**Online Supplemental Materials for:**

# A Longitudinal Person-Centered Perspective on Youth Social Support: Relations with Psychological Wellbeing.

**Authors' note:**

These online technical appendices are to be posted on the journal website and hot-linked to the manuscript. If the journal does not offer this possibility, these materials can alternatively be posted on one of our personal websites (we will adjust the in-text reference upon acceptance).

We would also be happy to have some of these materials brought back into the main manuscript if you deem it useful. We developed these materials mostly to provide additional technical information and to keep the main manuscript from becoming needlessly long.

## Preliminary Confirmatory Factor Analyses

Confirmatory factor analysis (CFA) models were estimated using Mplus 7.31 (Muthén & Muthén, 2015). These models were first estimated separately for each time point (Grade 8: *n* = 2034; Grade 11: *n* = 1727), and included three factors for the perceived social support measure (Parents, Teachers, Peers), three factors for the wellbeing measure (Emotional, Psychological, Social) and one factor for the General Health Questionnaire (GHQ) representing global symptoms of ill-health. Then, complete longitudinal models were estimated across both time waves including a total of 14 factors (7 factors X 2 time waves). One orthogonal method factor was also included at each time wave to take into account the methodological artefact due to the negative wording of six GHQ items (e.g., Marsh, Scalas, et al., 2010). In the longitudinal models, these method factors were allowed to correlate with one another, but not with the substantive factors. All models were specified as congeneric, with each item allowed to load on a single factor, and all factors freely allowed to correlate within and across time-points. In the longitudinal models, a priori correlated uniquenesses between matching indicators of the factors utilized at the different time-points were also included to ensure that these longitudinal models did not converge on biased and inflated stability estimates (e.g., Marsh, 2007). For all models, these correlated uniquenesses reflected the fact that unique variance of these indicators was known to emerge, in part, from shared sources of influences over time (e.g., Marsh, Abduljabbar et al., 2013; Marsh, Scalas, et al., 2010)

CFA models were estimated using the robust maximum Likelihood (MLR) estimator. This estimator provides standard errors and tests of fit that are robust in relation to non-normality and the use of ordered-categorical variables involving at least four response categories (Finney & DiStephano, 2013), as well as to the nesting of students within schools when used in conjunction with the Mplus design-based correction of standard errors (Asparouhov, 2005). Longitudinal CFAs were conducted using the data from all respondents who completed at least one wave of data (corresponding to *n* = 2510), using Full Information MLR estimation (FIML)—rather than a listwise deletion strategy focusing only on employees having answered both two time waves—(Enders, 2010; Graham, 2009). FIML estimation has been found to result in unbiased parameter estimates under even a very high level of missing data (e.g., 50%), in the context of longitudinal studies with missing time points, under

Missing At Random (MAR) assumptions, and even in some cases to violations of this assumption (e.g. Enders, 2001, 2010; Graham, 2009; Larsen, 2011; Shin, Davidson, & Long, 2009).

Before saving the factor scores for our main analyses, we verified that the measurement model operated in the same manner across time waves, through sequential tests of measurement invariance (Millsap, 2011): (1) configural invariance, (2) weak invariance (loadings), (3) strong invariance (loadings and intercepts), (4) strict invariance (loadings, intercepts and uniquenesses); (5) invariance of the latent variance-covariance matrix (loadings, intercepts, uniquenesses, and latent variances and covariances); (6) latent means invariance (loadings, intercepts, uniquenesses, latent variances and covariances, and latent means). In tests of the invariance of the latent variance and covariance, covariances within each set of latent variables (the three social support factors representing the profile indicators or the four wellbeing and health factors representing the outcomes) were constrained to equality across time waves.

Given the known oversensitivity of the chi-square test of exact fit ($\chi^2$) to sample size and minor model misspecifications (e.g., Marsh, Hau, & Grayson, 2005), we relied on goodness-of-fit indices to describe the fit of the alternative models (Hu & Bentler, 1999): the comparative fit index (CFI), the Tucker-Lewis index (TLI), as well as the root mean square error of approximation (RMSEA) and its 90% confidence interval. Values greater than .90 for the CFI and TLI indicate adequate model fit, although values greater than .95 are preferable. Values smaller than .08 or .06 for the RMSEA respectively support acceptable and excellent model fit. Like the chi square, chi square difference tests present a known sensitivity to sample size and minor model misspecifications so that recent studies suggest complementing this information with changes in CFIs and RMSEAs (Chen, 2007; Cheung & Rensvold, 2002) in the context of tests of measurement invariance. A $\Delta$CFI of .010 or less and a $\Delta$RMSEA of .015 or less between a more restricted model and the previous one supports the invariance hypothesis.

The results from these models are reported in supplementary Table S1. These results clearly support the a priori measurement models (at each time wave separately, and longitudinally), as well as their complete measurement invariance (weak, strong, strict, latent variance-covariance, and latent means) across time waves as none of the goodness-of-fit indices exceeding the recommended cut-off scores (ΔCFI ≤ .010; ΔTLI ≤ .010; ΔRMSEA ≤ .015; and overlapping RMSEA confidence intervals). To ensure that the latent profiles estimated at each time wave were based on fully comparable measures of social support and could be compared on the basis of fully equivalent outcome measures, the factor scores used in main analyses were saved from the model of complete measurement invariance (loadings, intercepts, uniquenesses, latent variance-covariance, and latent means). Although only strict measurement invariance is required to ensure that measurement of the constructs remains equivalent across time waves for models based on factor scores (e.g., Millsap, 2011), there are advantages to saving factors scores from a model of complete measurement invariance for use in latent profile analyses. Indeed, saving factor scores based on a measurement model in which both the latent variances and the latent means are invariant (i.e., respectively constrained to take a value of 1 and 0 in all time waves) provides scores on profile indicators that can be readily interpreted as deviation from the grand mean expressed in standard deviation units.

The parameter estimates from these models are reported in Table S2 (factor loadings and uniquenesses) of these online supplements, and in Table 1 (factor correlations) of the main manuscript. These parameter estimates were used to compute composite reliability coefficients associated with each of the a priori factors using McDonald (1970) omega (ω) coefficient:

$$\omega = \frac{(\sum|\lambda_i|)^2}{[(\sum|\lambda_i|)^2 + \sum\delta_i]}$$

where $|\lambda_i|$ are the standardized factor loadings associated with a factor in absolute values, and $\delta i$, the item uniquenesses. The numerator, were the factor loadings are summed, and then squared, reflects the proportion of the variance in in indicators that reflect true score variance, whereas the denominator reflects total amount of variance in the items including both true score variance and random measurement errors (reflects by the sum of the items uniquenesses associated with a factor). These coefficients are all satisfactory (ω = .806 to .939), and reported in Tables S2 and 1.

**References used in this supplement**


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**Table S1.**

*Goodness-of-Fit Statistics of the Longitudinal Confirmatory Factor Analytic (CFA) Models*

| Description | $R\chi^2(df)$ | CFI | TLI | RMSEA | 90% CI | $\Delta R\chi^2$ $(df)$ | ΔCFI | ΔTLI | ΔRMSEA |
|---|---|---|---|---|---|---|---|---|---|
| Grade 8 (N = 2034) | 3091.971 (918)* | .950 | .946 | .034 | [.033; .035] | – | – | – | – |
| Grade 11 (N = 1727) | 3758.575 (918)* | .936 | .931 | .042 | [.041; .044] | – | – | – | – |
| Configural invariance (N = 2510) | 9533.631 (3766)* | .941 | .937 | .025 | [.024; .025] | – | – | – | – |
| Weak Invariance | 9643.827 (3810)* | .940 | .937 | .025 | [.024; .025] | 90.495 (44)* | -.001 | .000 | .000 |
| Strong Invariance | 10214.468 (3848)* | .934 | .932 | .026 | [.025; .026] | 494.025 (38)* | -.006 | -.005 | +.001 |
| Strict Invariance | 10588.231 (3893)* | .931 | .929 | .026 | [.026; .027] | 318.273 (45)* | -.003 | -.003 | .000 |
| Variance-Covariance Invariance | 10653.418 (3909)* | .931 | .929 | .026 | [.026; .027] | 62.904 (16)* | .000 | .000 | .000 |
| Latent Mean Invariance | 10950.756 (3916)* | .928 | .926 | .027 | [.026; .027] | 233.639 (7)* | -.003 | -.003 | +.001 |

*Note.* *$p < .01$; $R\chi^2$: Robust chi-square test of exact fit; *df*: Degrees of freedom; CFI: Comparative fit index; TLI: Tucker-Lewis index; RMSEA: Root mean square error of approximation; 90% CI: 90% confidence interval of the RMSEA; $\Delta R\chi^2$: Robust chi-square difference tests (calculated from loglikelihoods for greater precision) (Satorra & Bentler, 2001).

