**SUPPLEMENTARY INFORMATION**

**Center for Epidemiological Studies Depression Scale (CES‐D) Factor Structure Validation**

Based on previous factor analysis studies (Shafer, 2006), two subscales were computed for non-anhedonic depression (16 items) and positive affect (4 items). Confirmatory factor analysis (CFA) was used to ascertain the fit of for the positive affect and non-anhedonic depression factors. Using MPlus (v. 7.11) we conducted a confirmatory factor analysis with the four items identified as loading onto the positive affect factor. The CFA model fit the data well (χ2 = 802.800, df = 169, *p* < 0.05; CFI = 0.892; RMSEA= 0.068; SRMSR= .049).

**Supplementary Table S1. DSM-IV** Axis I Disorder Diagnosis

|  |  |  |
| --- | --- | --- |
| **Disorder Diagnosis** | **n** | **Percent** |
| Depression  Bipolar I  Bipolar II  Generalized Anxiety Disorder  Social Anxiety Disorder  Social Phobia  Agoraphobia  Panic Disorder  Obsessive Compulsive Disorder  Posttraumatic Stress Disorder  Alcohol Abuse  Alcohol Dependence  Substance Abuse (Marijuana)  Substance Abuse (Cocaine)  Substance Dependence (Marijuana)  Eating Disorders  Any Disorder/s | 24  1  2  7  4  4  14  12  6  1  41  37  19  1  10  7  149 | 2.93%  .12%  .24%  .85%  .49%  .49%  1.71%  1.46%  .73%  .12%  5.00%  4.51%  2.32%  .12%  1.22%  .85%  18.17% |

**Supplementary Table S2.** Effect of sex on self-report variables and VS reactivity.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Men (SD)**  **n=356** | **Women (SD)**  **n=464** | **t** | ***p*** |
| **CES-D** |  |  |  |  |
| Anhedonia  Total  Depression no anhedonia | 2.92 (2.54)  9.71 (7.87)  6.78 (6.34) | 2.98 (2.78)  10.70 (8.35)  7.72 (6.49) | -.2984  -1.733  -2.073 | .765  .083  .038\* |
| **MASQ** |  |  |  |  |
| Depression  Anhedonic depression | 20.20 (8.03)  52.45 (12.62) | 21.83 (8.19)  52.19 (12.74) | -2.839  .286 | .005\*  .775 |
| **CTQ** | 33.59 (8.00) | 33.15 (7.94) | .792 | .429 |
| **LESS** |  |  |  |  |
| Number 45  Number 38  Number 23 | 4.23 (3.04)  2.46 (2.34)  2.06 (1.98) | 4.44 (3.04)  2.62 (2.32)  2.14 (1.99) | -.966  -.986  -.563 | .334  .324  .574 |
| **BCOPE** | 2.55 (1.10) | 2.42(.96) | 1.879 | .061 |
| **AUDIT** | 6.34 (4.61) | 4.25(3.68) | 7.215 | <.001\* |
| **VS Reactivity** |  |  |  |  |
| Left  Right  Bilateral | .1068 (.18)  .1023 (.18)  .093(.168) | .0723 (.15)  .0708 (.17)  .060 (.143) | 2.866  2.52  3.050 | .004\*  .012\*  .002\* |

**Supplementary Table S3.** Effect of ethnicity on self-report variables and VS reactivity

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Caucasian (SD)**  **n=373** | **African/African American (SD)**  **n=88** | **Asian/Asian American (SD)**  **n=223** | **Latino (SD)**  **n=52** | **Other/Multi-racial (SD)**  **n=84** | **F** | **p** |
| **CES-D** |  |  |  |  |  |  |  |
| Anhedonia  Total | 2.37 (2.37)  8.96 (7.01) | 3.46 (2.79)  13.12 (10.57) | 3.72 (2.89)  11.39 (8.96) | 3.17 (3.02)  9.94 (7.28) | 2.84 (2.46)  10.38 (7.22) | 10.31  6.32 | <.001\*  <.001\* |
| Total-anhedonia | 6.58 (5.45) | 9.65 (8.39) | 7.66 (7.21) | 6.76 (5.72) | 7.53 (5.86) | 4.45 | .001\* |
| **MASQ** |  |  |  |  |  |  |  |
| Depression  Anhedonic depression | 20.47 (7.52)  49.70 (11.89) | 23.29 (9.86)  54.73 (14.17) | 21.63 (8.85)  55.64 (12.65) | 21.40 (6.58)  52.17 (11.59) | 20.24 (7.52)  52.53 (12.85) | 2.64  8.93 | .032\*  <.001\* |
| **CTQ** | 30.98 (6.61) | 37.33(9.48) | 35.54(8.35) | 32.57 (7.03) | 34.26 (7.91) | 19.99 | <.001\* |
| **LESS** |  |  |  |  |  |  |  |
| Number 45  Number 38  Number 23 | 4.22 (2.84)  2.45 (2.17)  1.99 (1.82) | 4.92 (2.98)  3.06 (2.37)  2.59 (2.08) | 3.90 (3.11)  2.17 (2.35)  1.80 (2.00) | 5.50 (3.51)  3.45 (2.77)  2.88 (2.37) | 4.83 (3.2)  2.93 (2.55)  2.40 (2.09) | 4.60  5.19  5.56 | <.001\*  <.001\*  <.001\* |
| **BCOPE** | 2.44 (.99) | 2.59 (1.13) | 2.50 (1.03) | 2.7 (1.21) | 2.35 (.89) | 1.46 | .211 |
| **AUDIT** | 5.73 (4.34) | 4.61 (4.21) | 4.35( 3.91) | 5.81 (4.63) | 4.94 (4.00) | 4.56 | .001\* |
| **VS Reactivity** |  |  |  |  |  |  |  |
| Left  Right  Bilateral | .089(.16)  .085(.16)  .080 (.14) | .092 (.17)  .096(.18)  .074(.15) | .090 (.17)  .089 (.19)  .075(.17) | .0480 (.17)  .053 (.18)  .036 (.15) | .090 (.16)  .0743 (.17)  .074(.15) | .736  .595  .920 | .568  .667  .452 |

