Supplemental Table 1 NTFM Model Fit Statistics using Parents’ Internalizing Factor Score and Mother-Reported Disordered Eating for Twins (n= 279 families)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Model | -2lnL | df | Δ-2lnL (Δdf) | p | AIC | BIC | SABIC | DIC |
| Baseline | 2656.95 | 964 |  |  |  |  |  |  |
| ADSE | 2683.65 | 986 | 26.70 (22) | .22 | 711.65 | -1434.36 | 128.90 | -528.29 |
| ADFE | 2686.71 | 986 | 29.76 (22) | .12 | 714.71 | -1432.83 | 130.43 | -526.76 |
| AFSE | 2683.65 | 986 | 26.70 (22) | .22 | 711.65 | -1434.36 | 128.90 | -528.29 |
| **ASE** | **2683.93** | **987** | 26.98 (23) | **.26** | **709.93** | **-1437.04** | **127.81** | **-530.05** |
| ADE | 2686.72 | 987 | 29.77 (23) | .16 | 712.72 | -1435.64 | 129.20 | -528.65 |
| AFE | 2687.49 | 987 | 30.54 (23) | .13 | 713.49 | -1435.26 | 129.59 | -528.27 |
| AE | 2698.48 | 988 | 41.53 (24) | .01 | 722.48 | -1432.58 | 133.85 | -524.67 |

*Note.* A= additive genetic, D= dominant genetic, S=environmental influences shared by siblings; F=environmental influences shared by all family members, and E= non-shared environmental influences. AIC= Akaike’s Information Criterion, BIC=Bayesian Information Criterion, SABIC= sample size adjusted Bayesian Information Criterion, and DIC=Deviance Information Criterion. STAI= State Trait Anxiety Inventory, MPQ= Multidimensional Personality Questionnaire. The best-fitting model as determined by the lowest AIC, BIC, SABIC, and DIC, and non-significant change in -2lnL is bolded.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Model |   | A | E | S | F | Passive rGE | Assortative Mating |
| AFSE | Std. | .507 (.178, .894) | **.355 (.282, .453)** | .173 (.000, .355) | .004 (.000, .078) |  |  |
| (full) | UnStd. | .692 (.416, .905) | **.596 (.531, .673)** | .416 (-.596, .596) | -.040 (-.185, .000)  | -.032 (-.171, .071) | .121 (-.016, .250) |
| ASE | Std. | **.423 (.290, .565)** | **.366 (.297, .452)** | **.209 (.098, .332)** | **-** | - |   |
| (best) | UnStd. | **.634 (.528, .732)** | **.605 (.545, .672)** | **.457 (.314, .576)** |  - | -  | .117 (-.019, .246) |

Supplemental Table 2. Standardized and Unstandardized Parameter Estimates for the Full and Best-Fitting Models using Parents’ Internalizing Factor Score and Mother-Reported Disordered Eating for Twins (n= 279 families)

*Note.* Std= Standardized; Unstd= Unstandardized; A= additive genetic, E=non-shared environmental, S= environmental influences shared by siblings, F= environmental influences shared by all family members. Passive rGE= passive gene-environment correlation. 95% confidence interval provided in parentheses. Any CI intervals that include zero are non-significant. Significant parameters are bolded. The best-fitting model (i.e., “ASE”) is indicated by “best” under model name. Given our interest in exploring the possibility of F and passive rGE, the full-model including F was provided and labelled as “full”.

