# Financial concern, day-to-day maternal emotions, and infant diurnal cortisol rhythms in Mexican-origin dyads: Positive emotions as a moderator and stress as a mediator

**Questions? Suggestions? Email me at eugarte@ucdavis.edu and follow the Hibel lab updates at** https://hibellab.weebly.com/. Stay safe, wear a mask, and remember to vote in November!

**References**

[1]Bush, K. R., & Peterson, G. W. (2013). Parent–child relationships in diverse contexts. In *Handbook of marriage and the family* (pp. 275-302). Springer, Boston, MA.

[2]Pendry, P., & Adam, E. K. (2007). Associations between parents' marital functioning, maternal parenting quality, maternal emotion and child cortisol levels. *International Journal of Behavioral Development*, *31*(3), 218-231.

[3]Gunnar, M. R. (2017). Social buffering of stress in development: A career perspective. *Perspectives on Psychological Science*, *12*(3), 355-373.

[4]Hostinar, C. E., Sullivan, R. M., & Gunnar, M. R. (2014). Psychobiological mechanisms underlying the social buffering of the hypothalamic–pituitary–adrenocortical axis: A review of animal models and human studies across development. *Psychological bulletin*, *140*(1), 256-282.

[5]Conger, R.D., Conger, K.J., Elder, G.H., Jr., Lorenz, F.O., Simons, R.L. and Whitbeck, L.B. (1992), A Family Process Model of Economic Hardship and Adjustment of Early Adolescent Boys. Child Development, 63: 526-541. doi:10.1111/j.1467-8624.1992.tb01644.x

[6]Roisman, G., Newman, D., Fraley, R., Haltigan, J., Groh, A., & Haydon, K. (2012). Distinguishing differential susceptibility from diathesis–stress: Recommendations for evaluating interaction effects. *Development and Psychopathology, 24*(2), 389-409. doi:10.1017/S0954579412000065

## Methods

### Participants

The current study includes 62 Mexican origin mothers ($M_{age}$=21.25 years, SD=2.62, range=18-31 years) and their infants ($M_{age}$=11.39 months, SD=5.88, range=4-22 months) participating in the California Babies Project, an ongoing NICHD-funded longitudinal study examining within-group variability in emotions, behaviors, and physiology. Mothers were recruited from the California Families Project database, an NIH study following 674 Mexican origin families. The second generation from California Families Project were asked to participate in the California Babies Project if they were expecting or were new parents, and mothers were assessed as the primary caregiver. Data for this study were collected from February 2016 to December 2019. All mothers lived in a rural and urban area of Northern California and all of them identified themselves as

Mexican or Mexican-American. Most mothers had completed high school (64%) and reported a modal income of $10,001 to $15,000

**Procedure**

The study was approved by the Institutional Review Board of the University of California, Davis. Bilingual English-Spanish home visitors visited the families' homes when infants were six and eighteen months of age. After consent was provided, mothers completed questionnaires about their demographics, life experiences, parenting behaviors and their experiences of economic hardship. In addition, mothers were trained on saliva collection and how to respond to their EMAs administered through a free phone application called Metricwire® which has been previously used in behavioral studies. All mothers received a saliva collection kit for three days of participation and the option to use a project cell phone or their own phone to answer EMA questions and communicate with project staff.

During the visit, mothers and the home visitors agreed on a schedule for six days of participation during the following two weeks. Mothers practiced EMA questions with the interviewer during the home visit and were asked to answer emotion-related questionnaires three times a day: at wake, in the evening (preferably with their child present, before eating dinner), and during bedtime. The timing of each questionnaire was determined based on families' schedules. After this home visit, parents received $100 compensation.

As depicted in Figure 1, mothers reported their emotions during the first three days of participation (days 1 – 3) of the first week and added saliva collection (as well as emotions) from days 4 – 6 during the second week, resulting in a maximum of 18 occasions for emotion and 9 cortisol samples. Project staff monitored families' compliance with protocols during their participation via Metricwire®. Due to lack of compliance, which was defined as completing less than 75% of data collection, parents were asked to restart their participation. After two weeks of data collection, parents were compensated with another $100. The most complete data from three consecutive days in the first week and three consecutive days in the second week were included in the study.

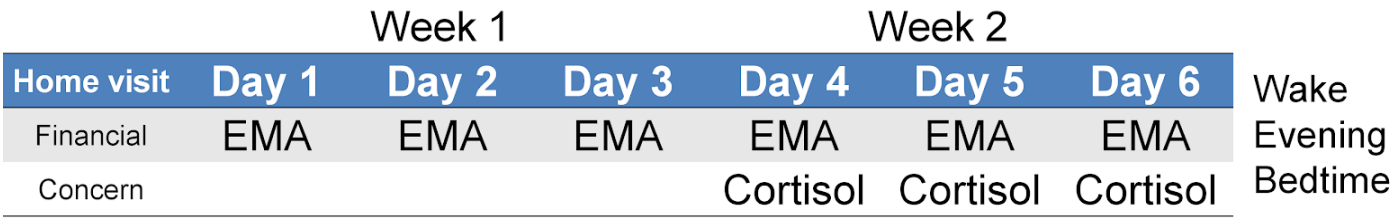


**Figure 1.** Study design.

**Measures**

**Financial Concern.** 5-item subscale of the Economic Hardship Questionnaire (Conger et al., 1992). Includes items such as "You have trouble sleeping because of your financial problems" and "You are concerned because you cannot afford health insurance." The scale had good reliability, Cronbach's a = 0.895.

**Maternal Emotions.** Maternal emotions were measured using the momentary collections of the Positive and Negative Affect Scale (Hajal et al., 2017) administered to mothers three times a day for six days through Metricwire®, during the morning, evening and at bedtime. Mothers answered how stress or overwhelmed, happy, satisfied, and close and connected to their child they were feeling in the last 30 minutes using a 0 to 100 sliding scale (0=Not at all, 100=Extremely). Positive (i.e., happiness, satisfactions, and close) affective states were averaged at each time point, such that each mother had a positive emotion score at every possible sample occasion.

