## Supplement Table 1 – Combinations of self-directedness and cooperativeness score categories and the risk of problematic drug and alcohol use (categories with n≤10 are not shown)

|  |  |  |  |
| --- | --- | --- | --- |
| **Problematic alcohol use (AUDIT > 15)** |  |  |  |
|  | **Self- directedness score category** |  |  |  |
|  | **Low (< mean -1 SD)** | **Mid (mean ± 1 SD)** | **High (> mean +1 SD)** |
| **Cooperativeness** | n (%) | OR (95% CI) | n (%) | OR (95% CI) | n (%) | OR (95% CI) |
| Low (< mean -1 SD) | 43 / 535 (8) | **5.6 (3.8-8.4)** | 19 / 473 (4) | **2.7 (1.6-4.5)** | - | - |
| Mid (mean ± 1 SD) | 26 / 505 (5) | **3.5 (2.2-5.6)** | 63/4116 (1.5) | reference | 4 / 399(1) | 0.7 (0.2 – 1.8) |
| High (> mean +1 SD) | - | - | 5/580 (1) | 0.6 (0.22– 1.4) | 3 /297 (1) | 0.7 (0.2 – 2.1) |
| **Problematic drug use (DUDIT >7)** |  |  |  |
|  | **Self-directedness score category** |  |  |  |
|  | **Low (< mean -1 SD)** | **Mid (mean ± 1 SD)** | **High (> mean +1 SD)** |
| **Cooperativeness** | DUDIT >7 /n (%) | OR (95% CI) | DUDIT >7 /n (%) | OR (95% CI) | DUDIT >7 /n (%) | OR (95% CI) |
| Low (< mean -1 SD) | 24/535 (4) | **7.4 (4.2-13.0** | 13/473 (3) | **4.4 (2.3-8.7)** | - | - |
| Mid (mean ± 1 SD) | 13/505 (3) | **4.2 (2.1-8.1)** | 26/4116 (1) | reference | 3/399 (1) | 1.19 (0.36-4.0) |
| High (> mean +1 SD) | - | - | 3/ 580 (1) | 0.8 (0.2-2.7) | 3/297 (1) | 1.61 (0.48-5.3) |
|  |  |  |  |  |  |  |

## Supplement table 2. Sensitivity analysis using only one of two twins in a twin-couple (n=4224)

|  |  |  |
| --- | --- | --- |
|  |  **AUDIT >15** | **DUDIT >7** |
| N | n (%) | **OR (95%-CI)** | n (%) | **OR (95%-CI)** |
| **Self-directedness**  |  |
|  | Low (< mean -1 SD) | 658 | 46 (7.0) | 3.7 (2.5-5.5, **p<0.001**) | 27 (4.1) | 5.6 (3.2-9.7);<**0.001** |
|  | Mid (mean ± 1 SD) | 3,149 | 62 (2.0) | Ref. | 24 (0.8) | Ref. |  |
|  | High (> mean +1 SD) | 417 | 6 (1.4) | 1.1 (0.4-2.7, p=0.823) | 3 (0.7) | 0.9 (0.3-3.1);0.925 |
| **Cooperativeness** |  |  |  |  |
|  | Low (< mean -1 SD) | 650 | 42 (6.4) | 3.1 (2.1-4.6, **p<0.001**) | 29 (4.5%) | 6.4 (3.7-11.3, **p<0.001**) |
|  | Mid (mean ± 1 SD) | 3050 | 67 (2.2) | Ref. | 22 (0.7%) | Ref. |  |
|  | High (> mean +1 SD) | 524 | 5 (0.9) | 0.4 (0.2-1.01, p=0.069) | 3 (0.6%) | 0.8 (0.2-2.7), p=0.706) |