**Supplementary Materials**

Supplementary materials include the following appendices: A) a full list of self-report measure items; B) confirmatory factor analysis results; C) revision of the TEIQue-ASF subscale; D) inspection of data against normality assumptions; E) measurement invariance results; F) RI-CLPM syntax; G) RI-CLPM output; H) measurement model results; and I) an overview of covariates as predictors of original group-level constructs.

**Appendix A) Full list of self-report measure items**

|  |  |
| --- | --- |
| Table S1  *Full List of Self-Report Items in Current Study* | |
| Construct | Items |
| Emotional distress (SDQ subscale) | I get a lot of headaches, stomach-aches or sickness  I worry a lot  I am often unhappy, downhearted or tearful  I am nervous in new situations. I easily lose confidence  I have many fears, I am easily scared |
| Emotion regulation (TEIQue-ASF revised subscale\*) | I find it hard to control my feelings  I’m able to deal with stress  I can control my anger when I want to  I try to control my thoughts and not worry too much about things |
| Family adult connection (SRS subscale) | *At home, there is an adult who…*  Is interested in my school work  Believes that I will be a success  Wants me to do my best  Listens to me when I have something to say |
| Peer connection (SRS subscale) | *Are there students at your school who would…*  Choose you on your team at school  Tell you you’re good at doing things  Explain the rules of a game if you didn’t understand them  Invite you to their home  Share things with you  Help you if you hurt yourself  Miss you if you weren’t at school  Make you feel better if something is bothering you  Pick you for a partner  Help you if other students are being mean to you  Tell you you’re their friend  Ask you to join in when you are all alone  Tell you secrets |
| *Note.* SDQ = Strengths and Difficulties Questionnaire; TEIQue-ASF = Trait Emotional Intelligence Questionnaire – Adolescent Short Form; SRS = Student Resilience Survey.  \* Two items relating to impulsiveness removed from the TEIQue-ASF subscale due to poor fit as outlined in main text and the following supplementary materials: “I change my mind often” and “sometimes, I get involved in things later I wish I could get out of” | |
|  | |

**Appendix B) Confirmatory factor analysis results**

We undertook CFA for all key construct measures, using imputed data; note that results presented here include the revised four-item TEIQUE-ASF and account of the revision process for this measure is presented in the following section of our supplementary materials. For CFA, we followed guidance from Hu and Bentler (1999) and considered root mean square error of approximation (RMSEA) values below .06, Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values greater than .95, and root mean square residual (SRMR) values below .08 indicative of good fit. Chi-square is reported for reference. To assess parameters we used a .05 alpha threshold and considered standardised factor loadings (λ) above .40 considered to be salient (Brown, 2015).

|  |  |  |
| --- | --- | --- |
| Table S2  *Confirmatory Factor Analysis Results Summary (MLR and WLSMV results shown)* | | |
| Construct | Model fit | λ range |
| ***MLR*** |  |  |
| Emotional distress T1 | c2 (5) = 261.60 (SD = 9.79); RMSEA = .06 (SD = .00); CFI = .98 (SD = .00), TLI = .96 (SD = .00); SRMR = .02 (SD = .00) | .43–.71 |
| Emotional distress T2 | c2 (5) = 367.43 (SD = 25.51); RMSEA = .07 (SD = .00); CFI = .98 (SD = .00), TLI = .96 (SD = .00); SRMR = .02 (SD = .00) | .45–.74 |
| Emotional distress T3 | c2 (5) = 364.07 (SD = 26.80); RMSEA = .07 (SD = .00); CFI = .98 (SD = .00), TLI = .97 (SD = .00); SRMR = .02 (SD = .00) | .49–.75 |
| Emotion regulation T1 | c2 (2) = 70.28 (SD = 4.11); RMSEA = .05 (SD = .00); CFI = .99 (SD = .00), TLI = . 97 (SD = .00); SRMR = .02 (SD = .00) | .46–.62 |
| Emotion regulation T2 | c2 (2) = 108.76 (SD = 11.11); RMSEA = .06 (SD = .00); CFI = .99 (SD = .00), TLI = .96 (SD = .01); SRMR = .02 (SD = .00) | .48–.75 |
| Emotion regulation T3 | c2 (2) = 207.39 (SD = 24.11); RMSEA = .08 (SD = 01); CFI = .98 (SD = .00), TLI = .94 (SD = .01); SRMR = .02 (SD = .00) | .51–.79 |
| Family adult connection T1 | c2 (2) = 87.32 (SD = 5.53); RMSEA = .05 (SD = .00); CFI = .99 (SD = .00), TLI = .97 (SD = .00); SRMR = .02 (SD = .00) | .67–.77 |
| Family adult connection T2 | c2 (2) = 141.59 (SD = 15.64); RMSEA = .07 (SD = .00); CFI = .99 (SD = .00), TLI = .98 (SD = .00); SRMR = .02 (SD = .00) | .45–.77 |
| Family adult connection T3 | c2 (2) = 119.46 (SD = 17.92); RMSEA = .06 (SD = .01); CFI = 1.00 (SD = .00), TLI = .98 (SD = .00); SRMR = .01 (SD = .00) | .74–.84 |
| Peer connection T1 | c2 (65) = 3280.13 (SD = 26.85); RMSEA = .06 (SD = .00); CFI = .94 (SD = .00), TLI = .93 (SD = .00); SRMR = .03 (SD = .00) | .62–.79 |
| Peer connection T2 | c2 (65) = 3997.12 (SD = 72.59); RMSEA = .06 (SD = .00); CFI = .95 (SD = .00), TLI = .94 (SD = .00); SRMR = .03 (SD = .00) | .69–.82 |
| Peer connection T3 | c2 (65) = 4825.34 (SD = 107.42); RMSEA = .07 (SD = .00); CFI = .95 (SD = .00), TLI = .94 (SD = .00); SRMR = .03 (SD = .00) | .69–.83 |
| ***WLSMV*** | |  |
| Emotional distress T1 | c2 (5) = 312.73 (SD = 12.77); RMSEA = .06 (SD = .00); CFI = .99 (SD = .00), TLI = .97 (SD = .00); SRMR = .02 (SD = .00) | .48–.78 |
| Emotional distress T2 | c2 (5) = 466.26 (SD = 36.73); RMSEA = .08 (SD = .00); CFI = .98 (SD = .00), TLI = .96 (SD = .00); SRMR = .03 (SD = .00) | .51–81 |
| Emotional distress T3 | c2 (5) = 471.57 (SD = 38.55); RMSEA = .08 (SD = .00); CFI = .98 (SD = .00), TLI = .96 (SD = .00); SRMR = .03 (SD = .00) | .55–.83 |
| Emotion regulation T1 | c2 (2) = 103.10 (SD = 6.07); RMSEA = .06 (SD = .00); CFI = .99 (SD = .00), TLI = .98 (SD = .00); SRMR = .01 (SD = .00) | .49–.80 |
| Emotion regulation T2 | c2 (2) = 196.76 (SD = 20.52); RMSEA = .08 (SD = .00); CFI = .98 (SD = .00), TLI = .95 (SD = .01); SRMR = .01 (SD = .00) | .49–79 |
| Emotion regulation T3 | c2 (2) = 298.93 (SD = 32.66); RMSEA = .10 (SD = .01); CFI = .98 (SD = .00), TLI = .95 (SD = .01); SRMR = .02 (SD < .001) | .53–.82 |
| Family adult connection T1 | c2 (2) = 56.69 (SD = 3.86); RMSEA = .04 (SD = .00); CFI = 1.00 (SD < .001), TLI = .99 (SD = .00); SRMR = .01 (SD = .00). | .74–.84 |
| Family adult connection T2 | c2 (2) = 62.16 (SD = 9.04); RMSEA = .04 (SD = .00); CFI = 1.00 (SD = .00), TLI = .99 (SD = .00); SRMR = .01 (SD = .00) | .79–.88 |
| Family adult connection T3 | c2 (2) = 41.28 (SD = 9.28); RMSEA = .04 (SD = .00); CFI = 1.00 (SD = .00), TLI = 1.00 (SD = .00); SRMR = .00 (SD = .00) | .81–.90 |
| Peer connection T1 | c2 (65) = 5429.48 (SD = 52.12) RMSEA = .07 (SD < .001); CFI = .97 (SD = .00), TLI =.96 (SD = .00); SRMR = .03 (SD = .00) | .69–.85 |
| Peer connection T2 | c2 (65) = 6542.99 (SD = 142.60); RMSEA = .08 (SD = .00); CFI = .96 (SD = .00), TLI = .95 (SD = .00); SRMR = .03 (SD = .00) | .74–.87 |
| Peer connection T3 | c2 (65) = 8241.61 (SD = 233.09); RMSEA = .09 (SD = .00); CFI = .97 (SD = .00), TLI = .97 (SD = .00); SRMR = .03 (SD = .00). | .76–.88 |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| *Note.* MLR = robust maximum likelihood; λ = standardised factor loadings; T1 = Timepoint 1; T2 = Timepoint 2; T3 = Timepoint 3; c2 = chi-square; RMSEA = root mean square error of approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardised Root Mean Squared Residual. | | |

**Appendix C) Revision of TEIQue-ASF subscale**

Initial CFA in the current sample showed poor fit for the full six-item subscale. We identified two items with frequently lower than salient factor loadings (Items 2 and 5 in Table S1): “I change my mind often” and “sometimes, I get involved in things later I wish I could get out of”. These items map onto a nested ‘impulsiveness’ facet in the self-control subscale. Given results, we removed these two items and performed CFA with the revised four-item subscale; this showed good fit as reported in the previous section (Table S2) and acceptable internal consistency (T1 α = .69; T2 α = .69; T3 α = .71). Thus, in the current study we use the four-item revised subscale and refer to this more narrowly as ‘emotion regulation’ in line with the retained item content as shown in Table S1, as wording here maps onto ‘emotion regulation’ and ‘stress management’ components of the wider self-control facet.

|  |  |  |
| --- | --- | --- |
| Table S3  *Initial Confirmatory Factor Analysis Results for the TEIQue-ASF subscale (WLSMV)* | | |
| Construct | Model fit | λ |
| CFA six-item emotion regulation T1 | c2 (9) = 2281.79 (SD = 59.79); RMSEA = .13 (SD = .00); CFI = .89 (SD = .00), TLI = .81 (SD = .01); SRMR = .05 (SD = .00) | Item 1: .70  Item 2: .33\*  Item 3: .71  Item 4: .63  Item 5: .35\*  Item 6: .45 |
| CFA six-item emotion regulation T2 | c2 (9) = 1806.43 (SD = 67.88); RMSEA = .11 (SD = .00); CFI = .89 (SD = .01), TLI = .82 (SD = .01); SRMR = .05 (SD = .00) | Item 1: .73  Item 2: .39\*  Item 3: .71  Item 4: .61  Item 5: .36\*  Item 6: .43 |
| CFA six-item emotion regulation T3 | c2 (9) = 2723.06 (SD = 169.11); RMSEA = .14 (SD = .00); CFI = .88 (SD = .01), TLI = .80 (SD = .01); SRMR = .05 (SD = .00) | Item 1: .73  Item 2: .42  Item 3: .76  Item 4: .60  Item 5: .33\*  Item 6: .48 |
| *Note.* WLSMV = weighted least square mean and variance adjusted;λ = standardised factor loadings; T1 = Timepoint 1; T2 = Timepoint 2; T3 = Timepoint 3; c2 = chi-square; RMSEA = root mean square error of approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardised Root Mean Squared Residual.  \* indicates standardised factor loadings lower than the saliency level of .40 | | |

**Appendix D) Inspection of data against normality assumptions**

We undertook a range of preliminary analysis to check assumptions around normality, examining outliers, multicollinearity, skew, kurtosis, and floor and ceiling effects, as outlined below in Table S4. We note here some mild violations but overall found no major issues in our data.

|  |  |
| --- | --- |
| Table S4  *Summary of review of data against normality assumptions* | |
| Assumption | Summary of review |
| Outliers | Minimal outliers (>30 outliers across each main variable, respectively) |
| Skew | Skewness did not exceed absolute value of 2 (West et al., 1995) |
| Kurtosis | Kurtosis did not exceed absolute value of 7 (West et al., 1995) |
| Floor effects | Proportion of participants scoring lowest possible total score was lower than 15% for all variables (Terwee et al., 2007) |
| Ceiling effects | Proportion of participants scoring highest possible total score was greater than 15% (Terwee et al., 2007) for only the family connection total scores, as follows: T1: 30%; T2: 32%; T3: 28% |

**Appendix E) Measurement invariance results**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Table S5  *Longitudinal measurement invariance of emotional distress with average values (and standard deviation) (MLR)* | | | | | | | |
|  | χ2 | df | RMSEA | CFI | TLI | SRMR | CFI difference |
| Configural | 1133.341 (35.071) | 72 | .030 (.001) | .986 (.000) | .980 (.001) | .022 (.000) |  |
| Metric | 1215.536  (36.023) | 80 | .030 (.000) | .985 (.000) | .981 (.001) | .024 (.000) | .001 |
| Scalar | 1528.097  (41.450) | 88 | .032 (.000) | .981 (.000) | .978 (.001) | .025 (.000) | .004 |
| *Note.* MLR = robust maximum likelihood; c2 = chi-square; df = degrees of freedom RMSEA = root mean square error of approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardised Root Mean Squared Residual. | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Table S6  *Longitudinal measurement invariance of emotional distress with average values (and standard deviation) (WLSMV)* | | | | | | | |
|  | χ2 | df | RMSEA | CFI | TLI | SRMR | CFI difference |
| Configural | 1498.636 (59.435) | 72 | .035 (.001) | .983 (.001) | .976 (.001) | .026 (.000) |  |
| Scalar | 1731.203  (63.946) | 88 | .034 (.001) | .981 (.001) | .977 (.001) | .027 (.000) | .002 |
| *Note.* WLSMV = weighted least square mean and variance adjusted; c2 = chi-square; df = degrees of freedom RMSEA = root mean square error of approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardised Root Mean Squared Residual. | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Table S7  *Longitudinal measurement invariance of emotion regulation with average values (and standard deviation) (MLR)* | | | | | | | |
|  | χ2 | df | RMSEA | CFI | TLI | SRMR | CFI difference |
| Configural | 1338.507 (48.420) | 39 | .046 (.001) | .970 (.001) | .949 (.002) | .033 (.001) |  |
| Metric | 1372.495 (47.361) | 45 | .043 (.001) | .969 (.001) | .955 (.001) | .033 (.001) | .001 |
| Scalar | 1415.255 (47.363) | 51 | .041 (.001) | .968 (.001) | .959 (.001) | .034 (.001) | .001 |
| *Note.* MLR = robust maximum likelihood; c2 = chi-square; df = degrees of freedom RMSEA = root mean square error of approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardised Root Mean Squared Residual. | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Table S8  *Longitudinal measurement invariance of emotion regulation with average values (and standard deviation) (WLSMV)* | | | | | | | |
|  | χ2 | df | RMSEA | CFI | TLI | SRMR | CFI difference |
| Configural | 1643.403 (63.465) | 39 | .051 (.001) | .971 (.002) | .951 (.003) | .022 (.000) |  |
| Scalar | 1882.663  (64.142) | 83 | .037 (.001) | .967 (.002) | .974 (.001) | .022 (.000) | .004 |
| *Note.* WLSMV = weighted least square mean and variance adjusted; c2 = chi-square; df = degrees of freedom RMSEA = root mean square error of approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardised Root Mean Squared Residual. | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Table S9  *Longitudinal measurement invariance of family support with average values (and standard deviation) (MLR)* | | | | | | | |
|  | χ2 | df | RMSEA | CFI | TLI | SRMR | CFI difference |
| Configural | 782.767 (37.595) | 39 | .035 (.001) | .986 (.001) | .976 (.001) | .029 (.001) |  |
| Metric | 800.671 (35.192) | 45 | .033 (.001) | .986 (.001) | .979 (.001) | .044 (.002) | .000 |
| Scalar | 961.272  (37.078) | 51 | .034 (.001) | .983 (.001) | .978 (.001) | .048 (.002) | .003 |
| *Note.* MLR = robust maximum likelihood; c2 = chi-square; df = degrees of freedom RMSEA = root mean square error of approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardised Root Mean Squared Residual. | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Table S10  *Longitudinal measurement invariance of family support with average values (and standard deviation) (WLSMV)* | | | | | | | |
|  | χ2 | df | RMSEA | CFI | TLI | SRMR | CFI difference |
| Configural | 452.450 (30.457) | 39 | .026 (.001) | .995 (.001) | .991 (.001) | .015 (.000) |  |
| Scalar | 600.664  (31.832) | 67 | .022 (.001) | .993 (.001) | .993 (.001) | .016 (.002) | .002 |
| *Note.* WLSMV = weighted least square mean and variance adjusted; c2 = chi-square; df = degrees of freedom RMSEA = root mean square error of approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardised Root Mean Squared Residual. | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Table S10  *Longitudinal measurement invariance of peer support with average values (and standard deviation) (MLR)* | | | | | | | |
|  | χ2 | df | RMSEA | CFI | TLI | SRMR | CFI difference |
| Configural | 16424.254  (150.895) | 660 | .039 (.000) | .946 (.001) | .940 (.001) | .029 (.000) |  |
| Metric | 16729.906  (151.528) | 684 | .038 (.001) | .945 (.001) | .941 (.001) | .031 (.001) | .001 |
| Scalar | 18144.596  (157.954) | 708 | .039 (.000) | .941 (.001) | .938 (.001) | .033 (.000) | .004 |
| *Note.* MLR = robust maximum likelihood; c2 = chi-square; df = degrees of freedom RMSEA = root mean square error of approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardised Root Mean Squared Residual. | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Table S11  *Longitudinal measurement invariance of peer support with average values (and standard deviation) (WLSMV)* | | | | | | | |
|  | χ2 | df | RMSEA | CFI | TLI | SRMR | CFI difference |
| Configural | 8474.600 (151.109) | 660 | .027 (.000) | .982 (.001) | .980 (.001) | .025 (.000) |  |
| Scalar | 8804.811 (147.728) | 762 | .026 (.000) | .982 (.001) | .982 (.001) | .025 (.000) | .000 |
| *Note.* WLSMV = weighted least square mean and variance adjusted; c2 = chi-square; df = degrees of freedom RMSEA = root mean square error of approximation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardised Root Mean Squared Residual. | | | | | | | |

