Mplus code corresponding to models 1 through 5 in Preacher, Rucker, and Hayes (2007)

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Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42*, 185-227.

Model 1

```
TITLE:  Preacher, Rucker, and Hayes (2007) Model 1
DATA:
      FILE IS C:\mplus3.txt;
      FORMAT is FREE;
VARIABLE:
      names are x m y;
      usevariables are x m y xm;
DEFINE:
      xm = x*m;
ANALYSIS:
      !bootstrap = 5000;
MODEL:
      y on m (b1)
           x
           xm (b2);
      m on x (a1);
      xm with m;
MODEL CONSTRAINT:
      new (ind xmodval);
      xmodval = -1;
      ind = a1*(b1+b2*xmodval);
output:
      !cinterval (bcbootstrap);

!remove exclamation points (!) in code above;
!to generate bias corrected bootstrap confidence intervals;
!for all effects;

!Set 'xmodval' to the value of X at which you desire the;
!estimate of the conditional indirect effect of X.  This;
!conditional indirect effect will be produced in the output;
!with parameter label 'ind'.  As written above, the program;
!generates the conditional indirect effect of X on Y through M;
!when X = -1;
```

Model 2

```
TITLE:  Preacher, Rucker, and Hayes (2007) Model 2
        Called a 'direct effect and first stage' model by
        Edwards and Lambert (2007)
DATA:
      FILE IS C:\mplus3.txt;
      FORMAT is FREE;
VARIABLE:
      names are x m y w;
      usevariables are x m y w xw;
DEFINE:
      xw = x*w;
ANALYSIS:
      !bootstrap = 5000;
MODEL:
      y on m (b1)
           x
           w
           xw;
      m on x (a1)
           w
           xw (a3);
MODEL CONSTRAINT:
      new (ind wmodval);
      wmodval = -1;
      ind=(a1+a3*wmodval)*b1;
output:
      !cinterval (bcbootstrap);

!remove exclamation points (!) in code above;
!to generate bias corrected bootstrap confidence intervals;
!for all effects;

!Set 'wmodval' to the value of W at which you desire the;
!estimate of the conditional indirect effect of X.  This;
!conditional indirect effect will be produced in the output;
!with parameter label 'ind'.  As written above, the program;
!generates the conditional indirect effect of X on Y through M;
!when W = -1;
```

Model 3

```
TITLE:  Preacher, Rucker, and Hayes (2007) Model 3
        Called a 'second stage' model by Edwards and Lambert (2007)
DATA:
      FILE IS C:\mplus3.txt;
      FORMAT is FREE;
VARIABLE:
      names are x m y w;
      usevariables are x m y w mw;
DEFINE:
      mw = m*w;
ANALYSIS:
      !bootstrap = 5000;
MODEL:
      y on m (b1)
           x
           w
           mw (b3);
      m on x (a1);
      w with m;
      mw with m;
MODEL CONSTRAINT:
      new (ind wmodval);
      wmodval = -1;
      ind=a1*(b1+b3*wmodval);
output:
      !cinterval (bcbootstrap);

!remove exclamation points (!) in code above;
!to generate bias corrected bootstrap confidence intervals;
!for all effects;

!Set 'wmodval' to the value of W at which you desire the;
!estimate of the conditional indirect effect of X.  This;
!conditional indirect effect will be produced in the output;
!with parameter label 'ind'.  As written above, the program;
!generates the conditional indirect effect of X on Y through M;
!when W = -1;
```

Model 4

```
TITLE:  Preacher, Rucker, and Hayes (2007) Model 4
DATA:
      FILE IS C:\mplus3.txt;
      FORMAT is FREE;
VARIABLE:
      names are x m y w z;
      usevariables are x m y w z mz xw;
DEFINE:
      mz = m*z;
      xw = x*w;
ANALYSIS:
      !bootstrap = 5000;
MODEL:
      y on m (b1)
           x
           w
           z
           mz (b3)
           xw;
      m on x (a1)
           w
           xw (a3);
      z with m;
      mz with m;
MODEL CONSTRAINT:
      new (ind wmodval zmodval);
      wmodval = 1;
      zmodval = 2;
      ind=(a1+a3*wmodval)*(b1+b3*zmodval);
output:
      !cinterval (bcbootstrap);

!remove exclamation points (!) in code above;
!to generate bias corrected bootstrap confidence intervals;
!for all effects;

!Set 'wmodval' and 'zmodval' to the values of W and Z at which you ;
!desire the estimate of the conditional indirect effect of X.  This;
!conditional indirect effect will be produced in the output;
!with parameter label 'ind'.  As written above, the program;
!generates the conditional indirect effect of X on Y through M;
!when W = 1 and Z = 2;
```

Model 5

```
TITLE:  Preacher, Rucker, and Hayes (2007) Model 5
        Called a 'total effect moderation model' by
        Edwards and Lambert (2007)
DATA:
      FILE IS C:\mplus3.txt;
      FORMAT is FREE;
VARIABLE:
      names are x m y w;
      usevariables are x m y w xw mw;
DEFINE:
      mw = m*w;
      xw = x*w;
ANALYSIS:
      !bootstrap = 5000;
MODEL:
      y on m (b1)
           x
           w
           mw (b2)
           xw;
      m on x (a1)
           w
           xw (a3);
      mw with m;
MODEL CONSTRAINT:
      new (ind wmodval);
      wmodval = -1;
      ind=(a1+a3*wmodval)*(b1+b2*wmodval);
output:
      !cinterval (bcbootstrap);

!remove exclamation points (!) in code above;
!to generate bias corrected bootstrap confidence intervals;
!for all effects;

!Set 'wmodval' to the value of W at which you desire the;
!estimate of the conditional indirect effect of X.  This;
!conditional indirect effect will be produced in the output;
!with parameter label 'ind'.  As written above, the program;
!generates the conditional indirect effect of X on Y through M;
!when W = -1;
```