Supplementary Materials for "A Single-Indicator Factor Approach for Correcting Measurement Error in Time-Varying Predictors in Developmental Research"

Supplementary A

M*plus* code for latent growth modeling with a time-varying predictor

```
TITLE: REAL DATA ANALYSIS - LGM WITH COMPOSITE SCORE

DATA: FILE IS C:\Users\FINAL.CSV;

VARIABLE: NAMES ARE ID R1 M1 R2          M2      R4      M4      R5      M5
          R6      M6;
USEVARIABLES ARE M1 M2 M4 M5 M6 R1 R2 R4 R5 R6;

MODEL:

     ! THIS IS FOR RUNNING A LINEAR GROWTH MODEL
     I S | M1@0 M2@1 M4@3 M5*7 M6*11;
     I WITH S;
     ! THE LAST TWO TIMEPOINTS SHOULD BE FREELY ESTIMATED TO
ENSURE MODEL CONVERGENCE

     ! TIME-VARYING COMPOSITE PREDICTORS
     M1 ON R1;
     M2 ON R2;
     M4 ON R4;
     M5 ON R5;
     M6 ON R6;


OUTPUT: STDYX TECH1;
```

Supplementary B

M*plus* code for latent growth modeling with a single-indicator factor predictor

```
TITLE: REAL DATA ANALYSIS - LGM WITH SINGLE INDICATOR FACTOR

DATA: FILE IS C:\Users\ FINAL.CSV;

VARIABLE: NAMES ARE ID R1 M1 R2          M2      R4      M4      R5      M5
          R6      M6;
USEVARIABLES ARE M1 M2 M4 M5 M6 R1 R2 R4 R5 R6;

MODEL:

      ! THIS IS FOR RUNNING A LINEAR GROWTH MODEL
      I S | M1@0 M2@1 M4@3 M5*7 M6*11;
      I WITH S;
      ! THE LAST TWO TIMEPOINTS SHOULD BE FREELY ESTIMATED TO
ENSURE MODEL CONVERGENCE



      ! SINGLE-INDICATOR FACTOR PREDICTORS
      F1 BY R1@1;
      F2 BY R2@1;
      F4 BY R4@1;
      F5 BY R5@1;
      F6 BY R6@1;

      ! RESIDUAL VARIANCES OF THE COMPOSITE SCORES
      [R1 R2 R4 R5 R6@0];
      R1@0.026; R2@0.014; R4@0.009; R5@0.007; R6@0.008;


      ! TIME-VARYING SINGLE-INDICATOR FACTOR PREDICTORS
      M1 ON F1;
      M2 ON F2;
      M4 ON F4;
      M5 ON F5;
      M6 ON F6;


OUTPUT: STDYX TECH1;
```