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| Supplemental Table 3. Descriptive Statistics for MSUTR and MTFS samples |
|   | **Combined Sample** | **MSUTR** | **MTFS** |
| # families | 530 | 279 | 251 |
|  MZ | 303 (57.2%) | 142 (50.9%) | 161 (64.1%) |
|  DZ | 227 (42.8%) | 137 (49.1%) | 90 (35.9%) |
| Family Participation |  |  |  |
|  Both Bio Parents | 396 (74.7%) | 190 (68.1%) | 206 (82.1%) |
|  Bio Mother Only | 113 (21.3%) | 77 (27.6%) | 36 (14.3%) |
|  Bio Father Only | 15 (2.8%) | 8 (2.9%) | 7 (2.8%) |
|  No parents | 6 (1.1%) | 4 (1.4%) | 2 (0.8%) |
| Age |  |  |  |
|  Twin age (M(SD)) | 11.01 (1.12) [8.02-14.45] | 10.44 (1.24) [8.02-14.45] | 11.64 (0.46) [10.75-12.51] |
| MEBS Total Score |  |  |  |
|  Twin (M(SD) [Range]) | 4.43 (4.29) [0-20.00] | 3.81 (3.88) [0.00-19.00] | 5.16 (4.63) [0.00-20.00] |
| STAI-Trait |  |  |  |
|  Mother (M(SD) [Range]) | 35.32 (8.79) [20.00-68.00] | 36.77 (9.11) [20.00-63.00] | 33.73 (8.15) [21.00-68.00] |
|  Father (M(SD) [Range]) | 33.86 (8.44) [20.00-60.00] | 33.89 (9.32) [20.00-60.00] | 33.84 (7.56) [20.00- 60.00] |
| MPQ-Negative Emotionality1 |  |  |  |
|  Mother (M(SD) [Range]) | 62.52 (19.34) [27- 112.50] | 47.42 (9.59) [27.00-78.00] | 79.49 (12.11) [49.60-112.50] |
|  Father (M(SD) [Range]) | 71.32 (19.56) [27-120.40] | 50.84 (12.36) [27.00-73.00] | 81.76 (13.31) [55.40-120.40] |
|  z-scored Mother (M(SD) [Range]) | .00 (1.00) [-2.47, 3.19) | .00 (1.00) [-2.13, 3.19] | .00 (1.00) [-2.47, 2.73] |
|  z-scored Father (M(SD) [Range]) | .00 (1.00) [-1.99, 2.91] | .00 (1.00) [-1.93, 1.79] | .00 (1.00) [-1.99, 2.91] |
| Phenotypic Correlations |  |  |  |
|  Mother-daughter | STAI r=.04, NEM r=.13\*\*  | STAI r=.07, NEM r=.07  | STAI r=-.04, NEM r=-.02 |
|  Father-daughter | STAI r=.09\*, NEM r=.13\*\* | STAI r=.02, NEM r=.12 | STAI r=.01, NEM r=.10  |
| Twin Correlations | MZ: r=.52\*\*\* DZ: r=.40\*\*\*z=2.39, p=.01 | MZ: r=.42\*\*\* DZ: r=.41\*\*\*z=.14, p=.44 | MZ: r=. 55\*\*\* DZ: r=.36\*\*\*z=2.44, p=.01 |

Note. MZ= monozygotic (i.e., identical); DZ = dizygotic (i.e., fraternal) twins; M=mean; SD = standard deviation; MEBS= Minnesota Eating Behavior Survey; STAI- Trait = State Trait Anxiety Inventory- Trait anxiety; MPQ = Multidimensional Personality Questionnaire. MSUTR= Michigan State University Twin Registry; MTFS= Minnesota Twin Family Study.

\*p<.05, \*\*p<.01, \*\*\*p<.001

1 The MSUTR used the 155-item version of the MPQ, whereas the MTFS used the 198-itme version of the MPQ; thus, the raw scores on this measure are not comparable across samples.

