Supplemental Material

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Supplemental Figures

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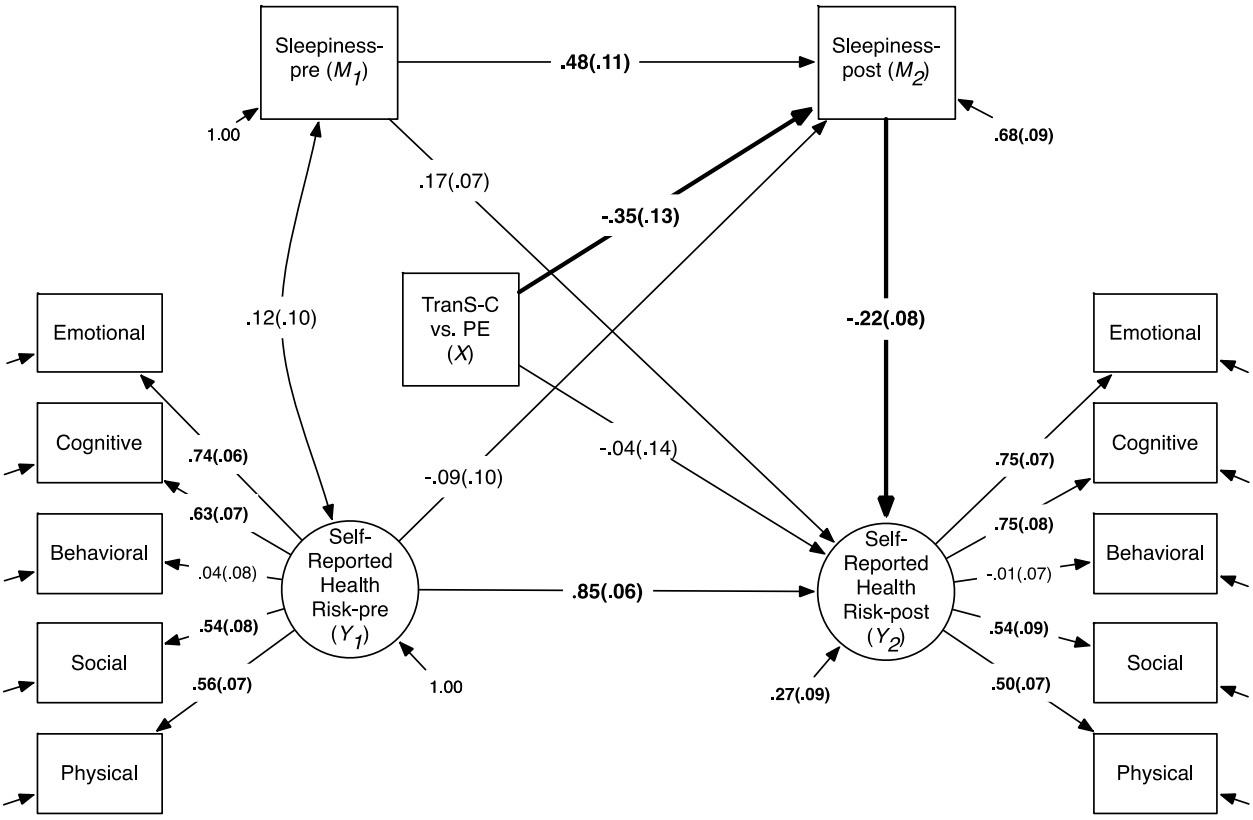
Figure S1.