**Supplementary Table S2**

*Standardized Parameter Estimates from the Fully Invariant Longitudinal Confirmatory Factor Analytic (CFA) Model*

| | Parental Support | | Teacher Support | | Peer Support | | Emotional WB | | Psychological WB | | Social WB | | General Ill Health | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Items | λ | δ | λ | δ | λ | δ | λ | δ | λ | δ | λ | δ | λ | δ |
| Item 1 | .872 | .240 | .819 | .329 | .812 | .340 | .819 | .330 | .743 | .447 | .714 | .491 | .480 | .677 |
| Item 2 | .903 | .185 | .831 | .310 | .870 | .243 | .838 | .298 | .746 | .444 | .719 | .483 | .611 | .627 |
| Item 3 | .857 | .266 | .866 | .250 | .842 | .291 | .888 | .211 | .627 | .607 | .722 | .478 | .562 | .580 |
| Item 4 | .792 | .374 | .818 | .331 | .811 | .343 | | | .737 | .457 | .753 | .434 | .467 | .596 |
| Item 5 | .783 | .386 | .855 | .270 | .841 | .293 | | | | | .705 | .503 | .642 | .588 |
| Item 6 | .870 | .243 | .814 | .337 | .834 | .305 | | | | | | | .660 | .564 |
| Item 7 | .721 | .480 | .800 | .359 | .806 | .351 | | | | | | | .551 | .549 |
| Item 8 | | | | | | | | | | | | | .536 | .543 |
| Item 9 | | | | | | | | | | | | | .824 | .321 |
| Item 10 | | | | | | | | | | | | | .844 | .287 |
| Item 11 | | | | | | | | | | | | | .819 | .329 |
| Item 12 | | | | | | | | | | | | | .627 | .504 |
| ω | .939 | | .939 | | .940 | | .885 | | .806 | | .845 | | .904 | |

*Note*. All loadings and uniquenesses are significant ($p < .01$); WB= Wellbeing; λ = Loadings; δ = Uniquenesses; ω = omega coefficient of reliability.

**Table S3.**

*Latent Correlations from the Fully Invariant Longitudinal Confirmatory Factor Analytic (CFA) Model*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1- Parent Support (G8) | *.939* | | | | | | | | | | | | | |
| 2- Teacher Support (G8) | .378** | *.939* | | | | | | | | | | | | |
| 3- Peer Support (G8) | .373** | .280** | *.940* | | | | | | | | | | | |
| 4- Emotional WB (G8) | .537** | .334** | .329** | *.885* | | | | | | | | | | |
| 5- Psychological WB (G8) | .580** | .406** | .505** | .794** | *.806* | | | | | | | | | |
| 6- Social WB (G8) | .498** | .363** | .389** | .684** | .865** | *.845* | | | | | | | | |
| 7- Ill Health (G8) | -.471** | -.267** | -.207** | -.693** | -.642** | -.572** | *.904* | | | | | | | |
| 8- Parent Support (G11) | .460** | .309** | .205** | .259** | .301** | .259** | -.233** | *.939* | | | | | | |
| 9- Teacher Support (G11) | .174** | .474** | .146** | .144** | .237** | .199** | -.099** | .378** | *.939* | | | | | |
| 10- Peer Support (G11) | .169** | .183** | .379** | .211** | .257** | .207** | -.155** | .373** | .280** | *.940* | | | | |
| 11- Emotional WB (G11) | .222** | .187** | .088** | .395** | .352** | .324** | -.332** | .458** | .328** | .352** | *.885* | | | |
| 12- Psychological WB (G11) | .281** | .207** | .162** | .354** | .385** | .359** | -.329** | .515** | .424** | .490** | .794** | *.806* | | |
| 13- Social WB (G11) | .189** | .221** | .105** | .292** | .324** | .393** | -.258** | .459** | .385** | .399** | .684** | .865** | *.845* | |
| 14- Ill Health (G11) | -.145** | -.107** | .017 | -.230** | -.154** | -.153** | .299** | -.376** | -.207** | -.253** | -.693** | -.642** | -.572** | *.904* |

*Note*. ** $p < .01$; WB = Wellbeing; G8 = Grade 8; G11 = Grade 11; Composite reliability coefficients reported in the diagonal (italicized).

