHITE       OTHHIS

Variables with special functions

  Stratification        SDMVSTRA
  Cluster variable      NUMSECU
  Weight variable       WTMEC2YR

Estimator                                                      MLR
Information matrix                                        OBSERVED
Maximum number of iterations                                  1000
Convergence criterion                                    0.500D-04
Maximum number of steepest descent iterations                   20
Maximum number of iterations for H1                           2000
Convergence criterion for H1                             0.100D-03
```

```
Input data file(s)
  p:\asda3\replication mplus\c7_nhanes_asda3.txt

Input data format  FREE


SUMMARY OF DATA

     Number of missing data patterns             1
     Number of strata                       14
     Number of clusters                     31



THE MODEL ESTIMATION TERMINATED NORMALLY



MODEL FIT INFORMATION

Number of Free Parameters                        6

Loglikelihood

          H0 Value                      -19699.965
          H0 Scaling Correction Factor      3.7605
            for MLR
          H1 Value                      -19699.965
          H1 Scaling Correction Factor      3.7605
            for MLR

Information Criteria

          Akaike (AIC)                   39411.931
          Bayesian (BIC)                 39451.167
          Sample-Size Adjusted BIC       39432.101
            (n* = (n + 2) / 24)

Chi-Square Test of Model Fit

          Value                             0.000*
          Degrees of Freedom                    0
          P-Value                           0.0000
          Scaling Correction Factor         1.0000
            for MLR

*   The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used
    for chi-square difference testing in the regular way.  MLM, MLR and WLSM
    chi-square difference testing is described on the Mplus website.  MLMV, WLSMV,
    and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

          Estimate                          0.000
          90 Percent C.I.                   0.000  0.000
          Probability RMSEA <= .05          0.000

CFI/TLI

          CFI                               1.000
          TLI                               1.000

Chi-Square Test of Model Fit for the Baseline Model
```

Value	10.252
Degrees of Freedom	4
P-Value	0.0364

SRMR (Standardized Root Mean Square Residual)

Value	0.000

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
BPXDI1_1 ON				
OTHHIS	-0.155	1.456	-0.106	0.915
WHITE	2.185	0.743	2.942	0.003
BLACK	2.290	0.703	3.258	0.001
OTHER	1.306	0.704	1.854	0.064
Intercepts				
BPXDI1_1	69.804	0.453	154.013	0.000
Residual Variances				
BPXDI1_1	130.252	4.117	31.639	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue)	0.146E-04

```
  TITLE: C7 NHANES ADSA3 BIVARIATE TESTING GENDER ;

  DATA:
   FILE IS "p:\asda3\replication mplus\c7_nhanes_asda3.txt";

   VARIABLE:
   NAMES ARE
   seqn riagendr wtmec2yr sdmvpsu sdmvstra indfmpir bpxdi1 bmxbmi lbxtc
   irregular edcat age marcat bp_cat ag1829 ag3044 ag4559 ag60
   mex othhis white black other lbdhdd lbdhddsi lbdtcsi age18p
   agec agecsq numsecu bpxdi1_1 married prevmar nevmar female
   femaleagec femaleagecsq
   othhisagec blackagec otheragec whiteagec othhisagecsq blackagecsq
   otheragecsq
   whiteagecsq  ;

   USEVARIABLES ARE bpxdi1_1 female wtmec2yr sdmvstra
   numsecu ;
   missing are . ;
   WEIGHT IS wtmec2yr ;
   stratification is sdmvstra ;
   cluster is numsecu ;
   subpopulation = (age18p eq 1) ;

   ANALYSIS:
   type is complex;
   estimator is mlr ;

   Model:
   bpxdi1_1 on female ;

** WARNING
  Data set contains cases with missing on all variables except
  x-variables.  These cases were not included in the analysis.
  Number of cases with missing on all variables except x-variables:  3080
   1 WARNING(S) FOUND IN THE INPUT INSTRUCTIONS

C7 NHANES ADSA3 BIVARIATE GENDER ;

SUMMARY OF ANALYSIS

Number of groups                                                 1
Number of observations                                        5112

Number of dependent variables                                    1
Number of independent variables                                  1
Number of continuous latent variables                            0

Observed dependent variables

  Continuous
   BPXDI1_1

Observed independent variables
   FEMALE

Variables with special functions

  Stratification        SDMVSTRA
  Cluster variable      NUMSECU
  Weight variable       WTMEC2YR

Estimator                                                      MLR
Information matrix                                        OBSERVED
```

```
Maximum number of iterations                                  1000
Convergence criterion                                    0.500D-04
Maximum number of steepest descent iterations                   20
Maximum number of iterations for H1                           2000
Convergence criterion for H1                             0.100D-03

Input data file(s)
  p:\asda3\replication mplus\c7_nhanes_asda3.txt

Input data format  FREE

SUMMARY OF DATA

     Number of missing data patterns             1
     Number of strata                       14
     Number of clusters                     31

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters                        3

Loglikelihood

          H0 Value                       -19688.922
          H0 Scaling Correction Factor      5.4381
            for MLR
          H1 Value                       -19688.922
          H1 Scaling Correction Factor      5.4381
            for MLR

Information Criteria

          Akaike (AIC)                    39383.843
          Bayesian (BIC)                  39403.461
          Sample-Size Adjusted BIC        39393.928
            (n* = (n + 2) / 24)

Chi-Square Test of Model Fit

          Value                             0.000*
          Degrees of Freedom                    0
          P-Value                           0.0000
          Scaling Correction Factor         1.0000
            for MLR

*   The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used
    for chi-square difference testing in the regular way.  MLM, MLR and WLSM
    chi-square difference testing is described on the Mplus website.  MLMV, WLSMV,
    and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

          Estimate                          0.000
          90 Percent C.I.                   0.000  0.000
          Probability RMSEA <= .05          0.000

CFI/TLI

          CFI                               1.000
          TLI                               1.000

Chi-Square Test of Model Fit for the Baseline Model
```

Value	12.979
Degrees of Freedom	1
P-Value	0.0003

SRMR (Standardized Root Mean Square Residual)

Value	0.000

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
BPXDI1_1 ON				
FEMALE	-2.200	0.568	-3.875	0.000
Intercepts				
BPXDI1_1	72.726	0.590	123.245	0.000
Residual Variances				
BPXDI1_1	129.690	4.545	28.532	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue)	0.229E-03

```
 TITLE: C7 NHANES ADSA3 BIVARIATE MARITAL STATUS ;

  DATA:
   FILE IS "p:\asda3\replication mplus\c7_nhanes_asda3.txt";

   VARIABLE:
   NAMES ARE
   seqn riagendr wtmec2yr sdmvpsu sdmvstra indfmpir bpxdi1 bmxbmi lbxtc
   irregular edcat age marcat bp_cat ag1829 ag3044 ag4559 ag60
   mex othhis white black other lbdhdd lbdhddsi lbdtcsi age18p
   agec agecsq numsecu bpxdi1_1 married prevmar nevmar female
   femaleagec femaleagecsq
   othhisagec blackagec otheragec whiteagec othhisagecsq blackagecsq
   otheragecsq
   whiteagecsq  ;

   USEVARIABLES ARE bpxdi1_1 prevmar nevmar wtmec2yr sdmvstra
   numsecu ;
   missing are . ;
   WEIGHT IS wtmec2yr ;
   stratification is sdmvstra ;
   cluster is numsecu ;
   subpopulation = (age18p eq 1) ;