**Salivary Cortisol.** During the home visit, mothers received saliva collection kits. Collection kits included pre-labeled sample tubes and saliva collection swabs for the children (SalivaBio, LLC). Mothers were instructed to collect saliva via swab for their infants and place it in the pre-labeled tube. Immediately after saliva collection, mothers were asked to submit a photo of the tube using the Metricwire® application, answering the corresponding EMA survey to have an objective measure of their collection times. Project staff observed the mother collect one practice sample from her child during the home visit, and provided feedback to ensure comprehension and compliance of the saliva procedure.

Participants provided three salivary samples per day: immediately upon waking, during the evening after the mother has spent time together with her child, and right before the child's bedtime. During each collection, they were instructed to refrain from eating, drinking, or brushing their teeth 20 minutes before collection. Text-

based reminders were sent through the Metricwire® application. Parents were instructed to keep saliva tubes in provided storage bottles in their freezers until project staff would pick them up at the end of the second week of participation. After pick up, samples were stored in an ultralow freezer (-80° C) with a backup generator before all analyses (Granger et al., 2007).

We calculated sample time compliance only during waking using actigraphy-recorded wake time (36.12% of samples with actigraphy) and if this was not available, mothers' report of infants' wake times when they uploaded the picture of the collection tube through Metricwire (63.87% of samples with self-report). Data were considered adherent if photos and actigraphy did not differ by more than 15 minutes. Only 44.06% of the total number of samples were within the 15min window, so to maximize our data, we created a dummy code for compliance and used it as a control variable. Samples were analyzed using standard assays with a highly sensitive, commercially available enzyme immunoassay (Salimetrics, LLC) conducted by the Interdisciplinary Salivary Bioscience Research at the University of California, Irvine. After assay, cortisol values were inspected for biological outliers and s. Cortisol values above 4.00 ug/dl were excluded and values between 3.00-4.00 were recorded as 3.00 ug/dl. After removing biological outliers, infants' raw cortisol values were log transformed to correct for positive skewness and screened for statistical outliers within 3 *SD* above or below the mean. Only one outlier was detected and winsorized.

**Analytic strategy**

**Control variables.** Across the entire sample, children's cortisol decreased from wake to evening $t(49)=9.32$ $p<.001$ and from evening to bedtime $t(49)=5.04$ $p<.001$.

Associations between cortisol values and variables known to influence cortisol were explored before including them as covariates in the models. There were significant mean differences in cortisol during the evening by child sex, with girls having lower cortisol $t(49)=2.15$, $p<.037$. There were no significant associations between children's cortisol and age, mother's age, medication use, maternal education, income-to-needs. Based on these preliminary analyses, infants' sex was included in subsequent models in addition to wake time and a morning compliance.

**Modeling children's salivary cortisol across three days.** To estimate infant's diurnal rhythm, we fitted a linear two-level growth curve model with random intercepts and slopes for time of day, allowing the variance associated with specific evening and bedtime sample times to be accounted in the model while also including infant's wake time and cortisol compliance as covariates. On average, infants had 5.63 cortisol samples (*SD* =2.76), and the model with best fit did not include random effects of days. Therefore, our model represents infants' average cortisol across three days.

**Estimating interindividual differences in salivary cortisol based on financial concern and maternal emotions.** To explore whether maternal emotions moderated or mediated the associations between financial concern and infant's cortisol, we proceeded to run four conditional two-level growth models with overall emotions and financial concern as time-invariant predictors. Covariates and predictors were centered before the analysis. The proposed multilevel growth curve models were fitted using Mplus 7.1 (Muthen & Muthen, 1998-2019) using full maximum likelihood estimation with robust standard errors.

Below, you will find full code and output of the models tested on this study.



## Model 1: Positive emotions * financial concern

```
INPUT INSTRUCTIONS
 Title:
  Two-level growth model
 Data:
  File is mplus08.17.20.csv;
 Variable:
  NAMES =
 id
 timec
 cortc
 cc_c
 cw_c
 csex_c
 momed_c
 cmed_c
 inctned_c
 MAge_c
 Agemonths_c
 mpos_c
 mstress_c
```

```
 ehconcern_c
 pfcint
 scint;

missing are all (999);
usevariables ARE id cortc timec cc_c cw_c csex_c mpos_c
ehconcern_c pfcint;
!timec is time of day, cc_c is child morning compliance,
!cw_c is wake time.

CLUSTER = id;
WITHIN = timec;
BETWEEN = csex_c cc_c cw_c mpos_c ehconcern_c pfcint;

ANALYSIS:
TYPE = TWOLEVEL RANDOM;
MODEL:
%WITHIN%
s | cortc ON timec;
 %BETWEEN%
cortc on csex_c cc_c cw_c mpos_c ehconcern_c  ;
s on csex_c cc_c cw_c mpos_c ehconcern_c pfcint ;
cc_c;
 [cc_c@0];
ehconcern_c with pfcint ;
[ehconcern_c@0];
mpos_c with pfcint;
[mpos_c@0];
output: Cinterval;
```

**Output**

```
SUMMARY OF ANALYSIS
Number of groups                                 1
Number of observations                         595
Number of dependent variables                    1
Number of independent variables                  7
Number of continuous latent variables            1

Observed dependent variables
 Continuous
  CORTC
Observed independent variables
  TIMEC      CC_C       CW_C       CSEX_C     MPOS_C     EHCONCER
  PFCINT
Continuous latent variables
  S
Variables with special functions
 Cluster variable      ID
Within variables
 TIMEC

Between variables
CC_C       CW_C       CSEX_C     MPOS_C     EHCONCER   PFCINT
```

Estimator MLR
Information matrix OBSERVED
Maximum number of iterations 100
Convergence criterion 0.100D-05
Maximum number of EM iterations 500
Convergence criteria for the EM algorithm
Loglikelihood change 0.100D-02
Relative loglikelihood change 0.100D-05
Derivative 0.100D-03
Minimum variance 0.100D-03
Maximum number of steepest descent iterations 20
Maximum number of iterations for H1 2000
Convergence criterion for H1 0.100D-03
Optimization algorithm EMA

Input data file(s)
mplus08.17.20.csv
Input data format FREE

SUMMARY OF DATA
Number of missing data patterns 4
Number of clusters 61

COVARIANCE COVERAGE OF DATA
Minimum covariance coverage value 0.100
PROPORTION OF DATA PRESENT