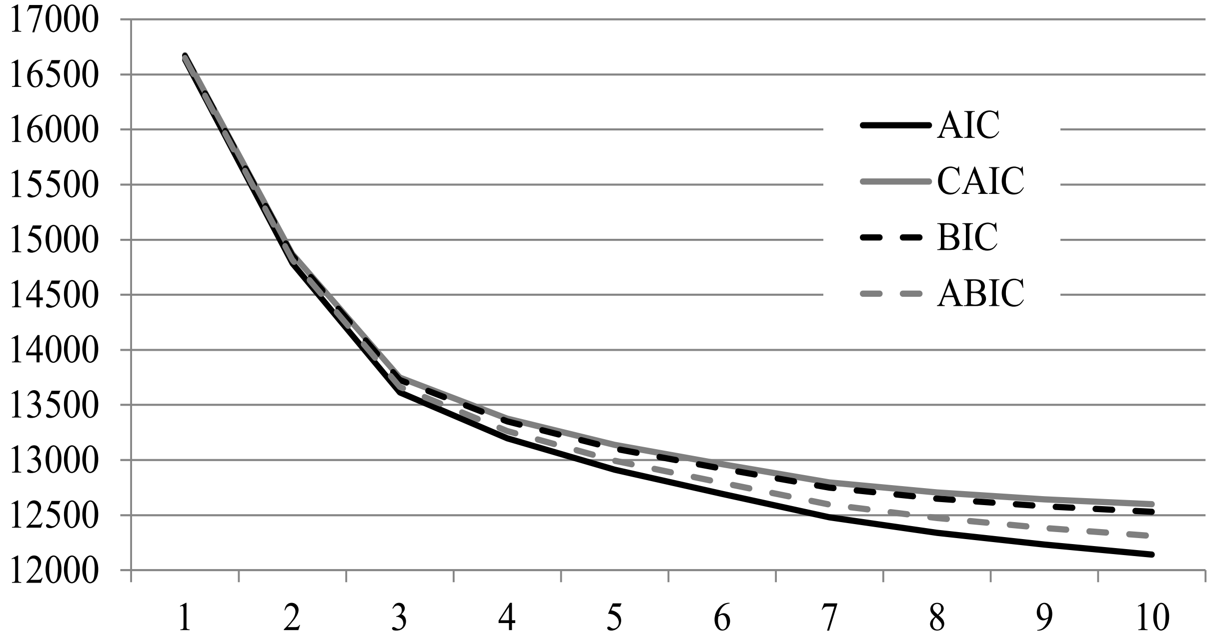


**Figure S1.** Elbow Plot of the Information Criteria for the Latent Profile Analyses (Grade 8).

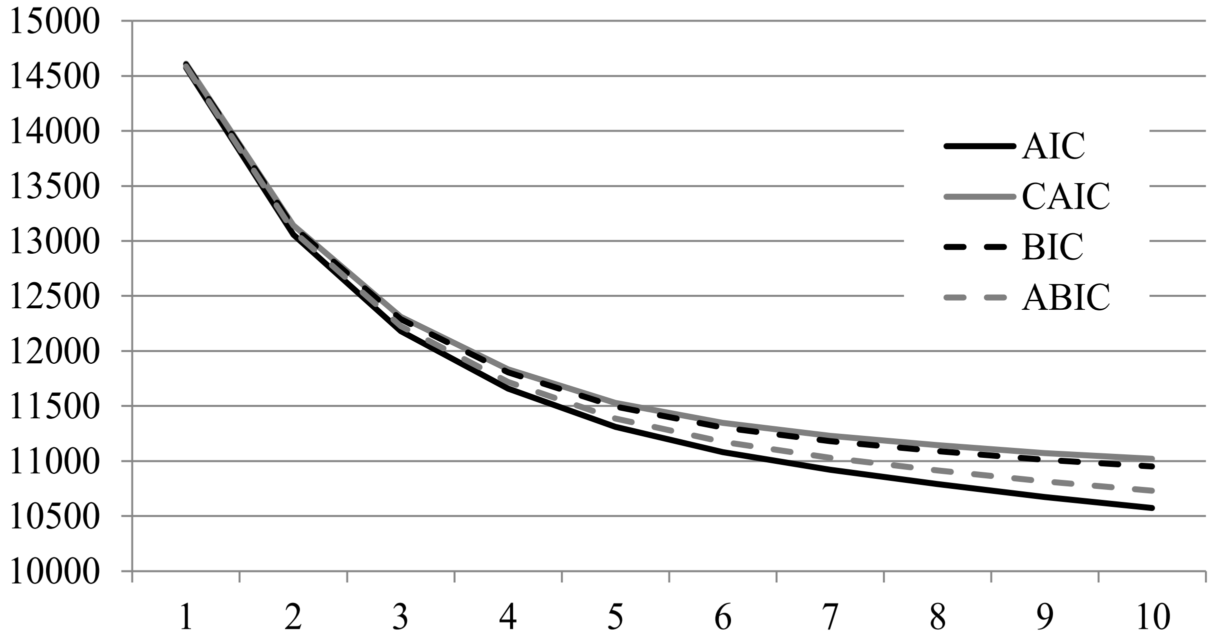


**Figure S2.** Elbow Plot of the Information Criteria for the Latent Profile Analyses (Grade 11).

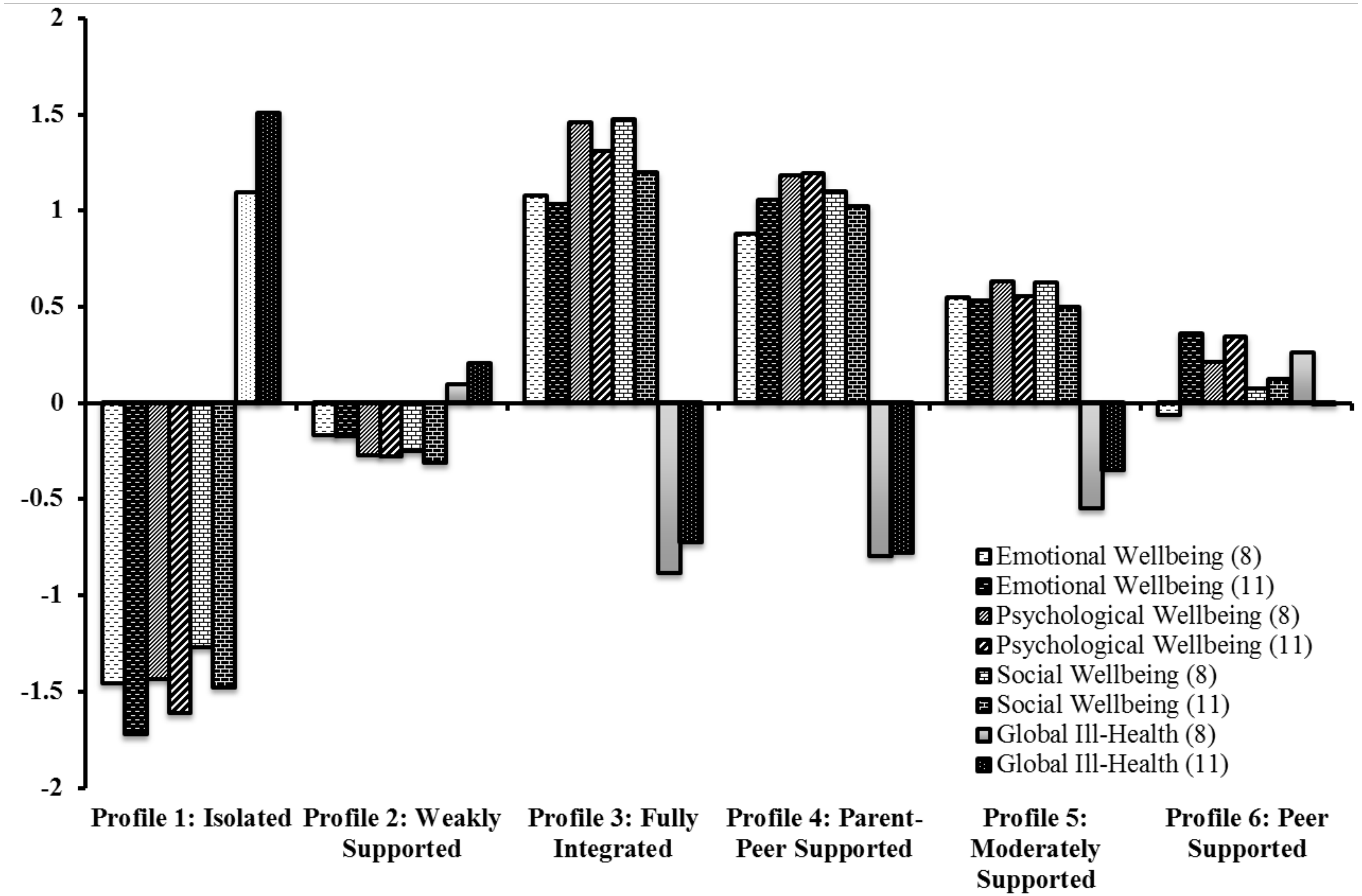


**Figure S3.** Outcome levels in each of the estimated latent profiles are each time points.

**Mplus Input to Estimate a 6-Profile Latent Profile Analysis (Wave 1)**

```
! In all input files, statements preceded by ! are annotations.
! Use the following statement to identify the data set. Here, the data set is labelled Data.dat.
DATA:
FILE IS Data.dat;
! The variables names function identifies all variables in the data set, in order of appearance,
! whereas the usevariable command identifies the variables used in the analysis.
VARIABLE:
NAMES = SSP1Y8 SSP2Y8 SSP3Y8 SSP4Y8 SSP5Y8 SSP6Y8 SSP7Y8 SSP1Y11 SSP2Y11
SSP3Y11 SSP4Y11 SSP5Y11 SSP6Y11 SSP7Y11 SST8Y8 SST9Y8 SST10Y8 SST11Y8 SST12Y8
SST13Y8 SST14Y8 SST8Y11 SST9Y11 SST1011 SST1111 SST1211 SST1311 SST1411
SSF15Y8 SSF16Y8 SSF17Y8 SSF18Y8 SSF19Y8 SSF20Y8 SSF21Y8 SSF1511 SSF1611
SSF1711 SSF1811 SSF1911 SSF2011 SSF2111 SWB1Y8 SWB2Y8 SWB3Y8 SWB4Y8 SWB5Y8
SWB6Y8 SWB7Y8 SWB8Y8 SWB9Y8 SWB10Y8 SWB11Y8 SWB12Y8 SWB1Y11 SWB2Y11
SWB3Y11 SWB4Y11 SWB5Y11 SWB6Y11 SWB7Y11 SWB8Y11 SWB9Y11 SWB1011 SWB1111
SWB1211 GH1Y8 GH2Y8 GH3Y8 GH4Y8 GH5Y8 GH6Y8 GH7Y8 GH8Y8 GH9Y8 GH10Y8
GH11Y8 GH12Y8 GH1Y11 GH2Y11 GH3Y11 GH4Y11 GH5Y11 GH6Y11 GH7Y11 GH8Y11
GH9Y11 GH10Y11 GH11Y11 GH12Y11 ID SEX SESZ MARIT DUM1IND DUM2MIN
PY8 PY11 PTOT PAR8 PAR8_SE TEA8 TEA8_SE PEER8 PEER8_SE PAR11 PAR11_SE
TEA11 TEA11_SE PEER11 PEER11_SE EMWB8 EMWB8_SE PSYWB8 PSYWB8_SE
SOCWB8 SOCWB8_SE EMWB11 EMWB11_SE PSYWB11 PSYWB11_SE SOCWB11
SOCWB11_SE GHQ8 GHQ8_SE MF8 MF8_SE GHQ11 GHQ11_SE MF11 MF11_SE SCHL ;
USEVARIABLES ARE
PAR8 TEA8 PEER8;
! The following is used to select only participant who completed questionnaires in Grade 8. The
! subpopulation function is required (rather than the USEOBSERVATION function) due to the use of
! design-based correction of standard errors to account for students nesting into schools.
SUBPOPULATION = PY8 EQ 1;
! Missing data are identified with the following (the same code * is used for all missing).
MISSING ARE ALL *;
! The following identifies the unique identifier for participants
IDVARIABLE = ID;
! The following identifies the variable including the nesting information (here, the school).
CLUSTER = schl;
! The following identifies the number of latent profiles requested in the analysis.
CLASSES = c (6);
Analysis:
! The following identifies that mixture modeling is requested in conjunction with the design-based
! correction of standard errors to account for students nesting into schools (COMPLEX).
type = mixture COMPLEX;
estimator = MLR;
! The following set up is to estimate the model using 3 processors, 5000 starts values, 200 final stage
optimizations, and 2000 iterations.
Process = 3;
STARTS = 5000 200;
STITERATIONs = 2000;
! In this input, the overall model statement defines sections that are common across profiles.
! Here, there is no need to include anything in this section.
! The %c#1% to %c#6% sections are class-specific statement to specify which part of the
! model is freely estimated in each profile.
! For a simple latent profile model, include the means of the indicators (using []) in all profiles.
! To also freely estimate all variances, the following is added in each class-specific statement:
! PAR8 TEA8 PEER8;
MODEL:
%OVERALL%
```

```
PAR8 TEA8 PEER8; [PAR8 TEA8 PEER8];
%c#1%
PAR8 TEA8 PEER8; [PAR8 TEA8 PEER8];
%c#2%
PAR8 TEA8 PEER8; [PAR8 TEA8 PEER8];
%c#3%
PAR8 TEA8 PEER8; [PAR8 TEA8 PEER8];
%c#4%
PAR8 TEA8 PEER8; [PAR8 TEA8 PEER8];
