Appendix: Online Supplement

List of Acronyms

EFA = Exploratory Factor Analysis
CFA = confirmatory factor analysis
SEM = structural equation modeling
ESEM = exploratory structural equation modeling
BSEM = Bayesian structural equation modeling
ML= maximum likelihood
WLSMV = Weighted Least Squares with Mean and Variance Adjusted
Bayes- NIP = Bayesian Non-informative Priors
Bayes- IP = Bayesian Informative Priors
CFI = Comparative Fit Index
TLI = Tucker-Lewis Index
RMSEA = Root Mean Square Error of Approximation
BCFI = Bayesian Comparative Fit Index
BTLI = Bayesian Tucker-Lewis Index
BRMSEA = Bayesian Root Mean Square Error of Approximation
PPP = Posterior Predictive P-Value
PPPP = Prior Posterior Predictive P-Value
BIC = Bayesian Information Criterion
DIC = Deviance information criterion

Sample Mplus Code

TITLE: CFA_IPIP120_agreeableness 6 Correlated ml
DATA: FILE = " IPIP120_USA_agree_mplus.csv";
VARIABLE:
NAMES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
USEVARIABLES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
MISSING = ALL(999);
ANALYSIS:
ESTIMATOR = ML;

MODEL:
f1 BY I4 I34 I64 I94;
f2 BY I9 I39 I69 I99;
f3 BY I14 I44 I74 I104;
f4 BY I19 I49 I79 I109;
f5 BY I24 I54 I84 I114;
f6 BY I29 I59 I89 I119 ;

OUTPUT:
STDYX RESIDUAL TECH4 MODINDICES(ALL);

TITLE: CFA IPIP120_agreeableness Bifactor ml
DATA: FILE = "IPIP120_USA_agree_mplus.csv";
VARIABLE:
NAMES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
USEVARIABLES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
MISSING = ALL(999);
ANALYSIS:
ESTIMATOR = ml;
TYPE = general;

MODEL:
fg BY I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
f1 BY I4 I34 I64 I94 ;
f2 BY I9 I39 I69 I99 ;
f3 BY I14 I44 I74 I104 ;
f4 BY I19 I49 I79 I109 ;
f5 BY I24 I54 I84 I114 ;
f6 BY I29 I59 I89 I119 ;
fg WITH f1@0;
fg WITH f2@0;
fg WITH f3@0;
fg WITH f4@0;

```
fg WITH f5@0;
fg WITH f6@0;
f1 WITH f2@0;
f1 WITH f3@0;
f1 WITH f4@0;
f1 WITH f5@0;
f1 WITH f6@0;
f2 WITH f3@0;
f2 WITH f4@0;
f2 WITH f5@0;
f2 WITH f6@0;
f3 WITH f4@0;
f3 WITH f5@0;
f3 WITH f6@0;
f4 WITH f5@0;
f4 WITH f6@0;
f5 WITH f6@0;
OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL TECH4 MODINDICES(ALL);
```

TITLE: CFA IPIP120_agreeableness Hierarchical_ml

```
DATA: FILE = "IPIP120_USA_agree_mplus.csv";
VARIABLE:
NAMES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
USEVARIABLES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
MISSING = ALL(999);
ANALYSIS:
ESTIMATOR = ML;

MODEL:
f1 BY I4 I34 I64 I94;
f2 BY I9 I39 I69 I99;
f3 BY I14 I44 I74 I104;
f4 BY I19 I49 I79 I109;
f5 BY I24 I54 I84 I114;
f6 BY I29 I59 I89 I119 ;
fg BY f1 f2 f3 f4 f5 f6 ;
OUTPUT:
stdyx RESIDUAL TECH4 MODINDICES(ALL);
```