Covariance Coverage

| | CC_C | MPOS_C | EHCONCER | PFCINT | CORTC |
|---|---|---|---|---|---|
| CC_C | 1.000 | | | | |
| MPOS_C | 1.000 | 1.000 | | | |
| EHCONCER | 0.785 | 0.785 | 0.785 | | |
| PFCINT | 0.785 | 0.785 | 0.785 | 0.785 | |
| CORTC | 0.593 | 0.593 | 0.461 | 0.461 | 0.593 |
| TIMEC | 1.000 | 1.000 | 0.785 | 0.785 | 0.593 |
| CW_C | 1.000 | 1.000 | 0.785 | 0.785 | 0.593 |
| CSEX_C | 1.000 | 1.000 | 0.785 | 0.785 | 0.593 |

Covariance Coverage

| | TIMEC | CW_C | CSEX_C |
|---|---|---|---|
| TIMEC | 1.000 | | |
| CW_C | 1.000 | 1.000 | |
| CSEX_C | 1.000 | 1.000 | 1.000 |

THE MODEL ESTIMATION TERMINATED NORMALLY
MODEL FIT INFORMATION

Number of Free Parameters 23

Loglikelihood

H0 Value -866.739
H0 Scaling Correction Factor for MLR 1.0182

Information Criteria

Akaike (AIC) 1779.478
Bayesian (BIC) 1880.415
Sample-Size Adjusted BIC (n* = (n + 2) / 24) 1807.397

MODEL RESULTS

| | Estimate | S.E. | Est./S.E. | Two-Tailed P-Value |
|---|---|---|---|---|
| Within Level | | | | |
| Residual Variances | | | | |
| CORTC | 0.363 | 0.042 | 8.532 | 0.000 |
| Between Level | | | | |
| S ON | | | | |
| CSEX_C | 0.034 | 0.093 | 0.360 | 0.719 |
| CC_C | -0.005 | 0.150 | -0.030 | 0.976 |
| CW_C | 0.020 | 0.037 | 0.548 | 0.584 |
| MPOS_C | 0.003 | 0.002 | 1.328 | 0.184 |
| EHCONCERN_ | 0.263 | 0.085 | 3.104 | 0.002 |
| PFCINT | 0.012 | 0.004 | 3.163 | 0.002 |
| CORTC ON | | | | |
| CSEX_C | -0.248 | 0.139 | -1.787 | 0.074 |
| CC_C | 0.139 | 0.223 | 0.622 | 0.534 |
| CW_C | -0.087 | 0.066 | -1.311 | 0.190 |
| MPOS_C | -0.004 | 0.003 | -1.114 | 0.265 |
| EHCONCERN_ | 0.010 | 0.107 | 0.091 | 0.928 |
| EHCONCER WITH | | | | |
| PFCINT | -2.735 | 1.491 | -1.835 | 0.067 |
| MPOS_C WITH | | | | |
| PFCINT | 1.605 | 37.527 | 0.043 | 0.966 |
| Means | | | | |
| CC_C | 0.000 | 0.000 | 999.000 | 999.000 |
| MPOS_C | 0.000 | 0.000 | 999.000 | 999.000 |
| EHCONCERN_ | 0.000 | 0.000 | 999.000 | 999.000 |

| | | | | |
|---|---|---|---|---|
| PFCINT | -3.320 | 1.448 | -2.293 | 0.022 |
| **Intercepts** | | | | |
| CORTC | -1.299 | 0.066 | -19.817 | 0.000 |
| S | -0.529 | 0.049 | -10.812 | 0.000 |
| **Variances** | | | | |
| CC_C | 0.097 | 0.015 | 6.591 | 0.000 |
| MPOS_C | 355.214 | 48.858 | 7.270 | 0.000 |
| EHCONCERN_ | 0.384 | 0.077 | 4.961 | 0.000 |
| PFCINT | 127.464 | 37.326 | 3.415 | 0.001 |
| **Residual Variances** | | | | |
| CORTC | 0.114 | 0.043 | 2.637 | 0.008 |
| S | 0.017 | 0.015 | 1.114 | 0.265 |

CONFIDENCE INTERVALS OF MODEL RESULTS

| | Lower .5% | Lower 2.5% | Lower 5% | Estimate | Upper 5% | Upper 2.5% | Upper .5% |
|---|---|---|---|---|---|---|---|
| **Within Level** | | | | | | | |
| **Residual Variances** | | | | | | | |
| CORTC | 0.253 | 0.279 | 0.293 | 0.363 | 0.432 | 0.446 | 0.472 |
| **Between Level** | | | | | | | |
| S ON | | | | | | | |
| CSEX_C | -0.207 | -0.149 | -0.120 | 0.034 | 0.187 | 0.216 | 0.274 |
| CC_C | -0.391 | -0.299 | -0.251 | -0.005 | 0.242 | 0.290 | 0.382 |
| CW_C | -0.074 | -0.052 | -0.040 | 0.020 | 0.080 | 0.092 | 0.114 |
| MPOS_C | -0.003 | -0.001 | -0.001 | 0.003 | 0.006 | 0.007 | 0.008 |
| EHCONCERN_ | 0.045 | 0.097 | 0.124 | 0.263 | 0.402 | 0.429 | 0.481 |
| PFCINT | 0.002 | 0.005 | 0.006 | 0.012 | 0.018 | 0.019 | 0.022 |
| CORTC ON | | | | | | | |
| CSEX_C | -0.605 | -0.520 | -0.476 | -0.248 | -0.020 | 0.024 | 0.109 |
| CC_C | -0.437 | -0.299 | -0.229 | 0.139 | 0.507 | 0.577 | 0.715 |
| CW_C | -0.258 | -0.217 | -0.197 | -0.087 | 0.022 | 0.043 | 0.084 |
| MPOS_C | -0.013 | -0.011 | -0.010 | -0.004 | 0.002 | 0.003 | 0.005 |
| EHCONCERN_ | -0.266 | -0.200 | -0.166 | 0.010 | 0.186 | 0.219 | 0.285 |
| EHCONCER WITH | | | | | | | |
| PFCINT | -6.574 | -5.656 | -5.187 | -2.735 | -0.283 | 0.187 | 1.105 |
| MPOS_C WITH | | | | | | | |
| PFCINT | -95.057 | -71.948 | -60.127 | 1.605 | 63.337 | 75.158 | 98.268 |
| **Means** | | | | | | | |
| CC_C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| MPOS_C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EHCONCERN_ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
  PFCINT        -7.049     -6.157     -5.701     -3.320     -0.938     -0.482      0.409