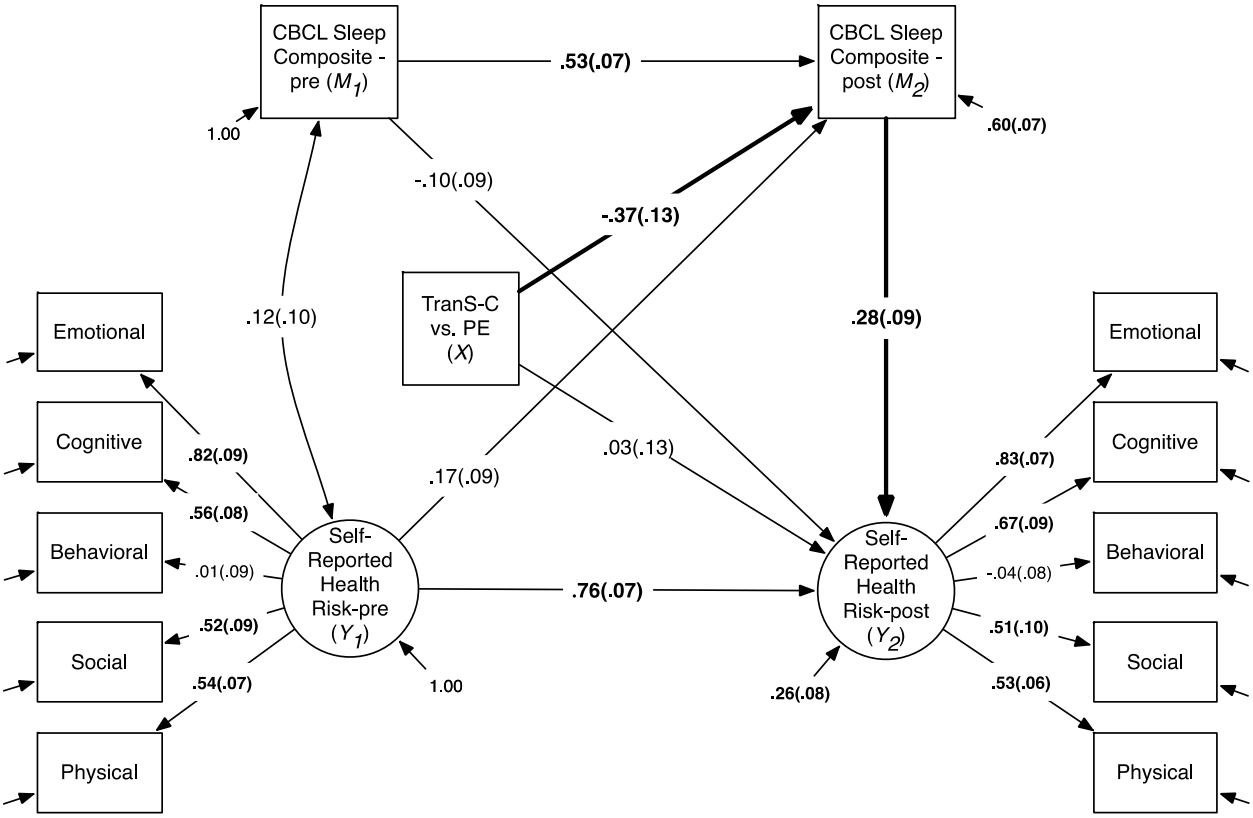
Daytime Sleepiness Mediates the Effects of TranS-C on Youth Self-Reported Health Risk.



Notes. The indirect paths tested in this model are shown in bold. The indirect effects from TranS-C to Youth Self-Reported Health Risk at posttreatment via sleepiness was estimated at -0.06, 95% bootstrap CI: (-0.14, -0.01) as shown in Table 5. Standardized coefficients (STDY standardization) and standard errors are shown on the corresponding paths. Significant coefficients are in bold. Residuals of each indicator variable (e.g., emotional, cognitive) for Self-Reported Health Risk are not shown. Sex and age (not shown) are added as covariates in this model.

Figure S2.