   ANALYSIS:
   type is complex;
   estimator is mlr ;

   Model:
   bpxdi1_1 on prevmar nevmar ;


C7 NHANES ADSA3 BIVARIATE MARITAL STATUS ;

SUMMARY OF ANALYSIS

Number of groups                                                 1
Number of observations                                        4845

Number of dependent variables                                    1
Number of independent variables                                  2
Number of continuous latent variables                            0

Observed dependent variables

  Continuous
   BPXDI1_1

Observed independent variables
   PREVMAR     NEVMAR

Variables with special functions

  Stratification        SDMVSTRA
  Cluster variable      NUMSECU
  Weight variable       WTMEC2YR

Estimator                                                      MLR
Information matrix                                        OBSERVED
Maximum number of iterations                                 1000
Convergence criterion                                   0.500D-04
Maximum number of steepest descent iterations                  20
Maximum number of iterations for H1                          2000
Convergence criterion for H1                            0.100D-03
```

```
Input data file(s)
  p:\asda3\replication mplus\c7_nhanes_asda3.txt

Input data format  FREE


SUMMARY OF DATA

     Number of missing data patterns             1
     Number of strata                       14
     Number of clusters                     31



THE MODEL ESTIMATION TERMINATED NORMALLY



MODEL FIT INFORMATION

Number of Free Parameters                        4

Loglikelihood

          H0 Value                      -18634.463
          H0 Scaling Correction Factor      4.7190
            for MLR
          H1 Value                      -18634.463
          H1 Scaling Correction Factor      4.7190
            for MLR

Information Criteria

          Akaike (AIC)                   37276.925
          Bayesian (BIC)                 37302.868
          Sample-Size Adjusted BIC       37290.157
            (n* = (n + 2) / 24)

Chi-Square Test of Model Fit

          Value                             0.000*
          Degrees of Freedom                    0
          P-Value                           0.0000
          Scaling Correction Factor         1.0000
            for MLR

*   The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used
    for chi-square difference testing in the regular way.  MLM, MLR and WLSM
    chi-square difference testing is described on the Mplus website.  MLMV, WLSMV,
    and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

          Estimate                          0.000
          90 Percent C.I.                   0.000  0.000
          Probability RMSEA <= .05          0.000

CFI/TLI

          CFI                               1.000
          TLI                               1.000
```

Chi-Square Test of Model Fit for the Baseline Model

Value	2.219
Degrees of Freedom	2
P-Value	0.3296

SRMR (Standardized Root Mean Square Residual)

Value	0.000

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
BPXDI1_1 ON				
PREVMAR	-0.145	0.698	-0.208	0.835
NEVMAR	-1.121	0.844	-1.329	0.184
Intercepts				
BPXDI1_1	72.180	0.515	140.172	0.000
Residual Variances				
BPXDI1_1	128.304	4.360	29.430	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue)	0.908E-04

```
  TITLE: C7 NHANES ADSA3 BIVARIATE AGE (CENTERED) ;

  DATA:
   FILE IS "p:\asda3\replication mplus\c7_nhanes_asda3.txt";

   VARIABLE:
   NAMES ARE
   seqn riagendr wtmec2yr sdmvpsu sdmvstra indfmpir bpxdi1 bmxbmi lbxtc
   irregular edcat age marcat bp_cat ag1829 ag3044 ag4559 ag60
   mex othhis white black other lbdhdd lbdhddsi lbdtcsi age18p
   agec agecsq numsecu bpxdi1_1 married prevmar nevmar female
   femaleagec femaleagecsq
   othhisagec blackagec otheragec whiteagec othhisagecsq blackagecsq
   otheragecsq
   whiteagecsq  ;

   USEVARIABLES ARE bpxdi1_1 agec wtmec2yr sdmvstra
   numsecu ;
   missing are . ;
   WEIGHT IS wtmec2yr ;
   stratification is sdmvstra ;
   cluster is numsecu ;
   subpopulation = (age18p eq 1) ;

   ANALYSIS:
   type is complex;
   estimator is mlr ;

   Model:
   bpxdi1_1 on agec ;



C7 NHANES ADSA3 BIVARIATE AGE (CENTERED) ;

SUMMARY OF ANALYSIS

Number of groups                                                 1
Number of observations                                        5112

Number of dependent variables                                    1
Number of independent variables                                  1
Number of continuous latent variables                            0

Observed dependent variables

  Continuous
   BPXDI1_1

Observed independent variables
   AGEC

Variables with special functions

  Stratification        SDMVSTRA
  Cluster variable      NUMSECU
  Weight variable       WTMEC2YR

Estimator                                                      MLR
Information matrix                                        OBSERVED
Maximum number of iterations                                 1000
Convergence criterion                                   0.500D-04
Maximum number of steepest descent iterations                  20
Maximum number of iterations for H1                          2000
```

Convergence criterion for H1 0.100D-03

Input data file(s)
p:\asda3\replication mplus\c7_nhanes_asda3.txt

Input data format FREE

SUMMARY OF DATA

Number of missing data patterns 1
Number of strata 14
Number of clusters 31

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters 3

Loglikelihood

H0 Value	-19703.413
H0 Scaling Correction Factor for MLR	5.5283
H1 Value	-19703.413
H1 Scaling Correction Factor for MLR	5.5283

Information Criteria

Akaike (AIC)	39412.826
Bayesian (BIC)	39432.444
Sample-Size Adjusted BIC (n* = (n + 2) / 24)	39422.911

Chi-Square Test of Model Fit

Value	0.000*
Degrees of Freedom	0
P-Value	0.0000
Scaling Correction Factor for MLR	1.0000

* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference testing in the regular way. MLM, MLR and WLSM chi-square difference testing is described on the Mplus website. MLMV, WLSMV, and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.000	
90 Percent C.I.	0.000	0.000
Probability RMSEA <= .05	0.000	

CFI/TLI

CFI	1.000
TLI	1.000

Chi-Square Test of Model Fit for the Baseline Model

Value	4.708
Degrees of Freedom	1
P-Value	0.0300

SRMR (Standardized Root Mean Square Residual)

Value	0.000

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
BPXDI1_1 ON				
AGEC	0.039	0.019	2.087	0.037
Intercepts				
BPXDI1_1	71.604	0.500	143.139	0.000
Residual Variances				
BPXDI1_1	130.429	4.112	31.719	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue)	0.127E-01

```
  TITLE: C7 NHANES ADSA3 NAIVE ANALYSIS NO WEIGHTS OR DESIGN VARIABLES ;
  DATA:
   FILE IS "p:\asda3\replication mplus\c7_nhanes_asda3.txt";

   VARIABLE:
   NAMES ARE
   seqn riagendr wtmec2yr sdmvpsu sdmvstra indfmpir bpxdi1 bmxbmi lbxtc
   irregular edcat age marcat bp_cat ag1829 ag3044 ag4559 ag60
   mex othhis white black other lbdhdd lbdhddsi lbdtcsi age18p
   agec agecsq numsecu bpxdi1_1 married prevmar nevmar female
   femaleagec femaleagecsq
   othhisagec blackagec otheragec whiteagec othhisagecsq blackagecsq
   otheragecsq
   whiteagecsq  ;

   USEVARIABLES ARE bpxdi1_1 OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGEC FEMALE ;
   missing are . ;
   useobservations = (age18p eq 1) ;