Intercepts
  CORTC         -1.468     -1.428     -1.407     -1.299     -1.191     -1.171     -1.130
  S             -0.655     -0.625     -0.609     -0.529     -0.448     -0.433     -0.403

Variances
  CC_C           0.059      0.068      0.073      0.097      0.121      0.126      0.135
  MPOS_C       229.366    259.452    274.843    355.214    435.586    450.976    481.063
  EHCONCERN_     0.184      0.232      0.256      0.384      0.511      0.535      0.583
  PFCINT        31.321     54.306     66.064    127.464    188.865    200.623    223.608

Residual Variances
  CORTC          0.003      0.029      0.043      0.114      0.185      0.199      0.225
  S             -0.022     -0.013     -0.008      0.017      0.041      0.046      0.055
```

## Model 2: Stress* financial concern

```
Title:
  Two level multilevel model in Mplus
Data:
  File is mplus08.17.20.csv;
Variable:
  NAMES =
id
timec
cortc
cc_c
cw_c
csex_c
momed_c
cmed_c
inctned_c
MAge_c
Agemonths_c
mpos_c
mstress_c
ehconcern_c
pfcint
scint;

missing are all (999);
usevariables ARE id cortc timec cc_c cw_c csex_c mstress_c
ehconcern_c sfcint;
CLUSTER = id;
WITHIN = timec;
BETWEEN = csex_c cc_c cw_c mstress_c ehconcern_c sfcint

ANALYSIS:
  TYPE = TWOLEVEL RANDOM;
MODEL:
  %WITHIN%
```

```
  s | cortc ON timec;