**Appendix F) RI-CLPM syntax**

TITLE: RI-CLPM with imputed data and all covariates

DATA:

FILE = impcascadeslist.dat;

TYPE = imputation;

VARIABLE:

NAMES =

EMO1T1 EMO2T1 EMO3T1 EMO4T1 EMO5T1

REG1T1 REG2T1 REG3T1 REG4T1 REG5T1 REG6T1

FAM1T1 FAM2T1 FAM3T1 FAM4T1

PEER1T1 PEER2T1 PEER3T1 PEER4T1 PEER5T1

PEER6T1 PEER7T1 PEER8T1 PEER9T1 PEER10T1

PEER11T1 PEER12T1 PEER13T1

EMO1T2 EMO2T2 EMO3T2 EMO4T2 EMO5T2

REG1T2 REG2T2 REG3T2 REG4T2 REG5T2 REG6T2

FAM1T2 FAM2T2 FAM3T2 FAM4T2

PEER1T2 PEER2T2 PEER3T2 PEER4T2 PEER5T2

PEER6T2 PEER7T2 PEER8T2 PEER9T2 PEER10T2

PEER11T2 PEER12T2 PEER13T2

EMO1T3 EMO2T3 EMO3T3 EMO4T3 EMO5T3

REG1T3 REG2T3 REG3T3 REG4T3 REG5T3 REG6T3

FAM1T3 FAM2T3 FAM3T3 FAM4T3

PEER1T3 PEER2T3 PEER3T3 PEER4T3 PEER5T3

PEER6T3 PEER7T3 PEER8T3 PEER9T3 PEER10T3

PEER11T3 PEER12T3 PEER13T3

ETHNICBI LANGUAGE SEN FSMEVER ATTAINBI

GENDER SCHOOL ATTAIN;

USEVARIABLES =

EMO1T1 EMO2T1 EMO3T1 EMO4T1 EMO5T1

REG1T1 REG3T1 REG4T1 REG6T1

EMO1T2 EMO2T2 EMO3T2 EMO4T2 EMO5T2

REG1T2 REG3T2 REG4T2 REG6T2

EMO1T3 EMO2T3 EMO3T3 EMO4T3 EMO5T3

REG1T3 REG3T3 REG4T3 REG6T3

ETHNICBI SEN FSMEVER

GENDER ATTAIN

FAMT1 FAMT2 FAMT3

PERT1 PERT2 PERT3;

CATEGORICAL =

EMO1T1 EMO2T1 EMO3T1 EMO4T1 EMO5T1

REG1T1 REG3T1 REG4T1 REG6T1

EMO1T2 EMO2T2 EMO3T2 EMO4T2 EMO5T2

REG1T2 REG3T2 REG4T2 REG6T2

EMO1T3 EMO2T3 EMO3T3 EMO4T3 EMO5T3

REG1T3 REG3T3 REG4T3 REG6T3;

MISSING = \*;

CLUSTER = school;

ANALYSIS:

ESTIMATOR = WLSMV;

TYPE = COMPLEX;

PARAMETERIZATION=THETA;

ITERATIONS = 10000;

DEFINE:

FAMT1 = (FAM1T1 + FAM2T1 + FAM3T1 + FAM4T1);

FAMT2 = (FAM1T2 + FAM2T2 + FAM3T2 + FAM4T2);

FAMT3 = (FAM1T3 + FAM2T3 + FAM3T3 + FAM4T3);

! Peer variables are rescaled to /10 given the number

! of items, in order to get a variance under 10

! and thus avoid convergence issues

PERT1 = (PEER1T1 + PEER2T1 + PEER3T1 + PEER4T1

+ PEER5T1 + PEER6T1 + PEER7T1 + PEER8T1 + PEER9T1

+ PEER10T1 + PEER11T1 + PEER12T1 + PEER13T1)/10;

PERT2 = (PEER1T2 + PEER2T2 + PEER3T2 + PEER4T2

+ PEER5T2 + PEER6T2 + PEER7T2 + PEER8T2 + PEER9T2

+ PEER10T2 + PEER11T2 + PEER12T2 + PEER13T2)/10;

PERT3 = (PEER1T3 + PEER2T3 + PEER3T3 + PEER4T3

+ PEER5T3 + PEER6T3 + PEER7T3 + PEER8T3 + PEER9T3

+ PEER10T3 + PEER11T3 + PEER12T3 + PEER13T3)/10;

MODEL:

!!!!!!!!!!!!!!!!!

! FACTOR MODELS !

!!!!!!!!!!!!!!!!!

! Factor models for emotional symptoms at 3 waves

! constrained factor loadings over time

F\_EMO1 by emo1t1 emo2t1 emo3t1 emo4t1 emo5t1 (L1-L5);

F\_EMO2 by emo1t2 emo2t2 emo3t2 emo4t2 emo5t2 (L1-L5);

F\_EMO3 by emo1t3 emo2t3 emo3t3 emo4t3 emo5t3 (L1-L5);

! First timepoint mean set at zero, second and third free

[F\_EMO1@0];

[F\_EMO2-F\_EMO3\*];

! Factor models for emotion regulation at 3 waves

! constrained factor loadings over time

F\_REG1 by reg1t1 reg3t1 reg4t1 reg6t1 (L6-L9);

F\_REG2 by reg1t2 reg3t2 reg4t2 reg6t2 (L6-L9);

F\_REG3 by reg1t3 reg3t3 reg4t3 reg6t3 (L6-L9);

[F\_REG1@0];

[F\_REG2-F\_REG3\*];

! Residual covariances

!Emo

emo1t1 with emo1t2 emo1t3;

emo1t2 with emo1t3;

emo2t1 with emo2t2 emo2t3;

emo2t2 with emo2t3;

emo3t1 with emo3t2 emo3t3;

emo3t2 with emo3t3;

emo4t1 with emo4t2 emo4t3;

emo4t2 with emo4t3;

emo5t1 with emo5t2 emo5t3;

emo5t2 with emo5t3;

!Reg

reg1t1 with reg1t2 reg1t3;

reg1t2 with reg1t3;

reg3t1 with reg3t2 reg3t3;

reg3t2 with reg3t3;

reg4t1 with reg4t2 reg4t3;

reg4t2 with reg4t3;

reg6t1 with reg6t2 reg6t3;

reg6t2 with reg6t3;

! Constraining thresholds to equality

! each categorical indicator has the same

! number of thresholds as categories -1

! relative indicators across latents to be

! constrained

!Emo

[emo1t1$1] (t11);

[emo2t1$1] (t12);

[emo3t1$1] (t13);

[emo4t1$1] (t14);

[emo5t1$1] (t15);

[emo1t1$2] (t21);

[emo2t1$2] (t22);

[emo3t1$2] (t23);

[emo4t1$2] (t24);

[emo5t1$2] (t25);

[emo1t2$1] (t11);

[emo2t2$1] (t12);

[emo3t2$1] (t13);

[emo4t2$1] (t14);

[emo5t2$1] (t15);

[emo1t2$2] (t21);

[emo2t2$2] (t22);

[emo3t2$2] (t23);

[emo4t2$2] (t24);

[emo5t2$2] (t25);

[emo1t3$1] (t11);

[emo2t3$1] (t12);

[emo3t3$1] (t13);

[emo4t3$1] (t14);

[emo5t3$1] (t15);

[emo1t3$2] (t21);

[emo2t3$2] (t22);

[emo3t3$2] (t23);

[emo4t3$2] (t24);

[emo5t3$2] (t25);

!Reg

[reg1t1$1] (t31);

[reg3t1$1] (t32);

[reg4t1$1] (t33);

[reg6t1$1] (t34);

[reg1t1$2] (t41);

[reg3t1$2] (t42);

[reg4t1$2] (t43);

[reg6t1$2] (t44);

[reg1t1$3] (t51);

[reg3t1$3] (t52);

[reg4t1$3] (t53);

[reg6t1$3] (t54);

[reg1t1$4] (t61);

[reg3t1$4] (t62);

[reg4t1$4] (t63);

[reg6t1$4] (t64);

[reg1t1$5] (t71);

[reg3t1$5] (t72);

[reg4t1$5] (t73);

[reg6t1$5] (t74);

[reg1t1$6] (t81);

[reg3t1$6] (t82);

[reg4t1$6] (t83);

[reg6t1$6] (t84);

[reg1t2$1] (t31);

[reg3t2$1] (t32);

[reg4t2$1] (t33);

[reg6t2$1] (t34);

[reg1t2$2] (t41);

[reg3t2$2] (t42);

[reg4t2$2] (t43);

[reg6t2$2] (t44);

[reg1t2$3] (t51);

[reg3t2$3] (t52);

[reg4t2$3] (t53);

[reg6t2$3] (t54);

[reg1t2$4] (t61);

[reg3t2$4] (t62);

[reg4t2$4] (t63);

[reg6t2$4] (t64);

[reg1t2$5] (t71);

[reg3t2$5] (t72);

[reg4t2$5] (t73);

[reg6t2$5] (t74);

[reg1t2$6] (t81);

[reg3t2$6] (t82);

[reg4t2$6] (t83);

[reg6t2$6] (t84);

[reg1t3$1] (t31);

[reg3t3$1] (t32);

[reg4t3$1] (t33);

[reg6t3$1] (t34);

[reg1t3$2] (t41);

[reg3t3$2] (t42);

[reg4t3$2] (t43);

[reg6t3$2] (t44);

[reg1t3$3] (t51);

[reg3t3$3] (t52);

[reg4t3$3] (t53);

[reg6t3$3] (t54);

[reg1t3$4] (t61);

[reg3t3$4] (t62);

[reg4t3$4] (t63);

[reg6t3$4] (t64);

[reg1t3$5] (t71);

[reg3t3$5] (t72);

[reg4t3$5] (t73);

[reg6t3$5] (t74);

[reg1t3$6] (t81);

[reg3t3$6] (t82);

[reg4t3$6] (t83);

[reg6t3$6] (t84);

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

! BETWEEN PERSON RANDOM INTERCEPTS !

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

! Create individual factors (random intercepts, across all timepoints)

RI\_EMO by F\_EMO1@1 F\_EMO2@1 F\_EMO3@1;

RI\_REG by F\_REG1@1 F\_REG2@1 F\_REG3@1;

RI\_FAM by FAMT1@1 FAMT2@1 FAMT3@1;

RI\_PER by PERT1@1 PERT2@1 PERT3@1;

! Set the residual variances of all F\_X variables to 0

F\_EMO1@0;

F\_EMO2@0;

F\_EMO3@0;

F\_REG1@0;

F\_REG2@0;

F\_REG3@0;

FAMT1@0;

FAMT2@0;

FAMT3@0;

PERT1@0;

PERT2@0;

PERT3@0;

!!!!!!!!!!!!!!!!!!!!!!!!!

! WITHIN PERSON FACTORS !

!!!!!!!!!!!!!!!!!!!!!!!!!

W\_EMO1 by F\_EMO1@1;

W\_EMO2 by F\_EMO2@1;

W\_EMO3 by F\_EMO3@1;

W\_REG1 by F\_REG1@1;

W\_REG2 by F\_REG2@1;

W\_REG3 by F\_REG3@1;

W\_FAM1 by FAMT1@1;

W\_FAM2 by FAMT2@1;

W\_FAM3 by FAMT3@1;

W\_PER1 by PERT1@1;

W\_PER2 by PERT2@1;

W\_PER3 by PERT3@1;

!!!!!!!!!!!!!!

! COVARIATES !

!!!!!!!!!!!!!!

! Regression of variables on covariate

! the covariate effects of stable covariates

! are held equal

F\_EMO1 on ATTAIN;

F\_EMO1 F\_EMO2 F\_EMO3 on GENDER;

F\_EMO1 F\_EMO2 F\_EMO3 on ETHNICBI;

F\_EMO1 F\_EMO2 F\_EMO3 on SEN;

F\_EMO1 F\_EMO2 F\_EMO3 on FSMEVER;

F\_REG1 on ATTAIN;

F\_REG1 F\_REG2 F\_REG3 on GENDER;

F\_REG1 F\_REG2 F\_REG3 on ETHNICBI;

F\_REG1 F\_REG2 F\_REG3 on SEN;

F\_REG1 F\_REG2 F\_REG3 on FSMEVER;

FAMT1 on ATTAIN;

FAMT1 FAMT2 FAMT3 on GENDER;

FAMT1 FAMT2 FAMT3 on ETHNICBI;

FAMT1 FAMT2 FAMT3 on SEN;

FAMT1 FAMT2 FAMT3 on FSMEVER;

PERT1 on ATTAIN;

PERT1 PERT2 PERT3 on GENDER;

PERT1 PERT2 PERT3 on ETHNICBI;

PERT1 PERT2 PERT3 on SEN;

PERT1 PERT2 PERT3 on FSMEVER;

!!!!!!!!!!!!!!!!!!!!!!!!!

! WITHIN PERSON PATHWAYS!

!!!!!!!!!!!!!!!!!!!!!!!!!

! Estimate the lagged effects between within-person variables

! autoregressives and cross lags

W\_EMO2 on W\_EMO1 W\_REG1 W\_FAM1 W\_PER1;

W\_EMO3 on W\_EMO2 W\_REG2 W\_FAM2 W\_PER2;

W\_REG2 on W\_REG1 W\_EMO1 W\_FAM1 W\_PER1;

W\_REG3 on W\_REG2 W\_EMO2 W\_FAM2 W\_PER2;

W\_FAM2 on W\_FAM1 W\_EMO1 W\_REG1 W\_PER1;

W\_FAM3 on W\_FAM2 W\_EMO2 W\_REG2 W\_PER2;

W\_PER2 on W\_PER1 W\_EMO1 W\_REG1 W\_FAM1;

W\_PER3 on W\_PER2 W\_EMO2 W\_REG2 W\_FAM2;

! Estimate the correlations within the same wave

W\_EMO1 with W\_REG1 W\_FAM1 W\_PER1;

W\_REG1 with W\_FAM1 W\_PER1;

W\_FAM1 with W\_PER1;

W\_EMO2 with W\_REG2 W\_FAM2 W\_PER2;

W\_REG2 with W\_FAM2 W\_PER2;

W\_FAM2 with W\_PER2;

W\_EMO3 with W\_REG3 W\_FAM3 W\_PER3;

W\_REG3 with W\_FAM3 W\_PER3;

W\_FAM3 with W\_PER3;

! Fix the correlation between the individual factors and other

! exogenous variables to zero (by default these would be estimated

! as they are only exogenous variables due to lags)

RI\_EMO with W\_EMO1@0 W\_REG1@0 W\_FAM1@0 W\_PER1@0

GENDER@0 ETHNICBI@0 SEN@0 FSMEVER@0 ATTAIN@0;

RI\_REG with W\_EMO1@0 W\_REG1@0 W\_FAM1@0 W\_PER1@0

GENDER@0 ETHNICBI@0 SEN@0 FSMEVER@0 ATTAIN@0;

RI\_FAM with W\_EMO1@0 W\_REG1@0 W\_FAM1@0 W\_PER1@0

GENDER@0 ETHNICBI@0 SEN@0 FSMEVER@0 ATTAIN@0;

RI\_PER with W\_EMO1@0 W\_REG1@0 W\_FAM1@0 W\_PER1@0

GENDER@0 ETHNICBI@0 SEN@0 FSMEVER@0 ATTAIN@0;

W\_EMO1 with GENDER@0 ETHNICBI@0 SEN@0 FSMEVER@0 ATTAIN@0;

W\_REG1 with GENDER@0 ETHNICBI@0 SEN@0 FSMEVER@0 ATTAIN@0;

W\_FAM1 with GENDER@0 ETHNICBI@0 SEN@0 FSMEVER@0 ATTAIN@0;

W\_PER1 with GENDER@0 ETHNICBI@0 SEN@0 FSMEVER@0 ATTAIN@0;

OUTPUT: TECH1 TECH4 STAND SAMPSTAT;

**Appendix G) RI-CLPM output**

Below is the RI-CLPM output, showing the summary of analysis, model fit information, and standardised and standardised model results.

