

Supplementary Table 2. SNP heritabilities, pairwise genetic correlations, standard error of correlations, p-values of correlations and significance after Bonferroni correction for 10 psychiatric disorders.

| SNP heritability in liability scale (SE) |                 |
|------------------------------------------|-----------------|
| ADHD                                     | 0.1733 (0.0104) |
| AN                                       | 0.1552 (0.0119) |
| ANX                                      | 0.0507 (0.0036) |
| ASD                                      | 0.1287 (0.0115) |
| BIP                                      | 0.1844 (0.0087) |
| DYX                                      | 0.1666 (0.0083) |
| MDD                                      | 0.1068 (0.0056) |
| OCD                                      | 0.3228 (0.0549) |
| SCZ                                      | 0.4494 (0.0189) |
| TS                                       | 0.2319 (0.0287) |

| Correlation (SE) | ADHD             | AN               | ANX             | ASD             | BIP             | DYX              | MDD             | OCD             | SCZ             | TS       |
|------------------|------------------|------------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|----------|
| ADHD             | 1.00E+00         |                  |                 |                 |                 |                  |                 |                 |                 |          |
| AN               | 0.0424 (0.0414)  | 1.00E+00         |                 |                 |                 |                  |                 |                 |                 |          |
| ANX              | 0.4676 (0.0442)  | 0.3 (0.0475)     | 1.00E+00        |                 |                 |                  |                 |                 |                 |          |
| ASD              | 0.4087 (0.0572)  | 0.0891 (0.0577)  | 0.2308 (0.0561) | 1.00E+00        |                 |                  |                 |                 |                 |          |
| BIP              | 0.2344 (0.0338)  | 0.1809 (0.0369)  | 0.4068 (0.0423) | 0.2061 (0.0463) | 1.00E+00        |                  |                 |                 |                 |          |
| DYX              | 0.3997 (0.0343)  | -0.0441 (0.0357) | 0.1828 (0.0378) | 0.0765 (0.044)  | 0.114 (0.0319)  | 1.00E+00         |                 |                 |                 |          |
| MDD              | 0.5195 (0.0361)  | 0.2547 (0.0373)  | 0.8574 (0.0459) | 0.3398 (0.0391) | 0.441 (0.0353)  | 0.1437 (0.0276)  | 1.00E+00        |                 |                 |          |
| OCD              | -0.1131 (0.0698) | 0.4187 (0.0782)  | 0.3409 (0.0783) | 0.1413 (0.0934) | 0.3308 (0.0622) | -0.1248 (0.0584) | 0.2822 (0.0595) | 1.00E+00        |                 |          |
| SCZ              | 0.19 (0.0292)    | 0.2231 (0.0365)  | 0.3948 (0.042)  | 0.2453 (0.0408) | 0.6878 (0.0333) | 0.0792 (0.0281)  | 0.3282 (0.0329) | 0.2948 (0.0617) | 1.00E+00        |          |
| TS               | 0.2051 (0.0544)  | 0.1209 (0.0695)  | 0.2666 (0.0706) | 0.1497 (0.0654) | 0.1026 (0.0506) | -0.0184 (0.0498) | 0.2156 (0.0466) | 0.351 (0.1029)  | 0.0946 (0.0438) | 1.00E+00 |

| Correlation | ADHD  | AN    | ANX  | ASD  | BIP  | DYX   | MDD  | OCD  | SCZ  | TS   |
|-------------|-------|-------|------|------|------|-------|------|------|------|------|
| ADHD        | 1.00  |       |      |      |      |       |      |      |      |      |
| AN          | 0.04  | 1.00  |      |      |      |       |      |      |      |      |
| ANX         | 0.47  | 0.30  | 1.00 |      |      |       |      |      |      |      |
| ASD         | 0.41  | 0.09  | 0.23 | 1.00 |      |       |      |      |      |      |
| BIP         | 0.23  | 0.18  | 0.41 | 0.21 | 1.00 |       |      |      |      |      |
| DYX         | 0.40  | -0.04 | 0.18 | 0.08 | 0.11 | 1.00  |      |      |      |      |
| MDD         | 0.52  | 0.25  | 0.86 | 0.34 | 0.44 | 0.14  | 1.00 |      |      |      |
| OCD         | -0.11 | 0.42  | 0.34 | 0.14 | 0.33 | -0.12 | 0.28 | 1.00 |      |      |
| SCZ         | 0.19  | 0.22  | 0.39 | 0.25 | 0.69 | 0.08  | 0.33 | 0.29 | 1.00 |      |
| TS          | 0.21  | 0.12  | 0.27 | 0.15 | 0.10 | -0.02 | 0.22 | 0.35 | 0.09 | 1.00 |

