SUPPLEMENTARY MATERIALS

What biological and self-report measures of cannabis use predict cannabis dependency and acute psychotic-like effects?

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Supplementary Table 1: Self-report and biological indices of cannabinoid exposure, and their associations with cannabis dependence (Severity of Dependence Scale; SDS and DSM-IV-TR) and cannabis-induced psychotic symptoms (Psychotomimetic States Inventory; PSI and Brief Psychiatric Rating Scale; BPRS)

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| --- | --- | --- | --- | --- |
|  |  |  | **Cannabis Dependence** | **Cannabis-induced psychotic symptoms** |
|  | **N** | **Mean (SD)** | **SDS** | **DSM IV-TR** | **PSI** |  **BPRS**  |
| SDS (No/Yes) | 412 | 43.7% yes | - | **0.381\*\*\***b | -0.036a | -0.023 a |
| DSM IV criteria (No/Yes) | 411 | 48.4% yes |  | - | -0.060a | -0.068 a |
| Change PSI | 384 | 8.65 (16.83) |  |  | - |  **0.131\*\***c |
| Change BPRS  | 402 | 3.91 (9.97) |  |  |  | - |
| Age | 416 | 20.56 (1.67) |  0.077a | -0.004a | -0.032c | **-0.127\***c |
| Sex (M/F) | 418 | 113 Female | -0.023b | -0.020b |  0.019 a | 0.224a |
| THC % in cannabis | 366 | 9.60 (4.69) | -0.010 a | -0.049a | -0.083c | -0.028c |
| CBD % in cannabis | 366 | 0.82 (1.66) |  0.009 a |  0.053a |  0.037c | -0.067c |
| Urine THC-COOH/creatinine | 348 | 122.41 (253.21) |  **0.350\*\*\***a | r=0.228\*\*\* | **-0.196\*\*\***c | -0.078c |
| Hair-THC (no/yes) | 412 | 55.7% yes |  **0.206\*\*\***b |  0.094b | -0.094 a | **-0.135\*\*** a |
| Hair-CBD (no/yes) | 412 | 33.5% yes |  **0.178\*\*\***b |  0.074b | -0.071 a | **-0.123\*** a |
| Hair-CBN (no/yes) | 344 | 48.1% yes |  **0.215\*\*\***b |  0.030b | **-0.102\*** | **-0.116\*** a |
| Hair-THC-COOH (no/yes) | 344 | 25.6% yes |  **0.170\*\*\***b |  **0.136\*\***b | -0.068 a | -0.087 a |
| Hair-THC-OH (no/yes) | 344 | 24.9% yes |  **0.135\*\***b |  0.069b | -0.021 a | -0.072 a |
| Age of first use (years) | 413 | 14.94 (2.05) | -0.033a | **-0.122\***a |  **0.206\*\*\*c** |  0.032c |
| Last used (days) | 401 | 4.20 (7.24) | **-0.244\*\*\***a | -0.079a | 0.162\*\***d** |  0.069d |
| Years Used (years) | 401 | 4.88 (2.36) |  0.038 a | -0.093a | **-0.148\*\***c | -0.039c |
| Days per month (days) | 398 | 16.87 (10.95) |  **0.486\*\*\***a |  **0.431\*\*\*** a | **-0.141\*\***d | -0.049d |
| Time to smoke 3.5g (days) | 392 | 10.31 (17.25) | **-0.199\*\*\***a | **-0.208\*\*\***a |  **0.143\*\***d | -0.023d |
| Potency Preference (No/Yes) | 413 | 39% yes |  **0.212\*\*\***b |  **0.165\*\*\***b | -0.076 a | -0.073 a |
| Money spent per week on cannabis(£) | 411 | 20.26 (22.64) |  **0.412\*\*\***a |  **0.345\*\*\***a |  **-0.144\*\***d | -0.020d |
| *\* p≤ .05, \*\* p≤ .01, \*\*\* p≤ .001*a point biserial correlation, bPhi correlation coefficient, C Peasons correlation coefficient d Spearmans rho |  |  |  |  |  |  |

Supplementary Table 2: Univariate Bayesian Information Criterion (BIC) values ranked in order from lowest to highest.