 %BETWEEN%
 cortc on csex_c cc_c cw_c mstress_c ehconcern_c  ;
 s on csex_c cc_c cw_c mstress_c ehconcern_c sfcint ;
 cc_c;
 [cc_c@0];
 ehconcern_c with sfcint ;
 [ehconcern_c@0];
 mstress_c with sfcint;
[mstress_c@0];
 output: Cinterval;
```

Two level multilevel model in Mplus

SUMMARY OF ANALYSIS

| | |
|---|---|
| Number of groups | 1 |
| Number of observations | 595 |
| Number of dependent variables | 1 |
| Number of independent variables | 7 |
| Number of continuous latent variables | 1 |

Observed dependent variables

Continuous
CORTC

Observed independent variables
TIMEC CC_C CW_C CSEX_C MSTRESS_ EHCONCER
SFCINT

Continuous latent variables
S

Variables with special functions

Cluster variable ID

Within variables
TIMEC

Between variables
CC_C CW_C CSEX_C MSTRESS_ EHCONCER SFCINT

| | |
|---|---|
| Estimator | MLR |
| Information matrix | OBSERVED |
| Maximum number of iterations | 100 |
| Convergence criterion | 0.100D-05 |
| Maximum number of EM iterations | 500 |
| Convergence criteria for the EM algorithm | |
| Loglikelihood change | 0.100D-02 |
| Relative loglikelihood change | 0.100D-05 |
| Derivative | 0.100D-03 |

Minimum variance 0.100D-03
Maximum number of steepest descent iterations 20
Maximum number of iterations for H1 2000
Convergence criterion for H1 0.100D-03
Optimization algorithm EMA

Input data file(s)
mplus08.17.20.csv
Input data format FREE

SUMMARY OF DATA
Number of missing data patterns 4
Number of clusters 61

COVARIANCE COVERAGE OF DATA
Minimum covariance coverage value 0.100

PROPORTION OF DATA PRESENT

Covariance Coverage

| | CC_C | MSTRESS_ | EHCONCER | SFCINT | CORTC |
|---|---|---|---|---|---|
| CC_C | 1.000 | | | | |
| MSTRESS_ | 1.000 | 1.000 | | | |
| EHCONCER | 0.785 | 0.785 | 0.785 | | |
| SFCINT | 0.785 | 0.785 | 0.785 | 0.785 | |
| CORTC | 0.593 | 0.593 | 0.461 | 0.461 | 0.593 |
| TIMEC | 1.000 | 1.000 | 0.785 | 0.785 | 0.593 |
| CW_C | 1.000 | 1.000 | 0.785 | 0.785 | 0.593 |
| CSEX_C | 1.000 | 1.000 | 0.785 | 0.785 | 0.593 |

Covariance Coverage

| | TIMEC | CW_C | CSEX_C |
|---|---|---|---|
| TIMEC | 1.000 | | |
| CW_C | 1.000 | 1.000 | |
| CSEX_C | 1.000 | 1.000 | 1.000 |

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters 23

Loglikelihood

H0 Value -757.428
H0 Scaling Correction Factor for MLR 1.1783

Information Criteria

| | |
|---|---|
| Akaike (AIC) | 1560.856 |
| Bayesian (BIC) | 1661.793 |
| Sample-Size Adjusted BIC | 1588.775 |
| (n* = (n + 2) / 24) | |

MODEL RESULTS

| | Estimate | S.E. | Two-Tailed Est./S.E. | P-Value |
|---|---|---|---|---|
| **Within Level** | | | | |
| **Residual Variances** | | | | |
| CORTC | 0.365 | 0.043 | 8.465 | 0.000 |
| **Between Level** | | | | |
| **S ON** | | | | |
| CSEX_C | 0.054 | 0.097 | 0.562 | 0.574 |
| CC_C | -0.137 | 0.179 | -0.766 | 0.444 |
| CW_C | 0.012 | 0.041 | 0.288 | 0.773 |
| MSTRESS_C | 0.002 | 0.007 | 0.317 | 0.751 |
| EHCONCERN_ | 0.167 | 0.103 | 1.620 | 0.105 |
| SFCINT | -0.017 | 0.012 | -1.459 | 0.144 |
| **CORTC ON** | | | | |
| CSEX_C | -0.250 | 0.127 | -1.963 | 0.050 |
| CC_C | 0.191 | 0.235 | 0.813 | 0.416 |
| CW_C | -0.092 | 0.065 | -1.413 | 0.158 |
| MSTRESS_C | 0.024 | 0.010 | 2.455 | 0.014 |
| EHCONCERN_ | -0.067 | 0.108 | -0.622 | 0.534 |
| **EHCONCER WITH** | | | | |
| SFCINT | 0.821 | 0.541 | 1.517 | 0.129 |
| **MSTRESS_ WITH** | | | | |
| SFCINT | 9.622 | 7.602 | 1.266 | 0.206 |
| **Means** | | | | |
| CC_C | 0.000 | 0.000 | 999.000 | 999.000 |
| MSTRESS_C | 0.000 | 0.000 | 999.000 | 999.000 |
| EHCONCERN_ | 0.000 | 0.000 | 999.000 | 999.000 |
| SFCINT | 1.687 | 0.522 | 3.230 | 0.001 |
| **Intercepts** | | | | |
| CORTC | -1.300 | 0.062 | -20.829 | 0.000 |
| S | -0.548 | 0.053 | -10.281 | 0.000 |
| **Variances** | | | | |
| CC_C | 0.097 | 0.015 | 6.591 | 0.000 |
| MSTRESS_C | 44.588 | 10.968 | 4.065 | 0.000 |
| EHCONCERN_ | 0.380 | 0.077 | 4.956 | 0.000 |

SFCINT 19.095 8.320 2.295 0.022

Residual Variances
CORTC 0.092 0.033 2.765 0.006
S 0.031 0.014 2.175 0.030

CONFIDENCE INTERVALS OF MODEL RESULTS

| | Lower .5% | Lower 2.5% | Lower 5% | Estimate | Upper 5% | Upper 2.5% | Upper .5% |
|---|---|---|---|---|---|---|---|
| Within Level | | | | | | | |
| Residual Variances | | | | | | | |
| CORTC | 0.254 | 0.280 | 0.294 | 0.365 | 0.436 | 0.449 | 0.476 |
| Between Level | | | | | | | |
| S ON | | | | | | | |
| CSEX_C | -0.195 | -0.136 | -0.105 | 0.054 | 0.214 | 0.245 | 0.304 |
| CC_C | -0.597 | -0.487 | -0.431 | -0.137 | 0.157 | 0.213 | 0.324 |
| CW_C | -0.095 | -0.069 | -0.056 | 0.012 | 0.080 | 0.093 | 0.119 |
| MSTRESS_C | -0.016 | -0.011 | -0.009 | 0.002 | 0.014 | 0.016 | 0.020 |
| EHCONCERN_ | -0.098 | -0.035 | -0.003 | 0.167 | 0.336 | 0.368 | 0.431 |
| SFCINT | -0.047 | -0.040 | -0.036 | -0.017 | 0.002 | 0.006 | 0.013 |
| CORTC ON | | | | | | | |
| CSEX_C | -0.577 | -0.499 | -0.459 | -0.250 | -0.040 | 0.000 | 0.078 |
| CC_C | -0.414 | -0.269 | -0.195 | 0.191 | 0.577 | 0.651 | 0.796 |
| CW_C | -0.260 | -0.220 | -0.200 | -0.092 | 0.015 | 0.036 | 0.076 |
| MSTRESS_C | -0.001 | 0.005 | 0.008 | 0.024 | 0.040 | 0.043 | 0.049 |
| EHCONCERN_ | -0.347 | -0.280 | -0.246 | -0.067 | 0.111 | 0.145 | 0.212 |
| EHCONCER WITH | | | | | | | |
| SFCINT | -0.572 | -0.239 | -0.069 | 0.821 | 1.711 | 1.881 | 2.214 |
| MSTRESS_ WITH | | | | | | | |
| SFCINT | -9.959 | -5.278 | -2.883 | 9.622 | 22.127 | 24.522 | 29.203 |
| Means | | | | | | | |
| CC_C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| MSTRESS_C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EHCONCERN_ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| SFCINT | 0.342 | 0.663 | 0.828 | 1.687 | 2.547 | 2.711 | 3.033 |
| Intercepts | | | | | | | |
| CORTC | -1.461 | -1.422 | -1.402 | -1.300 | -1.197 | -1.178 | -1.139 |
| S | -0.685 | -0.652 | -0.636 | -0.548 | -0.460 | -0.443 | -0.411 |
| Variances | | | | | | | |
| CC_C | 0.059 | 0.068 | 0.073 | 0.097 | 0.121 | 0.126 | 0.135 |
| MSTRESS_C | 16.336 | 23.090 | 26.545 | 44.588 | 62.630 | 66.085 | 72.840 |
| EHCONCERN_ | 0.183 | 0.230 | 0.254 | 0.380 | 0.507 | 0.531 | 0.578 |
| SFCINT | -2.337 | 2.787 | 5.408 | 19.095 | 32.782 | 35.403 | 40.527 |

Residual Variances

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CORTC | 0.006 | 0.027 | 0.037 | 0.092 | 0.147 | 0.158 | 0.178 |
| S | -0.006 | 0.003 | 0.008 | 0.031 | 0.054 | 0.059 | 0.068 |

## Model 3: Financial concern indirectly relates to infant's cortisol via mother's low positive affect

```
Title:
   Two level multilevel model in Mplus
  Data:
   File is mplus08.17.20.csv;
  Variable:
   NAMES =
   NAMES =
  id
  timec
  cortc
  cc_c
  cw_c
  csex_c
  momed_c
  cmed_c
  inctned_c
  MAge_c
  Agemonths_c
  mpos_c
  mstress_c
  ehconcern_c
  pfcint
  scint;

missing are all (999);
usevariables ARE id cortc timec csex_c cw_c cc_c
ehconcern_c mpos_c;

   CLUSTER = id;
   WITHIN = timec;
BETWEEN =  csex_c cw_c cc_c ehconcern_c mpos_c
ANALYSIS:
TYPE = TWOLEVEL RANDOM;
 MODEL:
   %WITHIN%
    s | cortc ON timec;
   %BETWEEN%
   cortc on  csex_c cw_c cc_c  ;
   s on  csex_c cw_c cc_c mpos_c ehconcern_c  ;
   cortc on mpos_c (b1);
   cortc on ehconcern_c (cdash);
   mpos_c on ehconcern_c (a1);

   cc_c;
  [cc_c@0];
```

```
  ehconcern_c;
  [ehconcern_c@0];
  [mpos_c@0];

