**Supplementary Materials**

**Supplementary Table 1.** Zero-order correlation matrix between covariates and cannabis involvement variables.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1. **Age** | - | - | - | - | - | - | - | - | - |
| 1. **Sex** | .020 | - | - | - | - | - | - | - | - |
| 1. **Income** | -.009 | -.118\*\* | - | - | - | - | - | - | - |
| 1. **Race** | .011 | .232\*\* | -.295\*\* | - | - | - | - | - | - |
| 1. **Education** | -.046 | -.015 | .274\*\* | -.296\*\* | - | - | - | - | - |
| 1. **Alcohol Use** | -.010 | -.190\*\* | -.094\* | -.020 | -.160\*\* | - | - | - |  |
| 1. **Tobacco Use** | -.007 | -.088\* | -.110\*\* | -.057 | -.238\*\* | .272\*\* | - | - | - |
| 1. **Frequency of Use** | -.075T | -.119\*\* | -.174\*\* | .103\* | -.194\*\* | .158\*\* | .091\* | - | - |
| 1. **Age of Initiation** | -.016 | .088 | .095\* | -.091\* | .243\*\* | -.303\*\* | -.258\*\* | -.228\*\* | - |
| 1. **CUDIT-R** | -.015 | -.106\*\* | -.143\*\* | .128\* | -.158\*\* | .169\*\* | .089\* | .837\*\* | -.219\*\* |

Notes: CUDIT-R = Cannabis-Use Disorder Identification Test – Revised

\*Correlation is significant at the .05 level (2-tailed);

\*\*Correlation is significant at the .01 level (2-tailed)

TCorrelation is approaching significance at the .06 level (2-tailed)

**Supplementary Table 2.** Zero-order correlation matrix among neurocognitive functioning measures. Correlations exceeding .08 in absolute magnitude are statistically significant at *p* < .05.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1. Shipley Verbal | 1.00 |  |  |  |  |  |  |  |  |
| 2. Digits Forward | 0.243 | 1.00 |  |  |  |  |  |  |  |
| 3. Digits Backward | 0.202 | 0.353 | 1.00 |  |  |  |  |  |  |
| 4. Commission Errors | -0.009 | -0.066 | -0.073 | 1.00 |  |  |  |  |  |
| 5. Omission Errors | -0.322 | -0.195 | -0.188 | 0.162 | 1.00 |  |  |  |  |
| 6. ADHD Inattentive | 0.166 | -0.023 | -0.049 | 0.018 | -0.069 | 1.00 |  |  |  |
| 7. ADHD Hyperactive | 0.150 | -0.035 | -0.065 | 0.040 | -0.049 | 0.736 | 1.00 |  |  |
| 8. Probability Discounting - $100 | -0.187 | -0.093 | -0.077 | -0.039 | 0.119 | -0.101 | -0.069 | 1.00 |  |
| 9. Delay Discounting - $100 | -0.273 | -0.054 | -0.088 | -0.04 | 0.158 | -0.117 | -0.085 | 0.294 | 1.00 |
| 10. Delay Discounting - $1000 | -0.283 | -0.054 | -0.063 | -0.071 | 0.14 | -0.158 | -0.087 | 0.295 | 0.857 |

**Supplementary Table 3.** Hierarchical regression comprising covariates followed by cannabis use variables (severity of cannabis use (centered), continuous age of initiation variable (centered), and their interaction). Covariates included age, race, sex, income, years of education, tobacco use, and alcohol use.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Neurocognitive Variable | Covariate R2 | *p* value | Cannabis use variables ∆R2 | *p* value |
| Shipley Verbal IQ | .191 | <.001 | .000 | .976 |
| Digit Span Forwards | .055 | .001 | .009 | .270 |
| Digit Span Backwards | .046 | .005 | .011 | .187 |
| GNG Commission Errors | .016 | .517 | .007 | .441 |
| GNG Omission Errors | .099 | <.001 | .023 | .011\* |
| GNG RT (msec) | .007 | .874 | .000 | .996 |
| WHO ADHD Inattentive | .088 | <.001 | .012 | .141 |
| WHO ADHD Hyperactive/Impulsive | .091 | <.001 | .015 | .065 |
| *h*-value $100 Probability Discounting | .066 | <.001 | .003 | .732 |
| *k*-value $100 Delay Discounting | .150 | <.001 | .020 | .018\* |
| *k*-value $1000 Delay Discounting | .160 | <.001 | .007 | .286 |

Notes: IQ = Intellectual Quotient; GNG = Go/No-Go; ADHD = World Health Organization Adult ADHD Self-Report Scale. \**p* < .05

**Supplementary Table 4.** Individual hierarchical regressions of covariates and severity of cannabis use and related

problems in relation to neurocognitive performance for models that were significant at the *p* < .05 level.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | GNG Omission Errors | | | *k*-value $100 Delay Discounting | |
| Model | Variable | *p* value | β | *p* value | | β |
| Covariate model | Age | .044 | -.092 | .977 | | .001 |
| Sex | .000 | .203 | .569 | | -.027 |
| Income | .966 | .002 | .019 | | -.110 |
| Education | .025 | -.114 | .009 | | -.129 |
| Tobacco Use | .958 | .003 | .543 | | .029 |
| Alcohol Use | .058 | .093 | <001 | | .185 |
| Race | .014 | .126 | <.001 | | .215 |
| Cannabis use variables | CUDIT-Ra | .034\* | .102 | .002\* | | .145 |
| Age of initiation (continuous)a | .068 | -.092 | .843 | | -.010 |
| CUDIT-Ra × Age of initiationa | .130 | .070 | .856 | | .008 |

Notes: CUDIT-R = Cannabis-Use Disorder Identification Test – Revised; GNG = Go/No-

Go; WHO ADHD = World Health Organization Adult ADHD Self-Report Scale.

aCentered

\**p* < .05