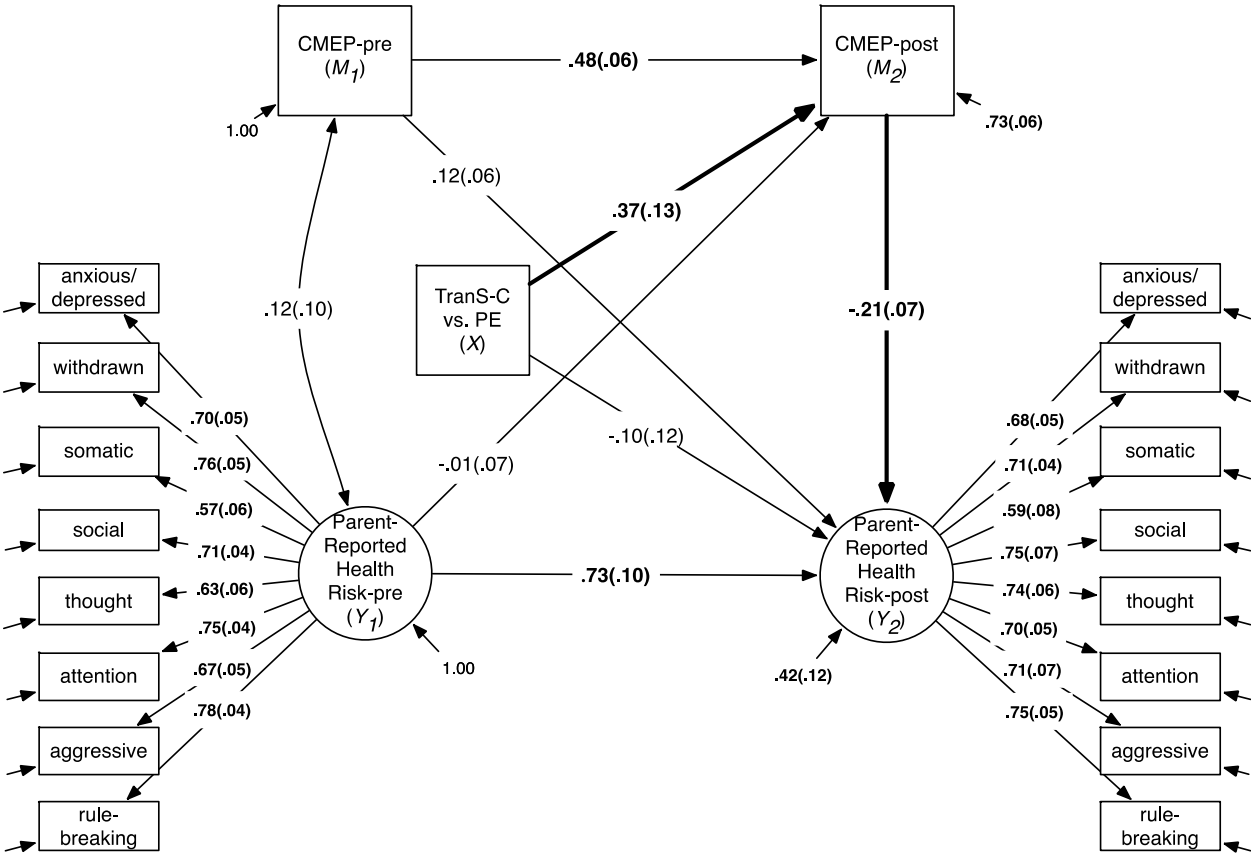
Parent-Reported CBCL Sleep Composite Mediates the Effects of TranS-C on Youth Self-Reported Health Risk.



Notes. The indirect paths tested in this model are shown in bold. The indirect effects from TranS-C to Youth Self-Reported Health Risk at posttreatment via CBCL Sleep Composite was estimated at -0.10, 95% bootstrap CI: (-0.20, -0.03) as shown in Table 5. CBCL = Child Behavior Checklist. Standardized coefficients (STDY standardization) and standard errors are shown on the corresponding paths. Significant coefficients are in bold. Residuals of each indicator variable (e.g., emotional, cognitive) for Self-Reported Health Risk are not shown. Sex and age (not shown) are added as covariates in this model.

Figure S3.