RI-CLPM with imputed data and all covariates

SUMMARY OF ANALYSIS

Number of groups 1

Average number of observations 15853

Number of replications

Requested 100

Completed 100

Number of dependent variables 33

Number of independent variables 5

Number of continuous latent variables 22

Observed dependent variables

Continuous

FAMT1 FAMT2 FAMT3 PERT1 PERT2 PERT3

Binary and ordered categorical (ordinal)

EMO1T1 EMO2T1 EMO3T1 EMO4T1 EMO5T1 REG1T1

REG3T1 REG4T1 REG6T1 EMO1T2 EMO2T2 EMO3T2

EMO4T2 EMO5T2 REG1T2 REG3T2 REG4T2 REG6T2

EMO1T3 EMO2T3 EMO3T3 EMO4T3 EMO5T3 REG1T3

REG3T3 REG4T3 REG6T3

Observed independent variables

ETHNICBI SEN FSMEVER GENDER ATTAIN

Continuous latent variables

F\_EMO1 F\_EMO2 F\_EMO3 F\_REG1 F\_REG2 F\_REG3

RI\_EMO RI\_REG RI\_FAM RI\_PER W\_EMO1 W\_EMO2

W\_EMO3 W\_REG1 W\_REG2 W\_REG3 W\_FAM1 W\_FAM2

W\_FAM3 W\_PER1 W\_PER2 W\_PER3

Variables with special functions

Cluster variable SCHOOL

Estimator WLSMV

Maximum number of iterations 10000

Convergence criterion 0.500D-04

Maximum number of steepest descent iterations 20

Maximum number of iterations for H1 2000

Convergence criterion for H1 0.100D-03

Parameterization THETA

Link PROBIT

Input data file(s)

Multiple data files from

impcascadeslist.dat

Input data format FREE

SUMMARY OF DATA FOR THE FIRST DATA SET

Number of missing data patterns 6

Number of clusters 117

SUMMARY OF MISSING DATA PATTERNS FOR THE FIRST DATA SET

MISSING DATA PATTERNS (x = not missing)

1 2 3 4 5 6

EMO1T1 x x x x x x

EMO2T1 x x x x x x

EMO3T1 x x x x x x

EMO4T1 x x x x x x

EMO5T1 x x x x x x

REG1T1 x x x x x x

REG3T1 x x x x x x

REG4T1 x x x x x x

REG6T1 x x x x x x

EMO1T2 x x x x x x

EMO2T2 x x x x x x

EMO3T2 x x x x x x

EMO4T2 x x x x x x

EMO5T2 x x x x x x

REG1T2 x x x x x x

REG3T2 x x x x x x

REG4T2 x x x x x x

REG6T2 x x x x x x

EMO1T3 x x x x x x

EMO2T3 x x x x x x

EMO3T3 x x x x x x

EMO4T3 x x x x x x

EMO5T3 x x x x x x

REG1T3 x x x x x x

REG3T3 x x x x x x

REG4T3 x x x x x x

REG6T3 x x x x x x

ETHNICBI x x x x x x

SEN x x

FSMEVER x x x x

GENDER x x x x x

ATTAIN x x

FAMT1 x x x x x x

FAMT2 x x x x x x

FAMT3 x x x x x x

PERT1 x x x x x x

PERT2 x x x x x x

PERT3 x x x x x x

MISSING DATA PATTERN FREQUENCIES

Pattern Frequency Pattern Frequency Pattern Frequency

1 14580 3 120 5 516

2 508 4 87 6 42

COVARIANCE COVERAGE OF DATA FOR THE FIRST DATA SET

Minimum covariance coverage value 0.100

PROPORTION OF DATA PRESENT

Covariance Coverage

EMO1T1 EMO2T1 EMO3T1 EMO4T1 EMO5T1

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

EMO1T1 1.000

EMO2T1 1.000 1.000

EMO3T1 1.000 1.000 1.000

EMO4T1 1.000 1.000 1.000 1.000

EMO5T1 1.000 1.000 1.000 1.000 1.000

REG1T1 1.000 1.000 1.000 1.000 1.000

REG3T1 1.000 1.000 1.000 1.000 1.000

REG4T1 1.000 1.000 1.000 1.000 1.000

REG6T1 1.000 1.000 1.000 1.000 1.000

EMO1T2 1.000 1.000 1.000 1.000 1.000

EMO2T2 1.000 1.000 1.000 1.000 1.000

EMO3T2 1.000 1.000 1.000 1.000 1.000

EMO4T2 1.000 1.000 1.000 1.000 1.000

EMO5T2 1.000 1.000 1.000 1.000 1.000

REG1T2 1.000 1.000 1.000 1.000 1.000

REG3T2 1.000 1.000 1.000 1.000 1.000

REG4T2 1.000 1.000 1.000 1.000 1.000

REG6T2 1.000 1.000 1.000 1.000 1.000

EMO1T3 1.000 1.000 1.000 1.000 1.000

EMO2T3 1.000 1.000 1.000 1.000 1.000

EMO3T3 1.000 1.000 1.000 1.000 1.000

EMO4T3 1.000 1.000 1.000 1.000 1.000

EMO5T3 1.000 1.000 1.000 1.000 1.000

REG1T3 1.000 1.000 1.000 1.000 1.000

REG3T3 1.000 1.000 1.000 1.000 1.000

REG4T3 1.000 1.000 1.000 1.000 1.000

REG6T3 1.000 1.000 1.000 1.000 1.000

ETHNICBI 1.000 1.000 1.000 1.000 1.000

SEN 0.952 0.952 0.952 0.952 0.952

FSMEVER 0.965 0.965 0.965 0.965 0.965

GENDER 0.997 0.997 0.997 0.997 0.997

ATTAIN 0.927 0.927 0.927 0.927 0.927

FAMT1 1.000 1.000 1.000 1.000 1.000

FAMT2 1.000 1.000 1.000 1.000 1.000

FAMT3 1.000 1.000 1.000 1.000 1.000

PERT1 1.000 1.000 1.000 1.000 1.000

PERT2 1.000 1.000 1.000 1.000 1.000

PERT3 1.000 1.000 1.000 1.000 1.000

Covariance Coverage

REG1T1 REG3T1 REG4T1 REG6T1 EMO1T2

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

REG1T1 1.000

REG3T1 1.000 1.000

REG4T1 1.000 1.000 1.000

REG6T1 1.000 1.000 1.000 1.000

EMO1T2 1.000 1.000 1.000 1.000 1.000

EMO2T2 1.000 1.000 1.000 1.000 1.000

EMO3T2 1.000 1.000 1.000 1.000 1.000

EMO4T2 1.000 1.000 1.000 1.000 1.000

EMO5T2 1.000 1.000 1.000 1.000 1.000

REG1T2 1.000 1.000 1.000 1.000 1.000

REG3T2 1.000 1.000 1.000 1.000 1.000

REG4T2 1.000 1.000 1.000 1.000 1.000

REG6T2 1.000 1.000 1.000 1.000 1.000

EMO1T3 1.000 1.000 1.000 1.000 1.000

EMO2T3 1.000 1.000 1.000 1.000 1.000

EMO3T3 1.000 1.000 1.000 1.000 1.000

EMO4T3 1.000 1.000 1.000 1.000 1.000

EMO5T3 1.000 1.000 1.000 1.000 1.000

REG1T3 1.000 1.000 1.000 1.000 1.000

REG3T3 1.000 1.000 1.000 1.000 1.000

REG4T3 1.000 1.000 1.000 1.000 1.000

REG6T3 1.000 1.000 1.000 1.000 1.000

ETHNICBI 1.000 1.000 1.000 1.000 1.000

SEN 0.952 0.952 0.952 0.952 0.952

FSMEVER 0.965 0.965 0.965 0.965 0.965

GENDER 0.997 0.997 0.997 0.997 0.997

ATTAIN 0.927 0.927 0.927 0.927 0.927

FAMT1 1.000 1.000 1.000 1.000 1.000

FAMT2 1.000 1.000 1.000 1.000 1.000

FAMT3 1.000 1.000 1.000 1.000 1.000

PERT1 1.000 1.000 1.000 1.000 1.000

PERT2 1.000 1.000 1.000 1.000 1.000

PERT3 1.000 1.000 1.000 1.000 1.000

Covariance Coverage

EMO2T2 EMO3T2 EMO4T2 EMO5T2 REG1T2

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

EMO2T2 1.000

EMO3T2 1.000 1.000

EMO4T2 1.000 1.000 1.000

EMO5T2 1.000 1.000 1.000 1.000

REG1T2 1.000 1.000 1.000 1.000 1.000

REG3T2 1.000 1.000 1.000 1.000 1.000

REG4T2 1.000 1.000 1.000 1.000 1.000

REG6T2 1.000 1.000 1.000 1.000 1.000

EMO1T3 1.000 1.000 1.000 1.000 1.000

EMO2T3 1.000 1.000 1.000 1.000 1.000

EMO3T3 1.000 1.000 1.000 1.000 1.000

EMO4T3 1.000 1.000 1.000 1.000 1.000

EMO5T3 1.000 1.000 1.000 1.000 1.000

REG1T3 1.000 1.000 1.000 1.000 1.000

REG3T3 1.000 1.000 1.000 1.000 1.000

REG4T3 1.000 1.000 1.000 1.000 1.000

REG6T3 1.000 1.000 1.000 1.000 1.000

ETHNICBI 1.000 1.000 1.000 1.000 1.000

SEN 0.952 0.952 0.952 0.952 0.952

FSMEVER 0.965 0.965 0.965 0.965 0.965

GENDER 0.997 0.997 0.997 0.997 0.997

ATTAIN 0.927 0.927 0.927 0.927 0.927

FAMT1 1.000 1.000 1.000 1.000 1.000

FAMT2 1.000 1.000 1.000 1.000 1.000

FAMT3 1.000 1.000 1.000 1.000 1.000

PERT1 1.000 1.000 1.000 1.000 1.000

PERT2 1.000 1.000 1.000 1.000 1.000

PERT3 1.000 1.000 1.000 1.000 1.000

Covariance Coverage

REG3T2 REG4T2 REG6T2 EMO1T3 EMO2T3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

REG3T2 1.000

REG4T2 1.000 1.000

REG6T2 1.000 1.000 1.000

EMO1T3 1.000 1.000 1.000 1.000

EMO2T3 1.000 1.000 1.000 1.000 1.000

EMO3T3 1.000 1.000 1.000 1.000 1.000

EMO4T3 1.000 1.000 1.000 1.000 1.000

EMO5T3 1.000 1.000 1.000 1.000 1.000

REG1T3 1.000 1.000 1.000 1.000 1.000

REG3T3 1.000 1.000 1.000 1.000 1.000

REG4T3 1.000 1.000 1.000 1.000 1.000

REG6T3 1.000 1.000 1.000 1.000 1.000

ETHNICBI 1.000 1.000 1.000 1.000 1.000

SEN 0.952 0.952 0.952 0.952 0.952

FSMEVER 0.965 0.965 0.965 0.965 0.965

GENDER 0.997 0.997 0.997 0.997 0.997

ATTAIN 0.927 0.927 0.927 0.927 0.927

FAMT1 1.000 1.000 1.000 1.000 1.000

FAMT2 1.000 1.000 1.000 1.000 1.000

FAMT3 1.000 1.000 1.000 1.000 1.000

PERT1 1.000 1.000 1.000 1.000 1.000

PERT2 1.000 1.000 1.000 1.000 1.000

PERT3 1.000 1.000 1.000 1.000 1.000

Covariance Coverage

EMO3T3 EMO4T3 EMO5T3 REG1T3 REG3T3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

EMO3T3 1.000

EMO4T3 1.000 1.000

EMO5T3 1.000 1.000 1.000

REG1T3 1.000 1.000 1.000 1.000

REG3T3 1.000 1.000 1.000 1.000 1.000

REG4T3 1.000 1.000 1.000 1.000 1.000

REG6T3 1.000 1.000 1.000 1.000 1.000

ETHNICBI 1.000 1.000 1.000 1.000 1.000

SEN 0.952 0.952 0.952 0.952 0.952

FSMEVER 0.965 0.965 0.965 0.965 0.965

GENDER 0.997 0.997 0.997 0.997 0.997

ATTAIN 0.927 0.927 0.927 0.927 0.927

FAMT1 1.000 1.000 1.000 1.000 1.000

FAMT2 1.000 1.000 1.000 1.000 1.000

FAMT3 1.000 1.000 1.000 1.000 1.000

PERT1 1.000 1.000 1.000 1.000 1.000

PERT2 1.000 1.000 1.000 1.000 1.000

PERT3 1.000 1.000 1.000 1.000 1.000

Covariance Coverage

REG4T3 REG6T3 ETHNICBI SEN FSMEVER

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

REG4T3 1.000

REG6T3 1.000 1.000

ETHNICBI 1.000 1.000 1.000

SEN 0.952 0.952 0.952 0.952

FSMEVER 0.965 0.965 0.965 0.952 0.965

GENDER 0.997 0.997 0.997 0.952 0.965

ATTAIN 0.927 0.927 0.927 0.920 0.927

FAMT1 1.000 1.000 1.000 0.952 0.965

FAMT2 1.000 1.000 1.000 0.952 0.965

FAMT3 1.000 1.000 1.000 0.952 0.965

PERT1 1.000 1.000 1.000 0.952 0.965

PERT2 1.000 1.000 1.000 0.952 0.965

PERT3 1.000 1.000 1.000 0.952 0.965

Covariance Coverage

GENDER ATTAIN FAMT1 FAMT2 FAMT3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

GENDER 0.997

ATTAIN 0.927 0.927

FAMT1 0.997 0.927 1.000

FAMT2 0.997 0.927 1.000 1.000

FAMT3 0.997 0.927 1.000 1.000 1.000

PERT1 0.997 0.927 1.000 1.000 1.000

PERT2 0.997 0.927 1.000 1.000 1.000

PERT3 0.997 0.927 1.000 1.000 1.000

Covariance Coverage

PERT1 PERT2 PERT3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

PERT1 1.000

PERT2 1.000 1.000

PERT3 1.000 1.000 1.000

UNIVARIATE PROPORTIONS FOR CATEGORICAL VARIABLES

NOTE: These are average results over 100 data sets.

EMO1T1

Category 1 0.432

Category 2 0.395

Category 3 0.173

EMO2T1

Category 1 0.330

Category 2 0.402

Category 3 0.268

EMO3T1

Category 1 0.572

Category 2 0.320

Category 3 0.108

EMO4T1

Category 1 0.292

Category 2 0.426

Category 3 0.282

EMO5T1

Category 1 0.501

Category 2 0.351

Category 3 0.148

REG1T1

Category 1 0.108

Category 2 0.057

Category 3 0.084

Category 4 0.164

Category 5 0.119

Category 6 0.185

Category 7 0.285

REG3T1

Category 1 0.137

Category 2 0.122

Category 3 0.122

Category 4 0.155

Category 5 0.101

Category 6 0.145

Category 7 0.219

REG4T1

Category 1 0.129

Category 2 0.095

Category 3 0.097

Category 4 0.131

Category 5 0.086

Category 6 0.139

Category 7 0.324

REG6T1

Category 1 0.100

Category 2 0.078

Category 3 0.091

Category 4 0.182

Category 5 0.120

Category 6 0.146

Category 7 0.283

EMO1T2

Category 1 0.442

Category 2 0.377

Category 3 0.180

EMO2T2

Category 1 0.329

Category 2 0.379

Category 3 0.291

EMO3T2

Category 1 0.558

Category 2 0.323

Category 3 0.119

EMO4T2

Category 1 0.271

Category 2 0.426

Category 3 0.303

EMO5T2

Category 1 0.519

Category 2 0.343

Category 3 0.138

REG1T2

Category 1 0.093

Category 2 0.062

Category 3 0.101

Category 4 0.163

Category 5 0.131

Category 6 0.202

Category 7 0.248

REG3T2

Category 1 0.122

Category 2 0.136

Category 3 0.134

Category 4 0.158

Category 5 0.110

Category 6 0.156

Category 7 0.183

REG4T2

Category 1 0.105

Category 2 0.101

Category 3 0.105

Category 4 0.146

Category 5 0.105

Category 6 0.155

Category 7 0.283

REG6T2

Category 1 0.087

Category 2 0.083

Category 3 0.104

Category 4 0.198

Category 5 0.137

Category 6 0.161

Category 7 0.228

EMO1T3

Category 1 0.417

Category 2 0.379

Category 3 0.204

EMO2T3

Category 1 0.289

Category 2 0.380

Category 3 0.331

EMO3T3

Category 1 0.511

Category 2 0.347

Category 3 0.142

EMO4T3

Category 1 0.247

Category 2 0.419

Category 3 0.334

EMO5T3

Category 1 0.520

Category 2 0.344

Category 3 0.136

REG1T3

Category 1 0.089

Category 2 0.070

Category 3 0.116

Category 4 0.168

Category 5 0.139

Category 6 0.198

Category 7 0.222

REG3T3

Category 1 0.121

Category 2 0.135

Category 3 0.145

Category 4 0.170

Category 5 0.119

Category 6 0.153

Category 7 0.158

REG4T3

Category 1 0.098

Category 2 0.096

Category 3 0.111

Category 4 0.155

Category 5 0.112

Category 6 0.175

Category 7 0.254

REG6T3

Category 1 0.084

Category 2 0.090

Category 3 0.106

Category 4 0.212

Category 5 0.148

Category 6 0.158

Category 7 0.202

SAMPLE STATISTICS

NOTE: These are average results over 100 data sets.

