

Supplementary Online Content

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N=6219

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eFigure 2. Trivariate model of liability to MDD and trauma in the cohort II sample.*

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Summary of Twin Recruitment *

| <u>Recruitment Status</u> | <u>N</u> | <u>%</u> |
|---|-----------------|-----------------|
| <u>Interviewed</u> | <u>1567</u> | <u>61.2</u> |
| <u>Consented to interview, but refused family contact (ineligible)</u> | <u>8</u> | <u>0.3</u> |
| <u>Ineligible due to refusal of family members</u> | <u>233</u> | <u>9.1</u> |
| <u>Ineligible due to not enough family members to qualify</u> | <u>160</u> | <u>6.2</u> |
| <u>Deceased</u> | <u>34</u> | <u>1.3</u> |
| <u>Incapable due to illness or disability</u> | <u>14</u> | <u>0.5</u> |
| <u>Lost to contact</u> | <u>55</u> | <u>2.1</u> |
| <u>Overseas</u> | <u>17</u> | <u>0.7</u> |
| <u>Unable to participate – miscellaneous reasons</u> | <u>5</u> | <u>0.2</u> |
| <u>Prior non-contact request for future studies</u> | <u>41</u> | <u>1.6</u> |
| <u>Refused</u> | <u>427</u> | <u>16.7</u> |
| <u>* Does not include individuals in progress when data collection was closed</u> | | |

eTable 2. Demographic Characteristics and Prevalence of Psychiatric Disorders

| | <u>Females (n=1621)</u> | <u>Males (n= 970)</u> |
|---|------------------------------------|----------------------------------|
| <u>Age, mean (SD)</u> | <u>38.6 (4.5)</u> | <u>38.7 (5.0)</u> |
| <u>Educational attainment</u> | | |
| <u>College degree or higher</u> | <u>28.1 %</u> | <u>28.4 %</u> |
| <u>Some post-secondary</u> | <u>29.0 %</u> | <u>29.3 %</u> |
| <u>Secondary school degree</u> | <u>30.3 %</u> | <u>33.0 %</u> |
| <u>No secondary school degree</u> | <u>12.5 %</u> | <u>9.4 %</u> |
| <u>Marital status</u> | | |
| <u>Married</u> | <u>64.6 %</u> | <u>58.6 %</u> |
| <u>Separated</u> | <u>4.6 %</u> | <u>4.4 %</u> |
| <u>Divorced or widowed</u> | <u>9.8 %</u> | <u>8.2 %</u> |
| <u>Never married</u> | <u>21.0 %</u> | <u>28.8 %</u> |
| <u>Psychiatric disorders</u> | | |
| <u>Conduct disorder</u> | <u>4.8 %</u> | <u>14.8 %</u> |
| <u>Major depressive disorder</u> | <u>37.9 %</u> | <u>27.3 %</u> |
| <u>Post-traumatic stress disorder *</u> | <u>23.9 %</u> | <u>10.0 %</u> |
| <u>Panic disorder</u> | <u>4.4 %</u> | <u>2.5 %</u> |
| <u>Alcohol dependence</u> | <u>16.7 %</u> | <u>30.8 %</u> |
| <u>Nicotine dependence</u> | <u>30.0 %</u> | <u>33.5 %</u> |
| <u>Illicit drug dependence</u> | <u>6.0 %</u> | <u>12.3 %</u> |

* Limited to trauma exposed (Females N=934; Males N=709)

eTable 3. Twin and Sibling Tetrachoric Correlations (and 95% Confidence Intervals) for Low-risk Trauma, High-risk Trauma, PTSD, and MDD

| | <u>Low-risk Trauma</u> | <u>High-risk Trauma</u> | <u>PTSD</u> | <u>MDD</u> |
|------------------------------|-----------------------------------|-----------------------------------|------------------------------------|-----------------------------------|
| <u>MZ Twins (N=141-341)</u> | <u>0.49</u> <u>(0.42-0.56)</u> | <u>0.62</u> <u>(0.56-0.69)</u> | <u>0.31</u> <u>(0.18-0.45)</u> | <u>0.40</u> <u>(0.32-0.47)</u> |
| <u>DZ Twins (N=161-313)</u> | <u>0.12</u> <u>(0.03-0.21)</u> | <u>0.24</u> <u>(0.15-0.33)</u> | <u>0.07</u> <u>(-0.06-0.21)</u> | <u>0.19</u> <u>(0.10-0.28)</u> |
| <u>Twin-Sib (N=712-1765)</u> | <u>0.23</u> <u>(0.20-0.27)</u> | <u>0.20</u> <u>(0.16-0.24)</u> | <u>0.14</u> <u>(0.10-0.18)</u> | <u>0.14</u> <u>(0.07-0.22)</u> |
| <u>Sib-Sib (N =236-577)</u> | <u>0.12</u> <u>(0.05-0.18)</u> | <u>0.24</u> <u>(0.17-0.31)</u> | <u>0.15</u> <u>(0.01-0.30)</u> | <u>0.09</u> <u>(0.03-0.16)</u> |

