

Supplementary table 1

| Baseline or follow-up BMI measurement |                         |                             |                 |          | Only baseline BMI measurement            |                             |                 |                     |                                          |
|---------------------------------------|-------------------------|-----------------------------|-----------------|----------|------------------------------------------|-----------------------------|-----------------|---------------------|------------------------------------------|
|                                       | Internalising disorders | Adjusted odds ratio (95%CI) | <i>p</i> -value | <i>N</i> | Likelihood ratio test ( <i>p</i> -value) | Adjusted odds ratio (95%CI) | <i>p</i> -value | <i>N</i> twin pairs | Likelihood ratio test ( <i>p</i> -value) |
| Whole sample                          | Twins as individuals    | 2.7 (1.4, 5.2)              | 0.002           | 3,173a   | 0.448                                    | 1.3 (0.5, 3.6)              | 0.577           | 1600a               | 0.318                                    |
|                                       | ‘Between-pair’          | 4.2 (1.5, 11.7)             | 0.007           | 1,862b   |                                          | 3.3 (0.7, 15.7)             | 0.131           | 957b                |                                          |
|                                       | ‘Within-pair’           | 2.0 (0.9, 4.7)              | 0.112           | 1,862b   |                                          | 0.7 (0.2, 2.5)              | 0.617           | 957b                |                                          |
| Females                               | Twins as individuals    | 3.4 (1.4, 7.5)              | 0.007           | 1,837a   | 0.346                                    | 2.2 (0.6, 8.0)              | 0.231           | 924a                | 0.092                                    |
|                                       | ‘Between-pair’          | 7.9 (1.8, 33.5)             | 0.005           | 1,074b   |                                          | 15.9 (0.8, 306.5)           | 0.067           | 550b                |                                          |
|                                       | ‘Within-pair’           | 1.7 (0.6, 5.1)              | 0.34            | 1,074b   |                                          | 0.7 (0.1, 3.6)              | 0.632           | 550b                |                                          |
| Males                                 | Twins as individuals    | 2.7 (0.9, 7.8)              | 0.061           | 1,336a   | 0.498                                    | 0.8 (0.1, 4.1)              | 0.771           | 676a                | 0.819                                    |
|                                       | ‘Between-pair’          | 2.7 (0.5, 16.5)             | 0.270           | 788b     |                                          | 0.9 (0.1, 13.2)             | 0.967           | 407b                |                                          |
|                                       | ‘Within-pair’           | 2.7 (0.7, 11.2)             | 0.165           | 788b     |                                          | 0.7 (0.1, 5.2)              | 0.710           | 407b                |                                          |

Likelihood ratio tests compared model fit for the twins as individuals model to the between-within-pair model to determine if addition of the within-pair estimator improved model fit

a indicates individual twins, b indicates twin pairs

\* Adjusted for age at study entry, ever smoking, age at first alcohol consumption, and 2+ hours of recreational screentime per day