ESTIMATED SAMPLE STATISTICS

Means/Intercepts/Thresholds

EMO1T1$1 EMO1T1$2 EMO2T1$1 EMO2T1$2 EMO3T1$1

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-0.172 0.942 -0.439 0.620 0.181

Means/Intercepts/Thresholds

EMO3T1$2 EMO4T1$1 EMO4T1$2 EMO5T1$1 EMO5T1$2

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

1.235 -0.547 0.577 0.003 1.047

Means/Intercepts/Thresholds

REG1T1$1 REG1T1$2 REG1T1$3 REG1T1$4 REG1T1$5

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-1.240 -0.978 -0.682 -0.224 0.076

Means/Intercepts/Thresholds

REG1T1$6 REG3T1$1 REG3T1$2 REG3T1$3 REG3T1$4

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

0.569 -1.095 -0.647 -0.304 0.089

Means/Intercepts/Thresholds

REG3T1$5 REG3T1$6 REG4T1$1 REG4T1$2 REG4T1$3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

0.349 0.776 -1.132 -0.760 -0.467

Means/Intercepts/Thresholds

REG4T1$4 REG4T1$5 REG4T1$6 REG6T1$1 REG6T1$2

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-0.123 0.093 0.456 -1.282 -0.922

Means/Intercepts/Thresholds

REG6T1$3 REG6T1$4 REG6T1$5 REG6T1$6 EMO1T2$1

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-0.614 -0.122 0.179 0.575 -0.145

Means/Intercepts/Thresholds

EMO1T2$2 EMO2T2$1 EMO2T2$2 EMO3T2$1 EMO3T2$2

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

0.914 -0.442 0.549 0.147 1.181

Means/Intercepts/Thresholds

EMO4T2$1 EMO4T2$2 EMO5T2$1 EMO5T2$2 REG1T2$1

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-0.609 0.517 0.049 1.090 -1.324

Means/Intercepts/Thresholds

REG1T2$2 REG1T2$3 REG1T2$4 REG1T2$5 REG1T2$6

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-1.017 -0.655 -0.203 0.126 0.680

Means/Intercepts/Thresholds

REG3T2$1 REG3T2$2 REG3T2$3 REG3T2$4 REG3T2$5

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-1.165 -0.648 -0.272 0.128 0.415

Means/Intercepts/Thresholds

REG3T2$6 REG4T2$1 REG4T2$2 REG4T2$3 REG4T2$4

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

0.903 -1.252 -0.820 -0.492 -0.108

Means/Intercepts/Thresholds

REG4T2$5 REG4T2$6 REG6T2$1 REG6T2$2 REG6T2$3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

0.155 0.573 -1.357 -0.951 -0.597

Means/Intercepts/Thresholds

REG6T2$4 REG6T2$5 REG6T2$6 EMO1T3$1 EMO1T3$2

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-0.067 0.281 0.744 -0.210 0.826

Means/Intercepts/Thresholds

EMO2T3$1 EMO2T3$2 EMO3T3$1 EMO3T3$2 EMO4T3$1

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-0.556 0.438 0.028 1.072 -0.685

Means/Intercepts/Thresholds

EMO4T3$2 EMO5T3$1 EMO5T3$2 REG1T3$1 REG1T3$2

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

0.428 0.050 1.099 -1.348 -1.001

Means/Intercepts/Thresholds

REG1T3$3 REG1T3$4 REG1T3$5 REG1T3$6 REG3T3$1

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-0.601 -0.147 0.202 0.766 -1.172

Means/Intercepts/Thresholds

REG3T3$2 REG3T3$3 REG3T3$4 REG3T3$5 REG3T3$6

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-0.658 -0.254 0.177 0.495 1.004

Means/Intercepts/Thresholds

REG4T3$1 REG4T3$2 REG4T3$3 REG4T3$4 REG4T3$5

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

-1.294 -0.863 -0.511 -0.103 0.179

Means/Intercepts/Thresholds

REG4T3$6 REG6T3$1 REG6T3$2 REG6T3$3 REG6T3$4

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

0.663 -1.380 -0.939 -0.582 -0.019

Means/Intercepts/Thresholds

REG6T3$5 REG6T3$6 ETHNICBI SEN FSMEVER

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

0.359 0.834 1.258 0.126 0.367

Means/Intercepts/Thresholds

GENDER ATTAIN FAMT1 FAMT2 FAMT3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

1.529 102.969 17.802 17.658 17.453

Means/Intercepts/Thresholds

PERT1 PERT2 PERT3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

5.245 5.220 5.208

Covariances/Correlations/Residual Correlations

EMO1T1 EMO2T1 EMO3T1 EMO4T1 EMO5T1

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

EMO1T1

EMO2T1 0.363

EMO3T1 0.414 0.567

EMO4T1 0.271 0.500 0.403

EMO5T1 0.299 0.516 0.445 0.486

REG1T1 -0.323 -0.425 -0.508 -0.345 -0.333

REG3T1 -0.278 -0.382 -0.423 -0.308 -0.267

REG4T1 -0.205 -0.145 -0.277 -0.128 -0.123

REG6T1 -0.154 -0.211 -0.250 -0.161 -0.139

EMO1T2 0.544 0.279 0.291 0.214 0.211

EMO2T2 0.258 0.559 0.387 0.365 0.380

EMO3T2 0.294 0.399 0.504 0.295 0.303

EMO4T2 0.215 0.376 0.282 0.488 0.350

EMO5T2 0.199 0.369 0.293 0.337 0.538

REG1T2 -0.258 -0.328 -0.375 -0.249 -0.267

REG3T2 -0.239 -0.318 -0.321 -0.266 -0.261

REG4T2 -0.180 -0.114 -0.222 -0.125 -0.104

REG6T2 -0.148 -0.181 -0.191 -0.136 -0.133

EMO1T3 0.470 0.245 0.277 0.187 0.200

EMO2T3 0.223 0.476 0.323 0.287 0.343

EMO3T3 0.240 0.327 0.406 0.217 0.278

EMO4T3 0.175 0.331 0.245 0.404 0.324

EMO5T3 0.178 0.311 0.252 0.282 0.455

REG1T3 -0.217 -0.266 -0.313 -0.207 -0.231

REG3T3 -0.201 -0.287 -0.280 -0.217 -0.228

REG4T3 -0.155 -0.096 -0.203 -0.101 -0.094

REG6T3 -0.124 -0.138 -0.155 -0.124 -0.106

ETHNICBI -0.052 -0.063 -0.042 -0.063 -0.032

SEN 0.063 0.020 0.096 0.031 0.055

FSMEVER 0.120 -0.003 0.103 0.037 0.048

GENDER 0.107 0.199 0.096 0.127 0.181

ATTAIN -0.113 0.010 -0.100 -0.073 -0.073

FAMT1 -0.131 -0.075 -0.232 -0.085 -0.090

FAMT2 -0.124 -0.064 -0.197 -0.090 -0.069

FAMT3 -0.126 -0.064 -0.190 -0.086 -0.078

PERT1 -0.099 -0.145 -0.303 -0.146 -0.127

PERT2 -0.102 -0.112 -0.253 -0.133 -0.119

PERT3 -0.072 -0.095 -0.222 -0.113 -0.100

Covariances/Correlations/Residual Correlations

REG1T1 REG3T1 REG4T1 REG6T1 EMO1T2

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

REG1T1

REG3T1 0.472

REG4T1 0.411 0.520

REG6T1 0.236 0.405 0.343

EMO1T2 -0.252 -0.218 -0.146 -0.130

EMO2T2 -0.301 -0.281 -0.089 -0.145 0.397

EMO3T2 -0.358 -0.305 -0.190 -0.173 0.462

EMO4T2 -0.251 -0.216 -0.085 -0.121 0.309

EMO5T2 -0.251 -0.198 -0.075 -0.093 0.310

REG1T2 0.451 0.336 0.283 0.172 -0.351

REG3T2 0.337 0.412 0.258 0.222 -0.315

REG4T2 0.322 0.288 0.404 0.185 -0.216

REG6T2 0.198 0.223 0.173 0.236 -0.176

EMO1T3 -0.219 -0.204 -0.122 -0.117 0.578

EMO2T3 -0.258 -0.226 -0.055 -0.120 0.295

EMO3T3 -0.300 -0.254 -0.148 -0.152 0.322

EMO4T3 -0.218 -0.190 -0.063 -0.098 0.240

EMO5T3 -0.218 -0.173 -0.056 -0.077 0.245

REG1T3 0.370 0.276 0.218 0.137 -0.284

REG3T3 0.287 0.333 0.184 0.165 -0.266

REG4T3 0.280 0.257 0.328 0.151 -0.197

REG6T3 0.136 0.170 0.104 0.178 -0.153

ETHNICBI 0.031 0.075 0.033 0.057 -0.066

SEN -0.093 -0.089 -0.099 -0.058 0.035

FSMEVER -0.100 -0.064 -0.104 -0.036 0.124

GENDER -0.024 -0.053 0.086 -0.005 0.147

ATTAIN 0.103 0.084 0.130 0.063 -0.080

FAMT1 0.193 0.230 0.244 0.199 -0.098

FAMT2 0.164 0.179 0.166 0.133 -0.157

FAMT3 0.150 0.157 0.137 0.133 -0.146

PERT1 0.202 0.245 0.204 0.202 -0.067

PERT2 0.184 0.192 0.162 0.145 -0.106

PERT3 0.157 0.159 0.137 0.118 -0.081

Covariances/Correlations/Residual Correlations

EMO2T2 EMO3T2 EMO4T2 EMO5T2 REG1T2

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

EMO2T2

EMO3T2 0.624

EMO4T2 0.555 0.464

EMO5T2 0.540 0.469 0.524

REG1T2 -0.457 -0.555 -0.379 -0.369

REG3T2 -0.453 -0.476 -0.362 -0.326 0.476

REG4T2 -0.153 -0.295 -0.139 -0.124 0.428

REG6T2 -0.249 -0.271 -0.187 -0.179 0.245

EMO1T3 0.314 0.356 0.232 0.234 -0.262

EMO2T3 0.619 0.439 0.423 0.421 -0.345

EMO3T3 0.424 0.556 0.322 0.325 -0.393

EMO4T3 0.433 0.352 0.555 0.386 -0.284

EMO5T3 0.394 0.331 0.379 0.577 -0.278

REG1T3 -0.357 -0.407 -0.279 -0.282 0.502

REG3T3 -0.380 -0.373 -0.301 -0.287 0.368

REG4T3 -0.128 -0.233 -0.116 -0.105 0.332

REG6T3 -0.196 -0.209 -0.157 -0.143 0.197

ETHNICBI -0.089 -0.072 -0.082 -0.048 0.049

SEN 0.011 0.074 0.030 0.044 -0.065

FSMEVER -0.013 0.087 0.037 0.027 -0.100

GENDER 0.251 0.163 0.195 0.221 -0.112

ATTAIN 0.042 -0.050 -0.041 -0.031 0.066

FAMT1 -0.041 -0.176 -0.069 -0.041 0.143

FAMT2 -0.079 -0.263 -0.094 -0.089 0.201

FAMT3 -0.080 -0.229 -0.097 -0.068 0.179

PERT1 -0.071 -0.188 -0.099 -0.080 0.124

PERT2 -0.128 -0.300 -0.132 -0.132 0.184

PERT3 -0.099 -0.231 -0.120 -0.094 0.149

Covariances/Correlations/Residual Correlations

REG3T2 REG4T2 REG6T2 EMO1T3 EMO2T3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

REG3T2

REG4T2 0.512

REG6T2 0.413 0.355

EMO1T3 -0.268 -0.180 -0.169

EMO2T3 -0.340 -0.101 -0.178 0.439

EMO3T3 -0.350 -0.216 -0.223 0.497 0.645

EMO4T3 -0.303 -0.108 -0.161 0.349 0.582

EMO5T3 -0.275 -0.096 -0.155 0.345 0.567

REG1T3 0.374 0.315 0.190 -0.365 -0.498

REG3T3 0.458 0.274 0.252 -0.347 -0.503

REG4T3 0.282 0.456 0.203 -0.221 -0.159

REG6T3 0.246 0.172 0.279 -0.209 -0.289

ETHNICBI 0.107 0.047 0.076 -0.081 -0.083

SEN -0.065 -0.096 -0.032 0.031 -0.035

FSMEVER -0.073 -0.119 -0.030 0.099 -0.009

GENDER -0.123 0.038 -0.035 0.184 0.311

ATTAIN 0.067 0.131 0.038 -0.057 0.060

FAMT1 0.154 0.170 0.133 -0.082 -0.026

FAMT2 0.236 0.254 0.222 -0.124 -0.055

FAMT3 0.177 0.178 0.157 -0.182 -0.097

PERT1 0.142 0.131 0.125 -0.044 -0.024

PERT2 0.238 0.215 0.207 -0.080 -0.051

PERT3 0.172 0.154 0.137 -0.089 -0.092

Covariances/Correlations/Residual Correlations

EMO3T3 EMO4T3 EMO5T3 REG1T3 REG3T3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

EMO3T3

EMO4T3 0.493

EMO5T3 0.480 0.548

REG1T3 -0.580 -0.391 -0.404

REG3T3 -0.520 -0.399 -0.372 0.517

REG4T3 -0.305 -0.144 -0.137 0.420 0.483

REG6T3 -0.318 -0.208 -0.194 0.259 0.458

ETHNICBI -0.093 -0.101 -0.037 0.074 0.097

SEN 0.028 0.016 0.023 -0.030 -0.036

FSMEVER 0.079 0.023 0.034 -0.096 -0.063

GENDER 0.211 0.237 0.252 -0.186 -0.191

ATTAIN -0.022 -0.034 -0.030 0.034 0.031

FAMT1 -0.142 -0.048 -0.027 0.111 0.109

FAMT2 -0.197 -0.078 -0.042 0.133 0.161

FAMT3 -0.288 -0.114 -0.094 0.205 0.259

PERT1 -0.127 -0.050 -0.027 0.071 0.094

PERT2 -0.183 -0.089 -0.059 0.099 0.131

PERT3 -0.283 -0.124 -0.115 0.153 0.228

Covariances/Correlations/Residual Correlations

REG4T3 REG6T3 ETHNICBI SEN FSMEVER

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

REG4T3

REG6T3 0.357

ETHNICBI 0.059 0.081 0.191

SEN -0.077 -0.039 -0.019 0.110

FSMEVER -0.118 -0.020 0.108 0.132 0.232

GENDER 0.002 -0.077 0.000 -0.131 -0.007

ATTAIN 0.122 0.045 0.119 -0.377 -0.183

FAMT1 0.146 0.094 0.007 -0.119 -0.094

FAMT2 0.180 0.131 0.036 -0.101 -0.087

FAMT3 0.265 0.218 0.039 -0.076 -0.104

PERT1 0.113 0.099 0.014 -0.130 -0.066

PERT2 0.151 0.127 0.060 -0.131 -0.061

PERT3 0.211 0.210 0.091 -0.121 -0.066

Covariances/Correlations/Residual Correlations

GENDER ATTAIN FAMT1 FAMT2 FAMT3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

GENDER 0.249

ATTAIN 0.108 43.359

FAMT1 0.074 0.142 7.571

FAMT2 0.047 0.112 0.461 8.963

FAMT3 0.009 0.099 0.391 0.513 10.250

PERT1 0.200 0.125 0.397 0.249 0.227

PERT2 0.193 0.130 0.275 0.416 0.285

PERT3 0.167 0.110 0.237 0.293 0.431

Covariances/Correlations/Residual Correlations

PERT1 PERT2 PERT3

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

PERT1 1.298

PERT2 0.506 1.359

PERT3 0.417 0.534 1.399

MODEL FIT INFORMATION

Number of Free Parameters 222

Chi-Square Test of Model Fit

Degrees of freedom 605

Mean 9484.713

Std Dev 124.282

Number of successful computations 100

Proportions Percentiles

Expected Observed Expected Observed

0.990 1.000 527.030 9205.036

0.980 1.000 535.723 9246.894

0.950 1.000 548.943 9282.628

0.900 1.000 560.871 9308.413

0.800 1.000 575.547 9375.365

0.700 1.000 586.287 9412.477

0.500 1.000 604.333 9473.200

0.300 1.000 622.747 9548.511

0.200 1.000 634.065 9592.878

0.100 1.000 649.985 9662.505

0.050 1.000 663.331 9694.372

0.020 1.000 678.566 9725.474

0.010 1.000 688.851 9743.497

RMSEA (Root Mean Square Error Of Approximation)

