

Latent Growth Curve Example

```
title: Latent Growth Curve Model Example 1;

data: file=c:\jason\mplus\semclass\growth1.dat; format=3f10.6;
      listwise=on;

variable: names = emo1 emo2 emo3 ;
          missing=blank;

analysis: type=meanstructure;

!model: i by emo1@1 emo2@1 emo3@1;
!       s by emo1@0 emo2@1 emo3@2;
!       [emo1-emo3@0];
!       [i s];
!       i with s;

! Mplus has shortcut syntax for growth models, the following
! statements produce the same results as the above statements;

model: i s | emo1@0 emo2@1 emo3@2;

output: stdyx ;
plot: type=plot1;
      series=emo1(0) emo2(1) emo3(2);
```

Latent Growth Curve Model Example 1;

SUMMARY OF ANALYSIS

| | |
|---------------------------------------|-----|
| Number of groups | 1 |
| Number of observations | 109 |
| Number of dependent variables | 3 |
| Number of independent variables | 0 |
| Number of continuous latent variables | 2 |

Observed dependent variables

| | | | |
|------------|------|------|--|
| Continuous | | | |
| EMO1 | EMO2 | EMO3 | |

Continuous latent variables

| | |
|----------|-------|
| INTERCEP | SLOPE |
|----------|-------|

| | |
|-----------|----|
| Estimator | ML |
|-----------|----|

TESTS OF MODEL FIT

Chi-Square Test of Model Fit

| | |
|--------------------|--------|
| Value | 0.439 |
| Degrees of Freedom | 1 |
| P-Value | 0.5077 |

Chi-Square Test of Model Fit for the Baseline Model

| | |
|--------------------|--------|
| Value | 36.299 |
| Degrees of Freedom | 3 |
| P-Value | 0.0000 |

CFI/TLI

| | |
|-----|-------|
| CFI | 1.000 |
| TLI | 1.051 |

RMSEA (Root Mean Square Error Of Approximation)

| | |
|--------------------------|-------------|
| Estimate | 0.000 |
| 90 Percent C.I. | 0.000 0.220 |
| Probability RMSEA <= .05 | 0.562 |

SRMR (Standardized Root Mean Square Residual)

| | |
|-------|-------|
| Value | 0.017 |
|-------|-------|

MODEL RESULTS

| | Estimate | S.E. | Est./S.E. | Two-Tailed P-Value |
|------------------------|----------|-------|-----------|-----------------------|
| INTERCEP BY | | | | |
| EMO1 | 1.000 | 0.000 | 999.000 | 999.000 |
| EMO2 | 1.000 | 0.000 | 999.000 | 999.000 |
| EMO3 | 1.000 | 0.000 | 999.000 | 999.000 |
| SLOPE BY | | | | |
| EMO1 | 0.000 | 0.000 | 999.000 | 999.000 |
| EMO2 | 1.000 | 0.000 | 999.000 | 999.000 |
| EMO3 | 2.000 | 0.000 | 999.000 | 999.000 |
| SLOPE WITH INTERCEP | | | | |
| | -0.062 | 0.032 | -1.909 | 0.056 |
| Means | | | | |
| INTERCEP | 0.394 | 0.048 | 8.296 | 0.000 |
| SLOPE | -0.021 | 0.030 | -0.715 | 0.474 |
| Intercepts | | | | |
| EMO1 | 0.000 | 0.000 | 999.000 | 999.000 |
| EMO2 | 0.000 | 0.000 | 999.000 | 999.000 |
| EMO3 | 0.000 | 0.000 | 999.000 | 999.000 |
| Variances | | | | |
| INTERCEP | 0.190 | 0.056 | 3.405 | 0.001 |
| SLOPE | 0.035 | 0.025 | 1.411 | 0.158 |
| Residual Variances | | | | |
| EMO1 | 0.059 | 0.050 | 1.174 | 0.240 |
| EMO2 | 0.205 | 0.034 | 6.056 | 0.000 |
| EMO3 | 0.202 | 0.057 | 3.557 | 0.000 |

STANDARDIZED MODEL RESULTS
 STDYX Standardization

| | Estimate | S.E. | Est./S.E. | Two-Tailed P-Value |
|------------------------|----------|-------|-----------|-----------------------|
| INTERCEP BY | | | | |
| EMO1 | 0.874 | 0.114 | 7.673 | 0.000 |
| EMO2 | 0.786 | 0.097 | 8.095 | 0.000 |
| EMO3 | 0.815 | 0.136 | 6.011 | 0.000 |
| SLOPE BY | | | | |
| EMO1 | 0.000 | 0.000 | 999.000 | 999.000 |
| EMO2 | 0.339 | 0.114 | 2.990 | 0.003 |
| EMO3 | 0.703 | 0.259 | 2.717 | 0.007 |
| SLOPE WITH INTERCEP | | | | |
| | -0.754 | 0.149 | -5.080 | 0.000 |
| Means | | | | |
| INTERCEP | 0.905 | 0.168 | 5.398 | 0.000 |
| SLOPE | -0.113 | 0.163 | -0.695 | 0.487 |
| Intercepts | | | | |
| EMO1 | 0.000 | 0.000 | 999.000 | 999.000 |
| EMO2 | 0.000 | 0.000 | 999.000 | 999.000 |
| EMO3 | 0.000 | 0.000 | 999.000 | 999.000 |
| Variances | | | | |
| INTERCEP | 1.000 | 0.000 | 999.000 | 999.000 |
| SLOPE | 1.000 | 0.000 | 999.000 | 999.000 |
| Residual Variances | | | | |
| EMO1 | 0.237 | 0.199 | 1.189 | 0.234 |
| EMO2 | 0.669 | 0.063 | 10.608 | 0.000 |
| EMO3 | 0.706 | 0.174 | 4.063 | 0.000 |

Plot output 10 Randomly Selected Curves