| eTable 4. Prevalence of Traumatic Events (Cohort II) | | |
|---|-----------------------------|---------------------------|
| Event | Females (n=3429) | Males (n=2773) |
| High-risk | | |
| Rape | 8.4 | 1.5 |
| Sexual molestation | 13.9 | 4.9 |
| Physical attack or assault | 5.9 | 14.7 |
| Childhood physical abuse | 4.2 | 2.9 |
| Serious childhood neglect | 1.9 | 1.3 |
| <i>Any high-risk trauma</i> | 23.6 | 20.5 |
| Low-risk | | |
| Combat exposure | 0.1 | 0.4 |
| Life-threatening accident | 12.8 | 26.8 |
| Fire, flood, or natural disaster | 11.3 | 17.1 |
| Witnessed injury or killing | 16.2 | 32.3 |
| Threatened with weapon/ held captive | 5.1 | 11.6 |
| <i>Any low-risk trauma</i> | 35.4 | 57.1 |

eTable 52. Magnitude of Additive Genetic (A) and Non-shared Environmental (E) Influences (95% confidence intervals also shown) on Low-risk Trauma, High-risk Trauma, and MDD (Cohort II) N=6219

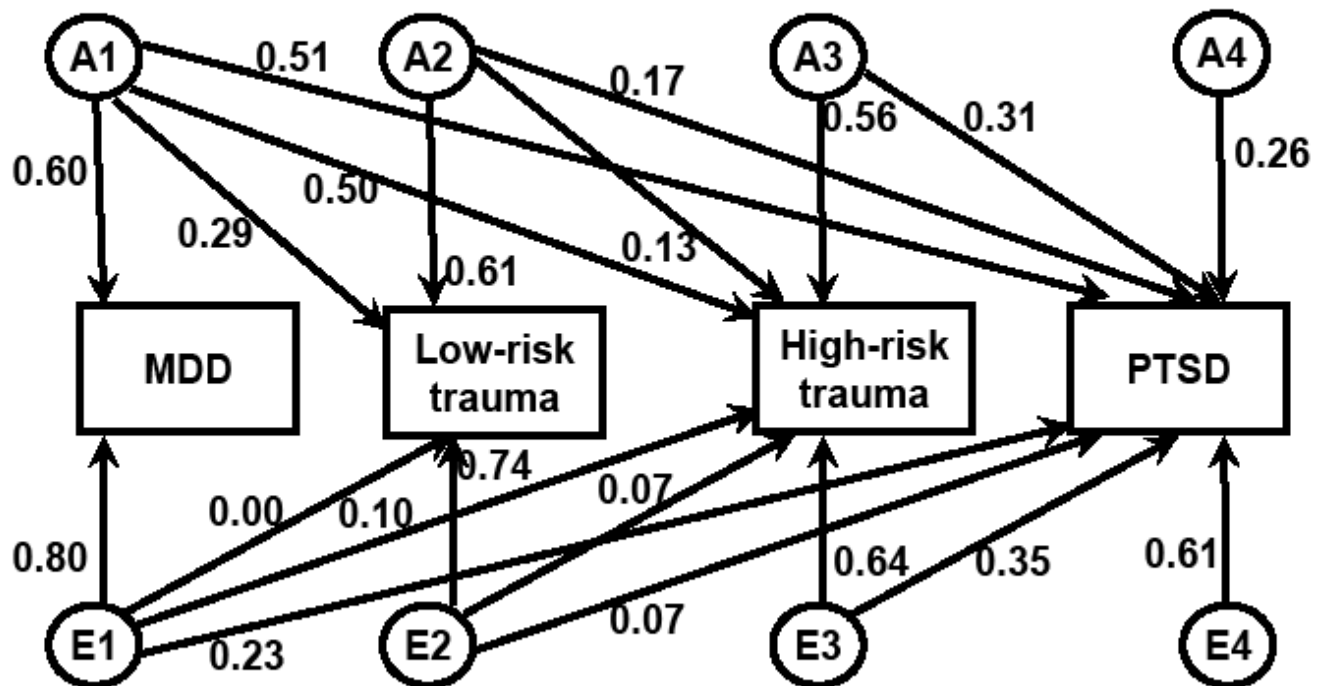
| | Additive genetic | Non-shared environmental |
|------------------|-------------------------|---------------------------------|
| Low-risk Trauma | 0.40 (0.33 – 0.47) | 0.60 (0.53 – 0.67) |
| High-risk Trauma | 0.61 (0.54 – 0.67) | 0.39 (0.33 – 0.46) |
| MDD | 0.37 (0.29 – 0.44) | 0.63 (0.56 – 0.71) |