   ANALYSIS:
   estimator is mlr ;

   Model:
   bpxdi1_1 on OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGEC FEMALE ;

SUMMARY OF ANALYSIS

Number of groups                                                 1
Number of observations                                        4845

Number of dependent variables                                    1
Number of independent variables                                  8
Number of continuous latent variables                            0

Observed dependent variables

  Continuous
   BPXDI1_1

Observed independent variables
   OTHHIS      WHITE       BLACK       OTHER       PREVMAR     NEVMAR
   AGEC        FEMALE

Estimator                                                      MLR
Information matrix                                        OBSERVED
Maximum number of iterations                                  1000
Convergence criterion                                    0.500D-04
Maximum number of steepest descent iterations                   20
Maximum number of iterations for H1                           2000
Convergence criterion for H1                             0.100D-03

Input data file(s)
  p:\asda3\replication mplus\c7_nhanes_asda3.txt

THE MODEL ESTIMATION TERMINATED NORMALLY
MODEL FIT INFORMATION

Number of Free Parameters                       10

Loglikelihood

          H0 Value                       -18768.755
          H0 Scaling Correction Factor      1.0441
            for MLR
```

```
          H1 Value                       -18768.755
          H1 Scaling Correction Factor      1.0441
            for MLR

Information Criteria

          Akaike (AIC)                   37557.510
          Bayesian (BIC)                 37622.367
          Sample-Size Adjusted BIC       37590.590
            (n* = (n + 2) / 24)

Chi-Square Test of Model Fit
          Value                              0.000*
          Degrees of Freedom                     0
          P-Value                           0.0000
          Scaling Correction Factor         1.0000
            for MLR

*   The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used
    for chi-square difference testing in the regular way.  MLM, MLR and WLSM
    chi-square difference testing is described on the Mplus website.  MLMV, WLSMV,
    and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)
          Estimate                           0.000
          90 Percent C.I.                    0.000  0.000
          Probability RMSEA <= .05           0.000
CFI/TLI
          CFI                                1.000
          TLI                                1.000
Chi-Square Test of Model Fit for the Baseline Model

          Value                            101.164
          Degrees of Freedom                     8
          P-Value                           0.0000

SRMR (Standardized Root Mean Square Residual)
          Value                              0.000
```

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
BPXDI1_1 ON				
OTHHIS	0.377	0.708	0.533	0.594
WHITE	0.942	0.577	1.632	0.103
BLACK	2.509	0.632	3.970	0.000
OTHER	1.776	0.631	2.816	0.005
PREVMAR	-0.697	0.453	-1.538	0.124
NEVMAR	-2.440	0.471	-5.180	0.000
AGEC	-0.019	0.011	-1.700	0.089
FEMALE	-2.532	0.338	-7.482	0.000
Intercepts				
BPXDI1_1	72.163	0.531	135.972	0.000
Residual Variances				
BPXDI1_1	135.608	3.309	40.984	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix 0.173E-04
(ratio of smallest to largest eigenvalue)

```
  TITLE: C7 NHANES ADSA3 WEIGHTED LEAST SQUARES ANALYSIS NO DESIGN VARIABLES ;
  DATA:
   FILE IS "p:\asda3\replication mplus\c7_nhanes_asda3.txt";
   VARIABLE:
   NAMES ARE
   seqn riagendr wtmec2yr sdmvpsu sdmvstra indfmpir bpxdi1 bmxbmi lbxtc
   irregular edcat age marcat bp_cat ag1829 ag3044 ag4559 ag60
   mex othhis white black other lbdhdd lbdhddsi lbdtcsi age18p
   agec agecsq numsecu bpxdi1_1 married prevmar nevmar female
   femaleagec femaleagecsq
   othhisagec blackagec otheragec whiteagec othhisagecsq blackagecsq
   otheragecsq
   whiteagecsq  ;

   USEVARIABLES ARE bpxdi1_1 OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGEC FEMALE WTMEC2YR ;
   missing are . ;
   useobservations = (age18p eq 1) ;
   weight is wtmec2yr ;

   ANALYSIS:
   estimator is mlr ;

   Model:
   bpxdi1_1 on OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGEC FEMALE ;

C7 NHANES ADSA3 WEIGHTED LEAST SQUARES ANALYSIS NO DESIGN VARIABLES ;

SUMMARY OF ANALYSIS

Number of groups                                                 1
Number of observations                                        4845

Number of dependent variables                                    1
Number of independent variables                                  8
Number of continuous latent variables                            0

Observed dependent variables

  Continuous
   BPXDI1_1

Observed independent variables
   OTHHIS      WHITE       BLACK       OTHER       PREVMAR     NEVMAR
   AGEC        FEMALE

Variables with special functions

  Weight variable       WTMEC2YR

Estimator                                                      MLR
Information matrix                                        OBSERVED
Maximum number of iterations                                  1000
Convergence criterion                                    0.500D-04
Maximum number of steepest descent iterations                   20
Maximum number of iterations for H1                           2000
Convergence criterion for H1                             0.100D-03

Input data file(s)
  p:\asda3\replication mplus\c7_nhanes_asda3.txt

Input data format  FREE


MODEL FIT INFORMATION
```

```
Number of Free Parameters                       10
Loglikelihood
          H0 Value                       -18595.444
          H0 Scaling Correction Factor      1.5173
            for MLR
          H1 Value                       -18595.444
          H1 Scaling Correction Factor      1.5173
            for MLR
Information Criteria
          Akaike (AIC)                    37210.887
          Bayesian (BIC)                  37275.744
          Sample-Size Adjusted BIC        37243.968
            (n* = (n + 2) / 24)
Chi-Square Test of Model Fit
          Value                             0.000*
          Degrees of Freedom                    0
          P-Value                           0.0000
          Scaling Correction Factor         1.0000
            for MLR

*   The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used
    for chi-square difference testing in the regular way.  MLM, MLR and WLSM
    chi-square difference testing is described on the Mplus website.  MLMV, WLSMV,
    and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

          Estimate                          0.000
          90 Percent C.I.                   0.000  0.000
          Probability RMSEA <= .05          0.000

CFI/TLI

          CFI                               1.000
          TLI                               1.000

Chi-Square Test of Model Fit for the Baseline Model

          Value                            63.693
          Degrees of Freedom                    8
          P-Value                           0.0000

SRMR (Standardized Root Mean Square Residual)

          Value                             0.000
```

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
BPXDI1_1 ON				
OTHHIS	-0.098	0.740	-0.132	0.895
WHITE	1.914	0.624	3.066	0.002
BLACK	2.620	0.680	3.852	0.000
OTHER	1.269	0.718	1.766	0.077
PREVMAR	0.244	0.610	0.401	0.689
NEVMAR	-1.513	0.639	-2.369	0.018
AGEC	-0.008	0.014	-0.542	0.588
FEMALE	-2.515	0.447	-5.627	0.000
Intercepts				
BPXDI1_1	71.809	0.586	122.447	0.000
Residual Variances				
BPXDI1_1	126.252	4.186	30.160	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue)	0.134E-04

```
TITLE: C7 NHANES ADSA3 WEIGHTED WITH DESIGN VARIABLES ;

DATA:
 FILE IS "p:\asda3\replication mplus\c7_nhanes_asda3.txt";