TITLE: ESEM_IPIP120_agreeableness 6 Correlated ml

```
DATA: FILE = "IPIP120_USA_agree_mplus.csv";
VARIABLE:
NAMES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
USEVARIABLES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
```

```
MISSING = ALL(999);
ANALYSIS:
ESTIMATOR = ml;
TYPE = general;
ROTATION = Target;

MODEL:
f1 BY I4 I34 I64 I94 I9~0 I39~0 I69~0 I99~0 I14~0 I44~0 I74~0
I104~0 I19~0 I49~0 I79~0 I109~0 I24~0 I54~0 I84~0
I114~0 I29~0 I59~0 I89~0 I119~0 (*1);
f2 BY I9 I39 I69 I99 I4~0 I34~0 I64~0 I94~0
I14~0 I44~0 I74~0 I104~0 I19~0 I49~0 I79~0 I109~0 I24~0 I54~0
I84~0 I114~0 I29~0 I59~0 I89~0 I119~0 (*1);
f3 BY I14 I44 I74 I104 I4~0 I34~0 I64~0 I94~0 I9~0 I39~0 I69~0 I99~0
I19~0 I49~0 I79~0 I109~0 I24~0 I54~0 I84~0
I114~0 I29~0 I59~0 I89~0 I119~0 (*1);
f4 BY I19 I49 I79 I109 I4~0 I34~0 I64~0 I94~0 I9~0 I39~0 I69~0 I99~0
I14~0 I44~0 I74~0 I104~0 I24~0 I54~0 I84~0
I114~0 I29~0 I59~0 I89~0 I119~0 (*1);
f5 BY I24 I54 I84 I114 I4~0 I34~0 I64~0 I94~0 I9~0 I39~0 I69~0 I99~0
I14~0 I44~0 I74~0
I104~0 I19~0 I49~0 I79~0 I109~0 I29~0 I59~0 I89~0 I119~0 (*1);
f6 BY I29 I59 I89 I119 I4~0 I34~0 I64~0 I94~0 I9~0 I39~0 I69~0 I99~0
I14~0 I44~0 I74~0
I104~0 I19~0 I49~0 I79~0 I109~0 I24~0 I54~0 I84~0
I114~0 (*1);

OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL TECH1 TECH2 TECH3 TECH4
MODINDICES(ALL);
```

TITLE: ESEM_IPIP120_agreeableness Bifactor ml

```
DATA: FILE = "IPIP120_USA_agree_mplus.csv";
VARIABLE:
NAMES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
USEVARIABLES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
MISSING = ALL(999);
ANALYSIS:
ESTIMATOR = ml;
TYPE = general;
ROTATION = Target (orthogonal);
```

MODEL:
fg BY I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 (*1);
f1 BY I4 I34 I64 I94 I9~0 I39~0 I69~0 I99~0 I14~0 I44~0 I74~0
I104~0 I19~0 I49~0 I79~0 I109~0 I24~0 I54~0 I84~0
I114~0 I29~0 I59~0 I89~0 I119~0 (*1);
f2 BY I9 I39 I69 I99 I4~0 I34~0 I64~0 I94~0
I14~0 I44~0 I74~0 I104~0 I19~0 I49~0 I79~0 I109~0 I24~0 I54~0
I84~0 I114~0 I29~0 I59~0 I89~0 I119~0 (*1);
f3 BY I14 I44 I74 I104 I4~0 I34~0 I64~0 I94~0 I9~0 I39~0 I69~0 I99~0
I19~0 I49~0 I79~0 I109~0 I24~0 I54~0 I84~0
I114~0 I29~0 I59~0 I89~0 I119~0 (*1);
f4 BY I19 I49 I79 I109 I4~0 I34~0 I64~0 I94~0 I9~0 I39~0 I69~0 I99~0
I14~0 I44~0 I74~0 I104~0 I24~0 I54~0 I84~0
I114~0 I29~0 I59~0 I89~0 I119~0 (*1);
f5 BY I24 I54 I84 I114 I4~0 I34~0 I64~0 I94~0 I9~0 I39~0 I69~0 I99~0
I14~0 I44~0 I74~0
I104~0 I19~0 I49~0 I79~0 I109~0 I29~0 I59~0 I89~0 I119~0 (*1);
f6 BY I29 I59 I89 I119 I4~0 I34~0 I64~0 I94~0 I9~0 I39~0 I69~0 I99~0
I14~0 I44~0 I74~0
I104~0 I19~0 I49~0 I79~0 I109~0 I24~0 I54~0 I84~0
I114~0 (*1);
SAMPSTAT STANDARDIZED RESIDUAL TECH4 MODINDICES(ALL);