%c#5%
PAR8 TEA8 PEER8; [PAR8 TEA8 PEER8];
%c#6%
PAR8 TEA8 PEER8; [PAR8 TEA8 PEER8];
! Specific sections of output are requested. TECH11 estimates LMR, and TECH14 estimates BLRT.
OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL MODINDICES (3.0) TECH2 TECH4 ;
svalues TECH11 TECH13 TECH14;
! The bootstrap LRT (BLRT) indicator (requested with TEC14) is not available with TYPE =
! COMPLEX. To obtain it, the "CLUSTER = schl;" statement need to be taken out, the
! "SUBPOPULATION = PY8 EQ 1;" statement needs to be replaced by "USEOBS = PY8 EQ 1;"
! and the "COMPLEX" statement needs to be taken out.
```

**Mplus Input to Estimate a Configural Similarity Model for a Latent Transition Analysis**

```
! Annotations only focus on functions not previously defined.
[…]
USEVARIABLES ARE PAR8 TEA8 PEER8 PAR11 TEA11 PEER11;
! The following identifies the number of latent profiles (2) requested in the analysis
! One latent profile variable (c1, c2) is required for each specific time wave.
CLASSES = c1 (6) c2 (6);
Analysis:
type = mixture COMPLEX;
estimator = MLR;
Process = 3;
STARTS = 10000 400;
STITERATIONs = 2000;
! In this input, the statements included in the overall model statement indicates that students can
! make a transition from one profile to the other across adjacent time points.
! Then, subsections corresponding to the various latent profile variables (one per time waves;
! MODEL C1 to C2).
! The labels in parentheses are used to impose equality constraints on parameters (parameters
! with the same labels are constrained to invariance). Here, no invariance constraint is added.
MODEL:
%OVERALL%
c2 on c1;
MODEL C1:
%c1#1%
[PAR8 TEA8 PEER8](ma1-ma3); PAR8 TEA8 PEER8 (va1-va3);
%c1#2%
[PAR8 TEA8 PEER8](ma4-ma6); PAR8 TEA8 PEER8 (va4-va6);
%c1#3%
[PAR8 TEA8 PEER8](ma7-ma9); PAR8 TEA8 PEER8 (va7-va9);
%c1#4%
[PAR8 TEA8 PEER8](ma10-ma12); PAR8 TEA8 PEER8 (va10-va12);
%c1#5%
[PAR8 TEA8 PEER8](ma13-ma15); PAR8 TEA8 PEER8 (va13-va15);
%c1#6%
[PAR8 TEA8 PEER8](ma16-ma18); PAR8 TEA8 PEER8 (va16-va18);
MODEL C2:
%c2#1%
[PAR11 TEA11 PEER11](mb1-mb3); PAR11 TEA11 PEER11 (vb1-vb3);
%c2#2%
[PAR11 TEA11 PEER11](mb4-mb6); PAR11 TEA11 PEER11(vb4-vb6);
%c2#3%
[PAR11 TEA11 PEER11](mb7-mb9); PAR11 TEA11 PEER11 (vb7-vb9);
%c2#4%
[PAR11 TEA11 PEER11](mb10-mb12); PAR11 TEA11 PEER11 (vb10-vb12);
%c2#5%
[PAR11 TEA11 PEER11](mb13-mb15); PAR11 TEA11 PEER11 (vb13-vb15);
%c2#6%
[PAR11 TEA11 PEER11](mb16-mb18); PAR11 TEA11 PEER11 (vb16-vb18);
OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL MODINDICES (3.0) TECH2 TECH4 ;
Svalues;
```

**Mplus Input to Estimate a Structural Similarity Model for a Latent Transition Analysis**

```
! Annotations only focus on functions not previously defined.
[…]
! Labels in bold indicate newly imposed invariance constraints on means across time waves.
MODEL:
%OVERALL%
c2 on c1;
MODEL C1:
%c1#1%
[PAR8 TEA8 PEER8](ma1-ma3); PAR8 TEA8 PEER8 (va1-va3);
%c1#2%
[PAR8 TEA8 PEER8](ma4-ma6); PAR8 TEA8 PEER8 (va4-va6);
%c1#3%
[PAR8 TEA8 PEER8](ma7-ma9); PAR8 TEA8 PEER8 (va7-va9);
%c1#4%
[PAR8 TEA8 PEER8](ma10-ma12); PAR8 TEA8 PEER8 (va10-va12);
%c1#5%
[PAR8 TEA8 PEER8](ma13-ma15); PAR8 TEA8 PEER8 (va13-va15);
%c1#6%
[PAR8 TEA8 PEER8](ma16-ma18); PAR8 TEA8 PEER8 (va16-va18);
MODEL C2:
%c2#1%
[PAR11 TEA11 PEER11](ma1-ma3); PAR11 TEA11 PEER11 (vb1-vb3);
%c2#2%
[PAR11 TEA11 PEER11](ma4-ma6); PAR11 TEA11 PEER11(vb4-vb6);
%c2#3%
[PAR11 TEA11 PEER11](ma7-ma9); PAR11 TEA11 PEER11 (vb7-vb9);
%c2#4%
[PAR11 TEA11 PEER11](ma10-ma12); PAR11 TEA11 PEER11 (vb10-vb12);
%c2#5%
[PAR11 TEA11 PEER11](ma13-ma15); PAR11 TEA11 PEER11 (vb13-vb15);
%c2#6%
[PAR11 TEA11 PEER11](ma16-ma18); PAR11 TEA11 PEER11 (vb16-vb18);
OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL MODINDICES (3.0) TECH2 TECH4 ;
Svalues;
```