 VARIABLE:
 NAMES ARE
 seqn riagendr wtmec2yr sdmvpsu sdmvstra indfmpir bpxdi1 bmxbmi lbxtc
 irregular edcat age marcat bp_cat ag1829 ag3044 ag4559 ag60
 mex othhis white black other lbdhdd lbdhddsi lbdtcsi age18p
 agec agecsq numsecu bpxdi1_1 married prevmar nevmar female
 femaleagec femaleagecsq
 othhisagec blackagec otheragec whiteagec othhisagecsq blackagecsq
 otheragecsq
 whiteagecsq  ;

 USEVARIABLES ARE bpxdi1_1 OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGEC FEMALE
   WTMEC2YR SDMVSTRA NUMSECU ;
 missing are . ;
  weight is wtmec2yr ;
  stratification is sdmvstra ;
  cluster is numsecu ;
  subpopulation = (age18p eq 1) ;

 ANALYSIS:
 type is complex ;
 estimator is mlr ;

 Model:
 bpxdi1_1 on OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGEC FEMALE ;
```

C7 NHANES ADSA3 WEIGHTED WITH DESIGN VARIABLES ;

SUMMARY OF ANALYSIS

Number of groups 1
Number of observations 4845

Number of dependent variables 1
Number of independent variables 8
Number of continuous latent variables 0

Observed dependent variables

  Continuous
   BPXDI1_1

Observed independent variables
   OTHHIS   WHITE   BLACK   OTHER   PREVMAR   NEVMAR
   AGEC   FEMALE

Variables with special functions

  Stratification   SDMVSTRA
  Cluster variable   NUMSECU
  Weight variable   WTMEC2YR

Estimator MLR
Information matrix OBSERVED
Maximum number of iterations 1000
Convergence criterion 0.500D-04
Maximum number of steepest descent iterations 20
Maximum number of iterations for H1 2000
Convergence criterion for H1 0.100D-03

Input data file(s)
  p:\asda3\replication mplus\c7_nhanes_asda3.txt

Input data format FREE

SUMMARY OF DATA

     Number of missing data patterns 1
     Number of strata 14
     Number of clusters 31
THE MODEL ESTIMATION TERMINATED NORMALLY
MODEL FIT INFORMATION

Number of Free Parameters 10

Loglikelihood

          H0 Value -18595.444
          H0 Scaling Correction Factor 3.4598
            for MLR
          H1 Value -18595.444
          H1 Scaling Correction Factor 3.4598
            for MLR

Information Criteria

          Akaike (AIC) 37210.887
          Bayesian (BIC) 37275.744
          Sample-Size Adjusted BIC 37243.968

(n* = (n + 2) / 24)

Chi-Square Test of Model Fit

Value	0.000*
Degrees of Freedom	0
P-Value	0.0000
Scaling Correction Factor for MLR	1.0000

* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference testing in the regular way. MLM, MLR and WLSM chi-square difference testing is described on the Mplus website. MLMV, WLSMV, and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.000	
90 Percent C.I.	0.000	0.000
Probability RMSEA <= .05	0.000	

CFI/TLI

CFI	1.000
TLI	1.000

Chi-Square Test of Model Fit for the Baseline Model

Value	30.653
Degrees of Freedom	8
P-Value	0.0002

SRMR (Standardized Root Mean Square Residual)

Value	0.000

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
BPXDI1_1 ON				
OTHHIS	-0.098	1.273	-0.077	0.939
WHITE	1.914	0.763	2.508	0.012
BLACK	2.620	0.600	4.368	0.000
OTHER	1.269	0.604	2.100	0.036
PREVMAR	0.244	0.672	0.364	0.716
NEVMAR	-1.513	0.899	-1.683	0.092
AGEC	-0.008	0.020	-0.376	0.707
FEMALE	-2.515	0.539	-4.665	0.000
Intercepts				
BPXDI1_1	71.809	0.578	124.268	0.000
Residual Variances				
BPXDI1_1	126.252	4.509	28.001	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue)	0.134E-04

```
TITLE: C7 NHANES ADSA3 TEST IF WEIGHTS ARE INFORMATIVE ;
DATA:
 FILE IS "p:\asda3\replication mplus\c7_nhanes_asda3.txt";

 VARIABLE:
 NAMES ARE
 seqn riagendr wtmec2yr sdmvpsu sdmvstra indfmpir bpxdi1 bmxbmi lbxtc
 irregular edcat age marcat bp_cat ag1829 ag3044 ag4559 ag60
 mex othhis white black other lbdhdd lbdhddsi lbdtcsi age18p
 agec agecsq numsecu bpxdi1_1 married prevmar nevmar female
 femaleagec femaleagecsq
 othhisagec blackagec otheragec whiteagec othhisagecsq blackagecsq
 otheragecsq
 whiteagecsq  ;

 USEVARIABLES ARE bpxdi1_1 OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGEC
   FEMALE WTOTHHIS WTWHITE WTBLACK WTOTHER
   WTPREVMAR WTNEVMAR WTFEMALE WTAGEC wtmec2yr1 agec1 ;

 missing are . ;
 useobservations = (age18p eq 1) ;

DEFINE:
 wtmec2yr1 = wtmec2yr/100 ;
 agec1 = agec/100 ;
 wtothhis = wtmec2yr1*othhis;
 wtwhite = wtmec2yr1*white ;
 wtblack = wtmec2yr1*black ;
 wtother = wtmec2yr1*other ;
 wtprevmar = wtmec2yr1*prevmar ;
 wtnevmar = wtmec2yr1*nevmar ;
 wtfemale = wtmec2yr1*female ;
 wtagec = wtmec2yr1*agec1 ;

 ANALYSIS:
  estimator is mlr ;

 Model:
 bpxdi1_1 on OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGEC1 FEMALE
          WTMEC2YR1 (p1)
          WTOTHHIS (p2)
          WTWHITE (p3)
          WTBLACK (p4)
          WTOTHER (p5)
          WTPREVMAR (p6)
          WTNEVMAR (p7)
          WTFEMALE (p8)
          WTAGEC (p9)
          ;
 Model Test:
   p1=0 ;
   p2=0 ;
   p3=0 ;
   p4=0 ;
   p5=0 ;
   p6=0 ;
   p7=0 ;
   p8=0 ;
   p9=0 ;
```

```
C7 NHANES ADSA3 TEST IF WEIGHTS ARE INFORMATIVE ;
SUMMARY OF ANALYSIS

Number of groups                                                 1
Number of observations                                        5553

Number of dependent variables                                    2
Number of independent variables                                 17
Number of continuous latent variables                            0

Observed dependent variables

  Continuous
   BPXDI1_1    AGEC

Observed independent variables
   OTHHIS      WHITE       BLACK       OTHER       PREVMAR     NEVMAR
   FEMALE      WTOTHHIS    WTWHITE     WTBLACK     WTOTHER     WTPREVMA
   WTNEVMAR    WTFEMALE    WTAGEC      WTMEC2YR    AGEC1


Estimator                                                      MLR
Information matrix                                        OBSERVED
Maximum number of iterations                                  1000
Convergence criterion                                    0.500D-04
Maximum number of steepest descent iterations                   20
Maximum number of iterations for H1                           2000
Convergence criterion for H1                             0.100D-03

Input data file(s)
  p:\asda3\replication mplus\c7_nhanes_asda3.txt

Input data format  FREE


SUMMARY OF DATA

     Number of missing data patterns             2



MODEL FIT INFORMATION

Number of Free Parameters                       21

Loglikelihood

          H0 Value                       -42628.561
          H1 Value                       -23842.551