Mean 0.030

Std Dev 0.000

Number of successful computations 100

Proportions Percentiles

Expected Observed Expected Observed

0.990 1.000 0.030 0.030

0.980 0.990 0.030 0.030

0.950 0.960 0.030 0.030

0.900 0.890 0.030 0.030

0.800 0.800 0.030 0.030

0.700 0.700 0.030 0.030

0.500 0.500 0.030 0.030

0.300 0.300 0.031 0.031

0.200 0.220 0.031 0.031

0.100 0.110 0.031 0.031

0.050 0.060 0.031 0.031

0.020 0.020 0.031 0.031

0.010 0.000 0.031 0.031

CFI/TLI

CFI

Mean 0.929

Std Dev 0.002

Number of successful computations 100

Proportions Percentiles

Expected Observed Expected Observed

0.990 0.990 0.925 0.925

0.980 0.990 0.926 0.926

0.950 0.960 0.926 0.926

0.900 0.920 0.927 0.927

0.800 0.800 0.928 0.928

0.700 0.630 0.928 0.928

0.500 0.480 0.929 0.929

0.300 0.300 0.930 0.930

0.200 0.190 0.930 0.930

0.100 0.120 0.931 0.931

0.050 0.080 0.932 0.932

0.020 0.020 0.932 0.932

0.010 0.000 0.933 0.932

TLI

Mean 0.917

Std Dev 0.002

Number of successful computations 100

Proportions Percentiles

Expected Observed Expected Observed

0.990 0.990 0.913 0.912

0.980 0.990 0.914 0.914

0.950 0.960 0.914 0.914

0.900 0.920 0.915 0.915

0.800 0.800 0.916 0.916

0.700 0.630 0.916 0.916

0.500 0.480 0.917 0.917

0.300 0.300 0.918 0.918

0.200 0.190 0.919 0.919

0.100 0.120 0.920 0.920

0.050 0.080 0.921 0.921

0.020 0.020 0.921 0.921

0.010 0.000 0.922 0.921

SRMR (Standardized Root Mean Square Residual)