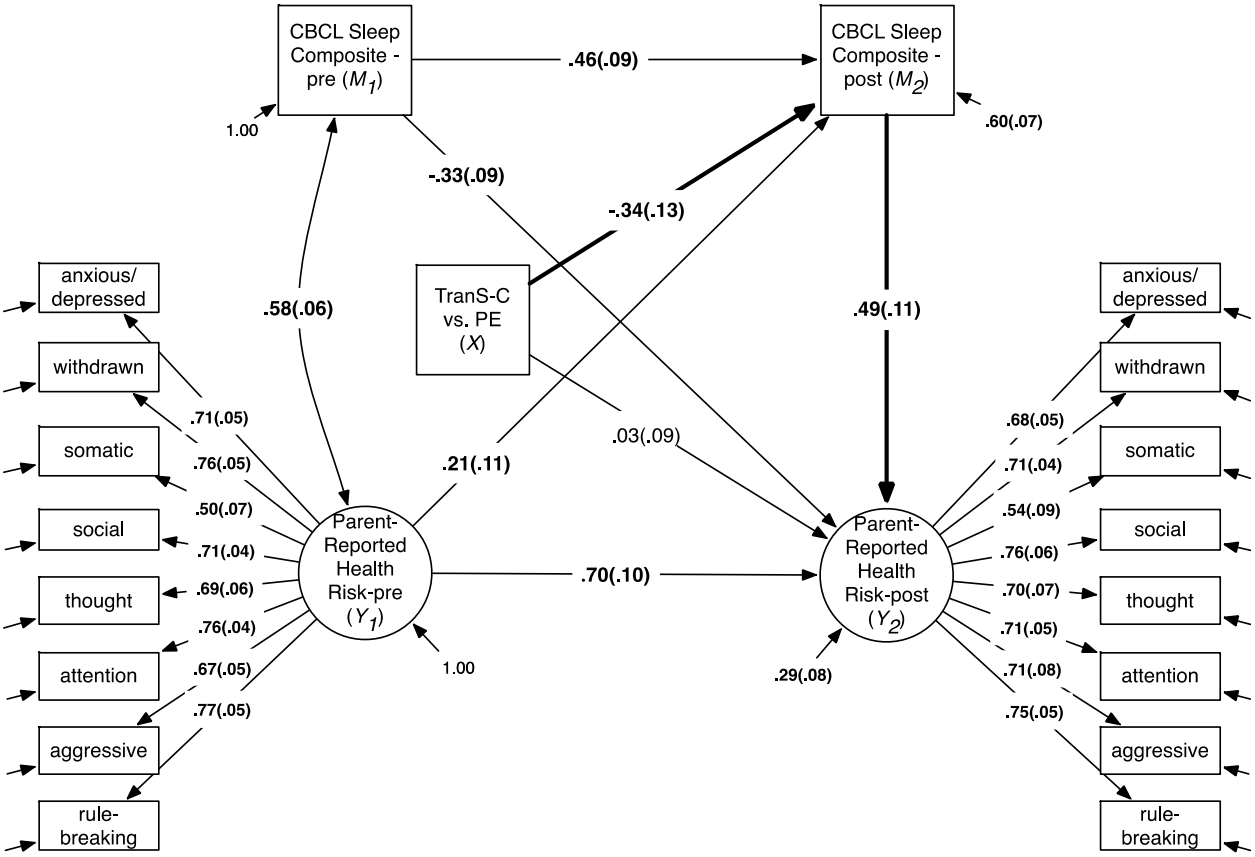
CMEP Mediates the Effects of TranS-C on Parent-Reported Health Risk.



Notes. The indirect paths tested in this model are shown in bold. The indirect effects from TranS-C to Parent-Reported Health Risk at posttreatment via CMEP was estimated at -0.08, 95% bootstrap CI: (-0.17, -0.01) as shown in Table 5. CMEP = Children's Morningness–Eveningness Preferences Scale. Standardized coefficients (STDY standardization) and standard errors are shown on the corresponding paths. Significant coefficients are in bold. Residuals of each indicator variable (e.g., anxious/depressed, withdrawn) for Parent-Reported Health Risk are not shown. Sex and age (not shown) are added as covariates in this model.

Figure S4.