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| SDS | BIC | DSM-IV-TR | BIC | PSI | BIC |
| THC-COOH/creatinine | 414.686 | THC-COOH/creatinine | 465.757 | THC-COOH/creatinine | 2735.501 |
| Days per month (days) | 456.812 | Days per month (days) | 484.628 | Age of first cannabis use (years) | 3258.232 |
| Money spent per week on cannabis (£) | 490.646 | Money spent per week on cannabis (£) | 521.664 |  |  |
| Last used (days) | 511.722 | Time to smoke 3.5g (days) | 533.635 |  |  |
| Time to smoke 3.5g (days) | 529.820 | Potency Preference (No/Yes) | 570.152 |  |  |
| Hair-CBN (No/Yes) | 557.468 |  |  |  |  |
| Potency Preference (No/Yes) | 558.107 |  |  |  |  |
| Hair-THC (No/Yes) | 558.858 |  |  |  |  |
| Hair-CBD (No/Yes) | 563.581 |  |  |  |  |
| Hair-THC-COOH (No/Yes) | 564.838 |  |  |  |  |
| Hair-THC-OH (No/Yes) | 569.144 |  |  |  |  |

Supplementary table 3: Associations between self-report and biological indices of cannabinoid exposure.

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|  | Age | Sex  | THC % in cannabis | CBD % in cannabis | THC:creatinine ratio | Hair-THC  | Hair-CBD | Hair-CBN | Hair-THC-COOH | Hair-THC-OH | Age of first use | Last used | Years Used | Days per month  | Time to smoke 3.5g | Potency Preference  | Money spent |
| Age | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sex (M/F) | -.033a | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| THC % in cannabis | .065c | -.066a | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CBD % in cannabis | .116\*c | -.037a | -.036c | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| THC:creatinine ratio | .043c | -.005a | .139\*c | -.058c | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |
| Hair-THC (no/yes) | .071a | -.043b | .271\*\*\*a | -.014a | .238\*\*\*a | 1.000 |  |  |  |  |  |  |  |  |  |  |  |
| Hair-CBD (no/yes) | .069a | -.055b | .165\*\*a | .076a | .189\*\*\*a | .622\*\*\*b | 1.000 |  |  |  |  |  |  |  |  |  |  |
| Hair-CBN (no/yes) | .093a | -.036b | .236\*\*\*a | .051a | .196\*\*\*a | .800\*\*\*b | .727\*\*\*b | 1.000 |  |  |  |  |  |  |  |  |  |
| Hair-THC-COOH (no/yes) | .013a | -.048b | .103a | -.040a | .262\*\*\*a | .523\*\*\*b | .617\*\*\*b | .489\*\*\*b | 1.000 |  |  |  |  |  |  |  |  |
| Hair-THC-OH (no/yes) | .032a | -.014b | .061a | .013a | .251\*\*\*a | .513\*\*\*b | .659\*\*\*b | .565\*\*\*b | .728\*\*\*b | 1.000 |  |  |  |  |  |  |  |
| Age of first use (years) | .183\*\*\* c | .039a | .081c | -.025c | -.110\*c | .007a | .009a | -.013a | -.003a | .011a | 1.000 |  |  |  |  |  |  |
| Last used (days) | -.007d | .014a | .060d | .081d | -.570\*\*\*d | -.062a | -.053a | -.810a | .025a | .013a | .143\*\*d | 1.000 |  |  |  |  |  |
| Years Used (years) | .453\*\*\*c | -.072a | -.087a | .116\*c | .104c | .042a | .074a | .070a | -.004a | .020a | -.568\*\*\*c | -.065d | 1.000 |  |  |  |  |
| Days per month (days) | -.043d | -.006a | -.065d | -.036d | .683\*\*\*d | .234\*\*\*a | .194\*\*\*a | .227\*\*\*a | .225\*\*\*a | .188\*\*\*a | -.231\*\*\*d | -.666\*\*\*d | .099\*d | 1.000 |  |  |  |
| Time to smoke 3.5g (days) | .264\*\*\*d | .091a | -.047d | -.058d | -.420\*\*\*d | -.212\*\*\*a | -.124\*a | -.153\*\*a | -.107\*a | -.063a | .290\*\*\*d | .319\*\*\*d | 0.014d | -.454\*\*\*d | 1.000 |  |  |
| Potency Preference (No/Yes) | -.008a | -.021b | .130\*a | -.029a | .317\*\*\*a | .137\*\*b | .101\*b | .171\*\*\*b | .113\*b | .204\*\*\*b | -.148\*\*a | -.106\*a | .091a | .300\*\*\*a | -.196\*\*\*a | 1.000 |  |
| Money spent per week on cannabis (£) | -.061d | -.046a | .042d | -.036d | .656\*\*\*d | .242\*\*\*a | .176\*\*\*a | .229\*\*\*a | .274\*\*\*a | .192\*\*\*a | -.205\*\*\*a | -.567\*\*\*d | .072d | .788\*\*\*d | -.564\*\*\*d | .359\*\*\*a | 1.000 |

*\* p≤ .05, \*\* p≤ .01, \*\*\* p≤ .001*

a point biserial correlation, bPhi correlation C Peasons correlation d Spearmans rho