Information Criteria

          Akaike (AIC)                    85299.122
          Bayesian (BIC)                  85438.186
          Sample-Size Adjusted BIC        85371.455
            (n* = (n + 2) / 24)

Wald Test of Parameter Constraints

          Value                             58.929
          Degrees of Freedom                    9
          P-Value                           0.0000

SRMR (Standardized Root Mean Square Residual)
```

Value	0.098

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
BPXDI1_1 ON				
OTHHIS	1.708	1.807	0.945	0.345
WHITE	-2.347	1.511	-1.553	0.120
BLACK	0.092	1.724	0.054	0.957
OTHER	1.719	1.518	1.132	0.258
PREVMAR	-1.360	0.646	-2.104	0.035
NEVMAR	-3.609	0.706	-5.109	0.000
AGEC1	-3.136	1.936	-1.620	0.105
FEMALE	-2.853	0.493	-5.782	0.000
WTMEC2YR1	-0.003	0.004	-0.810	0.418
WTOTHHIS	-0.005	0.005	-1.022	0.307
WTWHITE	0.005	0.004	1.341	0.180
WTBLACK	0.012	0.006	1.871	0.061
WTOTHER	-0.001	0.004	-0.314	0.753
WTPREVMAR	0.002	0.001	2.324	0.020
WTNEVMAR	0.003	0.001	2.429	0.015
WTFEMALE	0.000	0.001	0.504	0.614
WTAGEC	0.004	0.003	1.428	0.153
Means				
AGEC	2.566	0.240	10.700	0.000
Intercepts				
BPXDI1_1	73.379	1.436	51.094	0.000
Variances				
AGEC	319.285	4.038	79.062	0.000
Residual Variances				
BPXDI1_1	134.045	3.256	41.174	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix 0.426E-08
(ratio of smallest to largest eigenvalue)

```
TITLE: C7 NHANES ADSA3 PRELIMINARY FINAL MODEL TEST RACExAGE INTS ;
  Partial Output:
  DATA:
   FILE IS "p:\asda3\replication mplus\c7_nhanes_asda3.txt";
   VARIABLE:
   NAMES ARE
   seqn riagendr wtmec2yr sdmvpsu sdmvstra indfmpir bpxdi1 bmxbmi lbxtc
   irregular edcat age marcat bp_cat ag1829 ag3044 ag4559 ag60
   mex othhis white black other lbdhdd lbdhddsi lbdtcsi age18p
   agec agecsq numsecu bpxdi1_1 married prevmar nevmar female
   femaleagec femaleagecsq othhisagec blackagec otheragec
   whiteagec othhisagecsq blackagecsq otheragecsq whiteagecsq  ;

   USEVARIABLES ARE bpxdi1_1 OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGEC
    FEMALE AGECSQ WTMEC2YR SDMVSTRA NUMSECU
    othhisagec blackagec otheragec  whiteagec
    othhisagecsq  blackagecsq otheragecsq  whiteagecsq ;

   missing are . ;
   weight is wtmec2yr ;
   stratification is sdmvstra ;
   cluster is numsecu ;
   subpopulation = (age18p eq 1) ;

   DEFINE:
   othhisagec = othhis*agec ;
   blackagec= black*agec ;
   otheragec=other*agec ;
   whiteagec=white*agec ;
   othhisagecsq = othhis*agecsq ;
   blackagecsq= black*agecsq ;
   otheragecsq=other*agecsq ;
   whiteagecsq=white*agecsq ;
```

```
ANALYSIS:
type is complex ;
estimator is mlr ;

Model:
bpxdi1_1 on OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGECSQ AGEC FEMALE
othhisagec (p1)
whiteagec (p2)
blackagec (p3)
otheragec (p4)
othhisagecsq (p5)
whiteagecsq (p6)
blackagecsq (p7)
otheragecsq (p8) ;


Model test:
 p1=0;
 p2=0;
 p3=0;
 p4=0;
 p5=0;
 p6=0;
 p7=0;
 p8=0;
```

C7 NHANES ADSA3 PRELIMINARY FINAL MODEL TEST RACExAGE INTS ;

SUMMARY OF ANALYSIS

Number of groups 1
Number of observations 4845

Number of dependent variables 1
Number of independent variables 17
Number of continuous latent variables 0

Observed dependent variables

  Continuous
   BPXDI1_1

Observed independent variables
   OTHHIS   WHITE   BLACK   OTHER   PREVMAR   NEVMAR
   AGEC   FEMALE   AGECSQ   OTHHISAG   BLACKAGE   OTHERAGE
   WHITEAGE   OTHHISAG   BLACKAGE   OTHERAGE   WHITEAGE

Variables with special functions

  Stratification   SDMVSTRA
  Cluster variable   NUMSECU
  Weight variable   WTMEC2YR

Estimator MLR
Information matrix OBSERVED
Maximum number of iterations 1000
Convergence criterion 0.500D-04
Maximum number of steepest descent iterations 20
Maximum number of iterations for H1 2000
Convergence criterion for H1 0.100D-03

Input data file(s)
  p:\asda3\replication mplus\c7_nhanes_asda3.txt

Input data format FREE
SUMMARY OF DATA
     Number of missing data patterns 1
     Number of strata 14
     Number of clusters 31

MODEL FIT INFORMATION
Number of Free Parameters 19
Loglikelihood

          H0 Value -18379.437
          H0 Scaling Correction Factor 2.2285
            for MLR
          H1 Value -18379.437
          H1 Scaling Correction Factor 2.2285
            for MLR

Information Criteria

          Akaike (AIC) 36796.874
          Bayesian (BIC) 36920.102
          Sample-Size Adjusted BIC 36859.727
            (n* = (n + 2) / 24)

Chi-Square Test of Model Fit

```
          Value                              0.000*
          Degrees of Freedom                     0
          P-Value                           0.0000
          Scaling Correction Factor         1.0000
            for MLR

*   The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used
    for chi-square difference testing in the regular way.  MLM, MLR and WLSM
    chi-square difference testing is described on the Mplus website.  MLMV, WLSMV,
    and ULSMV difference testing is done using the DIFFTEST option.

Wald Test of Parameter Constraints
          Value                             80.511
          Degrees of Freedom                     8
          P-Value                           0.0000
RMSEA (Root Mean Square Error Of Approximation)
          Estimate                           0.000
          90 Percent C.I.                    0.000  0.000
          Probability RMSEA <= .05           0.000
CFI/TLI
          CFI                                1.000
          TLI                                1.000
Chi-Square Test of Model Fit for the Baseline Model
          Value                            293.115
          Degrees of Freedom                    17
          P-Value                           0.0000
SRMR (Standardized Root Mean Square Residual)
          Value                              0.000