TITLE: ESEM_IPIP120_agreeableness Hierarchical Model_ml
DATA: FILE = "IPIP120_USA_agree_mplus.csv";
VARIABLE:
NAMES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
USEVARIABLES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
MISSING = ALL(999);
ANALYSIS:
ESTIMATOR = ML;

MODEL:
f1 BY I4*0.906 ; f1 BY I34*0.599 ; f1 BY I64*0.869 ; f1 BY I94*0.870;
f1 BY I9*0.032; f1 BY I39*-0.021; f1 BY I69*0.019; f1 BY I99@-0.022;
f1 BY I14*0.080; f1 BY I44*0.046; f1 BY I74@-0.007; f1 BY I104*0.042;
f1 BY I19@0.021; f1 BY I49*0.058; f1 BY I79*0.038; f1 BY I109@0.086 ;
f1 BY I24*0.059; f1 BY I54*-0.017; f1 BY I84@-0.007; f1 BY I114@-0.061;
f1 BY I29*-0.002; f1 BY I59@-0.002 ; f1 BY I89*0.043; f1 BY I119@-0.022 ;
f2 BY I9*0.800 ; f2 BY I39*0.528; f2 BY I69*0.818; f2 BY I99*0.231;

f2 BY I4*-0.005 ; f2 BY I34@0.001 ; f2 BY I64@-0.058 ; f2 BY I94*0.050;
f2 BY I14*0.059; f2 BY I44@0.003 ; f2 BY I74*0.030; f2 BY I104@0.099;
f2 BY I19@-0.018; f2 BY I49*-0.089; f2 BY I79*0.134; f2 BY I109@0.177;
f2 BY I24*0.337 ; f2 BY I54*-0.101; f2 BY I84@-0.095; f2 BY I114@0.189;
f2 BY I29*-0.053; f2 BY I59@-0.013; f2 BY I89*-0.024; f2 BY I119@0.086 ;
f3 BY I14*0.442; f3 BY I44*0.523; f3 BY I74*0.425 ; f3 BY I104*0.479;
f3 BY I4@-0.012 ; f3 BY I34*0.068 ; f3 BY I64*-0.028 ; f3 BY I94*-0.025;
f3 BY I9* -0.048; f3 BY I39@0.017; f3 BY I69*0.040 ; f3 BY I99*0.123;
f3 BY I19*-0.046; f3 BY I49*-0.026; f3 BY I79*0.060 ; f3 BY I109@0.010;
f3 BY I24* 0.069; f3 BY I54*-0.037; f3 BY I84@-0.015; f3 BY I114*0.018 ;
f3 BY I29*-0.217; f3 BY I59* 0.140; f3 BY I89* 0.510 ; f3 BY I119@0.107;
f4 BY I19*0.696; f4 BY I49*0.861 ; f4 BY I79*0.666 ;f4 BY I109*0.616 ;
f4 BY I4* -0.039 ; f4 BY I34* 0.027 ; f4 BY I64@0.000 ; f4 BY I94*0.078;
f4 BY I9* -0.067; f4 BY I39*0.175; f4 BY I69@-0.049; f4 BY I99@0.255;
f4 BY I14*-0.019; f4 BY I44*-0.033; f4 BY I74*0.180; f4 BY I104@0.003 ;
f4 BY I24* -0.018 ; f4 BY I54* -0.021; f4 BY I84@-0.008; f4 BY I114*0.247;
f4 BY I29@0.002 ; f4 BY I59*-0.017; f4 BY I89* 0.037 ; f4 BY I119*0.022;
f5 BY I24*0.570; f5 BY I54*1.004; f5 BY I84* 1.096; f5 BY I114* 0.250;
f5 BY I4@-0.004 ; f5 BY I34*-0.022 ; f5 BY I64*0.031 ; f5 BY I94*-0.028 ;
f5 BY I9* 0.068; f5 BY I39@-0.024; f5 BY I69* 0.025; f5 BY I99@-0.033;
f5 BY I14@-0.004 ; f5 BY I44*0.019; f5 BY I74* 0.007; f5 BY I104*0.018;
f5 BY I19*0.129 ; f5 BY I49* -0.035; f5 BY I79@0.013; f5 BY I109*0.023;
f5 BY I29@-0.001; f5 BY I59*0.019; f5 BY I89*0.057; f5 BY I119@-0.033;
f6 BY I29*1.051; f6 BY I59*0.601; f6 BY I89*0.147; f6 BY I119* 0.519;
f6 BY I4* -0.037 ; f6 BY I34*0.071 ; f6 BY I64@-0.001 ; f6 BY I94*-0.045;
f6 BY I9*0.017; f6 BY I39* 0.016 ; f6 BY I69*0.014; f6 BY I99@-0.004;
f6 BY I14* 0.105; f6 BY I44*0.125; f6 BY I74* 0.111; f6 BY I104@-0.013;
f6 BY I19*0.039; f6 BY I49@-0.035; f6 BY I79*0.058; f6 BY I109*0.055;
f6 BY I24*0.054; f6 BY I54*-0.006; f6 BY I84*-0.024; f6 BY I114@-0.002;
f1-f6@1;
fg BY f1 f2 f3 f4 f5 f6 ;