  MODEL CONSTRAINT:
  NEW(a1b1 TOTAL);
  a1b1 = a1*b1;   ! Indirect effect of X on Y via M
  TOTAL = a1*b1 + cdash;   ! Total effect of X on Y
   output: Cinterval ;
```

Two level multilevel model in Mplus

SUMMARY OF ANALYSIS

| | |
|---|---|
| Number of groups | 1 |
| Number of observations | 595 |
| Number of dependent variables | 2 |
| Number of independent variables | 5 |
| Number of continuous latent variables | 1 |

Observed dependent variables

Continuous
MPOS_C CORTC

Observed independent variables
TIMEC CSEX_C CW_C CC_C EHCONCER

Continuous latent variables
S

Variables with special functions

Cluster variable ID

Within variables
TIMEC

Between variables
CSEX_C CW_C CC_C EHCONCER MPOS_C

| | |
|---|---|
| Estimator | MLR |
| Information matrix | OBSERVED |
| Maximum number of iterations | 100 |
| Convergence criterion | 0.100D-05 |
| Maximum number of EM iterations | 500 |

Convergence criteria for the EM algorithm

| | |
|---|---|
| Loglikelihood change | 0.100D-02 |
| Relative loglikelihood change | 0.100D-05 |
| Derivative | 0.100D-03 |
| Minimum variance | 0.100D-03 |
| Maximum number of steepest descent iterations | 20 |

Maximum number of iterations for H1 2000
Convergence criterion for H1 0.100D-03
Optimization algorithm EMA

Input data file(s)
mplus08.17.20.csv
Input data format FREE

SUMMARY OF DATA

Number of missing data patterns 4
Number of clusters 61

COVARIANCE COVERAGE OF DATA

Minimum covariance coverage value 0.100
PROPORTION OF DATA PRESENT

Covariance Coverage

| | MPOS_C | CC_C | EHCONCER | CORTC | TIMEC |
|---|---|---|---|---|---|
| MPOS_C | 1.000 | | | | |
| CC_C | 1.000 | 1.000 | | | |
| EHCONCER | 0.785 | 0.785 | 0.785 | | |
| CORTC | 0.593 | 0.593 | 0.461 | 0.593 | |
| TIMEC | 1.000 | 1.000 | 0.785 | 0.593 | 1.000 |
| CSEX_C | 1.000 | 1.000 | 0.785 | 0.593 | 1.000 |
| CW_C | 1.000 | 1.000 | 0.785 | 0.593 | 1.000 |

Covariance Coverage

| | CSEX_C | CW_C |
|---|---|---|
| CSEX_C | 1.000 | |
| CW_C | 1.000 | 1.000 |

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters 19
Loglikelihood

H0 Value -688.240
H0 Scaling Correction Factor 0.9433
for MLR

Information Criteria

Akaike (AIC) 1414.481
Bayesian (BIC) 1497.864
Sample-Size Adjusted BIC 1437.544
(n* = (n + 2) / 24)

MODEL RESULTS

| | Estimate | S.E. | Est./S.E. | Two-Tailed P-Value |
|---|---|---|---|---|
| **Within Level** | | | | |
| Residual Variances | | | | |
| CORTC | 0.363 | 0.043 | 8.449 | 0.000 |
| **Between Level** | | | | |
| S ON | | | | |
| CSEX_C | 0.058 | 0.097 | 0.600 | 0.549 |
| CW_C | 0.012 | 0.044 | 0.274 | 0.784 |
| CC_C | -0.095 | 0.178 | -0.532 | 0.594 |
| MPOS_C | 0.002 | 0.002 | 1.025 | 0.305 |
| EHCONCERN_ | 0.131 | 0.090 | 1.449 | 0.147 |
| CORTC ON | | | | |
| CSEX_C | -0.238 | 0.138 | -1.730 | 0.084 |
| CW_C | -0.086 | 0.068 | -1.268 | 0.205 |
| CC_C | 0.152 | 0.228 | 0.666 | 0.506 |
| MPOS_C | -0.004 | 0.004 | -1.133 | 0.257 |
| EHCONCERN_ | -0.007 | 0.116 | -0.061 | 0.951 |
| MPOS_C ON | | | | |
| EHCONCERN_ | -8.987 | 4.094 | -2.195 | 0.028 |
| Means | | | | |
| CC_C | 0.000 | 0.000 | 999.000 | 999.000 |
| EHCONCERN_ | 0.000 | 0.000 | 999.000 | 999.000 |
| Intercepts | | | | |
| MPOS_C | 0.000 | 0.000 | 999.000 | 999.000 |
| CORTC | -1.298 | 0.065 | -19.879 | 0.000 |
| S | -0.579 | 0.045 | -12.838 | 0.000 |
| Variances | | | | |
| CC_C | 0.097 | 0.015 | 6.591 | 0.000 |
| EHCONCERN_ | 0.377 | 0.076 | 4.989 | 0.000 |
| Residual Variances | | | | |
| MPOS_C | 324.748 | 44.081 | 7.367 | 0.000 |
| CORTC | 0.114 | 0.041 | 2.753 | 0.006 |
| S | 0.035 | 0.016 | 2.231 | 0.026 |
| New/Additional Parameters | | | | |
| A1B1 | 0.037 | 0.037 | 1.017 | 0.309 |
| TOTAL | 0.030 | 0.104 | 0.290 | 0.771 |

CONFIDENCE INTERVALS OF MODEL RESULTS

| | Lower .5% | Lower 2.5% | Lower 5% | Estimate | Upper 5% | Upper 2.5% | Upper .5% |
|---|---|---|---|---|---|---|---|

Within Level

Residual Variances

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CORTC | 0.252 | 0.279 | 0.293 | 0.363 | 0.434 | 0.448 | 0.474 |

Between Level

S ON

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CSEX_C | -0.191 | -0.131 | -0.101 | 0.058 | 0.217 | 0.247 | 0.307 |
| CW_C | -0.101 | -0.074 | -0.060 | 0.012 | 0.084 | 0.098 | 0.124 |
| CC_C | -0.553 | -0.444 | -0.388 | -0.095 | 0.198 | 0.254 | 0.364 |
| MPOS_C | -0.004 | -0.002 | -0.001 | 0.002 | 0.006 | 0.007 | 0.008 |
| EHCONCERN_ | -0.102 | -0.046 | -0.018 | 0.131 | 0.279 | 0.307 | 0.363 |

CORTC ON

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CSEX_C | -0.592 | -0.507 | -0.464 | -0.238 | -0.012 | 0.032 | 0.116 |
| CW_C | -0.261 | -0.219 | -0.198 | -0.086 | 0.026 | 0.047 | 0.089 |
| CC_C | -0.436 | -0.295 | -0.223 | 0.152 | 0.527 | 0.599 | 0.739 |
| MPOS_C | -0.014 | -0.011 | -0.010 | -0.004 | 0.002 | 0.003 | 0.005 |
| EHCONCERN_ | -0.306 | -0.235 | -0.198 | -0.007 | 0.184 | 0.220 | 0.292 |

MPOS_C ON

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| EHCONCERN_ | -19.532 | -17.011 | -15.721 | -8.987 | -2.253 | -0.964 | 1.557 |

Means

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CC_C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EHCONCERN_ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Intercepts

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| MPOS_C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| CORTC | -1.466 | -1.426 | -1.406 | -1.298 | -1.191 | -1.170 | -1.130 |
| S | -0.695 | -0.667 | -0.653 | -0.579 | -0.504 | -0.490 | -0.463 |

Variances

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CC_C | 0.059 | 0.068 | 0.073 | 0.097 | 0.121 | 0.126 | 0.135 |
| EHCONCERN_ | 0.182 | 0.229 | 0.253 | 0.377 | 0.502 | 0.525 | 0.572 |

Residual Variances

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| MPOS_C | 211.204 | 238.349 | 252.235 | 324.748 | 397.260 | 411.146 | 438.291 |
| CORTC | 0.007 | 0.033 | 0.046 | 0.114 | 0.181 | 0.194 | 0.220 |
| S | -0.005 | 0.004 | 0.009 | 0.035 | 0.060 | 0.065 | 0.075 |

New/Additional Parameters

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A1B1 | -0.057 | -0.035 | -0.023 | 0.037 | 0.098 | 0.109 | 0.132 |
| TOTAL | -0.238 | -0.174 | -0.141 | 0.030 | 0.202 | 0.235 | 0.299 |

## Model 4: Financial concern indirectly relates to infant's cortisol via mother's heightened daily stress

Title:

Two level multilevel model in Mplus

Data:

File is mplus08.17.20.csv;