**Mplus Input to Estimate a Dispersion Similarity Model for a Latent Transition Analysis**

*! Annotations only focus on functions not previously defined.*

[…]

*! Labels in bold indicate newly imposed invariance constraints on means across time waves.*

MODEL:
%OVERALL%
c2 on c1;
MODEL C1:
%c1#1%
[PAR8 TEA8 PEER8](ma1-ma3); PAR8 TEA8 PEER8 (**va1-va3**);
%c1#2%
[PAR8 TEA8 PEER8](ma4-ma6); PAR8 TEA8 PEER8 (**va4-va6**);
%c1#3%
[PAR8 TEA8 PEER8](ma7-ma9); PAR8 TEA8 PEER8 (**va7-va9**);
%c1#4%
[PAR8 TEA8 PEER8](ma10-ma12); PAR8 TEA8 PEER8 (**va10-va12**);
%c1#5%
[PAR8 TEA8 PEER8](ma13-ma15); PAR8 TEA8 PEER8 (**va13-va15**);
%c1#6%
[PAR8 TEA8 PEER8](ma16-ma18); PAR8 TEA8 PEER8 (**va16-va18**);
MODEL C2:
%c2#1%
[PAR11 TEA11 PEER11](ma1-ma3); PAR11 TEA11 PEER11 (**va1-va3**);
%c2#2%
[PAR11 TEA11 PEER11](ma4-ma6); PAR11 TEA11 PEER11(**va4-va6**);
%c2#3%
[PAR11 TEA11 PEER11](ma7-ma9); PAR11 TEA11 PEER11 (**va7-va9**);
%c2#4%
[PAR11 TEA11 PEER11](ma10-ma12); PAR11 TEA11 PEER11 (**va10-va12**);
%c2#5%
[PAR11 TEA11 PEER11](ma13-ma15); PAR11 TEA11 PEER11 (**va13-va15**);
%c2#6%
[PAR11 TEA11 PEER11](ma16-ma18); PAR11 TEA11 PEER11 (**va16-va18**);
OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL MODINDICES (3.0) TECH2 TECH4 ;
Svalues;

**Mplus Input to Estimate a Distribution Similarity Model for a Latent Transition Analysis**

```
! Annotations only focus on functions not previously defined.
[…]
! The additions in bold (in %Overall%) constrain class sizes to be invariant across time waves.
! c1, c2 refer to the various latent profile variables (for each time waves), whereas #1, #2, #3
! refer to the specific profile in this model. One less statement than the number of profiles is needed.
MODEL:
%OVERALL%
c2 on c1;
[c1#1] (p1); [c1#2] (p2); [c1#3] (p3); [c1#4] (p4); [c1#5] (p5);
[c2#1] (p1); [c2#2] (p2); [c2#3] (p3); [c2#4] (p4); [c2#5] (p5);
MODEL C1:
%c1#1%
[PAR8 TEA8 PEER8](ma1-ma3); PAR8 TEA8 PEER8 (va1-va3);
%c1#2%
[PAR8 TEA8 PEER8](ma4-ma6); PAR8 TEA8 PEER8 (va4-va6);
%c1#3%
[PAR8 TEA8 PEER8](ma7-ma9); PAR8 TEA8 PEER8 (va7-va9);
%c1#4%
[PAR8 TEA8 PEER8](ma10-ma12); PAR8 TEA8 PEER8 (va10-va12);
%c1#5%
[PAR8 TEA8 PEER8](ma13-ma15); PAR8 TEA8 PEER8 (va13-va15);
%c1#6%
[PAR8 TEA8 PEER8](ma16-ma18); PAR8 TEA8 PEER8 (va16-va18);
MODEL C2:
%c2#1%
[PAR11 TEA11 PEER11](ma1-ma3); PAR11 TEA11 PEER11 (va1-va3);
%c2#2%
[PAR11 TEA11 PEER11](ma4-ma6); PAR11 TEA11 PEER11(va4-va6);
%c2#3%
[PAR11 TEA11 PEER11](ma7-ma9); PAR11 TEA11 PEER11 (va7-va9);
%c2#4%
[PAR11 TEA11 PEER11](ma10-ma12); PAR11 TEA11 PEER11 (va10-va12);
%c2#5%
[PAR11 TEA11 PEER11](ma13-ma15); PAR11 TEA11 PEER11 (va13-va15);
%c2#6%
[PAR11 TEA11 PEER11](ma16-ma18); PAR11 TEA11 PEER11 (va16-va18);
OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL MODINDICES (3.0) TECH2 TECH4 ;
Svalues;
```

**Mplus Input to Estimate a Latent Transition Analysis with Effects of Predictors Freely Estimated Across Time Waves and Wave 1 Profiles.**

```
! Annotations only focus on functions not previously defined.
[…]
USEVARIABLES ARE SEX SESZ MARIT DUM1IND DUM2MIN
PAR8 TEA8 PEER8 PAR11 TEA11 PEER11;
[…]
! This model builds from the model of dispersion invariance
! To ensure stability, starts values from the previously most invariant solution should be used. These
! can be obtained using the "svalues" function of the output section.
MODEL:
%OVERALL%
c2 on c1;
! The following statement indicate that class membership at Wave 1 is influenced by the predictors
C1 on SEX SESZ MARIT DUM1IND DUM2MIN;
MODEL C1:
%c1#1%
[PAR8 TEA8 PEER8](ma1-ma3); PAR8 TEA8 PEER8 (va1-va3);
! The following statement indicate that class membership at Wave 2 is influenced by the predictors and
! allowed to differ across each of the Grade 8 profiles.
C2 on SEX SESZ MARIT DUM1IND DUM2MIN;
%c1#2%
[PAR8 TEA8 PEER8](ma4-ma6); PAR8 TEA8 PEER8 (va4-va6);
C2 on SEX SESZ MARIT DUM1IND DUM2MIN;
%c1#3%
[PAR8 TEA8 PEER8](ma7-ma9); PAR8 TEA8 PEER8 (va7-va9);
C2 on SEX SESZ MARIT DUM1IND DUM2MIN;
%c1#4%
[PAR8 TEA8 PEER8](ma10-ma12); PAR8 TEA8 PEER8 (va10-va12);
C2 on SEX SESZ MARIT DUM1IND DUM2MIN;
%c1#5%
[PAR8 TEA8 PEER8](ma13-ma15); PAR8 TEA8 PEER8 (va13-va15);
C2 on SEX SESZ MARIT DUM1IND DUM2MIN;
%c1#6%
[PAR8 TEA8 PEER8](ma16-ma18); PAR8 TEA8 PEER8 (va16-va18);
C2 on SEX SESZ MARIT DUM1IND DUM2MIN;
MODEL C2:
%c2#1%
[PAR11 TEA11 PEER11](ma1-ma3); PAR11 TEA11 PEER11 (va1-va3);
%c2#2%
[PAR11 TEA11 PEER11](ma4-ma6); PAR11 TEA11 PEER11(va4-va6);
%c2#3%
[PAR11 TEA11 PEER11](ma7-ma9); PAR11 TEA11 PEER11 (va7-va9);
%c2#4%
[PAR11 TEA11 PEER11](ma10-ma12); PAR11 TEA11 PEER11 (va10-va12);
%c2#5%
[PAR11 TEA11 PEER11](ma13-ma15); PAR11 TEA11 PEER11 (va13-va15);
%c2#6%
[PAR11 TEA11 PEER11](ma16-ma18); PAR11 TEA11 PEER11 (va16-va18);
OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL MODINDICES (3.0) TECH2 TECH4 ;
Svalues;
```