OUTPUT:

SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL TECH1 TECH2 TECH3 TECH4 MODINDICES(ALL)

TITLE: Bayesian SEM IPIP120_agreeableness bifactor_Informative priors_cross loadings

DATA: FILE = " IPIP120_USA_agree_mplus.csv";

VARIABLE:

NAMES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;

USEVARIABLES = I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;

MISSING = ALL(999);

ANALYSIS:
ESTIMATOR = BAYES;
fbiterations = 10000 (2000) ;
processors = 2;

```
MODEL:
   f1 BY   I4 I34 I64 I94 ;
   f1 BY   I9@0 I39@0 I69@0 I99@0 ;
   f1 BY   I14@0 I44@0 I74@0 I104@0 ;
   f1 BY    I19@0 I49@0 I79@0 I109@0;
   f1 BY    I24@0 I54@0 I84@0 I114@0 ;
   f1 BY   I29@0 I59@0 I89@0 I119@0 ;

   f2 BY   I9 I39 I69 I99;
   f2 BY    I4@0 I34@0 I64@0 I94@0 ;
   f2 BY   I14@0 I44@0 I74@0 I104@0;
   f2 BY   I19@0 I49@0 I79@0 I109@0;
   f2 BY   I24@0 I54@0 I84@0 I114@0 ;
   f2 BY   I29@0 I59@0 I89@0 I119@0 ;

   f3 BY   I14 I44 I74 I104
         I9@0 I39@0 I69@0 I99@0
        I4@0 I34@0 I64@0 I94@0
         I19@0 I49@0 I79@0 I109@0
        I24@0 I54@0 I84 I114@0
       I29@0 I59@0 I89@0 I119@0 ;

   f4 BY  I19 I49 I79 I109
        I4@0 I34@0 I64@0 I94@0
        I9@0 I39@0 I69@0 I99@0
        I14@0 I44@0 I74@0 I104@0
        I24@0 I54@0 I84@0 I114@0
       I29@0 I59@0 I89@0 I119@0 ;

   f5 BY  I24 I54 I84 I114
        I19@0 I49@0 I79@0 I109@0
        I4@0 I34@0 I64@0 I94@0
        I9@0 I39@0 I69@0 I99@0
        I14@0 I44@0 I74@0 I104@0
        I29@0 I59@0 I89@0 I119@0 ;

   f6 BY  I29 I59 I89 I119
        I24@0 I54@0 I84@0 I114@0
        I19@0 I49@0 I79@0 I109@0
        I4@0 I34@0 I64@0 I94@0
        I9@0 I39@0 I69@0 I99@0
        I14@0 I44@0 I74@0 I104@0;

   fg BY I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