Mean 0.042

Std Dev 0.000

Number of successful computations 100

Proportions Percentiles

Expected Observed Expected Observed

0.990 0.000 0.042 0.042

0.980 0.000 0.042 0.042

0.950 0.000 0.042 0.042

0.900 0.000 0.042 0.042

0.800 0.000 0.042 0.042

0.700 0.000 0.042 0.042

0.500 0.000 0.042 0.042

0.300 0.000 0.042 0.042

0.200 0.000 0.042 0.042

0.100 0.000 0.042 0.042

0.050 0.000 0.042 0.042

0.020 0.000 0.042 0.042

0.010 0.000 0.042 0.042

MODEL RESULTS

Two-Tailed Rate of

Estimate S.E. Est./S.E. P-Value Missing

F\_EMO1 BY

EMO1T1 1.000 0.000 999.000 999.000 0.000

EMO2T1 1.821 0.045 40.432 0.000 0.160

EMO3T1 2.151 0.055 39.277 0.000 0.225

EMO4T1 1.266 0.031 40.196 0.000 0.183

EMO5T1 1.252 0.033 37.878 0.000 0.194

F\_EMO2 BY

EMO1T2 1.000 0.000 999.000 999.000 0.000

EMO2T2 1.821 0.045 40.432 0.000 0.160

EMO3T2 2.151 0.055 39.277 0.000 0.225

EMO4T2 1.266 0.031 40.196 0.000 0.183

EMO5T2 1.252 0.033 37.878 0.000 0.194

F\_EMO3 BY

EMO1T3 1.000 0.000 999.000 999.000 0.000

EMO2T3 1.821 0.045 40.432 0.000 0.160

EMO3T3 2.151 0.055 39.277 0.000 0.225

EMO4T3 1.266 0.031 40.196 0.000 0.183

EMO5T3 1.252 0.033 37.878 0.000 0.194

F\_REG1 BY

REG1T1 1.000 0.000 999.000 999.000 0.000

REG3T1 1.023 0.021 48.140 0.000 0.386

REG4T1 0.541 0.012 43.687 0.000 0.286

REG6T1 0.457 0.012 36.585 0.000 0.230

F\_REG2 BY

REG1T2 1.000 0.000 999.000 999.000 0.000

REG3T2 1.023 0.021 48.140 0.000 0.386

REG4T2 0.541 0.012 43.687 0.000 0.286

REG6T2 0.457 0.012 36.585 0.000 0.230

F\_REG3 BY

REG1T3 1.000 0.000 999.000 999.000 0.000

REG3T3 1.023 0.021 48.140 0.000 0.386

REG4T3 0.541 0.012 43.687 0.000 0.286

REG6T3 0.457 0.012 36.585 0.000 0.230

RI\_FAM BY

FAMT1 1.000 0.000 999.000 999.000 0.000

FAMT2 1.000 0.000 999.000 999.000 0.000

FAMT3 1.000 0.000 999.000 999.000 0.000

RI\_PER BY

PERT1 1.000 0.000 999.000 999.000 0.000

PERT2 1.000 0.000 999.000 999.000 0.000

PERT3 1.000 0.000 999.000 999.000 0.000

W\_FAM1 BY

FAMT1 1.000 0.000 999.000 999.000 0.000

W\_FAM2 BY

FAMT2 1.000 0.000 999.000 999.000 0.000

W\_FAM3 BY

FAMT3 1.000 0.000 999.000 999.000 0.000

W\_PER1 BY

PERT1 1.000 0.000 999.000 999.000 0.000

W\_PER2 BY

PERT2 1.000 0.000 999.000 999.000 0.000

W\_PER3 BY

PERT3 1.000 0.000 999.000 999.000 0.000

RI\_EMO BY

F\_EMO1 1.000 0.000 999.000 999.000 0.000

F\_EMO2 1.000 0.000 999.000 999.000 0.000

F\_EMO3 1.000 0.000 999.000 999.000 0.000

RI\_REG BY

F\_REG1 1.000 0.000 999.000 999.000 0.000

F\_REG2 1.000 0.000 999.000 999.000 0.000

F\_REG3 1.000 0.000 999.000 999.000 0.000

W\_EMO1 BY

F\_EMO1 1.000 0.000 999.000 999.000 0.000

W\_EMO2 BY

F\_EMO2 1.000 0.000 999.000 999.000 0.000

W\_EMO3 BY

F\_EMO3 1.000 0.000 999.000 999.000 0.000

W\_REG1 BY

F\_REG1 1.000 0.000 999.000 999.000 0.000

W\_REG2 BY

F\_REG2 1.000 0.000 999.000 999.000 0.000

W\_REG3 BY

F\_REG3 1.000 0.000 999.000 999.000 0.000

W\_EMO2 ON

W\_EMO1 0.379 0.060 6.279 0.000 0.304

W\_REG1 -0.027 0.023 -1.165 0.244 0.288

W\_FAM1 0.004 0.005 0.658 0.510 0.342

W\_PER1 0.010 0.012 0.891 0.373 0.340

W\_EMO3 ON

W\_EMO2 0.402 0.052 7.687 0.000 0.346

W\_REG2 -0.079 0.029 -2.691 0.007 0.367

W\_FAM2 -0.002 0.004 -0.372 0.710 0.410

W\_PER2 0.031 0.010 2.959 0.003 0.447

W\_REG2 ON

W\_REG1 0.229 0.050 4.538 0.000 0.435

W\_EMO1 -0.415 0.091 -4.563 0.000 0.409

W\_FAM1 0.010 0.010 1.030 0.303 0.316

W\_PER1 -0.037 0.022 -1.694 0.090 0.447

W\_REG3 ON

W\_REG2 0.320 0.070 4.565 0.000 0.428

W\_EMO2 -0.311 0.101 -3.080 0.002 0.415

W\_FAM2 0.006 0.007 0.757 0.449 0.413

W\_PER2 -0.045 0.019 -2.408 0.016 0.443

W\_FAM2 ON

W\_FAM1 0.089 0.028 3.233 0.001 0.569

W\_EMO1 -0.045 0.184 -0.246 0.806 0.362

W\_REG1 0.275 0.089 3.071 0.002 0.412

W\_PER1 0.019 0.051 0.366 0.715 0.453

W\_FAM3 ON

W\_FAM2 0.239 0.018 13.036 0.000 0.636

W\_EMO2 0.029 0.226 0.127 0.899 0.532

W\_REG2 0.293 0.136 2.152 0.031 0.536

W\_PER2 0.143 0.051 2.800 0.005 0.505

W\_PER2 ON

W\_PER1 0.197 0.024 8.113 0.000 0.590

W\_EMO1 -0.142 0.076 -1.876 0.061 0.437

W\_REG1 0.062 0.035 1.795 0.073 0.458

W\_FAM1 -0.003 0.007 -0.367 0.714 0.423

W\_PER3 ON

W\_PER2 0.259 0.023 11.370 0.000 0.557

W\_EMO2 -0.077 0.087 -0.884 0.376 0.434

W\_REG2 0.013 0.052 0.245 0.806 0.503

W\_FAM2 0.013 0.006 2.251 0.024 0.489

F\_EMO1 ON

ATTAIN -0.006 0.001 -5.546 0.000 0.064

GENDER 0.289 0.014 21.011 0.000 0.053

ETHNICBI -0.132 0.023 -5.836 0.000 0.139

SEN 0.144 0.022 6.555 0.000 0.064

FSMEVER 0.110 0.017 6.353 0.000 0.040

F\_EMO2 ON

GENDER 0.396 0.017 23.703 0.000 0.100

ETHNICBI -0.223 0.028 -8.045 0.000 0.197

SEN 0.191 0.025 7.481 0.000 0.120

FSMEVER 0.123 0.019 6.475 0.000 0.109

F\_EMO3 ON

GENDER 0.501 0.020 25.334 0.000 0.120

ETHNICBI -0.260 0.031 -8.466 0.000 0.221

SEN 0.122 0.028 4.355 0.000 0.193

FSMEVER 0.120 0.019 6.446 0.000 0.153

F\_REG1 ON

ATTAIN 0.010 0.002 5.190 0.000 0.066

GENDER -0.086 0.029 -3.002 0.003 0.054

ETHNICBI 0.273 0.050 5.473 0.000 0.122

SEN -0.411 0.042 -9.895 0.000 0.077

FSMEVER -0.261 0.027 -9.594 0.000 0.073

F\_REG2 ON

GENDER -0.297 0.027 -10.879 0.000 0.141

ETHNICBI 0.413 0.048 8.680 0.000 0.313

SEN -0.386 0.043 -8.880 0.000 0.184

FSMEVER -0.336 0.031 -10.705 0.000 0.160

F\_REG3 ON

GENDER -0.494 0.031 -15.754 0.000 0.171

ETHNICBI 0.481 0.050 9.607 0.000 0.350

SEN -0.292 0.044 -6.660 0.000 0.330

FSMEVER -0.327 0.032 -10.324 0.000 0.247

FAMT1 ON

ATTAIN 0.039 0.005 8.176 0.000 0.030

GENDER 0.317 0.055 5.787 0.000 0.072

ETHNICBI -0.053 0.097 -0.550 0.582 0.039

SEN -0.599 0.078 -7.654 0.000 0.073

FSMEVER -0.351 0.056 -6.294 0.000 0.032

FAMT2 ON

GENDER 0.205 0.070 2.936 0.003 0.093

ETHNICBI 0.497 0.124 4.004 0.000 0.156

SEN -0.936 0.104 -8.999 0.000 0.188

FSMEVER -0.551 0.065 -8.497 0.000 0.145

FAMT3 ON

GENDER 0.008 0.077 0.107 0.915 0.123

ETHNICBI 0.639 0.149 4.303 0.000 0.226

SEN -0.756 0.120 -6.284 0.000 0.311

FSMEVER -0.753 0.075 -9.987 0.000 0.191

PERT1 ON

ATTAIN 0.010 0.002 5.007 0.000 0.043

GENDER 0.440 0.023 19.002 0.000 0.043

ETHNICBI 0.008 0.036 0.219 0.826 0.066

SEN -0.293 0.037 -7.882 0.000 0.057

FSMEVER -0.097 0.023 -4.148 0.000 0.039

PERT2 ON

GENDER 0.409 0.025 16.361 0.000 0.103

ETHNICBI 0.252 0.037 6.753 0.000 0.225

SEN -0.421 0.042 -9.936 0.000 0.190

FSMEVER -0.152 0.025 -6.154 0.000 0.148

PERT3 ON

GENDER 0.347 0.027 12.943 0.000 0.138

ETHNICBI 0.369 0.048 7.614 0.000 0.346

SEN -0.385 0.044 -8.773 0.000 0.338

FSMEVER -0.187 0.027 -7.029 0.000 0.242

W\_EMO1 WITH

W\_REG1 -0.253 0.019 -13.513 0.000 0.273

W\_FAM1 -0.101 0.026 -3.876 0.000 0.371

W\_PER1 -0.078 0.011 -7.196 0.000 0.333

RI\_EMO 0.000 0.000 999.000 999.000 0.000

RI\_REG 0.000 0.000 999.000 999.000 0.000

RI\_FAM 0.000 0.000 999.000 999.000 0.000

RI\_PER 0.000 0.000 999.000 999.000 0.000

GENDER 0.000 0.000 999.000 999.000 0.000

ETHNICBI 0.000 0.000 999.000 999.000 0.000

SEN 0.000 0.000 999.000 999.000 0.000

FSMEVER 0.000 0.000 999.000 999.000 0.000

ATTAIN 0.000 0.000 999.000 999.000 0.000

W\_REG1 WITH

W\_FAM1 0.446 0.054 8.249 0.000 0.382

W\_PER1 0.205 0.020 10.435 0.000 0.328

RI\_EMO 0.000 0.000 999.000 999.000 0.000

RI\_REG 0.000 0.000 999.000 999.000 0.000

RI\_FAM 0.000 0.000 999.000 999.000 0.000

RI\_PER 0.000 0.000 999.000 999.000 0.000

GENDER 0.000 0.000 999.000 999.000 0.000

ETHNICBI 0.000 0.000 999.000 999.000 0.000

SEN 0.000 0.000 999.000 999.000 0.000

FSMEVER 0.000 0.000 999.000 999.000 0.000

ATTAIN 0.000 0.000 999.000 999.000 0.000

W\_FAM1 WITH

W\_PER1 0.485 0.039 12.403 0.000 0.355

RI\_EMO 0.000 0.000 999.000 999.000 0.000

RI\_REG 0.000 0.000 999.000 999.000 0.000

RI\_FAM 0.000 0.000 999.000 999.000 0.000

RI\_PER 0.000 0.000 999.000 999.000 0.000

GENDER 0.000 0.000 999.000 999.000 0.000

ETHNICBI 0.000 0.000 999.000 999.000 0.000

SEN 0.000 0.000 999.000 999.000 0.000

FSMEVER 0.000 0.000 999.000 999.000 0.000

ATTAIN 0.000 0.000 999.000 999.000 0.000

W\_EMO2 WITH

W\_REG2 -0.244 0.011 -22.055 0.000 0.222

W\_FAM2 -0.148 0.023 -6.335 0.000 0.288

W\_PER2 -0.069 0.009 -7.957 0.000 0.225

W\_REG2 WITH

W\_FAM2 0.481 0.043 11.289 0.000 0.401

W\_PER2 0.172 0.015 11.570 0.000 0.362

W\_FAM2 WITH

W\_PER2 0.642 0.048 13.432 0.000 0.208

W\_EMO3 WITH

W\_REG3 -0.255 0.010 -25.207 0.000 0.313

W\_FAM3 -0.186 0.019 -9.894 0.000 0.439

W\_PER3 -0.055 0.008 -6.696 0.000 0.461

W\_REG3 WITH

W\_FAM3 0.558 0.035 15.743 0.000 0.363

W\_PER3 0.165 0.013 12.327 0.000 0.451

W\_FAM3 WITH

W\_PER3 0.760 0.029 25.831 0.000 0.339

RI\_EMO WITH

W\_PER1 0.000 0.000 999.000 999.000 0.000

GENDER 0.000 0.000 999.000 999.000 0.000

ETHNICBI 0.000 0.000 999.000 999.000 0.000

SEN 0.000 0.000 999.000 999.000 0.000

FSMEVER 0.000 0.000 999.000 999.000 0.000

ATTAIN 0.000 0.000 999.000 999.000 0.000

RI\_REG WITH

W\_PER1 0.000 0.000 999.000 999.000 0.000

GENDER 0.000 0.000 999.000 999.000 0.000

ETHNICBI 0.000 0.000 999.000 999.000 0.000

SEN 0.000 0.000 999.000 999.000 0.000

FSMEVER 0.000 0.000 999.000 999.000 0.000

ATTAIN 0.000 0.000 999.000 999.000 0.000

RI\_EMO -0.210 0.018 -11.844 0.000 0.261

RI\_FAM WITH

W\_PER1 0.000 0.000 999.000 999.000 0.000

GENDER 0.000 0.000 999.000 999.000 0.000

ETHNICBI 0.000 0.000 999.000 999.000 0.000

SEN 0.000 0.000 999.000 999.000 0.000

FSMEVER 0.000 0.000 999.000 999.000 0.000

ATTAIN 0.000 0.000 999.000 999.000 0.000

RI\_EMO -0.193 0.028 -6.888 0.000 0.299

RI\_REG 0.499 0.054 9.171 0.000 0.338

RI\_PER WITH

W\_PER1 0.000 0.000 999.000 999.000 0.000

GENDER 0.000 0.000 999.000 999.000 0.000

ETHNICBI 0.000 0.000 999.000 999.000 0.000

SEN 0.000 0.000 999.000 999.000 0.000

FSMEVER 0.000 0.000 999.000 999.000 0.000

ATTAIN 0.000 0.000 999.000 999.000 0.000

RI\_EMO -0.110 0.011 -10.353 0.000 0.321

RI\_REG 0.203 0.020 10.293 0.000 0.314

RI\_FAM 0.644 0.037 17.265 0.000 0.382

W\_PER1 WITH

GENDER 0.000 0.000 999.000 999.000 0.000

ETHNICBI 0.000 0.000 999.000 999.000 0.000

SEN 0.000 0.000 999.000 999.000 0.000

FSMEVER 0.000 0.000 999.000 999.000 0.000

ATTAIN 0.000 0.000 999.000 999.000 0.000

EMO1T1 WITH

EMO1T2 0.489 0.011 43.012 0.000 0.170

EMO1T3 0.428 0.013 32.090 0.000 0.317

EMO1T2 WITH

EMO1T3 0.514 0.013 41.059 0.000 0.296

EMO2T1 WITH

EMO2T2 0.399 0.017 23.320 0.000 0.209

EMO2T3 0.347 0.019 17.823 0.000 0.250

EMO2T2 WITH

EMO2T3 0.469 0.019 25.175 0.000 0.342

EMO3T1 WITH

EMO3T2 0.176 0.025 6.957 0.000 0.208

EMO3T3 0.083 0.026 3.205 0.001 0.365

EMO3T2 WITH

EMO3T3 0.208 0.026 8.028 0.000 0.376

EMO4T1 WITH

EMO4T2 0.364 0.014 26.494 0.000 0.193

EMO4T3 0.292 0.015 19.476 0.000 0.292

EMO4T2 WITH

EMO4T3 0.434 0.015 29.030 0.000 0.370

EMO5T1 WITH

EMO5T2 0.449 0.014 32.080 0.000 0.174

EMO5T3 0.381 0.016 24.352 0.000 0.239

EMO5T2 WITH

EMO5T3 0.474 0.015 31.218 0.000 0.300

REG1T1 WITH

REG1T2 0.204 0.017 12.292 0.000 0.283

REG1T3 0.190 0.018 10.344 0.000 0.299

REG1T2 WITH

REG1T3 0.258 0.017 15.074 0.000 0.395

REG3T1 WITH

REG3T2 0.100 0.015 6.747 0.000 0.351

REG3T3 0.092 0.017 5.281 0.000 0.414

REG3T2 WITH

REG3T3 0.141 0.016 8.833 0.000 0.435

REG4T1 WITH

REG4T2 0.314 0.012 26.189 0.000 0.225

REG4T3 0.258 0.012 21.066 0.000 0.348

REG4T2 WITH

REG4T3 0.367 0.011 33.179 0.000 0.423

REG6T1 WITH

REG6T2 0.124 0.010 12.536 0.000 0.279

REG6T3 0.086 0.012 7.118 0.000 0.430

REG6T2 WITH

REG6T3 0.166 0.012 14.096 0.000 0.370

SEN WITH

ETHNICBI -0.001 0.002 -0.404 0.686 0.003

FSMEVER WITH

ETHNICBI 0.031 0.006 5.212 0.000 0.014

SEN 0.020 0.002 10.134 0.000 0.001

GENDER WITH

ETHNICBI 0.002 0.010 0.205 0.837 0.021

SEN -0.021 0.002 -9.624 0.000 0.002

FSMEVER -0.001 0.004 -0.255 0.799 0.001

ATTAIN WITH

ETHNICBI 0.535 0.079 6.741 0.000 0.024

SEN -0.916 0.047 -19.492 0.000 0.009

FSMEVER -0.703 0.069 -10.221 0.000 0.005

GENDER 0.351 0.100 3.507 0.000 0.019

Means

ETHNICBI 1.258 0.033 38.253 0.000 0.000

SEN 0.126 0.007 16.860 0.000 0.000

FSMEVER 0.367 0.018 20.071 0.000 0.000

GENDER 1.529 0.020 75.163 0.000 0.000

ATTAIN 102.969 0.326 316.144 0.000 0.000

Intercepts

FAMT1 13.579 0.468 28.997 0.000 0.032

FAMT2 17.041 0.174 97.669 0.000 0.150

FAMT3 17.009 0.202 84.280 0.000 0.240

PERT1 3.587 0.201 17.810 0.000 0.041

PERT2 4.386 0.058 75.448 0.000 0.202

PERT3 4.330 0.064 67.344 0.000 0.358

F\_EMO1 0.000 0.000 999.000 999.000 0.000

F\_EMO2 -0.688 0.117 -5.870 0.000 0.071

F\_EMO3 -0.727 0.114 -6.374 0.000 0.085

F\_REG1 0.000 0.000 999.000 999.000 0.000

F\_REG2 1.108 0.195 5.685 0.000 0.092

F\_REG3 1.250 0.200 6.251 0.000 0.107

Thresholds

EMO1T1$1 -0.486 0.114 -4.263 0.000 0.049

EMO1T1$2 0.799 0.113 7.043 0.000 0.049

EMO2T1$1 -1.250 0.205 -6.083 0.000 0.051

EMO2T1$2 0.345 0.205 1.682 0.092 0.049

EMO3T1$1 -0.382 0.244 -1.567 0.117 0.049

EMO3T1$2 1.431 0.245 5.850 0.000 0.048

EMO4T1$1 -1.154 0.144 -8.033 0.000 0.051

EMO4T1$2 0.319 0.142 2.249 0.024 0.051

EMO5T1$1 -0.298 0.143 -2.090 0.037 0.048

EMO5T1$2 1.044 0.142 7.364 0.000 0.050

REG1T1$1 -0.998 0.189 -5.287 0.000 0.048

REG1T1$2 -0.532 0.188 -2.827 0.005 0.048

REG1T1$3 0.014 0.188 0.072 0.942 0.048

REG1T1$4 0.709 0.190 3.741 0.000 0.048

REG1T1$5 1.211 0.189 6.412 0.000 0.049

REG1T1$6 2.022 0.187 10.798 0.000 0.052

REG3T1$1 -0.755 0.190 -3.965 0.000 0.048

REG3T1$2 0.015 0.189 0.080 0.936 0.048

REG3T1$3 0.597 0.189 3.152 0.002 0.048

REG3T1$4 1.229 0.190 6.451 0.000 0.048

REG3T1$5 1.672 0.190 8.823 0.000 0.048

REG3T1$6 2.402 0.189 12.741 0.000 0.052

REG4T1$1 -0.906 0.106 -8.551 0.000 0.045

REG4T1$2 -0.420 0.106 -3.960 0.000 0.044

REG4T1$3 -0.032 0.105 -0.308 0.758 0.045

REG4T1$4 0.411 0.107 3.859 0.000 0.044

REG4T1$5 0.709 0.105 6.734 0.000 0.045

REG4T1$6 1.199 0.103 11.671 0.000 0.048

REG6T1$1 -1.054 0.086 -12.265 0.000 0.045

REG6T1$2 -0.603 0.084 -7.157 0.000 0.048

REG6T1$3 -0.218 0.084 -2.597 0.009 0.049

REG6T1$4 0.380 0.084 4.520 0.000 0.051

REG6T1$5 0.765 0.084 9.079 0.000 0.053

REG6T1$6 1.272 0.085 15.036 0.000 0.052

EMO1T2$1 -0.486 0.114 -4.263 0.000 0.049

EMO1T2$2 0.799 0.113 7.043 0.000 0.049

EMO2T2$1 -1.250 0.205 -6.083 0.000 0.051

EMO2T2$2 0.345 0.205 1.682 0.092 0.049

EMO3T2$1 -0.382 0.244 -1.567 0.117 0.049