**Mplus Input to Estimate a Latent Transition Analysis with Effects of Predictors Freely Estimated Across Time Waves but not Wave 1 Profiles.**

```
! Annotations only focus on functions not previously defined.
[…]
USEVARIABLES ARE SEX SESZ MARIT DUM1IND DUM2MIN
PAR8 TEA8 PEER8 PAR11 TEA11 PEER11;
[…]
! This model builds from the model of dispersion invariance
! To ensure stability, starts values from the previously most invariant solution should be used. These
! can be obtained using the "svalues" function of the output section.
MODEL:
%OVERALL%
c2 on c1;
! The following statements indicate that class membership at each specific time wave is predicted by
! the predictors.
C1 on SEX SESZ MARIT DUM1IND DUM2MIN;
C2 on SEX SESZ MARIT DUM1IND DUM2MIN;
MODEL C1:
%c1#1%
[PAR8 TEA8 PEER8](ma1-ma3); PAR8 TEA8 PEER8 (va1-va3);
%c1#2%
[PAR8 TEA8 PEER8](ma4-ma6); PAR8 TEA8 PEER8 (va4-va6);
%c1#3%
[PAR8 TEA8 PEER8](ma7-ma9); PAR8 TEA8 PEER8 (va7-va9);
%c1#4%
[PAR8 TEA8 PEER8](ma10-ma12); PAR8 TEA8 PEER8 (va10-va12);
%c1#5%
[PAR8 TEA8 PEER8](ma13-ma15); PAR8 TEA8 PEER8 (va13-va15);
%c1#6%
[PAR8 TEA8 PEER8](ma16-ma18); PAR8 TEA8 PEER8 (va16-va18);
MODEL C2:
%c2#1%
[PAR11 TEA11 PEER11](ma1-ma3); PAR11 TEA11 PEER11 (va1-va3);
%c2#2%
[PAR11 TEA11 PEER11](ma4-ma6); PAR11 TEA11 PEER11(va4-va6);
%c2#3%
[PAR11 TEA11 PEER11](ma7-ma9); PAR11 TEA11 PEER11 (va7-va9);
%c2#4%
[PAR11 TEA11 PEER11](ma10-ma12); PAR11 TEA11 PEER11 (va10-va12);
%c2#5%
[PAR11 TEA11 PEER11](ma13-ma15); PAR11 TEA11 PEER11 (va13-va15);
%c2#6%
[PAR11 TEA11 PEER11](ma16-ma18); PAR11 TEA11 PEER11 (va16-va18);
OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL MODINDICES (3.0) TECH2 TECH4 ;
Svalues;
```

**Mplus Input to Estimate a Predictive Invariance Latent Transition Analysis.**

```
! Annotations only focus on functions not previously defined.
[…]
! This model builds from the model of dispersion invariance
! To ensure stability, starts values from the previously most invariant solution should be used. These
! can be obtained using the "svalues" function of the output section.
MODEL:
%OVERALL%
c2 on c1;
! The following statements constrain the predictions to be equal across time waves (one less label
! than profiles)
C1 on SEX (pr1-pr5);
C1 on SESZ (pr6-pr10);
C1 on MARIT (pr11-pr15);
C1 on DUM1IND (pr16-pr20);
C1 on DUM2MIN (pr21-pr25);
C2 on SEX (pr1-pr5);
C2 on SESZ (pr6-pr10);
C2 on MARIT (pr11-pr15);
C2 on DUM1IND (pr16-pr20);
C2 on DUM2MIN (pr21-pr25);
MODEL C1:
%c1#1%
[PAR8 TEA8 PEER8](ma1-ma3); PAR8 TEA8 PEER8 (va1-va3);
%c1#2%
[PAR8 TEA8 PEER8](ma4-ma6); PAR8 TEA8 PEER8 (va4-va6);
%c1#3%
[PAR8 TEA8 PEER8](ma7-ma9); PAR8 TEA8 PEER8 (va7-va9);
%c1#4%
[PAR8 TEA8 PEER8](ma10-ma12); PAR8 TEA8 PEER8 (va10-va12);
%c1#5%
[PAR8 TEA8 PEER8](ma13-ma15); PAR8 TEA8 PEER8 (va13-va15);
%c1#6%
[PAR8 TEA8 PEER8](ma16-ma18); PAR8 TEA8 PEER8 (va16-va18);
MODEL C2:
%c2#1%
[PAR11 TEA11 PEER11](ma1-ma3); PAR11 TEA11 PEER11 (va1-va3);
%c2#2%
[PAR11 TEA11 PEER11](ma4-ma6); PAR11 TEA11 PEER11(va4-va6);
%c2#3%
[PAR11 TEA11 PEER11](ma7-ma9); PAR11 TEA11 PEER11 (va7-va9);
%c2#4%
[PAR11 TEA11 PEER11](ma10-ma12); PAR11 TEA11 PEER11 (va10-va12);
%c2#5%
[PAR11 TEA11 PEER11](ma13-ma15); PAR11 TEA11 PEER11 (va13-va15);
%c2#6%
[PAR11 TEA11 PEER11](ma16-ma18); PAR11 TEA11 PEER11 (va16-va18);
OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL MODINDICES (3.0) TECH2 TECH4 ;
Svalues;
```

**Mplus Input to Estimate a Latent Transition Analysis with Outcomes Levels Freely Estimated Across Time Waves**

```
! Annotations only focus on functions not previously defined.
[…]
USEVARIABLES ARE PAR8 TEA8 PEER8 PAR11 TEA11 PEER11
EMWB8 PSYWB8 SOCWB8 EMWB11 PSYWB11 SOCWB11 GHQ8 GHQ11;
[…]
! This model builds from the model of dispersion invariance
! To ensure stability, starts values from the previously most invariant solution should be used. These
! can be obtained using the "svalues" function of the output section.
! The additions in bold request the free estimation of the outcomes means in each profile
MODEL:
%OVERALL%
c2 on c1;
MODEL C1:
%c1#1%
[PAR8 TEA8 PEER8](ma1-ma3); PAR8 TEA8 PEER8 (va1-va3);
[EMWB8] (o11);
[PSYWB8] (o12);
[SOCWB8] (o13);
[GHQ8]  (o14);
%c1#2%
[PAR8 TEA8 PEER8](ma4-ma6); PAR8 TEA8 PEER8 (va4-va6);
[EMWB8] (o21);
[PSYWB8] (o22);
[SOCWB8] (o23);
[GHQ8]  (o24);
%c1#3%
[PAR8 TEA8 PEER8](ma7-ma9); PAR8 TEA8 PEER8 (va7-va9);
[EMWB8] (o31);
[PSYWB8] (o32);
[SOCWB8] (o33);
[GHQ8]  (o34);
%c1#4%
[PAR8 TEA8 PEER8](ma10-ma12); PAR8 TEA8 PEER8 (va10-va12);
[EMWB8] (o41);
[PSYWB8] (o42);
[SOCWB8] (o43);
[GHQ8]  (o44);
%c1#5%
[PAR8 TEA8 PEER8](ma13-ma15); PAR8 TEA8 PEER8 (va13-va15);
[EMWB8] (o51);
[PSYWB8] (o52);
[SOCWB8] (o53);
[GHQ8]  (o54);
%c1#6%
[PAR8 TEA8 PEER8](ma16-ma18); PAR8 TEA8 PEER8 (va16-va18);
[EMWB8] (o61);
[PSYWB8] (o62);
[SOCWB8] (o63);
[GHQ8]  (o64);
MODEL C2:
%c2#1%
[PAR11 TEA11 PEER11](ma1-ma3); PAR11 TEA11 PEER11 (va1-va3);
[EMWB11] (oo11);
```