       I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;

     fg WITH f1@0;
     fg WITH f2@0;
     fg WITH f3@0;
     fg WITH f4@0;
     fg WITH f5@0;
     fg WITH f6@0;
     f1 WITH f2@0;
```

```
    f1 WITH f3@0;
    f1 WITH f4@0;
     f1 WITH f5@0;
      f1 WITH f6@0;
    f2 WITH f3@0;
    f2 WITH f4@0;
    f2 WITH f5@0;
     f2 WITH f6@0;
      f3 WITH f4@0;
       f3 WITH f5@0;
        f3 WITH f6@0;
         f4 WITH f5@0;
          f4 WITH f6@0;
           f5 WITH f6@0;
  f1 BY   I9 I39 I69 I99 (a1-a4);
  f1 BY   I14 I44 I74 I104 (a5-a8);
  f1 BY    I19 I49 I79 I109 (a9-a12);
  f1 BY    I24 I54 I84 I114 (a13-a16);
  f1 BY   I29 I59 I89 I119 (a17-a20);

  f2 BY    I4 I34 I64 I94 (b1-b4);
  f2 BY   I14 I44 I74 I104(b5-b8);
  f2 BY   I19 I49 I79 I109(b9-b12);
  f2 BY   I24 I54 I84 I114 (b13-b16);
  f2 BY   I29 I59 I89 I119 (b17-b20);


    f3 BY   I9 I39 I69 I99 (c1-c4);
    f3 BY   I4 I34 I64 I94 (c5-c8);
    f3 BY   I19 I49 I79 I109(c9-c12);
    f3 BY   I24 I54 I84 I114 (c13-c16);
    f3 BY  I29 I59 I89 I119 (c17-c20);

  f4 BY I4 I34 I64 I94 (d1-d4)
        I9 I39 I69 I99 (d5-d8)
        I14 I44 I74 I104(d9-d12)
        I24 I54 I84 I114 (d13-d16)
       I29 I59 I89 I119 (d17-d20);


  f5 BY I19 I49 I79 I109 (e1-e4)
       I4 I34@0 I64@0 I94 (e5-e8)
       I9 I39 I69 I99 (e9-e12)
       I14 I44 I74 I104(e13-e16)
       I29 I59 I89 I119 (e17-e20);

   f6 BY  I24 I54 I84 I114 (f1-f4)
        I19 I49 I79 I109 (f5-f8)
        I4 I34 I64 I94 (f9-f12)
        I9 I39 I69 I99 (f13-f16)
        I14 I44 I74 I104(f17-f20);
model priors:
  a1-a20 ~ N(0,0.01);
  b1-b20 ~ N(0,0.01);
```

```
   c1-c20 ~ N(0,0.01);
   d1-d20 ~ N(0,0.01);
   e1-e20 ~ N(0,0.01);
   f1-f20 ~ N(0,0.01);


 OUTPUT:
  STANDARDIZED RESIDUAL CINTERVAL TECH1 TECH8 stdy svalues;
```