EMO3T2$2 1.431 0.245 5.850 0.000 0.048

EMO4T2$1 -1.154 0.144 -8.033 0.000 0.051

EMO4T2$2 0.319 0.142 2.249 0.024 0.051

EMO5T2$1 -0.298 0.143 -2.090 0.037 0.048

EMO5T2$2 1.044 0.142 7.364 0.000 0.050

REG1T2$1 -0.998 0.189 -5.287 0.000 0.048

REG1T2$2 -0.532 0.188 -2.827 0.005 0.048

REG1T2$3 0.014 0.188 0.072 0.942 0.048

REG1T2$4 0.709 0.190 3.741 0.000 0.048

REG1T2$5 1.211 0.189 6.412 0.000 0.049

REG1T2$6 2.022 0.187 10.798 0.000 0.052

REG3T2$1 -0.755 0.190 -3.965 0.000 0.048

REG3T2$2 0.015 0.189 0.080 0.936 0.048

REG3T2$3 0.597 0.189 3.152 0.002 0.048

REG3T2$4 1.229 0.190 6.451 0.000 0.048

REG3T2$5 1.672 0.190 8.823 0.000 0.048

REG3T2$6 2.402 0.189 12.741 0.000 0.052

REG4T2$1 -0.906 0.106 -8.551 0.000 0.045

REG4T2$2 -0.420 0.106 -3.960 0.000 0.044

REG4T2$3 -0.032 0.105 -0.308 0.758 0.045

REG4T2$4 0.411 0.107 3.859 0.000 0.044

REG4T2$5 0.709 0.105 6.734 0.000 0.045

REG4T2$6 1.199 0.103 11.671 0.000 0.048

REG6T2$1 -1.054 0.086 -12.265 0.000 0.045

REG6T2$2 -0.603 0.084 -7.157 0.000 0.048

REG6T2$3 -0.218 0.084 -2.597 0.009 0.049

REG6T2$4 0.380 0.084 4.520 0.000 0.051

REG6T2$5 0.765 0.084 9.079 0.000 0.053

REG6T2$6 1.272 0.085 15.036 0.000 0.052

EMO1T3$1 -0.486 0.114 -4.263 0.000 0.049

EMO1T3$2 0.799 0.113 7.043 0.000 0.049

EMO2T3$1 -1.250 0.205 -6.083 0.000 0.051

EMO2T3$2 0.345 0.205 1.682 0.092 0.049

EMO3T3$1 -0.382 0.244 -1.567 0.117 0.049

EMO3T3$2 1.431 0.245 5.850 0.000 0.048

EMO4T3$1 -1.154 0.144 -8.033 0.000 0.051

EMO4T3$2 0.319 0.142 2.249 0.024 0.051

EMO5T3$1 -0.298 0.143 -2.090 0.037 0.048

EMO5T3$2 1.044 0.142 7.364 0.000 0.050

REG1T3$1 -0.998 0.189 -5.287 0.000 0.048

REG1T3$2 -0.532 0.188 -2.827 0.005 0.048

REG1T3$3 0.014 0.188 0.072 0.942 0.048

REG1T3$4 0.709 0.190 3.741 0.000 0.048

REG1T3$5 1.211 0.189 6.412 0.000 0.049

REG1T3$6 2.022 0.187 10.798 0.000 0.052

REG3T3$1 -0.755 0.190 -3.965 0.000 0.048

REG3T3$2 0.015 0.189 0.080 0.936 0.048

REG3T3$3 0.597 0.189 3.152 0.002 0.048

REG3T3$4 1.229 0.190 6.451 0.000 0.048

REG3T3$5 1.672 0.190 8.823 0.000 0.048

REG3T3$6 2.402 0.189 12.741 0.000 0.052

REG4T3$1 -0.906 0.106 -8.551 0.000 0.045

REG4T3$2 -0.420 0.106 -3.960 0.000 0.044

REG4T3$3 -0.032 0.105 -0.308 0.758 0.045

REG4T3$4 0.411 0.107 3.859 0.000 0.044

REG4T3$5 0.709 0.105 6.734 0.000 0.045

REG4T3$6 1.199 0.103 11.671 0.000 0.048

REG6T3$1 -1.054 0.086 -12.265 0.000 0.045

REG6T3$2 -0.603 0.084 -7.157 0.000 0.048

REG6T3$3 -0.218 0.084 -2.597 0.009 0.049

REG6T3$4 0.380 0.084 4.520 0.000 0.051

REG6T3$5 0.765 0.084 9.079 0.000 0.053

REG6T3$6 1.272 0.085 15.036 0.000 0.052

Variances

ETHNICBI 0.151 0.018 8.529 0.000 0.095

SEN 0.097 0.007 14.589 0.000 0.015

FSMEVER 0.230 0.005 44.678 0.000 0.001

GENDER 0.249 0.001 214.298 0.000 0.000

ATTAIN 43.344 1.611 26.904 0.000 0.000

RI\_EMO 0.164 0.013 12.879 0.000 0.301

RI\_REG 0.501 0.040 12.525 0.000 0.298

RI\_FAM 3.081 0.135 22.788 0.000 0.393

RI\_PER 0.430 0.021 20.803 0.000 0.371

W\_EMO1 0.188 0.013 14.301 0.000 0.239

W\_REG1 0.808 0.050 16.292 0.000 0.312

W\_FAM1 4.249 0.133 32.030 0.000 0.449

W\_PER1 0.787 0.024 33.172 0.000 0.296

Residual Variances

FAMT1 0.000 0.000 999.000 999.000 0.000

FAMT2 0.000 0.000 999.000 999.000 0.000

FAMT3 0.000 0.000 999.000 999.000 0.000

PERT1 0.000 0.000 999.000 999.000 0.000

PERT2 0.000 0.000 999.000 999.000 0.000

PERT3 0.000 0.000 999.000 999.000 0.000

F\_EMO1 0.000 0.000 999.000 999.000 0.000

F\_EMO2 0.000 0.000 999.000 999.000 0.000

F\_EMO3 0.000 0.000 999.000 999.000 0.000

F\_REG1 0.000 0.000 999.000 999.000 0.000

F\_REG2 0.000 0.000 999.000 999.000 0.000

F\_REG3 0.000 0.000 999.000 999.000 0.000

W\_EMO2 0.197 0.010 18.930 0.000 0.203

W\_EMO3 0.205 0.010 20.155 0.000 0.230

W\_REG2 0.603 0.032 18.739 0.000 0.236

W\_REG3 0.584 0.029 19.959 0.000 0.345

W\_FAM2 5.532 0.164 33.787 0.000 0.356

W\_FAM3 6.376 0.105 60.862 0.000 0.498

W\_PER2 0.787 0.022 35.976 0.000 0.175

W\_PER3 0.819 0.017 49.052 0.000 0.260

STANDARDIZED MODEL RESULTS

STDYX Standardization

Two-Tailed Rate of

Estimate S.E. Est./S.E. P-Value Missing

F\_EMO1 BY

EMO1T1 0.526 0.007 71.782 0.000 0.143

EMO2T1 0.748 0.006 133.330 0.000 0.115

EMO3T1 0.799 0.006 132.471 0.000 0.211

EMO4T1 0.616 0.006 97.946 0.000 0.131

EMO5T1 0.612 0.008 79.499 0.000 0.141

F\_EMO2 BY

EMO1T2 0.554 0.007 75.403 0.000 0.181

EMO2T2 0.771 0.005 158.385 0.000 0.196

EMO3T2 0.820 0.006 144.471 0.000 0.221

EMO4T2 0.644 0.007 94.737 0.000 0.205

EMO5T2 0.640 0.008 81.694 0.000 0.163

F\_EMO3 BY

EMO1T3 0.578 0.008 72.112 0.000 0.204

EMO2T3 0.790 0.006 135.087 0.000 0.219

EMO3T3 0.836 0.006 146.566 0.000 0.232

EMO4T3 0.668 0.007 97.075 0.000 0.274

EMO5T3 0.663 0.008 86.712 0.000 0.222

F\_REG1 BY

REG1T1 0.760 0.006 131.624 0.000 0.277

REG3T1 0.767 0.005 143.399 0.000 0.255

REG4T1 0.535 0.006 83.994 0.000 0.207

REG6T1 0.472 0.007 70.611 0.000 0.164

F\_REG2 BY

REG1T2 0.753 0.006 126.270 0.000 0.204

REG3T2 0.760 0.006 130.301 0.000 0.307

REG4T2 0.526 0.007 77.308 0.000 0.278

REG6T2 0.463 0.008 58.870 0.000 0.223

F\_REG3 BY

REG1T3 0.758 0.006 126.144 0.000 0.291

REG3T3 0.766 0.006 131.381 0.000 0.359

REG4T3 0.533 0.007 77.614 0.000 0.348

REG6T3 0.470 0.008 60.367 0.000 0.324

RI\_FAM BY

FAMT1 0.638 0.013 49.894 0.000 0.485

FAMT2 0.586 0.013 44.636 0.000 0.443

FAMT3 0.548 0.010 55.647 0.000 0.504

RI\_PER BY

PERT1 0.576 0.013 44.841 0.000 0.437

PERT2 0.564 0.013 42.641 0.000 0.387

PERT3 0.555 0.012 46.635 0.000 0.433

W\_FAM1 BY

FAMT1 0.749 0.011 68.361 0.000 0.473

W\_FAM2 BY

FAMT2 0.795 0.010 78.962 0.000 0.414

W\_FAM3 BY

FAMT3 0.822 0.007 116.961 0.000 0.446

W\_PER1 BY

PERT1 0.779 0.010 79.387 0.000 0.404

W\_PER2 BY

PERT2 0.788 0.010 76.873 0.000 0.362

W\_PER3 BY

PERT3 0.798 0.009 88.058 0.000 0.386

RI\_EMO BY

F\_EMO1 0.656 0.022 29.408 0.000 0.312

F\_EMO2 0.609 0.023 27.048 0.000 0.296

F\_EMO3 0.572 0.020 29.223 0.000 0.284

RI\_REG BY

F\_REG1 0.605 0.023 26.740 0.000 0.317

F\_REG2 0.619 0.024 26.041 0.000 0.300

F\_REG3 0.608 0.022 27.186 0.000 0.328

W\_EMO1 BY

F\_EMO1 0.701 0.021 34.056 0.000 0.323

W\_EMO2 BY

F\_EMO2 0.719 0.020 36.251 0.000 0.291

W\_EMO3 BY

F\_EMO3 0.726 0.016 45.646 0.000 0.275

W\_REG1 BY

F\_REG1 0.768 0.018 42.795 0.000 0.311

W\_REG2 BY

F\_REG2 0.745 0.020 36.669 0.000 0.294

W\_REG3 BY

F\_REG3 0.738 0.019 38.791 0.000 0.349

W\_EMO2 ON

W\_EMO1 0.343 0.053 6.467 0.000 0.320

W\_REG1 -0.051 0.045 -1.148 0.251 0.288

W\_FAM1 0.015 0.023 0.658 0.511 0.341

W\_PER1 0.019 0.021 0.892 0.372 0.340

W\_EMO3 ON

W\_EMO2 0.374 0.050 7.490 0.000 0.333

W\_REG2 -0.131 0.049 -2.651 0.008 0.360

W\_FAM2 -0.007 0.020 -0.372 0.710 0.411

W\_PER2 0.055 0.018 2.982 0.003 0.453

W\_REG2 ON

W\_REG1 0.241 0.052 4.619 0.000 0.444

W\_EMO1 -0.212 0.048 -4.414 0.000 0.424

W\_FAM1 0.025 0.024 1.028 0.304 0.316

W\_PER1 -0.038 0.022 -1.712 0.087 0.451

W\_REG3 ON

W\_REG2 0.317 0.070 4.543 0.000 0.410

W\_EMO2 -0.174 0.059 -2.963 0.003 0.403

W\_FAM2 0.016 0.021 0.756 0.450 0.411

W\_PER2 -0.048 0.020 -2.458 0.014 0.454

W\_FAM2 ON

W\_FAM1 0.077 0.024 3.247 0.001 0.574

W\_EMO1 -0.008 0.033 -0.248 0.804 0.362

W\_REG1 0.104 0.034 3.039 0.002 0.399

W\_PER1 0.007 0.019 0.368 0.713 0.453

W\_FAM3 ON

W\_FAM2 0.216 0.017 12.410 0.000 0.580

W\_EMO2 0.005 0.041 0.125 0.900 0.532

W\_REG2 0.095 0.044 2.153 0.031 0.538

W\_PER2 0.050 0.018 2.767 0.006 0.501

W\_PER2 ON

W\_PER1 0.191 0.023 8.156 0.000 0.601

W\_EMO1 -0.067 0.036 -1.881 0.060 0.443

W\_REG1 0.061 0.034 1.796 0.072 0.457

W\_FAM1 -0.006 0.016 -0.367 0.714 0.422

W\_PER3 ON

W\_PER2 0.252 0.023 11.179 0.000 0.537

W\_EMO2 -0.039 0.044 -0.882 0.378 0.435

W\_REG2 0.012 0.047 0.248 0.804 0.504

W\_FAM2 0.033 0.015 2.229 0.026 0.486

F\_EMO1 ON

ATTAIN -0.066 0.012 -5.450 0.000 0.060

GENDER 0.233 0.010 23.274 0.000 0.035

ETHNICBI -0.083 0.015 -5.592 0.000 0.078

SEN 0.073 0.011 6.582 0.000 0.058

FSMEVER 0.085 0.013 6.616 0.000 0.041

F\_EMO2 ON

GENDER 0.297 0.011 25.877 0.000 0.086

ETHNICBI -0.130 0.017 -7.798 0.000 0.101

SEN 0.089 0.012 7.397 0.000 0.113

FSMEVER 0.089 0.013 6.715 0.000 0.112

F\_EMO3 ON

GENDER 0.353 0.012 30.630 0.000 0.120

ETHNICBI -0.143 0.017 -8.333 0.000 0.123

SEN 0.054 0.012 4.396 0.000 0.196

FSMEVER 0.081 0.012 6.754 0.000 0.156

F\_REG1 ON

ATTAIN 0.055 0.010 5.336 0.000 0.069

GENDER -0.037 0.012 -3.001 0.003 0.054

ETHNICBI 0.090 0.017 5.256 0.000 0.061

SEN -0.110 0.011 -9.903 0.000 0.062

FSMEVER -0.107 0.011 -10.068 0.000 0.064

F\_REG2 ON

GENDER -0.130 0.012 -10.986 0.000 0.135

ETHNICBI 0.140 0.017 8.334 0.000 0.158

SEN -0.105 0.012 -9.055 0.000 0.176

FSMEVER -0.141 0.012 -11.414 0.000 0.168

F\_REG3 ON

GENDER -0.212 0.013 -16.350 0.000 0.172

ETHNICBI 0.160 0.018 9.115 0.000 0.191

SEN -0.078 0.012 -6.655 0.000 0.316

FSMEVER -0.135 0.013 -10.777 0.000 0.262

FAMT1 ON

ATTAIN 0.093 0.012 8.030 0.000 0.028

GENDER 0.057 0.010 5.809 0.000 0.072

ETHNICBI -0.007 0.014 -0.553 0.580 0.038

SEN -0.068 0.010 -7.126 0.000 0.059

FSMEVER -0.061 0.010 -6.371 0.000 0.034

FAMT2 ON

GENDER 0.034 0.012 2.940 0.003 0.093

ETHNICBI 0.064 0.015 4.179 0.000 0.127

SEN -0.098 0.010 -9.717 0.000 0.195

FSMEVER -0.088 0.010 -8.928 0.000 0.152

FAMT3 ON

GENDER 0.001 0.012 0.106 0.915 0.123

ETHNICBI 0.077 0.017 4.598 0.000 0.197

SEN -0.074 0.011 -6.655 0.000 0.329

FSMEVER -0.113 0.011 -10.665 0.000 0.203

PERT1 ON

ATTAIN 0.059 0.012 4.958 0.000 0.042

GENDER 0.193 0.010 19.340 0.000 0.044

ETHNICBI 0.003 0.012 0.219 0.826 0.066

SEN -0.080 0.010 -7.855 0.000 0.053

FSMEVER -0.041 0.010 -4.207 0.000 0.040

PERT2 ON

GENDER 0.176 0.010 17.039 0.000 0.112

ETHNICBI 0.084 0.012 6.846 0.000 0.160

SEN -0.113 0.010 -10.932 0.000 0.208

FSMEVER -0.063 0.010 -6.385 0.000 0.155

PERT3 ON

GENDER 0.147 0.011 13.394 0.000 0.142

ETHNICBI 0.121 0.015 7.846 0.000 0.258

SEN -0.102 0.011 -9.597 0.000 0.374

FSMEVER -0.076 0.010 -7.320 0.000 0.257

W\_EMO1 WITH

W\_REG1 -0.649 0.024 -27.302 0.000 0.320

W\_FAM1 -0.113 0.028 -4.090 0.000 0.373

W\_PER1 -0.203 0.025 -8.003 0.000 0.379

RI\_EMO 0.000 0.000 0.000 1.000 0.000

RI\_REG 0.000 0.000 0.000 1.000 0.000

RI\_FAM 0.000 0.000 0.000 1.000 0.000

RI\_PER 0.000 0.000 0.000 1.000 0.000

GENDER 0.000 0.000 0.000 1.000 0.000

ETHNICBI 0.000 0.000 0.000 1.000 0.000

SEN 0.000 0.000 0.000 1.000 0.000

FSMEVER 0.000 0.000 0.000 1.000 0.000

ATTAIN 0.000 0.000 0.000 1.000 0.000

W\_REG1 WITH

W\_FAM1 0.240 0.024 9.942 0.000 0.407

W\_PER1 0.256 0.022 11.606 0.000 0.360

RI\_EMO 0.000 0.000 0.000 1.000 0.000

RI\_REG 0.000 0.000 0.000 1.000 0.000

RI\_FAM 0.000 0.000 0.000 1.000 0.000

RI\_PER 0.000 0.000 0.000 1.000 0.000

GENDER 0.000 0.000 0.000 1.000 0.000

ETHNICBI 0.000 0.000 0.000 1.000 0.000

SEN 0.000 0.000 0.000 1.000 0.000

FSMEVER 0.000 0.000 0.000 1.000 0.000

ATTAIN 0.000 0.000 0.000 1.000 0.000

W\_FAM1 WITH

W\_PER1 0.265 0.017 15.225 0.000 0.372

RI\_EMO 0.000 0.000 0.000 1.000 0.000

RI\_REG 0.000 0.000 0.000 1.000 0.000

RI\_FAM 0.000 0.000 0.000 1.000 0.000

RI\_PER 0.000 0.000 0.000 1.000 0.000

GENDER 0.000 0.000 0.000 1.000 0.000

ETHNICBI 0.000 0.000 0.000 1.000 0.000

SEN 0.000 0.000 0.000 1.000 0.000

FSMEVER 0.000 0.000 0.000 1.000 0.000

ATTAIN 0.000 0.000 0.000 1.000 0.000

W\_EMO2 WITH

W\_REG2 -0.708 0.022 -31.505 0.000 0.277

W\_FAM2 -0.142 0.022 -6.426 0.000 0.275

W\_PER2 -0.174 0.022 -7.887 0.000 0.214

W\_REG2 WITH

W\_FAM2 0.263 0.020 12.964 0.000 0.441

W\_PER2 0.249 0.020 12.510 0.000 0.385

W\_FAM2 WITH

W\_PER2 0.308 0.017 17.861 0.000 0.248

W\_EMO3 WITH

W\_REG3 -0.738 0.021 -35.057 0.000 0.484

W\_FAM3 -0.163 0.016 -10.050 0.000 0.458

W\_PER3 -0.133 0.020 -6.672 0.000 0.448

W\_REG3 WITH

W\_FAM3 0.289 0.017 16.958 0.000 0.403

W\_PER3 0.238 0.018 13.218 0.000 0.445

W\_FAM3 WITH

W\_PER3 0.332 0.010 32.118 0.000 0.384

RI\_EMO WITH

W\_PER1 0.000 0.000 0.000 1.000 0.000

GENDER 0.000 0.000 0.000 1.000 0.000

ETHNICBI 0.000 0.000 0.000 1.000 0.000

SEN 0.000 0.000 0.000 1.000 0.000

FSMEVER 0.000 0.000 0.000 1.000 0.000

ATTAIN 0.000 0.000 0.000 1.000 0.000

RI\_REG WITH

W\_PER1 0.000 0.000 0.000 1.000 0.000

GENDER 0.000 0.000 0.000 1.000 0.000

ETHNICBI 0.000 0.000 0.000 1.000 0.000

SEN 0.000 0.000 0.000 1.000 0.000

FSMEVER 0.000 0.000 0.000 1.000 0.000

ATTAIN 0.000 0.000 0.000 1.000 0.000

RI\_EMO -0.732 0.028 -26.399 0.000 0.355

RI\_FAM WITH

W\_PER1 0.000 0.000 0.000 1.000 0.000

GENDER 0.000 0.000 0.000 1.000 0.000

ETHNICBI 0.000 0.000 0.000 1.000 0.000

SEN 0.000 0.000 0.000 1.000 0.000

FSMEVER 0.000 0.000 0.000 1.000 0.000

ATTAIN 0.000 0.000 0.000 1.000 0.000

RI\_EMO -0.271 0.035 -7.820 0.000 0.300

RI\_REG 0.402 0.035 11.642 0.000 0.356

RI\_PER WITH

W\_PER1 0.000 0.000 0.000 1.000 0.000

GENDER 0.000 0.000 0.000 1.000 0.000

ETHNICBI 0.000 0.000 0.000 1.000 0.000

SEN 0.000 0.000 0.000 1.000 0.000

FSMEVER 0.000 0.000 0.000 1.000 0.000

ATTAIN 0.000 0.000 0.000 1.000 0.000

RI\_EMO -0.413 0.034 -12.033 0.000 0.412

RI\_REG 0.439 0.037 11.938 0.000 0.419

RI\_FAM 0.560 0.022 25.675 0.000 0.432

W\_PER1 WITH

GENDER 0.000 0.000 0.000 1.000 0.000

ETHNICBI 0.000 0.000 0.000 1.000 0.000

SEN 0.000 0.000 0.000 1.000 0.000

FSMEVER 0.000 0.000 0.000 1.000 0.000

ATTAIN 0.000 0.000 0.000 1.000 0.000

EMO1T1 WITH

EMO1T2 0.489 0.011 43.012 0.000 0.170

EMO1T3 0.428 0.013 32.090 0.000 0.317

EMO1T2 WITH

EMO1T3 0.514 0.013 41.059 0.000 0.296

EMO2T1 WITH

EMO2T2 0.399 0.017 23.320 0.000 0.209

EMO2T3 0.347 0.019 17.823 0.000 0.250

EMO2T2 WITH

EMO2T3 0.469 0.019 25.175 0.000 0.342

EMO3T1 WITH

EMO3T2 0.176 0.025 6.957 0.000 0.208

EMO3T3 0.083 0.026 3.205 0.001 0.365

EMO3T2 WITH

EMO3T3 0.208 0.026 8.028 0.000 0.376

EMO4T1 WITH

EMO4T2 0.364 0.014 26.494 0.000 0.193

EMO4T3 0.292 0.015 19.476 0.000 0.292

EMO4T2 WITH

EMO4T3 0.434 0.015 29.030 0.000 0.370

EMO5T1 WITH

EMO5T2 0.449 0.014 32.080 0.000 0.174

EMO5T3 0.381 0.016 24.352 0.000 0.239

EMO5T2 WITH

EMO5T3 0.474 0.015 31.218 0.000 0.300

REG1T1 WITH

REG1T2 0.204 0.017 12.292 0.000 0.283

