**Supplemental Table 1: Validation sample participant characteristics**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **N=200****n (%)** |  |
| **Sexa**   | Male | 74 (38.3) |  |
|   | Female | 119 (61.7) |  |
|  |  |  |  |
| **Raceb**   | Black | 55 (41.7) |  |
|   | Other | 77 (58.3) |  |
|  |  |  |  |
| **Languagec**  | Sesotho | 70 (37.6) |  |
|   | IsiXhosa | 14 (7.5) |  |
|   | IsiZulu | 20 (10.8) |  |
|   | Setswana | 5 (2.7) |  |
|   | Sepedi | 0 (0) |  |
|   | Afrikaans/English | 77 (41.4) |  |
|  |  |  |  |
| **Educationd**  | None | 2 (1.2) |  |
|   | Primary | 20 (11.8) |  |
|   | Secondary | 67 (39.4) |  |
|  | Grade 12 or higher | 81 (47.7) |  |
|  |  |  |  |
| **Smoking cigarettese** | Never | 54 (52.4) |  |
|   | Former | 20 (19.4) |  |
|   | Current | 29 (28.2) |  |
|  |  |  |  |
| **Alcohol usef**  | Never | 109 (64.9) |  |
|   | Former | 19 (11.3) |  |
|   | Current | 40 (23.8) |  |
|  |  |  |  |
| **BMIg**  | <18.5 | 5 (3.4) |  |
|   | 18.5–24.9 | 30 (20.1) |  |
|   | 25.0–29.9 | 55 (36.9) |  |
|   | ≥30 | 59 (39.6) |  |
|  |  |  |  |
|  |  | **Mean (SD)** |  |
| **Ageh, years** |  | 50.4 (9.5) |  |
|  | Minimum | 33.5 |  |
|  | Median | 48.1 |  |
|  | Maximum | 81.2 |  |

**Abbreviations:** BMI=body mass index; Mn=manganese; SD=standard deviation.

a Percent excludes 7 participants with missing data. b Percent excludes 68 participants with missing data. Other is White, Indian or of mixed race. c Percent excludes 14 participants with missing data. d Percent excludes 30 participants with missing data; where primary is grades 1–7, and secondary is grades 8–11.

e Percent excludes 97 participants with missing data. f Percent excludes 32 participants with missing data. g Percent excludes 51 participants with missing data. h Percent excludes 1 participant with missing data.

**Supplemental Table 2: BDI and STAI in the validation sample**

|  |  |  |
| --- | --- | --- |
|  | **N=200****n (%)** |  |
| **BDI** |  |  |
| Depression severitya  |  |  |
| Minimal | 117 (59.4) |  |
| Mild | 30 (15.2) |  |
| Moderate | 24 (12.2) |  |
| Severe | 26 (13.2) |  |
|  |  |  |
| Score |   |  |
| Mean (SD) | 13.9 (11.8) |  |
| Minimum | 0.0 |  |
| Median | 11.0 |  |
| Maximum | 49.0 |  |
|  |  |  |
| **STAI-stateb** |  |  |
| High state anxietyc | 101 (50.5) |  |
|  |  |  |
| Score |  |  |
| Mean (SD) | 40.7 (11.1) |  |
| Minimum | 19.0 |  |
| Median | 41.0 |  |
| Maximum | 70.0 |  |
|  |  |  |
| **STAI-traitd** |  |  |
| High trait anxietyc | 105 (52.5) |  |
|  |  |  |
| Score |  |  |
| Mean (SD) | 41.6 (10.8) |  |
| Minimum | 20.0 |  |
| Median | 41.0 |  |
| Maximum | 68.0 |  |

**Abbreviations:** BDI=Beck Depression Inventory; Mn=manganese; SD=standard deviation; STAI=State-Trait Anxiety Inventory.

a BDI score severity rating scale: minimal=0–13, mild=14–19, moderate=20–28, severe=29–63. Excludes 3 participants with missing BDI data. b Evaluates the current state of anxiety, how respondents “feel right now, that is, at this moment”; STAI questionnaire items 1–20. c STAI score >40. d Evaluates how respondents “generally feel”; STAI questionnaire items 21–40.