eTable 63. Correlations Between Genetic and Non-shared Environmental Contributions to Low-risk Trauma, High-risk Trauma, and MDD (Cohort II) N=6219*

| | Low-Risk Trauma | High-Risk Trauma | MDD |
|------------------|-----------------|---------------------|---------------------|
| Low-risk Trauma | | 0.56 (0.47-0.64) | 0.46 (0.36-0.59) |
| High-risk Trauma | ----- | | 0.72 (0.62-0.81) |
| MDD | ----- | ----- | |

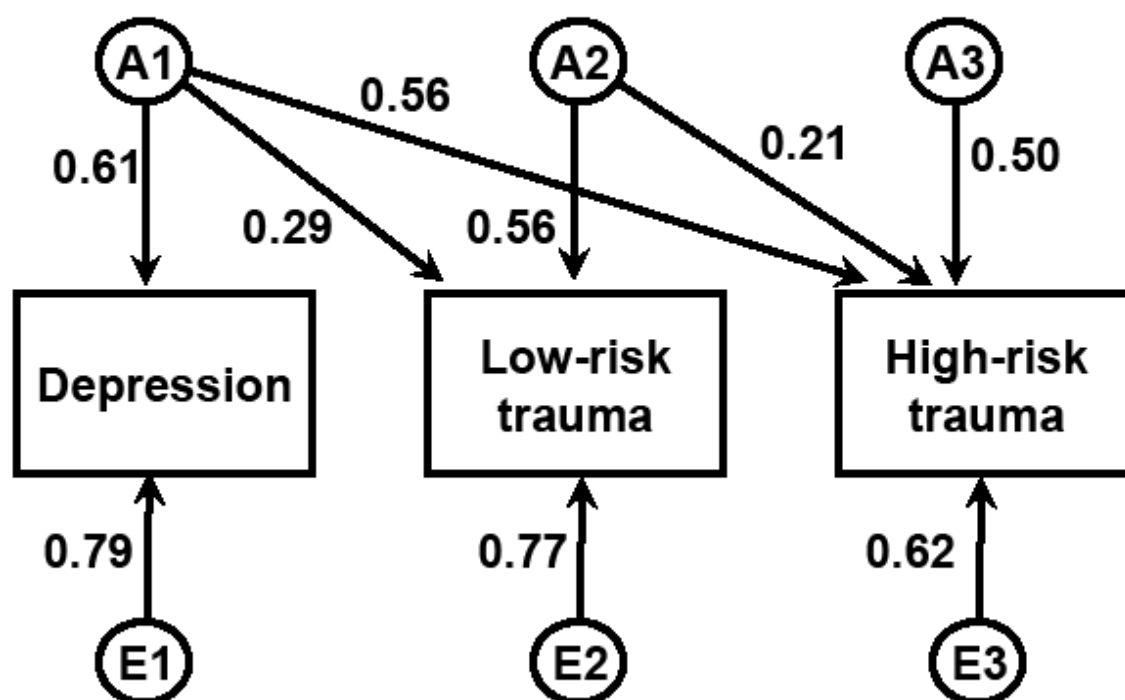
* Genetic correlations shown above the diagonal, non-shared environmental correlations shown below

Supplementary Figure 1. Saturated quadrivariate AE model of liability to MDD, trauma, and PTSD*



* Standardized parameter estimates are shown. A1-A4 denote genetic factors; E1-E4 are the non-shared environmental factors.

Supplementary Figure 2. Trivariate model of liability to MDD and trauma in the Cohort II sample*



* Standardized parameter estimates are shown. A1-A3 denote genetic factors; E1-E3 are the non-shared environmental factors.