**[PSYWB11] (oo12);**
**[SOCWB11] (oo13);**
**[GHQ11]  (oo14);**
%c2#2%
[PAR11 TEA11 PEER11](ma4-ma6); PAR11 TEA11 PEER11(va4-va6);
**[EMWB11] (oo21);**
**[PSYWB11] (oo22);**
**[SOCWB11] (oo23);**
**[GHQ11]  (oo24);**
%c2#3%
[PAR11 TEA11 PEER11](ma7-ma9); PAR11 TEA11 PEER11 (va7-va9);
**[EMWB11] (oo31);**
**[PSYWB11] (oo32);**
**[SOCWB11] (oo33);**
**[GHQ11]  (oo34);**
%c2#4%
[PAR11 TEA11 PEER11](ma10-ma12); PAR11 TEA11 PEER11 (va10-va12);
**[EMWB11] (oo41);**
**[PSYWB11] (oo42);**
**[SOCWB11] (oo43);**
**[GHQ11]  (oo44);**
%c2#5%
[PAR11 TEA11 PEER11](ma13-ma15); PAR11 TEA11 PEER11 (va13-va15);
**[EMWB11] (oo51);**
**[PSYWB11] (oo52);**
**[SOCWB11] (oo53);**
**[GHQ11]  (oo54);**
%c2#6%
[PAR11 TEA11 PEER11](ma16-ma18); PAR11 TEA11 PEER11 (va16-va18);
**[EMWB11] (oo61);**
**[PSYWB11] (oo62);**
**[SOCWB11] (oo63);**
**[GHQ11]  (oo64);**
*! The model constraint function uses the labels used with the outcomes to request mean level comparisons on the outcomes across profiles.*
MODEL CONSTRAINT:
NEW (ye12); ye12 = o11-o21;
NEW (ye13); ye13 = o11-o31;
NEW (ye14); ye14 = o11-o41;
NEW (ye15); ye15 = o11-o51;
NEW (ye16); ye16 = o11-o61;
NEW (ye23); ye23 = o21-o31;
NEW (ye24); ye24 = o21-o41;
NEW (ye25); ye25 = o21-o51;
NEW (ye26); ye26 = o21-o61;
NEW (ye34); ye34 = o31-o41;
NEW (ye35); ye35 = o31-o51;
NEW (ye36); ye36 = o31-o61;
NEW (ye45); ye45 = o41-o51;
NEW (ye46); ye46 = o41-o61;
NEW (ye56); ye56 = o51-o61;

NEW (ze12); ze12 = oo11-oo21;
NEW (ze13); ze13 = oo11-oo31;
NEW (ze14); ze14 = oo11-oo41;

```
NEW (ze15); ze15 = oo11-oo51;
NEW (ze16); ze16 = oo11-oo61;
NEW (ze23); ze23 = oo21-oo31;
NEW (ze24); ze24 = oo21-oo41;
NEW (ze25); ze25 = oo21-oo51;
NEW (ze26); ze26 = oo21-oo61;
NEW (ze34); ze34 = oo31-oo41;
NEW (ze35); ze35 = oo31-oo51;
NEW (ze36); ze36 = oo31-oo61;
NEW (ze45); ze45 = oo41-oo51;
NEW (ze46); ze46 = oo41-oo61;
NEW (ze56); ze56 = oo51-oo61;

NEW (yze11); yze11 = o11-oo11;
NEW (yze22); yze22 = o21-oo21;
NEW (yze33); yze33 = o31-oo31;
NEW (yze44); yze44 = o41-oo41;
NEW (yze55); yze55 = o51-oo51;
NEW (yze66); yze66 = o61-oo61;

NEW (yp12); yp12 = o12-o22;
NEW (yp13); yp13 = o12-o32;
NEW (yp14); yp14 = o12-o42;
NEW (yp15); yp15 = o12-o52;
NEW (yp16); yp16 = o12-o62;
NEW (yp23); yp23 = o22-o32;
NEW (yp24); yp24 = o22-o42;
NEW (yp25); yp25 = o22-o52;
NEW (yp26); yp26 = o22-o62;
NEW (yp34); yp34 = o32-o42;
NEW (yp35); yp35 = o32-o52;
NEW (yp36); yp36 = o32-o62;
NEW (yp45); yp45 = o42-o52;
NEW (yp46); yp46 = o42-o62;
NEW (yp56); yp56 = o52-o62;

NEW (zp12); zp12 = oo12-oo22;
NEW (zp13); zp13 = oo12-oo32;
NEW (zp14); zp14 = oo12-oo42;
NEW (zp15); zp15 = oo12-oo52;
NEW (zp16); zp16 = oo12-oo62;
NEW (zp23); zp23 = oo22-oo32;
NEW (zp24); zp24 = oo22-oo42;
NEW (zp25); zp25 = oo22-oo52;
NEW (zp26); zp26 = oo22-oo62;
NEW (zp34); zp34 = oo32-oo42;
NEW (zp35); zp35 = oo32-oo52;
NEW (zp36); zp36 = oo32-oo62;
NEW (zp45); zp45 = oo42-oo52;
NEW (zp46); zp46 = oo42-oo62;
NEW (zp56); zp56 = oo52-oo62;

NEW (yzp11); yzp11 = o12-oo12;
NEW (yzp22); yzp22 = o22-oo22;
NEW (yzp33); yzp33 = o32-oo32;
```

```
NEW (yzp44); yzp44 = o42-oo42;
NEW (yzp55); yzp55 = o52-oo52;
NEW (yzp66); yzp66 = o62-oo62;

NEW (ys12); ys12 = o13-o23;
NEW (ys13); ys13 = o13-o33;
NEW (ys14); ys14 = o13-o43;
NEW (ys15); ys15 = o13-o53;
NEW (ys16); ys16 = o13-o63;
NEW (ys23); ys23 = o23-o33;
NEW (ys24); ys24 = o23-o43;
NEW (ys25); ys25 = o23-o53;
NEW (ys26); ys26 = o23-o63;
NEW (ys34); ys34 = o33-o43;
NEW (ys35); ys35 = o33-o53;
NEW (ys36); ys36 = o33-o63;
NEW (ys45); ys45 = o43-o53;
NEW (ys46); ys46 = o43-o63;
NEW (ys56); ys56 = o53-o63;

NEW (zs12); zs12 = oo13-oo23;
NEW (zs13); zs13 = oo13-oo33;
NEW (zs14); zs14 = oo13-oo43;
NEW (zs15); zs15 = oo13-oo53;
NEW (zs16); zs16 = oo13-oo63;
NEW (zs23); zs23 = oo23-oo33;
NEW (zs24); zs24 = oo23-oo43;
NEW (zs25); zs25 = oo23-oo53;
NEW (zs26); zs26 = oo23-oo63;
NEW (zs34); zs34 = oo33-oo43;
NEW (zs35); zs35 = oo33-oo53;
NEW (zs36); zs36 = oo33-oo63;
NEW (zs45); zs45 = oo43-oo53;
NEW (zs46); zs46 = oo43-oo63;
NEW (zs56); zs56 = oo53-oo63;

NEW (yzs11); yzs11 = o13-oo13;
NEW (yzs22); yzs22 = o23-oo23;
NEW (yzs33); yzs33 = o33-oo33;
NEW (yzs44); yzs44 = o43-oo43;
NEW (yzs55); yzs55 = o53-oo53;
NEW (yzs66); yzs66 = o63-oo63;

NEW (yg12); yg12 = o14-o24;
NEW (yg13); yg13 = o14-o34;
NEW (yg14); yg14 = o14-o44;
NEW (yg15); yg15 = o14-o54;
NEW (yg16); yg16 = o14-o64;
NEW (yg23); yg23 = o24-o34;
NEW (yg24); yg24 = o24-o44;
NEW (yg25); yg25 = o24-o54;
NEW (yg26); yg26 = o24-o64;
NEW (yg34); yg34 = o34-o44;
NEW (yg35); yg35 = o34-o54;
NEW (yg36); yg36 = o34-o64;
```

```
NEW (yg45); yg45 = o44-o54;
NEW (yg46); yg46 = o44-o64;
NEW (yg56); yg56 = o54-o64;

NEW (zg12); zg12 = oo14-oo24;
NEW (zg13); zg13 = oo14-oo34;
NEW (zg14); zg14 = oo14-oo44;
NEW (zg15); zg15 = oo14-oo54;
NEW (zg16); zg16 = oo14-oo64;
NEW (zg23); zg23 = oo24-oo34;
NEW (zg24); zg24 = oo24-oo44;
NEW (zg25); zg25 = oo24-oo54;
NEW (zg26); zg26 = oo24-oo64;
NEW (zg34); zg34 = oo34-oo44;
NEW (zg35); zg35 = oo34-oo54;
NEW (zg36); zg36 = oo34-oo64;
NEW (zg45); zg45 = oo44-oo54;
NEW (zg46); zg46 = oo44-oo64;
NEW (zg56); zg56 = oo54-oo64;

NEW (yzg11); yzg11 = o14-oo14;
NEW (yzg22); yzg22 = o24-oo24;
NEW (yzg33); yzg33 = o34-oo34;
NEW (yzg44); yzg44 = o44-oo44;
NEW (yzg55); yzg55 = o54-oo54;
NEW (yzg66); yzg66 = o64-oo64;

OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL MODINDICES (3.0) TECH2 TECH4 ;
Svalues;
```