```
  Variable:
    NAMES =
  id
  timec
  cortc
  cc_c
  cw_c
  csex_c
  momed_c
  cmed_c
  inctned_c
  MAge_c
  Agemonths_c
  mpos_c
  mstress_c
  ehconcern_c
  pfcint
  scint;

missing are all (999);
usevariables ARE id cortc timec csex_c cw_c cc_c
ehconcern_c mstress_c;

CLUSTER = id;
WITHIN = timec;
BETWEEN =  csex_c cw_c cc_c ehconcern_c mstress_c ;

ANALYSIS:
TYPE = TWOLEVEL RANDOM;

  MODEL:
    %WITHIN%
    s | cortc ON timec;
    %BETWEEN%
   cortc on  csex_c cw_c cc_c   ;
   s on  csex_c cw_c cc_c mstress_c ehconcern_c  ;
   cortc on mstress_c (b1);
   cortc on ehconcern_c (cdash);
   mstress_c on ehconcern_c (a1);

    cc_c;
   [cc_c@0];
   ehconcern_c;
   [ehconcern_c@0];
   [mstress_c@0];

   MODEL CONSTRAINT:
   NEW(a1b1 TOTAL);
   a1b1 = a1*b1;   ! Indirect effect of X on Y via M
   TOTAL = a1*b1 + cdash;   ! Total effect of X on Y

