**Supplemental Table 1: Association of concurrent validators with DSM-5 craving criteriona, adjusting for other substance use (N=588)**

|  | **OR (95% CI)b** | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Alcohol** | **Tobacco** | **Cannabis** | **Cocaine** | **Heroin** | **Opioids** |
| Drug Abuse Screening Test-10c |  |  | **1.43 (1.16, 1.77)** | **2.48 (1.98, 3.12)** | **2.78 (2.06, 3.76)** | **1.55 (1.10, 2.18)** |
| DSM-5 psychiatric disorder |  |  |  |  |  |  |
| Antisocial personality disorderd | 1.42 (0.94, 2.13) | **1.54 (1.00, 2.37)** | 1.53 (0.98, 2.40) | 1.35 (0.88, 2.06) | 1.24 (0.73, 2.11) | 1.04 (0.56, 1.96) |
| Borderline personality disorderd | **1.47 (1.02, 2.13)** | 1.29 (0.88, 1.89) | **1.79 (1.18, 2.71)** | 1.21 (0.82, 1.79) | 0.87 (0.52, 1.45) | 1.30 (0.72, 2.34) |
| Major depressive disorderd | **2.01 (1.39, 2.90)** | **1.61 (1.10, 2.34)** | **1.63 (1.09, 2.44)** | **1.90 (1.29, 2.80)** | 0.88 (0.53, 1.44) | 1.48 (0.83, 2.64) |
| Post-traumatic stress disorderd | 1.47 (0.95, 2.28) | **2.80 (1.72, 4.56)** | 1.21 (0.75, 1.96) | 1.20 (0.76, 1.89) | 0.84 (0.47, 1.51) | 0.74 (0.36, 1.51) |
| Patient Health Questionnaire-9 depression scalee | **1.36 (1.17, 1.58)** | **1.18 (1.02, 1.38)** | 0.97 (0.82, 1.14) | 1.11 (0.95, 1.29) | **1.32 (1.09, 1.60)** | **1.36 (1.08, 1.70)** |
| Bold indicates significance at the p<0.05 level.  a based in endorsing “Have you ever wanted [a drink/to use substance] so badly that you couldn’t think of anything else?” or “Have you ever felt a very strong desire or urge to [drink/use substance]?”  b Estimated from logistic regression analysis of validator predicting craving criterion, adjusted for gender, age, race/ethnicity, education level, participant type, and past year other substance use. c count variable, 0=no problems to 4=severe problems  d Reference group is No e count variable, 1=no problems to 5=severe problems | | | | | | |

**Supplemental Table 2. Average percent of days used each substance over the 90 day post-interview period, by craving status for that substance at baseline (N=586)**

|  |  |  |
| --- | --- | --- |
|  | **Percent of days used** | |
| **Substance** | **Craving criterion = yes** | **Craving criterion = no** |
| Alcohol | 37.1% | 16.9% |
| Tobacco | 56.4% | 18.4% |
| Cannabis | 54.0% | 7.6% |
| Cocaine | 19.8% | 3.2% |
| Heroin | 24.2% | 0.8% |

**Supplemental Table 3. Baseline DSM-5 craving predicting use on any given day of the 90 day post-interview period, excluding inpatient days (N=586)**

|  | **Association with craving criteriona** | **Association with constructsa** | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Severe cravingb** | | **Moderate cravingc** | | **Difference in association between constructsd** |
| **Substance** | **Odds Ratio (95% CI)** | **Beta coefficient** | **Odds Ratio (95% CI)** | **Beta coefficient** | **Odds Ratio (95% CI)** | **Mean difference (95% CI)** |
| Alcohol | **4.24 (3.02, 5.96)** | 1.18 | **3.26 (2.19, 4.84)** | 1.41 | **4.11 (2.93, 5.77)** | **0.23 (0.11, 0.34)** |
| Tobacco | **56.38 (34.64, 91.77)** | 3.08 | **21.80 (12.51, 38.00)** | 4.02 | **55.51 (34.12, 90.3)** | **0.98 (0.85, 1.14)** |
| Cannabis | **30.09 (19.57, 46.27)** | 2.94 | **18.84 (11.22, 31.63)** | 3.32 | **27.54 (17.85, 42.5)** | **0.42 (0.31, 0.57)** |
| Cocaine | **23.50 (14.88, 37.13)** | 2.58 | **13.25 (7.99, 21.98)** | 3.13 | **22.86 (14.46, 36.13)** | **0.58 (0.44, 0.72)** |
| Heroin | **230.89 (117.39, 454.11)** | 5.10 | **164.55 (75.15, 360.27)** | 5.44 | **230.89 (117.39, 454.11)** | **0.13 (0.25, 0.50)** |

All generalized linear mixed model(GLMM) models include random slope and intercept. Bold indicates significance at the p<0.05 level. CI = confidence interval.  
a Model adjusted for gender, age, race/ethnicity, education level, site, and treatment at baseline

b Based on “Have you ever wanted [a drink/to use substance] so badly that you couldn’t think of anything else?”

c Based on “Have you ever felt a very strong desire or urge to [drink/use substance]?”

d Difference is calculated by estimating the regression coefficient (Beta) for association with each construct in each of 100 bootstrapped samples, subtracting beta for compulsion to use from strong desire, and generating empirical 95% confidence intervals for the difference. Differences with 95% CI that do not overlap with 0 are considered significant at the p<0.05 level.

**Supplemental Table 4. Baseline DSM-5 SUD predicting use on any given day of the 90 day post-interview period, excluding inpatient days (N=586)**

|  | **Association with SUDa** | | | | |
| --- | --- | --- | --- | --- | --- |
|  | **SUD with craving** | | **SUD without craving** | | **Difference in association between SUD versionsb** |
| **Substance** | **Beta coefficient** | **Odds Ratio (95% CI)** | **Beta coefficient** | **Odds Ratio (95% CI)** | **Mean difference (95% CI)** |
| Alcohol | 1.73 | **5.65 (3.93, 8.12)** | 1.70 | **5.48 (3.84, 7.81)** | **0.03 (0.001, 0.06)** |
| Tobacco | 4.41 | **81.98 (50.42, 133.28)** | 4.08 | **59.25 (36.21, 96.94)** | **0.35 (0.29, 0.39)** |
| Cannabis | 3.39 | **29.58 (19.21, 45.55)** | 2.90 | **18.14 (11.54, 28.51)** | **0.52 (0.46, 0.57)** |
| Cocaine | 3.62 | **37.26 (23.87, 58.17)** | 3.59 | **36.11 (23.20, 56.19)** | 0.04 (-0.00, 0.08) |
| Heroin | 5.45 | **232.84 (122.98, 440.84)** | 5.29 | **198.44 (105.20, 374.32)** | **0.18 (0.12, 0.22)** |

All generalized linear mixed model(GLMM) models include random slope and intercept. Bold indicates significance at the p<0.05 level. CI = confidence interval.  
a Model adjusted for gender, age, race/ethnicity, education level, site, and treatment at baseline

b Difference is calculated by estimating the regression coefficient (Beta) for association with each version of SUD in each of 100 bootstrapped samples, subtracting beta for SUD without craving from SUD with craving, and generating empirical 95% confidence intervals for the difference. Differences with 95% CI that are above 0 are considered significant at the p<0.05 level.