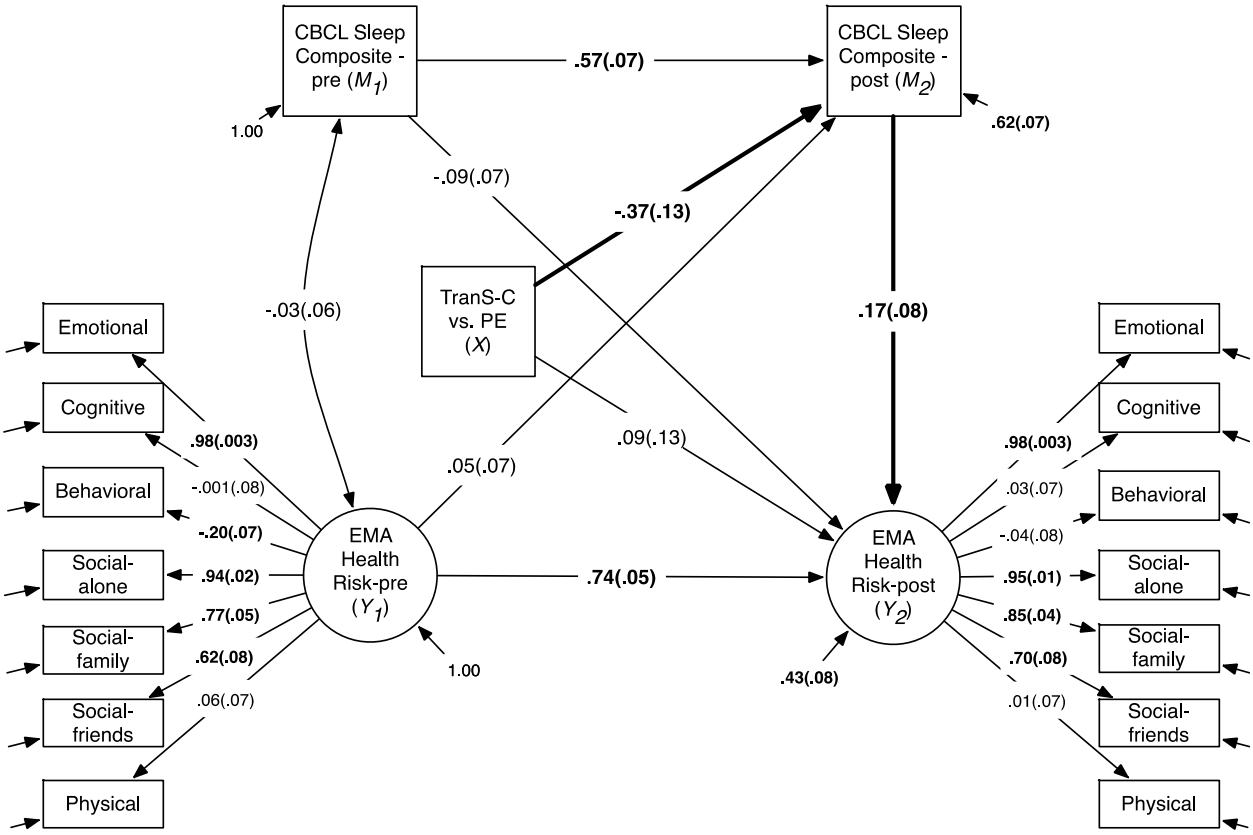
Parent-Reported CBCL Sleep Composite Mediates the Effects of TranS-C on Parent-Reported Health Risk.



Notes. The indirect paths tested in this model are shown in bold. The indirect effects from TranS-C to Parent-Reported Health Risk at posttreatment via CBCL Sleep Composite was estimated at -0.17, 95% bootstrap CI: (-0.34, -0.03) as shown in Table 5. We removed the 7 sleep items that comprised the CBCL Sleep Composite from the CBCL subscale scores so that there was no overlap between the mediator and the outcome. CBCL = Child Behavior Checklist. Standardized coefficients (STDY standardization) and standard errors are shown on the corresponding paths. Significant coefficients are in bold. Residuals of each indicator variable (e.g., anxious/depressed, withdrawn) for Parent-Reported Health Risk are not shown. Sex and age (not shown) are added as covariates in this model.

Figure S5.

Parent-Reported CBCL Sleep Composite Mediates the Effects of TranS-C on EMA-Assessed Health Risk.



Notes. The indirect paths tested in this model are shown in bold. The indirect effects from TranS-C to EMA-Assessed Health Risk at posttreatment via CBCL Sleep Composite was estimated at -0.06, 95% bootstrap CI: (-0.14, -0.004) as shown in Table 5. CBCL = Child Behavior Checklist. Standardized coefficients (STDY standardization) and standard errors are shown on the corresponding paths. Significant coefficients are in bold. Residuals of each indicator variable (e.g., emotional, cognitive) for EMA-assessed health risk are not shown. Sex and age (not shown) are added as covariates in this model.

Supplement 1. Note on missing data from pre- to post-treatment

Missing data was handled by maximum likelihood as recommended in the literature (Enders & Bandalos, 2001). Percentages of missing data at post-treatment compared to pre-treatment [(N_{pre} - N_{post})/N_{pre}] were:

Sleep diary variables 9%, CMEP 12%, Sleepiness 15%, PSQI 12%, DLMO 10%;

Youth self-reported risk CDRS 9%, MASC 7%, ACS 15%, YSAS 12%, SSS 14% ASU 13%, MAQ 12%, PHQ 15%;

Parent-reported health risk on the CBCL 8%;

EMA emotional domain 10%, EMA cognitive domain 10%, EMA behavioral domain 1%, EMA social domain 1%, EMA physical domain 10%.