Supplemental Table 4. NTFM Model Fit Statistics using Parent’s Trait Anxiety and Negative Emotionality and Twins’ Disordered Eating in Combined MSUTR+ MTFS Sample (N=530 twin families)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Model | -2lnL | df | Δ-2lnL (Δdf) | p | AIC | BIC | SABIC | DIC |
| **STAI- Trait Anxiety**  |
| Baseline | 5245.83 | 1907 |  |  |  |  |  |  |
| ADSE | 5286.74 | 1929 | 40.91(22) | 0.01 | 1428.74 | -3405.00 | -343.41 | -1632.37 |
| ADFE | 5292.03 | 1929 | 46.20(22) | <.01 | 1434.03 | -3402.35 | -340.76 | -1629.72 |
| AFSE | 5286.74 | 1929 | 40.91(22) | 0.01 | 1428.74 | -3405.00 | -343.41 | -1632.37 |
| **ASE** | **5287.28** | **1930** | **41.45(23)** | **0.01** | **1427.28** | **-3407.86** | **-344.68** | **-1634.31** |
| ADE | 5294.63 | 1930 | 48.80(23) | <.01 | 1434.63 | -3404.19 | -341.01 | -1630.64 |
| AFE | 5292.03 | 1930 | 46.20(23) | <.01 | 1432.03 | -3405.49 | -342.31 | -1631.94 |
| AE | 5322.42 | 1931 | 76.59(24) | <.01 | 1460.42 | -3393.66 | -328.66 | -1618.96 |
|  |  |  |  |  |  |  |  |  |
| **MPQ-Negative Emotionality**  |
| Baseline | 4942.60 | 1786 |  |  |  |  |  |  |
| ADSE | 4961.10 | 1808 | 18.50(22) | 0.68 | 1345.10 | -3188.42 | -318.87 | -1526.98 |
| ADFE | 4966.46 | 1808 | 23.86(22) | 0.35 | 1350.43 | -3185.76 | -316.21 | -1524.32 |
| AFSE | 4961.10 | 1808 | 18.50(22) | 0.68 | 1345.10 | -3188.42 | -318.87 | -1526.98 |
| **ASE** | **4962.15** | **1809** | **19.55(23)** | **0.67** | **1344.15** | **-3191.03** | **-319.90** | **-1528.67** |
| ADE | 4970.17 | 1809 | 27.56(23) | 0.23 | 1352.17 | -3187.03 | -315.89 | -1524.67 |
| AFE | 4966.43 | 1809 | 23.83(23) | 0.41 | 1348.43 | -3188.89 | -317.76 | -1526.53 |
| AE | 5003.00 | 1810 | 60.40(24) | <.01 | 1383.00 | -3173.74 | -301.02 | -1510.46 |
|  |  |  |  |  |  |  |  |  |

*Note.* A= additive genetic, D= dominant genetic, S=environmental influences shared by siblings; F=environmental influences shared by all family members, and E= non-shared environmental influences. AIC= Akaike’s Information Criterion, BIC=Bayesian Information Criterion, SABIC= sample size adjusted Bayesian Information Criterion, and DIC=Deviance Information Criterion. STAI= State Trait Anxiety Inventory, MPQ= Multidimensional Personality Questionnaire. The best-fitting model as determined by the lowest AIC, BIC, SABIC, and DIC, and non-significant change in -2lnL is bolded.

Supplemental Table 5. Standardized and Unstandardized Parameter Estimates for the Full and Best-Fitting Models using Parent’s Trait Anxiety and Negative Emotionality and Twins’ Disordered Eating in Combined MSUTR+ MTFS Sample (N=530 twin families)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Model |   | A | E | S | F | Passive rGE | Assortative Mating |
| **State-Trait Anxiety Inventory-Trait Anxiety** |
| AFSE | Std. | .199 (.000, .504) | **.534(.457, .627)** | **.225 (.032, .420)** | .006 (.000, .014) |  |  |
| (full) | UnStd. | .443(-.700, .700) | **.731 (.676, .792)** | **.474 (.180, .614)** | -.054 (-.184, .081)  | -.024 (-.118, .118) | .076 (-.029, .177) |
| ASE | Std. | **.098 (.005, .193)** | **.552 (.484, .630)** | **.292 (.192, .398)** | **-** | - |   |
| (best) | UnStd. | **.312 (.072, .436)** | **.743 (.696, .794)** | **.540 (.438, .631)** |  - | -  | .076 (-.029, .178) |
| **MPQ-Negative Emotionality**  |
| AFSE | Std. | .196 (.000, .512) | **.536 (.458, .630)** | **.234 (.034, .425)** | .012 (.000, .091) |  |  |
| (full) | UnStd. | .438 (-.698, .698) | **.732 (.677, .794)** | **.484 (.186, .657)** | **-.075 (-.205,-.075)** | -.035(-.137 .010) | **.135 (.017, .246)** |
| ASE | Std. | .055 (.000, .155) | **.563 (.494, .642)** | **.330 (.225, .441)** | **-** | - |  |
| (best) | UnStd. | .234(-.389, .389) | **.750 (.703, .802)** | **.574 (.474, .664)** | - | - | **.135 (.017, .246)** |

*Note.* Std= Standardized; Unstd= Unstandardized; A= additive genetic, E=non-shared environmental, D=dominant genetic influences, S= environmental influences shared by siblings, F= environmental influences shared by all family members. Passive rGE= passive gene-environment correlation. 95% confidence interval provided in parentheses. Any CI intervals that include zero are non-significant. Significant parameters are bolded. The best-fitting model (i.e., “ASE”) is indicated by “best” under model name. Given our interest in exploring the possibility of F and passive rGE, the full-model including F was provided and labelled as “full”.