REG1T3 0.190 0.018 10.344 0.000 0.299

REG1T2 WITH

REG1T3 0.258 0.017 15.074 0.000 0.395

REG3T1 WITH

REG3T2 0.100 0.015 6.747 0.000 0.351

REG3T3 0.092 0.017 5.281 0.000 0.414

REG3T2 WITH

REG3T3 0.141 0.016 8.833 0.000 0.435

REG4T1 WITH

REG4T2 0.314 0.012 26.189 0.000 0.225

REG4T3 0.258 0.012 21.066 0.000 0.348

REG4T2 WITH

REG4T3 0.367 0.011 33.179 0.000 0.423

REG6T1 WITH

REG6T2 0.124 0.010 12.536 0.000 0.279

REG6T3 0.086 0.012 7.118 0.000 0.430

REG6T2 WITH

REG6T3 0.166 0.012 14.096 0.000 0.370

SEN WITH

ETHNICBI -0.007 0.017 -0.405 0.685 0.002

FSMEVER WITH

ETHNICBI 0.164 0.029 5.771 0.000 0.058

SEN 0.132 0.011 11.952 0.000 0.002

GENDER WITH

ETHNICBI 0.011 0.052 0.206 0.837 0.022

SEN -0.137 0.013 -10.308 0.000 0.004

FSMEVER -0.005 0.018 -0.255 0.799 0.001

ATTAIN WITH

ETHNICBI 0.209 0.029 7.191 0.000 0.087

SEN -0.446 0.016 -28.532 0.000 0.068

FSMEVER -0.222 0.020 -10.960 0.000 0.006

GENDER 0.107 0.030 3.610 0.000 0.021

Means

ETHNICBI 3.241 0.120 27.002 0.000 0.250

SEN 0.405 0.011 36.109 0.000 0.024

FSMEVER 0.766 0.030 25.870 0.000 0.000

GENDER 3.062 0.048 63.951 0.000 0.000

ATTAIN 15.640 0.251 62.369 0.000 0.000

Intercepts

FAMT1 4.935 0.177 27.890 0.000 0.039

FAMT2 5.692 0.073 78.114 0.000 0.242

FAMT3 5.313 0.076 70.291 0.000 0.359

PERT1 3.149 0.185 17.029 0.000 0.041

PERT2 3.774 0.062 61.089 0.000 0.166

PERT3 3.661 0.067 54.660 0.000 0.317

F\_EMO1 0.000 0.000 0.000 1.000 0.000

F\_EMO2 -1.034 0.175 -5.903 0.000 0.074

F\_EMO3 -1.027 0.160 -6.407 0.000 0.089

F\_REG1 0.000 0.000 0.000 1.000 0.000

F\_REG2 0.970 0.169 5.733 0.000 0.096

F\_REG3 1.075 0.170 6.336 0.000 0.107

Thresholds

EMO1T1$1 -0.413 0.097 -4.264 0.000 0.048

EMO1T1$2 0.679 0.097 7.037 0.000 0.049

EMO2T1$1 -0.830 0.138 -6.034 0.000 0.049

EMO2T1$2 0.229 0.136 1.686 0.092 0.050

EMO3T1$1 -0.230 0.147 -1.565 0.118 0.048

EMO3T1$2 0.860 0.146 5.884 0.000 0.049

EMO4T1$1 -0.908 0.113 -8.066 0.000 0.050

EMO4T1$2 0.251 0.112 2.247 0.025 0.052

EMO5T1$1 -0.236 0.113 -2.088 0.037 0.048

EMO5T1$2 0.826 0.112 7.388 0.000 0.050

REG1T1$1 -0.648 0.123 -5.255 0.000 0.048

REG1T1$2 -0.346 0.123 -2.819 0.005 0.048

REG1T1$3 0.009 0.122 0.072 0.942 0.048

REG1T1$4 0.461 0.123 3.759 0.000 0.048

REG1T1$5 0.787 0.122 6.469 0.000 0.048

REG1T1$6 1.314 0.120 10.944 0.000 0.050

REG3T1$1 -0.484 0.123 -3.949 0.000 0.047

REG3T1$2 0.010 0.121 0.080 0.936 0.048

REG3T1$3 0.383 0.121 3.161 0.002 0.048

REG3T1$4 0.788 0.121 6.491 0.000 0.048

REG3T1$5 1.072 0.120 8.897 0.000 0.049

REG3T1$6 1.540 0.120 12.877 0.000 0.051

REG4T1$1 -0.765 0.090 -8.494 0.000 0.045

REG4T1$2 -0.355 0.090 -3.949 0.000 0.044

REG4T1$3 -0.027 0.089 -0.308 0.758 0.045

REG4T1$4 0.348 0.090 3.870 0.000 0.044

REG4T1$5 0.599 0.089 6.767 0.000 0.045

REG4T1$6 1.013 0.086 11.756 0.000 0.047

REG6T1$1 -0.929 0.075 -12.309 0.000 0.045

REG6T1$2 -0.532 0.074 -7.168 0.000 0.048

REG6T1$3 -0.192 0.074 -2.598 0.009 0.049

REG6T1$4 0.335 0.074 4.517 0.000 0.051

REG6T1$5 0.675 0.074 9.069 0.000 0.052

REG6T1$6 1.121 0.075 15.037 0.000 0.051

EMO1T2$1 -0.405 0.095 -4.270 0.000 0.049

EMO1T2$2 0.665 0.095 7.016 0.000 0.048

EMO2T2$1 -0.795 0.131 -6.060 0.000 0.050

EMO2T2$2 0.220 0.130 1.684 0.092 0.049

EMO3T2$1 -0.219 0.140 -1.567 0.117 0.049

EMO3T2$2 0.820 0.140 5.854 0.000 0.048

EMO4T2$1 -0.882 0.109 -8.105 0.000 0.051

EMO4T2$2 0.244 0.109 2.244 0.025 0.051

EMO5T2$1 -0.229 0.110 -2.090 0.037 0.048

EMO5T2$2 0.802 0.109 7.357 0.000 0.049

REG1T2$1 -0.657 0.125 -5.266 0.000 0.046

REG1T2$2 -0.350 0.124 -2.822 0.005 0.047

REG1T2$3 0.009 0.124 0.072 0.942 0.047

REG1T2$4 0.467 0.124 3.753 0.000 0.048

REG1T2$5 0.798 0.124 6.450 0.000 0.050

REG1T2$6 1.331 0.122 10.901 0.000 0.053

REG3T2$1 -0.491 0.124 -3.954 0.000 0.047

REG3T2$2 0.010 0.123 0.080 0.936 0.048

REG3T2$3 0.388 0.123 3.158 0.002 0.049

REG3T2$4 0.799 0.123 6.476 0.000 0.049

REG3T2$5 1.087 0.123 8.868 0.000 0.051

REG3T2$6 1.562 0.122 12.827 0.000 0.055

REG4T2$1 -0.771 0.091 -8.513 0.000 0.044

REG4T2$2 -0.357 0.090 -3.952 0.000 0.044

REG4T2$3 -0.027 0.089 -0.308 0.758 0.045

REG4T2$4 0.350 0.090 3.867 0.000 0.044

REG4T2$5 0.603 0.089 6.757 0.000 0.046

REG4T2$6 1.020 0.087 11.730 0.000 0.049

REG6T2$1 -0.934 0.076 -12.317 0.000 0.044

REG6T2$2 -0.535 0.075 -7.172 0.000 0.048

REG6T2$3 -0.193 0.074 -2.598 0.009 0.049

REG6T2$4 0.336 0.075 4.515 0.000 0.051

REG6T2$5 0.678 0.075 9.063 0.000 0.053

REG6T2$6 1.127 0.075 15.020 0.000 0.052

EMO1T3$1 -0.397 0.093 -4.268 0.000 0.049

EMO1T3$2 0.652 0.093 7.024 0.000 0.049

EMO2T3$1 -0.766 0.127 -6.038 0.000 0.051

EMO2T3$2 0.211 0.125 1.686 0.092 0.049

EMO3T3$1 -0.210 0.134 -1.566 0.117 0.049

EMO3T3$2 0.785 0.134 5.864 0.000 0.048

EMO4T3$1 -0.859 0.106 -8.087 0.000 0.052

EMO4T3$2 0.237 0.106 2.245 0.025 0.051

EMO5T3$1 -0.223 0.107 -2.089 0.037 0.048

EMO5T3$2 0.781 0.106 7.371 0.000 0.049

REG1T3$1 -0.651 0.124 -5.264 0.000 0.048

REG1T3$2 -0.347 0.123 -2.822 0.005 0.048

REG1T3$3 0.009 0.122 0.072 0.942 0.048

REG1T3$4 0.462 0.123 3.752 0.000 0.048

REG1T3$5 0.789 0.122 6.447 0.000 0.049

REG1T3$6 1.318 0.121 10.883 0.000 0.052

REG3T3$1 -0.486 0.123 -3.956 0.000 0.047

REG3T3$2 0.010 0.122 0.080 0.936 0.048

REG3T3$3 0.384 0.122 3.156 0.002 0.049

REG3T3$4 0.790 0.122 6.470 0.000 0.049

REG3T3$5 1.076 0.121 8.854 0.000 0.050

REG3T3$6 1.545 0.121 12.786 0.000 0.054

REG4T3$1 -0.767 0.090 -8.510 0.000 0.045

REG4T3$2 -0.355 0.090 -3.952 0.000 0.044

REG4T3$3 -0.027 0.089 -0.308 0.758 0.045

REG4T3$4 0.348 0.090 3.867 0.000 0.044

REG4T3$5 0.600 0.089 6.756 0.000 0.045

REG4T3$6 1.015 0.087 11.722 0.000 0.048

REG6T3$1 -0.930 0.075 -12.326 0.000 0.045

REG6T3$2 -0.533 0.074 -7.173 0.000 0.048

REG6T3$3 -0.192 0.074 -2.599 0.009 0.049

REG6T3$4 0.335 0.074 4.514 0.000 0.051

REG6T3$5 0.676 0.075 9.059 0.000 0.052

REG6T3$6 1.123 0.075 15.007 0.000 0.051

Variances

ETHNICBI 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

SEN 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

FSMEVER 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

GENDER 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

ATTAIN 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

RI\_EMO 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

RI\_REG 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

RI\_FAM 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

RI\_PER 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

W\_EMO1 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

W\_REG1 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

W\_FAM1 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

W\_PER1 1.000 0.000 \*\*\*\*\*\*\*\*\* 0.000 0.000

Residual Variances

FAMT1 0.000 999.000 999.000 999.000 0.000

FAMT2 0.000 999.000 999.000 999.000 0.000

FAMT3 0.000 999.000 999.000 999.000 0.000

PERT1 0.000 999.000 999.000 999.000 0.000

PERT2 0.000 999.000 999.000 999.000 0.000

PERT3 0.000 999.000 999.000 999.000 0.000

F\_EMO1 0.000 999.000 999.000 999.000 0.000

F\_EMO2 0.000 999.000 999.000 999.000 0.000

F\_EMO3 0.000 999.000 999.000 999.000 0.000

F\_REG1 0.000 999.000 999.000 999.000 0.000

F\_REG2 0.000 999.000 999.000 999.000 0.000

F\_REG3 0.000 999.000 999.000 999.000 0.000

W\_EMO2 0.860 0.028 30.459 0.000 0.333

W\_EMO3 0.777 0.028 27.499 0.000 0.308

W\_REG2 0.831 0.027 30.654 0.000 0.312

W\_REG3 0.792 0.028 28.079 0.000 0.311

W\_FAM2 0.976 0.008 124.530 0.000 0.436

W\_FAM3 0.921 0.011 83.400 0.000 0.563

W\_PER2 0.939 0.011 83.404 0.000 0.432

W\_PER3 0.920 0.012 77.723 0.000 0.523

R-SQUARE

Observed Two-Tailed Rate of

Variable Estimate S.E. Est./S.E. P-Value Missing

EMO1T1 0.276 0.008 35.891 0.000 0.144

EMO2T1 0.559 0.008 66.668 0.000 0.115

EMO3T1 0.639 0.010 66.237 0.000 0.211

EMO4T1 0.380 0.008 48.975 0.000 0.131

EMO5T1 0.374 0.009 39.753 0.000 0.141

REG1T1 0.578 0.009 65.820 0.000 0.276

REG3T1 0.589 0.008 71.678 0.000 0.256

REG4T1 0.286 0.007 42.004 0.000 0.207

REG6T1 0.223 0.006 35.314 0.000 0.164

EMO1T2 0.307 0.008 37.710 0.000 0.181

EMO2T2 0.595 0.008 79.206 0.000 0.196

EMO3T2 0.672 0.009 72.242 0.000 0.221

EMO4T2 0.415 0.009 47.374 0.000 0.204

EMO5T2 0.410 0.010 40.844 0.000 0.163

REG1T2 0.566 0.009 63.140 0.000 0.204

REG3T2 0.577 0.009 65.147 0.000 0.307

REG4T2 0.277 0.007 38.660 0.000 0.278

REG6T2 0.214 0.007 29.440 0.000 0.223

EMO1T3 0.334 0.009 36.056 0.000 0.204

EMO2T3 0.624 0.009 67.551 0.000 0.219

EMO3T3 0.699 0.010 73.292 0.000 0.232

EMO4T3 0.446 0.009 48.544 0.000 0.274

EMO5T3 0.440 0.010 43.357 0.000 0.222

REG1T3 0.575 0.009 63.072 0.000 0.291

REG3T3 0.586 0.009 65.694 0.000 0.359

REG4T3 0.284 0.007 38.811 0.000 0.348

REG6T3 0.221 0.007 30.190 0.000 0.324

FAMT1 1.000 999.000 999.000 999.000 0.000

FAMT2 1.000 999.000 999.000 999.000 0.000

FAMT3 1.000 999.000 999.000 999.000 0.000

PERT1 1.000 999.000 999.000 999.000 0.000

PERT2 1.000 999.000 999.000 999.000 0.000

PERT3 1.000 999.000 999.000 999.000 0.000

Latent Two-Tailed Rate of

Variable Estimate S.E. Est./S.E. P-Value Missing

F\_EMO1 1.000 999.000 999.000 999.000 0.000

F\_EMO2 1.000 999.000 999.000 999.000 0.000

F\_EMO3 1.000 999.000 999.000 999.000 0.000

F\_REG1 1.000 999.000 999.000 999.000 0.000

F\_REG2 1.000 999.000 999.000 999.000 0.000

F\_REG3 1.000 999.000 999.000 999.000 0.000

W\_EMO2 0.140 0.028 4.968 0.000 0.333

W\_EMO3 0.223 0.028 7.872 0.000 0.308

W\_REG2 0.169 0.027 6.222 0.000 0.312

W\_REG3 0.208 0.028 7.360 0.000 0.311

W\_FAM2 0.024 0.008 3.016 0.003 0.436

W\_FAM3 0.079 0.011 7.186 0.000 0.563

W\_PER2 0.061 0.011 5.446 0.000 0.432

W\_PER3 0.080 0.012 6.719 0.000 0.523

QUALITY OF NUMERICAL RESULTS

Average Condition Number for the Information Matrix 0.256E-08

(ratio of smallest to largest eigenvalue)

**Appendix H) Measurement model results**

Given inclusion of emotional distress and emotion regulation as latent factors in the structural model, we first examined a measurement model allowing these latent factors to freely correlate to review the overarching factor structure underpinning the main analysis model (Brown, 2015). This model showed acceptable fit: c2 (309) = 16,169.59 (SD = 287.62); RMSEA = .06 (SD = .00); CFI = .88 (SD = .00), TLI = .87 (SD = .01); SRMR = .06 (SD = .00). Table S12 shows standardised beta coefficient associations between factors in this model. Though strong correlations were observed between emotional distress factors and emotion regulation factors in this model, none exceeded the 0.80 threshold that Brown (2015) advises as indicative of multicollinearity in latent factor correlations. Thus, our measurement model was acceptable ahead of the main analysis.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table S12  *Measurement Model Correlations (β)* | | | | | |
|  | 1 | 2 | 3 | 4 | 5 |
| 1. Emotional distress T1 | – |  |  |  |  |
| 2. Emotional distress T2 | .**78** | – |  |  |  |
| 3. Emotional distress T3 | **.65** | **.83** | – |  |  |
| 4. Emotion regulation T1 | -.70 | -.46 | -.38 | – |  |
| 5. Emotion regulation T2 | -.55 | -.74 | -.54 | **-.71** | – |
| 6. Emotion regulation T3 | -.45 | -.57 | -.76 | **.56** | **.76** |
| *Note.* T1 = Timepoint 1; T2 = Timepoint 2; T3 = Timepoint 3.  All relationships significant at the .001 alpha level. Within-domain correlations across time are shown in bold type. | | | | | |

**Appendix I) Covariates as predictors of original group-level constructs**

We included gender, ethnicity, special educational needs, low family income, and academic attainment as covariates in our RI-CLPM analysis.Table S13 shows standardised beta coefficients for each covariate as a predictor of group-level constructs at each timepoint (that is, original measurements from which random intercepts and within-person variables are specified). Relative to boys, girls reported significantly greater emotional distress, perceived connection to peers, and (at a very small level) family connection, but also reported lower levels of perceived emotion regulation. Participants identified as being from UK minority ethnic groups reported significantly lower distress and greater perceived emotion regulation, and slightly greater perceived social connection (at Timepoints 2 and 3), relative to participants identified as White. Individuals identified as having SEN and those who had ever been identified as having low family income reported greater distress and lower perceived emotion regulation and social connection than those without SEN or low family income, respectively. Academic attainment (modelled only at Timepoint 1) showed significant relationships with all constructs, with those with higher attainment reporting slightly lower symptoms and slightly greater emotion regulation and social connection.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table S13  *Effects of Covariates on Group-Level Constructs (β)* | | | | | | | | | | | | |
|  | Emotional distress | | | Emotion regulation | | | Family adult connection | | | Peer connection | | |
|  | T1 | T2 | T3 | T1 | T2 | T3 | T1 | T2 | T3 | T1 | T2 | T3 |
| Gender  *(1 = boy, 2 = girl)* | .23\*\*\* | .30\*\*\* | .35\*\*\* | -.04\*\* | -.13\*\*\* | -.21\*\*\* | .06\*\*\* | .03\*\*\* | .00 | .19\*\*\* | .18\*\*\* | .15\*\*\* |
| Ethnicity  *(1 = White, 2 = UK minority ethnic group)* | -.08\*\*\* | -.13\*\*\* | -.14\*\*\* | .09\*\*\* | .14\*\*\* | .16\*\*\* | -.01 | .06\*\* | .08\*\* | .00\*\*\* | .12\*\*\* | .12\*\*\* |
| SEN status | .07\*\*\* | .09\*\*\* | .05\*\*\* | -.11\*\*\* | -.11\*\*\* | -.08\*\*\* | -.07\*\*\* | -.10\*\*\* | -.07\*\*\* | -.08\*\*\* | -.11\*\*\* | -.10\*\*\* |
| Low family income (ever) | .09\*\*\* | .09\*\*\* | .08\*\*\* | -.11\*\*\* | -.14\*\*\* | -.16\*\*\* | -.06\*\*\* | -.09\*\*\* | -.11\*\*\* | -.04\*\*\* | -.06\*\*\* | -.08\*\*\* |
| Attainment | -.07\*\*\* | – | – | .06\*\*\* | – | – | .09\*\*\* | – | – | .06\*\*\* | – | – |
| *Note.* T1 = Timepoint 1; T2 = Timepoint 2; T3 = Timepoint 3.\*\* *p* < .01; \*\*\* *p* < .001. | | | | | | | | | | | | |