MODEL RESULTS
                                                    Two-Tailed
                    Estimate       S.E.  Est./S.E.    P-Value
 BPXDI1_1 ON
    OTHHIS             0.346      0.984      0.351      0.725
    WHITE              1.552      0.939      1.653      0.098
    BLACK              3.394      0.991      3.424      0.001
    OTHER              1.380      0.878      1.572      0.116
    PREVMAR            0.549      0.629      0.872      0.383
    NEVMAR             1.188      0.778      1.526      0.127
    AGECSQ            -0.012      0.002     -5.631      0.000
    AGEC               0.050      0.035      1.435      0.151
    FEMALE            -2.214      0.505     -4.383      0.000
    OTHHISAGEC         0.066      0.050      1.318      0.187
    WHITEAGEC          0.011      0.054      0.206      0.837
    BLACKAGEC          0.069      0.037      1.873      0.061
    OTHERAGEC          0.044      0.059      0.743      0.458
    OTHHISAGEC         0.000      0.003      0.015      0.988
    WHITEAGECS         0.002      0.002      1.033      0.302
    BLACKAGECS        -0.004      0.002     -1.771      0.077
    OTHERAGECS         0.000      0.002     -0.069      0.945
 Intercepts
    BPXDI1_1          74.455      0.843     88.328      0.000

 Residual Variances
    BPXDI1_1         115.479      4.213     27.413      0.000


QUALITY OF NUMERICAL RESULTS

     Condition Number for the Information Matrix              0.320E-07
       (ratio of smallest to largest eigenvalue)
```

```
  TITLE: C7 NHANES ADSA3 PRELIMINARY FINAL MODEL TEST GENDERxAGE INTS ;
  DATA:
   FILE IS "p:\asda3\replication mplus\c7_nhanes_asda3.txt";
   VARIABLE:
   NAMES ARE
   seqn riagendr wtmec2yr sdmvpsu sdmvstra indfmpir bpxdi1 bmxbmi lbxtc
   irregular edcat age marcat bp_cat ag1829 ag3044 ag4559 ag60
   mex othhis white black other lbdhdd lbdhddsi lbdtcsi age18p
   agec agecsq numsecu bpxdi1_1 married prevmar nevmar female
   femaleagec femaleagecsq othhisagec blackagec otheragec
   whiteagec othhisagecsq blackagecsq otheragecsq whiteagecsq  ;
   USEVARIABLES ARE bpxdi1_1 OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGEC
    FEMALE AGECSQ WTMEC2YR SDMVSTRA NUMSECU FEMALEAGEC FEMALEAGECSQ ;
   missing are . ;
   weight is wtmec2yr ;
   stratification is sdmvstra ;
   cluster is numsecu ;
   subpopulation = (age18p eq 1) ;

   DEFINE:
   femaleagec=female*agec ;
   femaleagecsq=female*agecsq ;

   ANALYSIS:
   type is complex ;
   estimator is mlr ;

   Model:
   bpxdi1_1 on OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGECSQ AGEC FEMALE
   femaleagec (p1)
   femaleagecsq (p2) ;

   Model test:
    p1=0;
    p2=0;


C7 NHANES ADSA3 PRELIMINARY FINAL MODEL TEST GENDERxAGE INTS ;

SUMMARY OF ANALYSIS

Number of groups                                                 1
Number of observations                                        4845

Number of dependent variables                                    1
Number of independent variables                                 11
Number of continuous latent variables                            0

Observed dependent variables

  Continuous
   BPXDI1_1

Observed independent variables
   OTHHIS      WHITE       BLACK       OTHER       PREVMAR     NEVMAR
   AGEC        FEMALE      AGECSQ      FEMALEAG    FEMALEAG

Variables with special functions

  Stratification        SDMVSTRA
  Cluster variable      NUMSECU
  Weight variable       WTMEC2YR

Estimator                                                      MLR
```

```
Information matrix                                        OBSERVED
Maximum number of iterations                                  1000
Convergence criterion                                    0.500D-04
Maximum number of steepest descent iterations                   20
Maximum number of iterations for H1                           2000
Convergence criterion for H1                             0.100D-03

Input data file(s)
  p:\asda3\replication mplus\c7_nhanes_asda3.txt

Input data format  FREE
SUMMARY OF DATA

     Number of missing data patterns             1
     Number of strata                       14
     Number of clusters                     31

THE MODEL ESTIMATION TERMINATED NORMALLY
MODEL FIT INFORMATION
Number of Free Parameters                       13
Loglikelihood
          H0 Value                      -18377.181
          H0 Scaling Correction Factor      2.9590
            for MLR
          H1 Value                      -18377.181
          H1 Scaling Correction Factor      2.9590
            for MLR

Information Criteria

          Akaike (AIC)                   36780.362
          Bayesian (BIC)                 36864.676
          Sample-Size Adjusted BIC       36823.366
            (n* = (n + 2) / 24)

Chi-Square Test of Model Fit

          Value                             0.000*
          Degrees of Freedom                    0
          P-Value                           0.0000
          Scaling Correction Factor         1.0000
            for MLR

*   The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used
    for chi-square difference testing in the regular way.  MLM, MLR and WLSM
    chi-square difference testing is described on the Mplus website.  MLMV, WLSMV,
    and ULSMV difference testing is done using the DIFFTEST option.

Wald Test of Parameter Constraints

          Value                             9.072
          Degrees of Freedom                    2
          P-Value                           0.0107
RMSEA (Root Mean Square Error Of Approximation)

          Estimate                          0.000
          90 Percent C.I.                   0.000  0.000
          Probability RMSEA <= .05          0.000
CFI/TLI

          CFI                               1.000
          TLI                               1.000
Chi-Square Test of Model Fit for the Baseline Model
          Value                           219.689
```

Degrees of Freedom	11
P-Value	0.0000

SRMR (Standardized Root Mean Square Residual)

Value	0.000

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
BPXDI1_1 ON				
OTHHIS	0.016	1.103	0.015	0.988
WHITE	1.837	0.781	2.352	0.019
BLACK	2.125	0.612	3.470	0.001
OTHER	1.114	0.591	1.884	0.060
PREVMAR	0.293	0.620	0.473	0.636
NEVMAR	1.056	0.755	1.400	0.162
AGECSQ	-0.013	0.001	-14.151	0.000
AGEC	0.050	0.021	2.426	0.015
FEMALE	-3.082	0.756	-4.076	0.000
FEMALEAGEC	0.050	0.026	1.971	0.049
FEMALEAGEC	0.003	0.002	1.732	0.083
Intercepts				
BPXDI1_1	74.969	0.703	106.594	0.000
Residual Variances				
BPXDI1_1	115.372	4.032	28.616	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix (ratio of smallest to largest eigenvalue)	0.675E-07

```
 TITLE: C7 NHANES ADSA3 PRELIMINARY FINAL MODEL WITH GENDER + RACExAGE INTS ;

  DATA:
   FILE IS "p:\asda3\replication mplus\c7_nhanes_asda3.txt";

   VARIABLE:
   NAMES ARE
   seqn riagendr wtmec2yr sdmvpsu sdmvstra indfmpir bpxdi1 bmxbmi lbxtc
   irregular edcat age marcat bp_cat ag1829 ag3044 ag4559 ag60
   mex othhis white black other lbdhdd lbdhddsi lbdtcsi age18p
   agec agecsq numsecu bpxdi1_1 married prevmar nevmar female
   femaleagec femaleagecsq othhisagec blackagec otheragec
   whiteagec othhisagecsq blackagecsq otheragecsq whiteagecsq  ;

   USEVARIABLES ARE bpxdi1_1 OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGEC
    FEMALE AGECSQ WTMEC2YR SDMVSTRA NUMSECU
    othhisagec blackagec otheragec  whiteagec
    othhisagecsq  blackagecsq otheragecsq  whiteagecsq
    femaleagec femaleagecsq ;

   missing are . ;
   weight is wtmec2yr ;
   stratification is sdmvstra ;
   cluster is numsecu ;
   subpopulation = (age18p eq 1) ;

