﻿ **Supplementary Material**

**Altered brain functional connectome associated with disinhibition across 33 impulsive and compulsive behaviours**

Yann Chye (1), Chao Suo (1), Rafa Romero-Garcia (2), Richard Bethlehem (2), Roxanne Hook (2), Jeggan Tiego (3), Ian Goodyer (2), Peter B. Jones (2), Ray Dolan (4), Edward T Bullmore (2), Jon E. Grant (5), Murat Yücel (1), Samuel R Chamberlain (2,6)

1. BrainPark, The Turner Institute for Brain and Mental Health, School of Psychological Sciences and Monash Biomedical Imaging Facility, Monash University, VIC, Australia.
2. Department of Psychiatry, University of Cambridge, UK.
3. The Turner Institute for Brain and Mental Health, School of Psychological Sciences and Monash Biomedical Imaging Facility, Monash University, VIC, Australia.
4. Max Planck University College London Centre for Computational Psychiatry and Ageing Research, London, UK; Wellcome Centre for Human Neuroimaging, University College London, London, UK; University College London, UK.
5. Department of Psychiatry, University of Chicago, USA.
6. Department of Psychiatry, Faculty of Medicine, University of Southampton, UK; Southern Health NHS Foundation Trust, UK; and Cambridgeshire & Peterborough NHS Foundation Trust, UK.

The Impulsive-Compulsive Behaviours Checklist (ICBC, 1) consists of a list of 33 behaviours marked by impulsive and/or compulsive traits. Subjects are asked to rate whether they/others think they have problems with the behaviours, on a 4-point Likert Scale ranging from ‘never’ to ‘always’, over the past 12 months. For each behaviour, subjects are also asked to respond to whether the behaviour/urge/desire causes them distress (yes/no). Standardised loading estimates for individual ICBC items on the disinhibition, impulsivity and compulsivity factors is presented in Supplementary Table 1.

**Supplementary Table 1.** Standardised loading of individual ICBC items of 654 participants, as reported in (2).

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| **ICBC items**  | **Disinhibition** | **Impulsivity** | **Compulsivity** |
| Washing | .677 |  |  |
| Smoking | .141\* | .585 |  |
| ﻿Feeling compelled to collect free things (books, journals, sample items when shopping) or saving something you know you will never use | .519 |  |  |
| ﻿Being overly cautious with money | .295 |  | .375 |
| ﻿(Re)arranging/ordering | .626 |  | .588 |
| Shopping | .697 |  |  |
| List making | .586 |  | .496 |
| Counting (e.g. money, tiles) | .705 |  | .385 |
| Grooming | .790 |  |  |
| ﻿Idiosyncratic routines (performing a very personalised sequence of actions) | .674 |  | .366 |
| Repeating ﻿actions (performing actions over and over again) | .684 |  | .234 |
| Exercising | .629 |  |  |
| Betting/gambling | .312 | .443 |  |
| Hair picking | .427 |  |  |
| Lying | .602 | .405 |  |
| Sexual activities/behaviours | .592 | .498 |  |
| Alcohol consumption | .379 | .526 |  |
| Planning (e.g. over-organising) | .608 |  | .451 |
| Illicit drug use | .168\* | .775 |  |
| Cleaning too much | .543 |  | .422 |
| Verbal aggression | .625 | .489 |  |
| Violence towards objects/properties | .605 | .504 |  |
| Swearing | .532 | .470 |  |
| Checking (e.g. locks, light switches) | .515 |  | .388 |
| Checking (e.g. yourself in the mirror) | .751 |  |  |
| Speed driving | .363 | .201\*\* |  |
| Medication use | .655 | .214\*\* |  |
| Physical aggression | .637 | .429 |  |
| Social networking (e.g. Facebook, twitter, Google+, Myspace) | .616 |  |  |
| Applying rules | .636 |  | .257 |
| Purposeful self-injury (i.e. not accidental) | .474 | .310 |  |
| Re-writing/re-reading | .678 |  | .295 |
| Tattooing | .595 | .437 |  |

All loading estimates were significant at p < 0.001, except where indicated. \* p < 0.05; \*\*p < 0.01.

**References**

1. Guo K, Youssef GJ, Dawson A, Parkes L, Oostermeijer S, López-Solà C, et al. A psychometric validation study of the Impulsive-Compulsive Behaviours Checklist: A transdiagnostic tool for addictive and compulsive behaviours. Addict Behav. 2017;67:26–33.

2. Chamberlain SR, Tiego J, Fontenelle LF, Hook R, Parkes L, Segrave R, et al. Fractionation of impulsive and compulsive trans-diagnostic phenotypes and their longitudinal associations. Aust N Z J Psychiatry. 2019;53(9):896–907.