    output: Cinterval,
```

**Output:**
Two level multilevel model in Mplus

SUMMARY OF ANALYSIS

Number of groups 1
Number of observations 595

Number of dependent variables 2
Number of independent variables 5
Number of continuous latent variables 1

Observed dependent variables
Continuous
MSTRESS_C CORTC
Observed independent variables
TIMEC CSEX_C CW_C CC_C EHCONCER
Continuous latent variables
S

Variables with special functions
Cluster variable ID
Within variables
TIMEC

Between variables
CSEX_C CW_C CC_C EHCONCER MSTRESS_

Estimator MLR
Information matrix OBSERVED
Maximum number of iterations 100
Convergence criterion 0.100D-05
Maximum number of EM iterations 500
Convergence criteria for the EM algorithm
Loglikelihood change 0.100D-02
Relative loglikelihood change 0.100D-05
Derivative 0.100D-03
Minimum variance 0.100D-03
Maximum number of steepest descent iterations 20
Maximum number of iterations for H1 2000
Convergence criterion for H1 0.100D-03
Optimization algorithm EMA

Input data file(s)
mplus08.17.20.csv
Input data format FREE

SUMMARY OF DATA

Number of missing data patterns 4
Number of clusters 61

COVARIANCE COVERAGE OF DATA

Minimum covariance coverage value 0.100

PROPORTION OF DATA PRESENT

Covariance Coverage

| | MSTRESS_ | CC_C | EHCONCER | CORTC | TIMEC |
|---|---|---|---|---|---|
| MSTRESS_ | 1.000 | | | | |
| CC_C | 1.000 | 1.000 | | | |
| EHCONCER | 0.785 | 0.785 | 0.785 | | |
| CORTC | 0.593 | 0.593 | 0.461 | 0.593 | |
| TIMEC | 1.000 | 1.000 | 0.785 | 0.593 | 1.000 |
| CSEX_C | 1.000 | 1.000 | 0.785 | 0.593 | 1.000 |
| CW_C | 1.000 | 1.000 | 0.785 | 0.593 | 1.000 |

Covariance Coverage

| | CSEX_C | CW_C |
|---|---|---|
| CSEX_C | 1.000 | |
| CW_C | 1.000 | 1.000 |

THE MODEL ESTIMATION TERMINATED NORMALLY
MODEL FIT INFORMATION

Number of Free Parameters 19

Loglikelihood

H0 Value -618.882
H0 Scaling Correction Factor for MLR 1.0364

Information Criteria

Akaike (AIC) 1275.763
Bayesian (BIC) 1359.146
Sample-Size Adjusted BIC (n* = (n + 2) / 24) 1298.827

MODEL RESULTS

| | Estimate | S.E. | Two-Tailed Est./S.E. | P-Value |
|---|---|---|---|---|
| Within Level | | | | |
| Residual Variances | | | | |
| CORTC | 0.364 | 0.043 | 8.454 | 0.000 |
| Between Level | | | | |

S ON

| | | | | |
|---|---|---|---|---|
| CSEX_C | 0.078 | 0.096 | 0.818 | 0.413 |
| CW_C | 0.017 | 0.040 | 0.429 | 0.668 |
| CC_C | -0.120 | 0.175 | -0.689 | 0.491 |
| MSTRESS_C | -0.004 | 0.008 | -0.450 | 0.653 |
| EHCONCERN_ | 0.133 | 0.098 | 1.352 | 0.176 |

CORTC ON

| | | | | |
|---|---|---|---|---|
| CSEX_C | -0.245 | 0.127 | -1.925 | 0.054 |
| CW_C | -0.096 | 0.066 | -1.464 | 0.143 |
| CC_C | 0.197 | 0.233 | 0.847 | 0.397 |
| MSTRESS_C | 0.024 | 0.012 | 2.025 | 0.043 |
| EHCONCERN_ | -0.046 | 0.124 | -0.366 | 0.714 |

MSTRESS_C ON

| | | | | |
|---|---|---|---|---|
| EHCONCERN_ | 5.256 | 1.441 | 3.648 | 0.000 |

Means

| | | | | |
|---|---|---|---|---|
| CC_C | 0.000 | 0.000 | 999.000 | 999.000 |
| EHCONCERN_ | 0.000 | 0.000 | 999.000 | 999.000 |

Intercepts

| | | | | |
|---|---|---|---|---|
| MSTRESS_C | 0.000 | 0.000 | 999.000 | 999.000 |
| CORTC | -1.299 | 0.062 | -20.819 | 0.000 |
| S | -0.579 | 0.045 | -12.776 | 0.000 |

Variances

| | | | | |
|---|---|---|---|---|
| CC_C | 0.097 | 0.015 | 6.591 | 0.000 |
| EHCONCERN_ | 0.390 | 0.081 | 4.812 | 0.000 |

Residual Variances

| | | | | |
|---|---|---|---|---|
| MSTRESS_C | 33.820 | 7.894 | 4.285 | 0.000 |
| CORTC | 0.096 | 0.035 | 2.745 | 0.006 |
| S | 0.034 | 0.015 | 2.296 | 0.022 |

New/Additional Parameters

| | | | | |
|---|---|---|---|---|
| A1B1 | 0.125 | 0.066 | 1.896 | 0.058 |
| TOTAL | 0.080 | 0.101 | 0.789 | 0.430 |

CONFIDENCE INTERVALS OF MODEL RESULTS

| | Lower .5% | Lower 2.5% | Lower 5% | Estimate | Upper 5% | Upper 2.5% | Upper .5% |
|---|---|---|---|---|---|---|---|
| Within Level | | | | | | | |
| Residual Variances | | | | | | | |
| CORTC | 0.253 | 0.280 | 0.293 | 0.364 | 0.435 | 0.449 | 0.475 |
| Between Level | | | | | | | |
| S ON | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CSEX_C | -0.168 | -0.109 | -0.079 | 0.078 | 0.236 | 0.266 | 0.325 |
| CW_C | -0.086 | -0.061 | -0.048 | 0.017 | 0.083 | 0.095 | 0.120 |
| CC_C | -0.570 | -0.462 | -0.407 | -0.120 | 0.167 | 0.222 | 0.329 |
| MSTRESS_C | -0.026 | -0.020 | -0.018 | -0.004 | 0.010 | 0.013 | 0.018 |
| EHCONCERN_ | -0.120 | -0.060 | -0.029 | 0.133 | 0.294 | 0.325 | 0.385 |

CORTC ON

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CSEX_C | -0.573 | -0.494 | -0.454 | -0.245 | -0.036 | 0.005 | 0.083 |
| CW_C | -0.265 | -0.225 | -0.204 | -0.096 | 0.012 | 0.033 | 0.073 |
| CC_C | -0.403 | -0.259 | -0.186 | 0.197 | 0.581 | 0.654 | 0.798 |
| MSTRESS_C | -0.006 | 0.001 | 0.004 | 0.024 | 0.043 | 0.047 | 0.054 |
| EHCONCERN_ | -0.366 | -0.289 | -0.250 | -0.046 | 0.159 | 0.198 | 0.275 |

MSTRESS_ ON

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| EHCONCERN_ | 1.544 | 2.432 | 2.886 | 5.256 | 7.627 | 8.081 | 8.969 |

Means

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CC_C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EHCONCERN_ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Intercepts

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| MSTRESS_C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| CORTC | -1.460 | -1.422 | -1.402 | -1.299 | -1.197 | -1.177 | -1.139 |
| S | -0.695 | -0.667 | -0.653 | -0.579 | -0.504 | -0.490 | -0.462 |

Variances

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CC_C | 0.059 | 0.068 | 0.073 | 0.097 | 0.121 | 0.126 | 0.135 |
| EHCONCERN_ | 0.181 | 0.231 | 0.256 | 0.390 | 0.523 | 0.548 | 0.598 |

Residual Variances

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| MSTRESS_C | 13.488 | 18.349 | 20.836 | 33.820 | 46.805 | 49.292 | 54.153 |
| CORTC | 0.006 | 0.028 | 0.039 | 0.096 | 0.154 | 0.165 | 0.186 |
| S | -0.004 | 0.005 | 0.010 | 0.034 | 0.059 | 0.063 | 0.072 |

New/Additional Parameters

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A1B1 | -0.045 | -0.004 | 0.017 | 0.125 | 0.234 | 0.255 | 0.296 |
| TOTAL | -0.181 | -0.118 | -0.087 | 0.080 | 0.246 | 0.278 | 0.340 |