   ANALYSIS:
   type is complex ;
   estimator is mlr ;

   Model:
   bpxdi1_1 on OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR AGECSQ AGEC FEMALE
   othhisagec whiteagec blackagec otheragec
   othhisagecsq whiteagecsq  blackagecsq  otheragecsq
   femaleagec femaleagecsq ;

   OUTPUT: cinterval ;

   ! Note that use of the SAVE command with regression diagnostics is possible
   ! See the Mplus documentation for details

C7 NHANES ADSA3 PRELIMINARY FINAL MODEL WITH GENDER + RACExAGE INTS ;

SUMMARY OF ANALYSIS

Number of groups                                                 1
Number of observations                                        4845

Number of dependent variables                                    1
Number of independent variables                                 19
Number of continuous latent variables                            0

Observed dependent variables

  Continuous
   BPXDI1_1

Observed independent variables
   OTHHIS      WHITE       BLACK       OTHER       PREVMAR     NEVMAR
   AGEC        FEMALE      AGECSQ      OTHHISAG    BLACKAGE    OTHERAGE
   WHITEAGE    OTHHISAG    BLACKAGE    OTHERAGE    WHITEAGE    FEMALEAG
   FEMALEAG

Variables with special functions
```

```
  Stratification        SDMVSTRA
  Cluster variable      NUMSECU
  Weight variable       WTMEC2YR

Estimator                                                MLR
Information matrix                                  OBSERVED
Maximum number of iterations                            1000
Convergence criterion                              0.500D-04
Maximum number of steepest descent iterations             20
Maximum number of iterations for H1                     2000
Convergence criterion for H1                       0.100D-03

Input data file(s)
  p:\asda3\replication mplus\c7_nhanes_asda3.txt

Input data format  FREE


SUMMARY OF DATA

     Number of missing data patterns             1
     Number of strata                       14
     Number of clusters                     31



THE MODEL ESTIMATION TERMINATED NORMALLY
MODEL FIT INFORMATION

Number of Free Parameters                       21

Loglikelihood

          H0 Value                      -18369.649
          H0 Scaling Correction Factor      2.2400
            for MLR
          H1 Value                      -18369.649
          H1 Scaling Correction Factor      2.2400
            for MLR

Information Criteria

          Akaike (AIC)                   36781.297
          Bayesian (BIC)                 36917.497
          Sample-Size Adjusted BIC       36850.767
            (n* = (n + 2) / 24)

Chi-Square Test of Model Fit

          Value                             0.000*
          Degrees of Freedom                    0
          P-Value                           0.0000
          Scaling Correction Factor         1.0000
            for MLR

*   The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used
    for chi-square difference testing in the regular way.  MLM, MLR and WLSM
    chi-square difference testing is described on the Mplus website.  MLMV, WLSMV,
    and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

          Estimate                          0.000
```

90 Percent C.I.	0.000	0.000
Probability RMSEA <= .05	0.000	

CFI/TLI

CFI	1.000
TLI	1.000

Chi-Square Test of Model Fit for the Baseline Model

Value	293.960
Degrees of Freedom	19
P-Value	0.0000

SRMR (Standardized Root Mean Square Residual)

Value	0.000

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
BPXDI1_1 ON				
OTHHIS	0.406	0.980	0.414	0.679
WHITE	1.614	0.944	1.710	0.087
BLACK	3.520	0.991	3.552	0.000
OTHER	1.416	0.862	1.644	0.100
PREVMAR	0.291	0.640	0.454	0.650
NEVMAR	1.108	0.776	1.428	0.153
AGECSQ	-0.014	0.002	-5.832	0.000
AGEC	0.028	0.040	0.709	0.478
FEMALE	-3.103	0.756	-4.104	0.000
OTHHISAGEC	0.061	0.052	1.165	0.244
WHITEAGEC	0.008	0.056	0.136	0.892
BLACKAGEC	0.065	0.039	1.652	0.099
OTHERAGEC	0.039	0.062	0.629	0.529
OTHHISAGEC	0.000	0.004	-0.089	0.929
WHITEAGECS	0.002	0.002	0.788	0.431
BLACKAGECS	-0.004	0.002	-1.802	0.071
OTHERAGECS	0.000	0.002	-0.152	0.879
FEMALEAGEC	0.048	0.026	1.864	0.062
FEMALEAGEC	0.003	0.002	1.772	0.076
Intercepts				
BPXDI1_1	74.928	0.933	80.330	0.000
Residual Variances				
BPXDI1_1	115.014	4.013	28.658	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix 0.266E-07
(ratio of smallest to largest eigenvalue)

CONFIDENCE INTERVALS OF MODEL RESULTS

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
BPXDI1_1 ON							
OTHHIS	-2.117	-1.514	-1.206	0.406	2.018	2.326	2.930
WHITE	-0.818	-0.236	0.061	1.614	3.167	3.464	4.046
BLACK	0.967	1.578	1.890	3.520	5.150	5.462	6.072
OTHER	-0.803	-0.273	-0.001	1.416	2.834	3.106	3.636
PREVMAR	-1.358	-0.964	-0.762	0.291	1.343	1.545	1.939
NEVMAR	-0.891	-0.413	-0.168	1.108	2.384	2.628	3.106
AGECSQ	-0.020	-0.019	-0.018	-0.014	-0.010	-0.009	-0.008
AGEC	-0.074	-0.050	-0.037	0.028	0.094	0.106	0.131
FEMALE	-5.050	-4.585	-4.347	-3.103	-1.859	-1.621	-1.155
OTHHISAGEC	-0.073	-0.041	-0.025	0.061	0.146	0.162	0.194
WHITEAGEC	-0.138	-0.103	-0.085	0.008	0.101	0.118	0.153
BLACKAGEC	-0.036	-0.012	0.000	0.065	0.129	0.141	0.165
OTHERAGEC	-0.121	-0.083	-0.063	0.039	0.141	0.161	0.199
OTHHISAGEC	-0.010	-0.007	-0.006	0.000	0.006	0.007	0.009
WHITEAGECS	-0.003	-0.002	-0.002	0.002	0.005	0.005	0.007
BLACKAGECS	-0.010	-0.009	-0.008	-0.004	0.000	0.000	0.002
OTHERAGECS	-0.007	-0.005	-0.004	0.000	0.004	0.004	0.006
FEMALEAGEC	-0.018	-0.002	0.006	0.048	0.091	0.099	0.115
FEMALEAGEC	-0.001	0.000	0.000	0.003	0.006	0.006	0.007
Intercepts							
BPXDI1_1	72.525	73.100	73.394	74.928	76.462	76.756	77.331

Residual Variances

BPXDI1_1	104.677	107.148	108.412	115.014	121.616	122.880	125.351

```
  TITLE:ASDA 3 EX7.5 ANALYSIS EXAMPLES REPLICATION NHANES FINAL MODEL WITH Q WGT
 ! Note that the revised weight was prepared in SAS prior to running this model.
   DATA:
   FILE IS "P:\ASDA3\Replication Mplus\c7_nhanes_q.txt";
   VARIABLE:
   NAMES ARE
   FEMALE SDMVPSU SDMVSTRA SEQN WTMEC2YR ag60 ag1829 ag3044 ag4559 age
   age18p agec agecsq black
   blackagec blackagecsq bp_cat bpxdi1_1 edcat femaleagec femaleagecsq
   irregular marcat married mex
   nevmar numsecu other otheragec otheragecsq othhis othhisagec
   othhisagecsq pre_hibp prevmar
   q_wtmec2yr white whiteagec whiteagecsq ;