TITLE: Bayesian SEM IPIP120_agreeableness Hierarchical Model with informative_priors_cross loadings

```
DATA: FILE = "IPIP120_USA_agree_mplus.csv";
VARIABLE:

 NAMES =   I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
        I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;

USEVARIABLES =   I4 I34 I64 I94 I9 I39 I69 I99 I14 I44 I74 I104
        I19 I49 I79 I109 I24 I54 I84 I114 I29 I59 I89 I119 ;
         MISSING = ALL(999);
ANALYSIS:
ESTIMATOR = BAYES;
fbiterations = 10000 (2000) ;
processors = 2;
MODEL:
   f1 BY   I4 I34 I64 I94 ;
   f1 BY   I9@0 I39@0 I69@0 I99@0 ;
   f1 BY   I14@0 I44@0 I74@0 I104@0 ;
   f1 BY    I19@0 I49@0 I79@0 I109@0;
   f1 BY    I24@0 I54@0 I84@0 I114@0 ;
   f1 BY   I29@0 I59@0 I89@0 I119@0 ;

   f2 BY   I9 I39 I69 I99;
   f2 BY    I4@0 I34@0 I64@0 I94@0 ;
   f2 BY   I14@0 I44@0 I74@0 I104@0;
   f2 BY   I19@0 I49@0 I79@0 I109@0;
   f2 BY   I24@0 I54@0 I84@0 I114@0 ;
   f2 BY   I29@0 I59@0 I89@0 I119@0 ;

   f3 BY   I14 I44 I74 I104
         I9@0 I39@0 I69@0 I99@0
        I4@0 I34@0 I64@0 I94@0
         I19@0 I49@0 I79@0 I109@0
        I24@0 I54@0 I84 I114@0
       I29@0 I59@0 I89@0 I119@0 ;

   f4 BY  I19 I49 I79 I109
        I4@0 I34@0 I64@0 I94@0
        I9@0 I39@0 I69@0 I99@0
        I14@0 I44@0 I74@0 I104@0
        I24@0 I54@0 I84@0 I114@0
       I29@0 I59@0 I89@0 I119@0 ;
```

```
f5 BY  I24 I54 I84 I114
      I19@0 I49@0 I79@0 I109@0
      I4@0 I34@0 I64@0 I94@0
      I9@0 I39@0 I69@0 I99@0
      I14@0 I44@0 I74@0 I104@0
      I29@0 I59@0 I89@0 I119@0 ;

f6 BY  I29 I59 I89 I119
      I24@0 I54@0 I84@0 I114@0
      I19@0 I49@0 I79@0 I109@0
      I4@0 I34@0 I64@0 I94@0
      I9@0 I39@0 I69@0 I99@0
      I14@0 I44@0 I74@0 I104@0;

 fg BY f1 f2 f3 f4 f5 f6 ;

f1 BY   I9 I39 I69 I99 (a1-a4);
f1 BY   I14 I44 I74 I104 (a5-a8);
f1 BY    I19 I49 I79 I109 (a9-a12);
f1 BY    I24 I54 I84 I114 (a13-a16);
f1 BY   I29 I59 I89 I119 (a17-a20);

f2 BY    I4 I34 I64 I94 (b1-b4);
f2 BY   I14 I44 I74 I104(b5-b8);
f2 BY   I19 I49 I79 I109(b9-b12);
f2 BY   I24 I54 I84 I114 (b13-b16);
f2 BY   I29 I59 I89 I119 (b17-b20);


  f3 BY   I9 I39 I69 I99 (c1-c4);
  f3 BY   I4 I34 I64 I94 (c5-c8);
  f3 BY   I19 I49 I79 I109(c9-c12);
  f3 BY   I24 I54 I84 I114 (c13-c16);
  f3 BY  I29 I59 I89 I119 (c17-c20);

f4 BY I4 I34 I64 I94 (d1-d4)
       I9 I39 I69 I99 (d5-d8)
       I14 I44 I74 I104(d9-d12)
       I24 I54 I84 I114 (d13-d16)
      I29 I59 I89 I119 (d17-d20);


f5 BY I19 I49 I79 I109 (e1-e4)
      I4 I34@0 I64@0 I94 (e5-e8)
      I9 I39 I69 I99 (e9-e12)
      I14 I44 I74 I104(e13-e16)
      I29 I59 I89 I119 (e17-e20);

 f6 BY  I24 I54 I84 I114 (f1-f4)
       I19 I49 I79 I109 (f5-f8)
       I4 I34 I64 I94 (f9-f12)
       I9 I39 I69 I99 (f13-f16)
       I14 I44 I74 I104(f17-f20);
```

model priors:
a1-a20 ~ N(0,0.01);
b1-b20 ~ N(0,0.01);
c1-c20 ~ N(0,0.01);
d1-d20 ~ N(0,0.01);
e1-e20 ~ N(0,0.01);
f1-f20 ~ N(0,0.01);

OUTPUT:
STANDARDIZED RESIDUAL CINTERVAL TECH1 TECH8 stdy svalues;