Sample input for the Muthen & Curran (1977) Method

Muthén, B. & Curran, P. (1997). General longitudinal modeling of individual differences in experimental designs: a latent variable framework for analysis and power estimation. Psychological Methods, 2, 371-402.

STEP 1: Control Group Analysis

```
Title: Type=basic of control group

data:
     file = epilepsy.dat;
variable:
     names = id tx age y0 y1 y2 y3 y4;
     usev =  y0-y4;
     useobs = tx==0;
define:
     y0 = y0/8;
     y1 = y1/2;
     y2 = y2/2;
     y3 = y3/2;
     y4 = y4/2;
analysis: type=basic;

 plot:
    type = plot3;
    series = y0-y4(*);
```

```
Title: Growth Model in Control Group

data:
     file = epilepsy.dat;
variable:
     names = id tx age y0 y1 y2 y3 y4;
     usev =  y0-y4;
     useobs = tx==0;
define:
     y0 = y0/8;
     y1 = y1/2;
     y2 = y2/2;
     y3 = y3/2;
     y4 = y4/2;
analysis:

model:

 i s | y0@0 y1@1 y2@2 y3@3 y4@4;

 plot:
    type = plot3;
    series = y0-y4(*);
```

Continue to fit a series of growth models until you find the model that best describes growth in the control group.

STEP 2: Treatment Group Analysis

```
Title: Type=basic of treatment group

data:
    file = epilepsy.dat;
variable:
    names = id tx age y0 y1 y2 y3 y4;
    usev =  y0-y4;
    useobs = tx==1;
define:
    y0 = y0/8;
    y1 = y1/2;
    y2 = y2/2;
    y3 = y3/2;
    y4 = y4/2;

analysis: type=basic;

plot:
    type = plot3;
    series = y0-y4(*);
```

```
Title: Growth Model in Treatment Group
data:
    file = epilepsy.dat;
variable:
    names = id tx age y0 y1 y2 y3 y4;
    usev =  y0-y4;
    useobs = tx==1;
define:
    y0 = y0/8;
    y1 = y1/2;
    y2 = y2/2;
    y3 = y3/2;
    y4 = y4/2;
analysis:

model:

 i s | y0@0 y1@1 y2@2 y3@3 y4@4;

 plot:
    type = plot3;
    series = y0-y4(*);
```

Continue to fit a series of growth models until you find the model that best describes growth in the treatment group.

STEP 3: Two-group analysis without interactions

```
Title:  Muthen & Curran (1977) method, two group analysis
        without interaction
data:
     file = epilepsy.dat;
variable:
     names = id tx age y0 y1 y2 y3 y4;
     usev =  y0-y4;
     Grouping is tx (0=control 1=treat);

define:
     y0 = y0/8;
     y1 = y1/2;
     y2 = y2/2;
     y3 = y3/2;
     y4 = y4/2;


analysis:
model:
    i s | y0@0 y1@1 y2@2 y3@3 y4@4;
    i t | y0@0 y1@1 y2@2 y3@3 y4@4;
    [y0-y4] (1);
    [i@0];
    i(2);
    s(3);
    i with s (4);
    [s] (5);
    t@0;


Model control:
        [s] (5);
        [t@0];

output:
     sampstat modindices(3.84);

plot:
     type = plot3;
     series = y1-y4(*);
```

STEP 4: Two-group analysis with treatment baseline interaction

```
Title:  Muthen & Curran (1977) method, two group analysis
        with interaction
data:
     file = epilepsy.dat;
variable:
     names = id tx age y0 y1 y2 y3 y4;
     usev =  y0-y4;
     Grouping is tx (0=control 1=treat);

define:
     y0 = y0/8;
     y1 = y1/2;
     y2 = y2/2;
     y3 = y3/2;
     y4 = y4/2;
analysis:
model:
    i s | y0@0 y1@1 y2@2 y3@3 y4@4;
    i t | y0@0 y1@1 y2@2 y3@3 y4@4;
    [y0-y4] (1);
    [i@0];
    i(2);
    s(3);
    i with s (4);
    [s] (5);
    t@0;


    t on i;

 Model control:
        [s] (5);
        t on i@0;
        [t@0];

output:
     sampstat modindices(3.84);

 plot:
    type = plot3;
    series = y1-y4(*);
```