Supplement 2. Sample Scripts for the Mediation Model

1. Outcome: Youth Self-Reported Health Risk

```
TITLE: Two wave ANCOVA;
DATA: FILE = all_mediators_outcomes_prepost.csv;

VARIABLE:
NAMES =
ID Tx age_yr_0 sex_0
WD_TST0 WD_BT0 CMEP0
TSTdif0 BTdif0 WTdif0
RTdif0 sleepiness0 PSQI0 CBCLsleep0
WD_TST1 WD_BT1 CMEP1
TSTdif1 BTdif1 WTdif1
RTdif1 sleepiness1 PSQI1 CBCLsleep1

EMO0 COG0 BEHAV0 SOCIAL0 PHY0
EMO1 COG1 BEHAV1 SOCIAL1 PHY1

anxious_0 withdrawn_0 somatic_0 social_0
thought_0 attention_0 rulebreak_0 aggressive_0
anxious_1 withdrawn_1 somatic_1 social_1
thought_1 attention_1 rulebreak_1 aggressive_1

Positivity_Ratio_0 CogSum_0 Behav_sum0
Alone0 Family0 Friends0 AvgPHYS0
Positivity_Ratio_1 CogSum_1 Behav_sum1
Alone1 Family1 Friends1 AvgPHYS1;

!x = treatment condition
!m = CMEP

IDVARIABLE = ID;
USEVAR = Tx
age_yr_0 sex_0
CMEP0 CMEP1
EMO0 COG0 BEHAV0 SOCIAL0 PHY0
EMO1 COG1 BEHAV1 SOCIAL1 PHY1;

MISSING IS all(-99);

ANALYSIS:
estimator = ml;
type = general;
bootstrap = 5000;

MODEL:
RISK0 BY EMO0
      COG0
      BEHAV0
      SOCIAL0
      PHY0;

RISK1 BY EMO1
```

```
        COG1
        BEHAV1
        SOCIAL1
        PHY1;

EMO0 WITH EMO1;
COG0 WITH COG1;
BEHAV0 WITH BEHAV1;
SOCIAL0 WITH SOCIAL1;
PHY0 WITH PHY1;

CMEP0 with RISK0;

CMEP1 on Tx (am2x)
        CMEP0(sm1)
        RISK0
        age_yr_0 sex_0;

RISK1 on Tx
        CMEP1 (by2m2)
        CMEP0(b)
        RISK0(sy1)
        age_yr_0 sex_0;

MODEL INDIRECT:
RISK1 IND CMEP1 Tx;

OUTPUT: SAMPSTAT
STANDARDIZED
CINTERVAL(Bootstrap)
TECH1 TECH4;
```