**Mplus Input to Estimate an Explanatory Invariance Latent Transition Analysis**
*! Annotations only focus on functions not previously defined.*
[…]
*! This model builds from the model of dispersion invariance*
*! To ensure stability, starts values from the previously most invariant solution should be used. These*
*! can be obtained using the "svalues" function of the output section.*
*! The additions in bold constrain outcome levels to be invariant across time waves.*
MODEL:
%OVERALL%
c2 on c1;
MODEL C1:
%c1#1%
[PAR8 TEA8 PEER8](ma1-ma3); PAR8 TEA8 PEER8 (va1-va3);
[EMWB8] (**o11**);
[PSYWB8] (**o12**);
[SOCWB8] (**o13**);
[GHQ8] (**o14**);
%c1#2%
[PAR8 TEA8 PEER8](ma4-ma6); PAR8 TEA8 PEER8 (va4-va6);
[EMWB8] (**o21**);
[PSYWB8] (**o22**);
[SOCWB8] (**o23**);
[GHQ8] (**o24**);
%c1#3%
[PAR8 TEA8 PEER8](ma7-ma9); PAR8 TEA8 PEER8 (va7-va9);
[EMWB8] (**o31**);
[PSYWB8] (**o32**);
[SOCWB8] (**o33**);
[GHQ8] (**o34**);
%c1#4%
[PAR8 TEA8 PEER8](ma10-ma12); PAR8 TEA8 PEER8 (va10-va12);
[EMWB8] (**o41**);
[PSYWB8] (**o42**);
[SOCWB8] (**o43**);
[GHQ8] (**o44**);
%c1#5%
[PAR8 TEA8 PEER8](ma13-ma15); PAR8 TEA8 PEER8 (va13-va15);
[EMWB8] (**o51**);
[PSYWB8] (**o52**);
[SOCWB8] (**o53**);
[GHQ8] (**o54**);
%c1#6%
[PAR8 TEA8 PEER8](ma16-ma18); PAR8 TEA8 PEER8 (va16-va18);
[EMWB8] (**o61**);
[PSYWB8] (**o62**);
[SOCWB8] (**o63**);
[GHQ8] (**o64**);
MODEL C2:
%c2#1%
[PAR11 TEA11 PEER11](ma1-ma3); PAR11 TEA11 PEER11 (va1-va3);
[EMWB11] (**o11**);
[PSYWB11] (**o12**);
[SOCWB11] (**o13**);
[GHQ11] (**o14**);
%c2#2%

[PAR11 TEA11 PEER11](ma4-ma6); PAR11 TEA11 PEER11(va4-va6);
[EMWB11] (**o21**);
[PSYWB11] (**o22**);
[SOCWB11] (**o23**);
[GHQ11] (**o24**);
%c2#3%
[PAR11 TEA11 PEER11](ma7-ma9); PAR11 TEA11 PEER11 (va7-va9);
[EMWB11] (**o31**);
[PSYWB11] (**o32**);
[SOCWB11] (**o33**);
[GHQ11] (**o34**);
%c2#4%
[PAR11 TEA11 PEER11](ma10-ma12); PAR11 TEA11 PEER11 (va10-va12);
[EMWB11] (**o41**);
[PSYWB11] (**o42**);
[SOCWB11] (**o43**);
[GHQ11] (**o44**);
%c2#5%
[PAR11 TEA11 PEER11](ma13-ma15); PAR11 TEA11 PEER11 (va13-va15);
[EMWB11] (**o51**);
[PSYWB11] (**o52**);
[SOCWB11] (**o53**);
[GHQ11] (**o54**);
%c2#6%
[PAR11 TEA11 PEER11](ma16-ma18); PAR11 TEA11 PEER11 (va16-va18);
[EMWB11] (**o61**);
[PSYWB11] (**o62**);
[SOCWB11] (**o63**);
[GHQ11] (**o64**);
*! The model constraint function uses the labels used with the outcomes to request mean level comparisons on the outcomes across profiles.*
MODEL CONSTRAINT:
NEW (ye12); ye12 = o11-o21;
NEW (ye13); ye13 = o11-o31;
NEW (ye14); ye14 = o11-o41;
NEW (ye15); ye15 = o11-o51;
NEW (ye16); ye16 = o11-o61;
NEW (ye23); ye23 = o21-o31;
NEW (ye24); ye24 = o21-o41;
NEW (ye25); ye25 = o21-o51;
NEW (ye26); ye26 = o21-o61;
NEW (ye34); ye34 = o31-o41;
NEW (ye35); ye35 = o31-o51;
NEW (ye36); ye36 = o31-o61;
NEW (ye45); ye45 = o41-o51;
NEW (ye46); ye46 = o41-o61;
NEW (ye56); ye56 = o51-o61;

NEW (yp12); yp12 = o12-o22;
NEW (yp13); yp13 = o12-o32;
NEW (yp14); yp14 = o12-o42;
NEW (yp15); yp15 = o12-o52;
NEW (yp16); yp16 = o12-o62;
NEW (yp23); yp23 = o22-o32;
NEW (yp24); yp24 = o22-o42;

```
NEW (yp25); yp25 = o22-o52;
NEW (yp26); yp26 = o22-o62;
NEW (yp34); yp34 = o32-o42;
NEW (yp35); yp35 = o32-o52;
NEW (yp36); yp36 = o32-o62;
NEW (yp45); yp45 = o42-o52;
NEW (yp46); yp46 = o42-o62;
NEW (yp56); yp56 = o52-o62;

NEW (ys12); ys12 = o13-o23;
NEW (ys13); ys13 = o13-o33;
NEW (ys14); ys14 = o13-o43;
NEW (ys15); ys15 = o13-o53;
NEW (ys16); ys16 = o13-o63;
NEW (ys23); ys23 = o23-o33;
NEW (ys24); ys24 = o23-o43;
NEW (ys25); ys25 = o23-o53;
NEW (ys26); ys26 = o23-o63;
NEW (ys34); ys34 = o33-o43;
NEW (ys35); ys35 = o33-o53;
NEW (ys36); ys36 = o33-o63;
NEW (ys45); ys45 = o43-o53;
NEW (ys46); ys46 = o43-o63;
NEW (ys56); ys56 = o53-o63;

NEW (yg12); yg12 = o14-o24;
NEW (yg13); yg13 = o14-o34;
NEW (yg14); yg14 = o14-o44;
NEW (yg15); yg15 = o14-o54;
NEW (yg16); yg16 = o14-o64;
NEW (yg23); yg23 = o24-o34;
NEW (yg24); yg24 = o24-o44;
NEW (yg25); yg25 = o24-o54;
NEW (yg26); yg26 = o24-o64;
NEW (yg34); yg34 = o34-o44;
NEW (yg35); yg35 = o34-o54;
NEW (yg36); yg36 = o34-o64;
NEW (yg45); yg45 = o44-o54;
NEW (yg46); yg46 = o44-o64;
NEW (yg56); yg56 = o54-o64;

OUTPUT:
SAMPSTAT STANDARDIZED RESIDUAL CINTERVAL MODINDICES (3.0) TECH2 TECH4 ;
Svalues;
```