**Supplementary Table S4.** Regression Model Predicting Anhedonia

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Step 1** | | **Step 2** | | **Step 3** | | **Step 4** | |
| **Step** | | **β** | **P** | **β** | **P** | **β** | **p** | **β** | **p** |
| **1** | **Sex** | -1.996 | 0.005 | -1.568 | 0.027 | -1.616 | 0.024 | -1.563 | 0.028 |
| **1** | **Age** | 0.649 | 0.397 | 0.641 | 0.396 | 0.641 | 0.402 | 0.541 | 0.479 |
| **1** | **European American** | -3.289 | 0.006 | -2.2455 | 0.039 | -2.154 | 0.074 | -2.022 | 0.092 |
| **1** | **African American** | -0.408 | 0.788 | -1.043 | 0.486 | -0.465 | 0.766 | -0.466 | 0.764 |
| **1** | **Asian** | 1.691 | 0.185 | 1.337 | 0.287 | 1.655 | 0.194 | 1.687 | 0.184 |
| **1** | **Hispanic** | -1.667 | 0.341 | -0.973 | 0.573 | -0.932 | 0.599 | -0.804 | 0.649 |
| **1** | **Recent-Life Stress** | -0.104 | 0.572 | -0.3175 | 0.09 | -0.449 | 0.022 | -0.411 | 0.037 |
| **1** | **Disorder Status no depression** | 0.228 | 0.816 | 0.509 | 0.597 | 0.372 | 0.703 | 0.366 | 0.714 |
| **1** | **Depression symptoms** | 0.942 | <.001 | 0.867 | <.001 | 0.906 | <.001 | 0.91 | <.001 |
| **2** | **Early life Stress (ELS)** |  |  | 0.271 | <.001 | 0.131 | 0.233 | 0.129 | 0.239 |
| **2** | **Left Ventral Striatum (LVS)** |  |  | 0.527 | 0.792 | -4.945 | 0.287 | -3.61 | 0.429 |
| **3** | **Sex x ELS** |  |  |  |  | 0.148 | 0.1 | 0.147 | 0.104 |
| **3** | **Age x ELS** |  |  |  |  | 0.053 | 0.588 | 0.015 | 0.884 |
| **3** | **European American x ELS** |  |  |  |  | 0.133 | 0.405 | 0.153 | 0.339 |
| **3** | **African American x ELS** |  |  |  |  | -0.05 | 0.78 | -0.036 | 0.838 |
| **3** | **Asian x ELS** |  |  |  |  | 0.007 | 0.966 | .-006 | 0.971 |
| **3** | **Hispanic x ELS** |  |  |  |  | 0.324 | 0.179 | 0.292 | 0.226 |
| **3** | **Recent-Life Stress x ELS** |  |  |  |  | 0.028 | 0.189 | 0.03 | 0.158 |
| **3** | **Disorder Status no depression x ELS** |  |  |  |  | -0.072 | 0.562 | -0.008 | 0.1 |
| **3** | **Depression symptoms x ELS** |  |  |  |  | -0.008 | 0.089 | -0.008 | 0.079 |
| **3** | **Sex x LVS** |  |  |  |  | 5.663 | 0.174 | 4.628 | 0.267 |
| **3** | **Age x LVS** |  |  |  |  | -10.289 | 0.02 | -9.778 | 0.027 |
| **3** | **European American x LVS** |  |  |  |  | 1.823 | 0.802 | -0.531 | 0.942 |
| **3** | **African American x LVS** |  |  |  |  | 4.378 | 0.628 | 6.392 | 0.48 |
| **3** | **Asian x LVS** |  |  |  |  | 3.812 | 0.614 | 6.093 | 0.422 |
| **3** | **Hispanic x LVS** |  |  |  |  | -2.01 | 0.847 | -1.332 | 0.898 |
| **3** | **Recent-Life Stress x LVS** |  |  |  |  | -1.29 | 0.226 | -0.45 | 0.686 |
| **3** | **Disorder Status no depression x LVS** |  |  |  |  | -0.078 | 0.988 | -0.57 | 0.911 |
| **3** | **Depression symptoms x LVS** |  |  |  |  | 0.193 | 0.455 | 0.37 | 0.157 |
| **4** | **LVS x ELS** |  |  |  |  |  |  | -0.766 | 0.011 |
|  | **Model R2** | 0.398 |  | 0.42 |  | 0.437 |  | 0.441 |  |
|  | **Model Adjusted R2** | 0.392 |  | 0.413 |  | 0.416 |  | 0.42 |  |
|  | **Model F** | 59.587 |  | 53.29 |  | 21.13 |  | 20.87 |  |
|  | **Model p** | <.001 |  | <.001 |  | <.001 |  | <.001 |  |

*Unstandardized beta and p values are presented for each predictor. For each step of the model, the R2, adjusted R2, F, and p value are presented. Any step where a predictor, model, or change in R2 is significant at p<0.05*



**References**

Shafer AB (2006) Meta-analysis of the factor structures of four depression questionnaires: Beck, CES-D, Hamilton, and Zung. J Clin Psychol 62:123–146.