2. Outcome: Parent-Reported Health Risk

```
TITLE: Two wave ANCOVA;
DATA: FILE = all_mediators_outcomes_prepost.csv;

VARIABLE:
NAMES =
ID Tx age_yr_0 sex_0
WD_TST0 WD_BT0 CMEP0
TSTdif0 BTdif0 WTdif0
RTdif0 sleepiness0 PSQI0 CBCLsleep0
WD_TST1 WD_BT1 CMEP1
TSTdif1 BTdif1 WTdif1
RTdif1 sleepiness1 PSQI1 CBCLsleep1

EMO0 COG0 BEHAV0 SOCIAL0 PHY0
EMO1 COG1 BEHAV1 SOCIAL1 PHY1

anxious_0 withdrawn_0 somatic_0 social_0
thought_0 attention_0 rulebreak_0 aggressive_0
anxious_1 withdrawn_1 somatic_1 social_1
thought_1 attention_1 rulebreak_1 aggressive_1
```

```
Positivity_Ratio_0 CogSum_0 Behav_sum0
Alone0 Family0 Friends0 AvgPHYS0
Positivity_Ratio_1 CogSum_1 Behav_sum1
Alone1 Family1 Friends1 AvgPHYS1;

!x = treatment condition
!m = CMEP

IDVARIABLE = ID;
USEVAR = Tx
age_yr_0 sex_0
CMEP0 CMEP1

anxious_0 withdrawn_0 somatic_0 social_0
thought_0 attention_0 rulebreak_0 aggressive_0
anxious_1 withdrawn_1 somatic_1 social_1
thought_1 attention_1 rulebreak_1 aggressive_1;

MISSING IS all(-99);

ANALYSIS:
estimator = ml;
type = general;
bootstrap = 5000;

MODEL:
RISK0 BY anxious_0
        withdrawn_0
        somatic_0
        social_0
        thought_0
        attention_0
        rulebreak_0
        aggressive_0;

RISK1 BY anxious_1
        withdrawn_1
        somatic_1
        social_1
        thought_1
        attention_1
        rulebreak_1
        aggressive_1;

anxious_0 WITH anxious_1;
withdrawn_0 WITH withdrawn_1;
somatic_0 WITH somatic_1;
social_0 WITH social_1;
thought_0 WITH thought_1;
attention_0 WITH attention_1;
rulebreak_0 WITH rulebreak_1;
aggressive_0 WITH aggressive_1;

CMEP0 with RISK0;

CMEP1 on Tx (am2x)
```

```
        CMEP0(sm1)
        RISK0
        age_yr_0 sex_0;

RISK1 on Tx
        CMEP1 (by2m2)
        CMEP0(b)
        RISK0(sy1)
        age_yr_0 sex_0;

MODEL INDIRECT:
RISK1 IND CMEP1 Tx;

OUTPUT: SAMPSTAT
STANDARDIZED
CINTERVAL(Bootstrap)
TECH1 TECH4;
```

3. Outcome: EMA-assessed Health Risk

```
TITLE: Two wave ANCOVA;
DATA: FILE = all_mediators_outcomes_prepost2.csv;

VARIABLE:
NAMES =
ID Tx age_yr_0 sex_0
WD_TST0 WD_BT0 CMEP0
TSTdif0 BTdif0 WTdif0
RTdif0 sleepiness0 PSQI0 CBCLsleep0
WD_TST1 WD_BT1 CMEP1
TSTdif1 BTdif1 WTdif1
RTdif1 sleepiness1 PSQI1 CBCLsleep1

EMO0 COG0 BEHAV0 SOCIAL0 PHY0
EMO1 COG1 BEHAV1 SOCIAL1 PHY1

anxious_0 withdrawn_0 somatic_0 social_0
thought_0 attention_0 rulebreak_0 aggressive_0
anxious_1 withdrawn_1 somatic_1 social_1
thought_1 attention_1 rulebreak_1 aggressive_1

PRatio0 CogSum0 BehSum0
Alone0 Family0 Friends0 AvgPHY0
PRatio1 CogSum1 BehSum1
Alone1 Family1 Friends1 AvgPHY1;

IDVARIABLE = ID;
USEVAR = Tx
age_yr_0 sex_0
CBCLsleep0 CBCLsleep1

PRatio0 CogSum0
Alone0 Family0 Friends0 AvgPHY0
PRatio1 CogSum1
Alone1 Family1 Friends1 AvgPHY1;
```

```
MISSING IS all(-99);

ANALYSIS:
estimator = ml;
type = general;
bootstrap = 5000;

MODEL:
RISK0 BY PRatio0*
        CogSum0
        BehSum0
        Alone0
        Family0
        Friends0
        AvgPHY0;

RISK1 BY PRatio1*
        CogSum1
        BehSum1
        Alone1
        Family1
        Friends1
        AvgPHY1;

RISK0 @1;
RISK1 @1;

PRatio0 WITH PRatio1;
CogSum0 WITH CogSum1;
BehSum0 WITH BehSum1;
Alone0 WITH Alone1;
Family0 WITH Family1;
Friends0 WITH Friends1;
AvgPHY0 WITH AvgPHY1;

CBCLsleep0 with RISK0;

CBCLsleep1 on Tx (am2x)
        CBCLsleep0(sm1)
        RISK0
        age_yr_0 sex_0;

RISK1 on Tx
        CBCLsleep1 (by2m2)
        CBCLsleep0(b)
        RISK0(sy1)
        age_yr_0 sex_0;

MODEL INDIRECT:
RISK1 IND CBCLsleep1 Tx;

OUTPUT: SAMPSTAT
STANDARDIZED
CINTERVAL (BOOTSTRAP)
TECH1 TECH4;
```