   USEVARIABLES ARE
   bpxdi1_1 sdmvstra numsecu q_wtmec2yr
   OTHHIS WHITE BLACK OTHER AGEC AGECSQ FEMALE
   othhisagec blackagec otheragec whiteagec othhisagecsq blackagecsq otheragecsq
   whiteagecsq femaleagec femaleagecsq prevmar nevmar ;

   missing are . ;
   stratification sdmvstra ;
   cluster numsecu ;
   subpopulation = (age18p eq 1) ;
   weight is q_wtmec2yr ;

   ANALYSIS:
   type is complex ;
   estimator is mlr ;

   MODEL:
   bpxdi1_1 on OTHHIS WHITE BLACK OTHER PREVMAR NEVMAR FEMALE AGEC AGECSQ
   othhisagec
   whiteagec
   blackagec
   otheragec
   othhisagecsq
   whiteagecsq
   blackagecsq
   otheragecsq
   femaleagec
   femaleagecsq  ;

   OUTPUT: CINTERVAL ;

ASDA 3 EX7.5 ANALYSIS EXAMPLES REPLICATION NHANES FINAL MODEL WITH Q WGT

SUMMARY OF ANALYSIS

Number of groups                                                 1
Number of observations                                        4845

Number of dependent variables                                    1
Number of independent variables                                 19
Number of continuous latent variables                            0

Observed dependent variables

  Continuous
   BPXDI1_1

Observed independent variables
   OTHHIS      WHITE       BLACK       OTHER       AGEC        AGECSQ
   FEMALE      OTHHISAG    BLACKAGE    OTHERAGE    WHITEAGE    OTHHISAG
```

```
   BLACKAGE    OTHERAGE    WHITEAGE    FEMALEAG    FEMALEAG    PREVMAR
   NEVMAR

Variables with special functions

  Stratification        SDMVSTRA
  Cluster variable      NUMSECU
  Weight variable       Q_WTMEC2
```

```
Estimator                                                      MLR
Information matrix                                        OBSERVED
Maximum number of iterations                                  1000
Convergence criterion                                    0.500D-04
Maximum number of steepest descent iterations                   20
Maximum number of iterations for H1                           2000
Convergence criterion for H1                             0.100D-03

Input data file(s)
  P:\ASDA3\Replication Mplus\c7_nhanes_q.txt

Input data format  FREE


SUMMARY OF DATA

     Number of missing data patterns             1
     Number of strata                       14
     Number of clusters                     31



THE MODEL ESTIMATION TERMINATED NORMALLY
```

MODEL FIT INFORMATION

Number of Free Parameters 21

Loglikelihood

H0 Value	-18530.195
H0 Scaling Correction Factor for MLR	3.5242
H1 Value	-18530.195
H1 Scaling Correction Factor for MLR	3.5242

Information Criteria

Akaike (AIC)	37102.391
Bayesian (BIC)	37238.591
Sample-Size Adjusted BIC (n* = (n + 2) / 24)	37171.860

Chi-Square Test of Model Fit

Value	0.000*
Degrees of Freedom	0
P-Value	0.0000
Scaling Correction Factor for MLR	1.0000

* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference testing in the regular way. MLM, MLR and WLSM chi-square difference testing is described on the Mplus website. MLMV, WLSMV, and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.000	
90 Percent C.I.	0.000	0.000
Probability RMSEA <= .05	0.000	

CFI/TLI

CFI	1.000
TLI	1.000

Chi-Square Test of Model Fit for the Baseline Model

Value	225.505
Degrees of Freedom	19
P-Value	0.0000

SRMR (Standardized Root Mean Square Residual)

Value	0.000

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
BPXDI1_1 ON				
OTHHIS	0.733	0.976	0.751	0.453
WHITE	1.406	1.068	1.317	0.188
BLACK	3.406	1.050	3.244	0.001
OTHER	1.173	0.999	1.174	0.240
PREVMAR	-0.250	0.516	-0.485	0.628
NEVMAR	0.549	0.591	0.929	0.353
FEMALE	-3.437	0.634	-5.419	0.000
AGEC	0.041	0.043	0.955	0.340
AGECSQ	-0.014	0.003	-5.021	0.000
OTHHISAGEC	0.023	0.063	0.367	0.714
WHITEAGEC	-0.002	0.060	-0.026	0.979
BLACKAGEC	0.071	0.039	1.825	0.068
OTHERAGEC	0.040	0.059	0.668	0.504
OTHHISAGEC	-0.003	0.005	-0.647	0.518
WHITEAGECS	0.002	0.002	0.903	0.366
BLACKAGECS	-0.003	0.003	-1.023	0.306
OTHERAGECS	0.001	0.003	0.320	0.749
FEMALEAGEC	0.031	0.029	1.068	0.286
FEMALEAGEC	0.003	0.002	1.532	0.125
Intercepts				
BPXDI1_1	75.437	0.968	77.969	0.000
Residual Variances				
BPXDI1_1	122.892	5.091	24.139	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix 0.354E-07
(ratio of smallest to largest eigenvalue)

CONFIDENCE INTERVALS OF MODEL RESULTS

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
BPXDI1_1 ON							
OTHHIS	-1.781	-1.180	-0.872	0.733	2.338	2.646	3.247
WHITE	-1.344	-0.687	-0.350	1.406	3.163	3.499	4.157
BLACK	0.702	1.348	1.679	3.406	5.134	5.464	6.111
OTHER	-1.401	-0.785	-0.470	1.173	2.817	3.132	3.747
PREVMAR	-1.578	-1.261	-1.098	-0.250	0.598	0.761	1.078
NEVMAR	-0.974	-0.610	-0.423	0.549	1.522	1.708	2.073
FEMALE	-5.071	-4.680	-4.480	-3.437	-2.394	-2.194	-1.803
AGEC	-0.070	-0.043	-0.030	0.041	0.112	0.125	0.152
AGECSQ	-0.021	-0.020	-0.019	-0.014	-0.009	-0.009	-0.007
OTHHISAGEC	-0.139	-0.100	-0.081	0.023	0.127	0.147	0.186
WHITEAGEC	-0.155	-0.118	-0.100	-0.002	0.097	0.115	0.152
BLACKAGEC	-0.029	-0.005	0.007	0.071	0.135	0.148	0.172
OTHERAGEC	-0.114	-0.077	-0.058	0.040	0.138	0.156	0.193
OTHHISAGEC	-0.016	-0.013	-0.011	-0.003	0.005	0.006	0.009
WHITEAGECS	-0.004	-0.002	-0.002	0.002	0.006	0.007	0.008
BLACKAGECS	-0.011	-0.009	-0.008	-0.003	0.002	0.003	0.005
OTHERAGECS	-0.007	-0.005	-0.004	0.001	0.006	0.007	0.008
FEMALEAGEC	-0.044	-0.026	-0.017	0.031	0.080	0.089	0.107
FEMALEAGEC	-0.002	-0.001	0.000	0.003	0.006	0.007	0.008
Intercepts							

BPXDI1_1	72.945	73.540	73.845	75.437	77.028	77.333	77.929

Residual Variances

BPXDI1_1	109.779	112.914	114.517	122.892	131.267	132.870	136.005