| SE of correlation | ADHD | AN   | ANX  | ASD  | BIP  | DYX  | MDD  | OCD  | SCZ  | TS |
|-------------------|------|------|------|------|------|------|------|------|------|----|
| ADHD              |      |      |      |      |      |      |      |      |      |    |
| AN                | 0.04 |      |      |      |      |      |      |      |      |    |
| ANX               | 0.04 | 0.05 |      |      |      |      |      |      |      |    |
| ASD               | 0.06 | 0.06 | 0.06 |      |      |      |      |      |      |    |
| BIP               | 0.03 | 0.04 | 0.04 | 0.05 |      |      |      |      |      |    |
| DYX               | 0.03 | 0.04 | 0.04 | 0.04 | 0.03 |      |      |      |      |    |
| MDD               | 0.04 | 0.04 | 0.05 | 0.04 | 0.04 | 0.03 |      |      |      |    |
| OCD               | 0.07 | 0.08 | 0.08 | 0.09 | 0.06 | 0.06 | 0.06 |      |      |    |
| SCZ               | 0.03 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 | 0.03 | 0.06 |      |    |
| TS                | 0.05 | 0.07 | 0.07 | 0.07 | 0.05 | 0.05 | 0.05 | 0.10 | 0.04 |    |

| P-value | ADHD     | AN       | ANX      | ASD      | BIP      | DYX      | MDD      | OCD      | SCZ      | TS |
|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|
| ADHD    | na       |          |          |          |          |          |          |          |          |    |
| AN      | 3.05E-01 | na       |          |          |          |          |          |          |          |    |
| ANX     | 4.02E-26 | 2.63E-10 | na       |          |          |          |          |          |          |    |
| ASD     | 8.87E-13 | 1.23E-01 | 3.86E-05 | na       |          |          |          |          |          |    |
| BIP     | 4.10E-12 | 9.17E-07 | 7.35E-22 | 8.73E-06 | na       |          |          |          |          |    |
| DYX     | 2.26E-31 | 2.16E-01 | 1.35E-06 | 8.20E-02 | 3.54E-04 | na       |          |          |          |    |
| MDD     | 5.87E-47 | 8.67E-12 | 6.10E-78 | 3.56E-18 | 9.98E-36 | 1.85E-07 | na       |          |          |    |
| OCD     | 1.05E-01 | 8.46E-08 | 1.35E-05 | 1.30E-01 | 1.06E-07 | 3.27E-02 | 2.13E-06 | na       |          |    |
| SCZ     | 7.77E-11 | 1.00E-09 | 5.80E-21 | 1.80E-09 | 9.14E-95 | 4.74E-03 | 2.06E-23 | 1.76E-06 | na       |    |
| TS      | 1.66E-04 | 8.18E-02 | 1.60E-04 | 2.21E-02 | 4.27E-02 | 7.13E-01 | 3.78E-06 | 6.50E-04 | 3.09E-02 | na |

Bonferroni corrections:  
55 tests have been made.

| Original pval: | Corrected pval: |
|----------------|-----------------|
| 0.05           | 9.09E-04 *      |
| 0.01           | 1.82E-04 **     |
| 0.001          | 1.82E-05 ***    |

| P-value significance | ADHD | AN   | ANX | ASD  | BIP  | DYX  | MDD | OCD | SCZ  | TS |
|----------------------|------|------|-----|------|------|------|-----|-----|------|----|
| ADHD                 | na   |      |     |      |      |      |     |     |      |    |
| AN                   | n.s. | na   |     |      |      |      |     |     |      |    |
| ANX                  | ***  | ***  | na  |      |      |      |     |     |      |    |
| ASD                  | ***  | n.s. | **  | na   |      |      |     |     |      |    |
| BIP                  | ***  | ***  | *** | ***  | na   |      |     |     |      |    |
| DYX                  | ***  | n.s. | *** | n.s. | *    | na   |     |     |      |    |
| MDD                  | ***  | ***  | *** | ***  | ***  | ***  | na  |     |      |    |
| OCD                  | n.s. | ***  | *** | n.s. | ***  | n.s. | *** | na  |      |    |
| SCZ                  | ***  | ***  | *** | ***  | ***  | n.s. | *** | *** | na   |    |
| TS                   | **   | n.s. | **  | n.s. | n.s. | n.s. | *** | *   | n.s. | na |