Tables

Table 1: Demographics

| **Characteristic** | **Female**, N = 218 | **Male**, N = 83 |
| --- | --- | --- |
| Age | 27 (8) | 30 (12) |
| Religion |  |  |
| Atheist | 23 (11%) | 7 (8.4%) |
| Buddhist | 99 (45%) | 35 (42%) |
| Christian | 36 (17%) | 13 (16%) |
| Hindu | 21 (9.6%) | 11 (13%) |
| Muslim | 39 (18%) | 17 (20%) |
| Ethnicity |  |  |
| Malaysian Chinese | 138 (63%) | 46 (55%) |
| Malaysian Indian | 19 (8.7%) | 13 (16%) |
| Malaysian Malay | 26 (12%) | 7 (8.4%) |
| Others | 35 (16%) | 17 (20%) |
| Marital Status |  |  |
| Single | 180 (83%) | 56 (67%) |
| Married | 37 (17%) | 27 (33%) |
| Divorced | 1 (0.5%) | 0 (0%) |
| Education |  |  |
| Doctor of Philosophy (PhD) | 43 (20%) | 13 (16%) |
| Master’s degree | 38 (17%) | 22 (27%) |
| post grad diploma | 1 (0.5%) | 0 (0%) |
| Bachelor’s degree | 129 (59%) | 41 (49%) |
| Diploma | 5 (2.3%) | 4 (4.8%) |
| Pre-university | 1 (0.5%) | 2 (2.4%) |
| Secondary School | 1 (0.5%) | 1 (1.2%) |
| Occupation |  |  |
| Student | 165 (76%) | 50 (60%) |
| Work | 42 (19%) | 31 (37%) |
| Neither | 11 (5.0%) | 2 (2.4%) |
| Community Stance | 7.07 (1.87) | 7.00 (1.85) |
| Sleep Quality |  |  |
| Good Sleep | 69 (32%) | 24 (29%) |
| Poor Sleep | 149 (68%) | 59 (71%) |
| Chronotype |  |  |
| Definite Evening | 8 (3.7%) | 1 (1.2%) |
| Intermediate | 144 (66%) | 60 (72%) |
| Moderate Evening | 43 (20%) | 13 (16%) |
| Moderate Morning | 23 (11%) | 9 (11%) |

Table 3:

Results of Measurement assessment

| Constructs | Factor Loading | Cronbach’s alpha | CR | AVE | R2 | Q2 |
| --- | --- | --- | --- | --- | --- | --- |
| Trouble in Memory | 1.00 | 1.00 | 1.00 | 1.00 |  |  |
| Trouble in Concentration | 1.00 | 1.00 | 1.00 | 1.00 |  |  |
| PSQ |  | 0.60 | 0.73 | 0.36 |  |  |
| PSQ1 | 0.72 |  |  |  |  |  |
| PSQ2 | 0.44 |  |  |  |  |  |
| PSQ3 | 0.51 |  |  |  |  |  |
| PSQ4 | 0.42 |  |  |  |  |  |
| PSQ5 | 0.81 |  |  |  |  |  |
| Sleep Efficiency |  | 0.48 | 0.79 | 0.66 |  |  |
| Sleep\_efficieny1 | 0.86 |  |  |  |  |  |
| Sleep\_efficieny2 | 0.75 |  |  |  |  |  |
| LEBA F1 |  | 0.94 | 0.96 | 0.66 |  |  |
| LEBA\_F1\_item1 | 0.95 |  |  |  |  |  |
| LEBA\_F1\_item2 | 0.95 |  |  |  |  |  |
| LEBA\_F1\_item3 | 0.94 |  |  |  |  |  |
| LEBA F2 |  | 0.71 | 0.80 | 0.45 |  |  |
| LEBA\_F2\_item1 | 0.46 |  |  |  |  |  |
| LEBA\_F2\_item2 | 0.73 |  |  |  |  |  |
| LEBA\_F2\_item3 | 0.62 |  |  |  |  |  |
| LEBA\_F2\_item4 | 0.69 |  |  |  |  |  |
| LEBA\_F2\_item5 | 0.79 |  |  |  |  |  |
| LEBA F3 |  | 0.71 | 0.84 | 0.64 |  |  |
| LEBA\_F3\_item1 | 0.85 |  |  |  |  |  |
| LEBA\_F3\_item2 | 0.86 |  |  |  |  |  |
| LEBA\_F3\_item3 | 0.68 |  |  |  |  |  |
| LEBA F4 |  | 0.67 | 0.82 | 0.60 |  |  |
| LEBA\_F4\_item1 | 0.73 |  |  |  |  |  |
| LEBA\_F4\_item2 | 0.69 |  |  |  |  |  |
| LEBA\_F4\_item3 | 0.89 |  |  |  |  |  |
| LEBA F5 |  | 0.51 | 0.74 | 0.50 |  |  |
| LEBA\_F5\_item1 | 0.76 |  |  |  |  |  |
| LEBA\_F5\_item2 | 0.55 |  |  |  |  |  |
| LEBA\_F5\_item3 | 0.78 |  |  |  |  |  |
| MEQ F1 |  | 0.71 | 0.79 | 0.39 |  |  |
| MEQ\_F1\_item1 | 0.53 |  |  |  |  |  |
| MEQ\_F1\_item2 | 0.75 |  |  |  |  |  |
| MEQ\_F1\_item3 | 0.58 |  |  |  |  |  |
| MEQ\_F1\_item4 | 0.50 |  |  |  |  |  |
| MEQ\_F1\_item5 | 0.79 |  |  |  |  |  |
| MEQ\_F1\_item6 | 0.55 |  |  |  |  |  |
| MEQ F2 |  | 0.72 | 0.84 | 0.64 |  |  |
| MEQ\_F2\_item1 | 0.87 |  |  |  |  |  |
| MEQ\_F2\_item2 | 0.80 |  |  |  |  |  |
| MEQ\_F2\_item3 | 0.73 |  |  |  |  |  |
| MEQ F3 |  | 0.60 | 0.77 | 0.46 |  |  |
| MEQ\_F3\_item1 | 0.76 |  |  |  |  |  |
| MEQ\_F3\_item2 | 0.61 |  |  |  |  |  |
| MEQ\_F3\_item3 | 0.78 |  |  |  |  |  |
| MEQ\_F3\_item4 | 0.53 |  |  |  |  |  |
| MEQ F4 |  | 0.51 | 0.80 | 0.67 |  |  |
| MEQ\_F4\_item1 | 0.85 |  |  |  |  |  |
| MEQ\_F4\_item2 | 0.78 |  |  |  |  |  |
| Positive Affect |  | 0.92 | 0.93 | 0.57 |  |  |
| PA1 | 0.74 |  |  |  |  |  |
| PA2 | 0.72 |  |  |  |  |  |
| PA3 | 0.84 |  |  |  |  |  |
| PA4 | 0.81 |  |  |  |  |  |
| PA5 | 0.71 |  |  |  |  |  |
| PA6 | 0.63 |  |  |  |  |  |
| PA7 | 0.80 |  |  |  |  |  |
| PA8 | 0.77 |  |  |  |  |  |
| PA9 | 0.72 |  |  |  |  |  |
| PA10 | 0.82 |  |  |  |  |  |
| Negative Affect |  | 0.86 | 0.89 | 0.45 |  |  |
| NegA1 | 0.67 |  |  |  |  |  |
| NegA2 | 0.72 |  |  |  |  |  |
| NegA3 | 0.64 |  |  |  |  |  |
| NegA4 | 0.74 |  |  |  |  |  |
| NegA5 | 0.46 |  |  |  |  |  |
| NegA6 | 0.68 |  |  |  |  |  |
| NegA7 | 0.65 |  |  |  |  |  |
| NegA8 | 0.73 |  |  |  |  |  |
| NegA9 | 0.58 |  |  |  |  |  |
| NegA10 | 0.78 |  |  |  |  |  |

*Note.* All factor loadings are significant (p<0.05)

Table 4:

Discriminant validity assessment using the Fornell and Larcker Criterion

| Constructs\* | L1 | L2 | L3 | L4 | L5 | PA | NegA | PSQ | SE | PT | MA | RT | RI | Memory | Concentration |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| L1 | **0.95** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| L2 | 0.05 | **0.67** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| L3 | -0.10 | -0.21 | **0.80** |  |  |  |  |  |  |  |  |  |  |  |  |
| L4 | 0.17 | 0.12 | 0.02 | **0.77** |  |  |  |  |  |  |  |  |  |  |  |
| L5 | 0.11 | 0.22 | -0.17 | 0.29 | **0.71** |  |  |  |  |  |  |  |  |  |  |
| PA | -0.06 | 0.35 | -0.12 | 0.02 | 0.21 | **0.76** |  |  |  |  |  |  |  |  |  |
| NegA | 0.09 | 0.02 | 0.14 | 0.05 | 0.13 | -0.19 | **0.67** |  |  |  |  |  |  |  |  |
| PSQ | 0.08 | -0.06 | 0.23 | 0.02 | -0.18 | -0.33 | 0.37 | **0.60** |  |  |  |  |  |  |  |
| SE | 0.02 | 0.01 | -0.06 | -0.03 | 0.02 | 0.22 | -0.08 | -0.04 | **0.81** |  |  |  |  |  |  |
| PT | -0.07 | 0.22 | -0.28 | 0.01 | 0.17 | 0.33 | -0.17 | -0.26 | 0.10 | **0.63** |  |  |  |  |  |
| MA | -0.12 | 0.12 | -0.15 | 0.06 | 0.16 | 0.31 | -0.20 | -0.35 | 0.18 | 0.41 | **0.80** |  |  |  |  |
| RT | -0.01 | 0.21 | -0.31 | -0.09 | 0.16 | 0.27 | -0.08 | -0.18 | 0.10 | 0.63 | 0.37 | **0.68** |  |  |  |
| RI | 0.05 | 0.20 | -0.28 | -0.01 | 0.15 | 0.18 | -0.05 | -0.11 | 0.11 | 0.35 | 0.20 | 0.34 | **0.82** |  |  |
| Memory | 0.01 | -0.09 | 0.20 | 0.11 | 0.08 | -0.16 | 0.47 | 0.32 | -0.10 | -0.22 | -0.28 | -0.22 | -0.10 | **1.00** |  |
| Concentration | 0.01 | -0.05 | 0.23 | 0.06 | -0.04 | -0.26 | 0.46 | 0.43 | -0.15 | -0.26 | -0.31 | -0.16 | -0.17 | 0.52 | **1.00** |

Note. \*The bold numbers listed diagonally are the square root of the AVE of the constructs. The off-diagonals are the inter-correlations of the constructs. For discriminant validity. The diagonal values should be larger than the values of the off-diagonals.

Table 5:

Discriminant validity assessment using the HTMT

| rowname | L1 | L2 | L3 | L4 | L5 | PA | NegA | PSQ | SE | PT | MA | RT | RI | Memory |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| L2 | 0.09 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| L3 | 0.13 | 0.26 |  |  |  |  |  |  |  |  |  |  |  |  |
| L4 | 0.21 | 0.23 | 0.09 |  |  |  |  |  |  |  |  |  |  |  |
| L5 | 0.19 | 0.40 | 0.28 | 0.52 |  |  |  |  |  |  |  |  |  |  |
| PA | 0.07 | 0.41 | 0.15 | 0.09 | 0.31 |  |  |  |  |  |  |  |  |  |
| NegA | 0.11 | 0.16 | 0.21 | 0.11 | 0.29 | 0.25 |  |  |  |  |  |  |  |  |
| PSQ | 0.12 | 0.28 | 0.38 | 0.14 | 0.34 | 0.35 | 0.49 |  |  |  |  |  |  |  |
| SE | 0.09 | 0.06 | 0.17 | 0.17 | 0.13 | 0.32 | 0.13 | 0.23 |  |  |  |  |  |  |
| PT | 0.09 | 0.25 | 0.34 | 0.15 | 0.29 | 0.41 | 0.26 | 0.34 | 0.21 |  |  |  |  |  |
| MA | 0.15 | 0.15 | 0.20 | 0.08 | 0.27 | 0.36 | 0.25 | 0.43 | 0.31 | 0.52 |  |  |  |  |
| RT | 0.14 | 0.27 | 0.46 | 0.14 | 0.30 | 0.36 | 0.17 | 0.34 | 0.25 | 0.94 | 0.54 |  |  |  |
| RI | 0.08 | 0.26 | 0.44 | 0.14 | 0.28 | 0.27 | 0.15 | 0.34 | 0.22 | 0.52 | 0.33 | 0.57 |  |  |
| Memory | 0.04 | 0.12 | 0.24 | 0.13 | 0.10 | 0.16 | 0.49 | 0.35 | 0.16 | 0.26 | 0.32 | 0.26 | 0.14 |  |
| Concentration | 0.03 | 0.10 | 0.28 | 0.06 | 0.14 | 0.27 | 0.49 | 0.45 | 0.21 | 0.29 | 0.35 | 0.20 | 0.23 | 0.52 |

Table 6:

Structural model assessment

| Path Coefficients\* | Original Est. | Bootstrap Mean | Bootstrap SD | T Stat. | 2.5% CI | 97.5% CI |
| --- | --- | --- | --- | --- | --- | --- |
| L1  ->  MA | -0.16 | -0.16 | 0.06 | -2.44 | -0.28 | -0.03 |
| L2  ->  PA | 0.32 | 0.32 | 0.05 | 6.21 | 0.22 | 0.42 |
| L2  ->  PT | 0.15 | 0.15 | 0.07 | 2.27 | 0.02 | 0.28 |
| L2  ->  RT | 0.15 | 0.15 | 0.06 | 2.29 | 0.02 | 0.27 |
| L2  ->  RI | 0.14 | 0.14 | 0.06 | 2.33 | 0.02 | 0.25 |
| L3  ->  NegA | 0.17 | 0.17 | 0.06 | 2.84 | 0.05 | 0.29 |
| L3  ->  PSQ | 0.13 | 0.13 | 0.06 | 2.24 | 0.01 | 0.24 |
| L3  ->  PT | -0.24 | -0.24 | 0.05 | -4.39 | -0.35 | -0.14 |
| L3  ->  MA | -0.13 | -0.13 | 0.06 | -2.24 | -0.24 | -0.01 |
| L3  ->  RT | -0.26 | -0.27 | 0.05 | -4.83 | -0.37 | -0.16 |
| L3  ->  RI | -0.23 | -0.23 | 0.06 | -3.79 | -0.35 | -0.11 |
| L5  ->  PA | 0.16 | 0.16 | 0.06 | 2.45 | 0.03 | 0.28 |
| L5  ->  PSQ | -0.16 | -0.16 | 0.06 | -2.59 | -0.27 | -0.03 |
| PA  ->  PSQ | -0.18 | -0.18 | 0.06 | -3.02 | -0.30 | -0.06 |
| PA  ->  SE | 0.22 | 0.21 | 0.07 | 3.08 | 0.07 | 0.35 |
| NegA  ->  PSQ | 0.28 | 0.29 | 0.06 | 4.83 | 0.17 | 0.40 |
| NegA  ->  Memory | 0.38 | 0.38 | 0.06 | 6.63 | 0.26 | 0.49 |
| NegA  ->  Concentration | 0.33 | 0.32 | 0.06 | 5.87 | 0.21 | 0.43 |
| PSQ  ->  Memory | 0.17 | 0.18 | 0.06 | 3.11 | 0.07 | 0.29 |
| PSQ  ->  Concentration | 0.26 | 0.26 | 0.06 | 4.60 | 0.15 | 0.37 |
| MA  ->  PSQ | -0.20 | -0.20 | 0.06 | -3.31 | -0.31 | -0.08 |

*\** Only significant paths are reported

Table 7:

Significant Total effects

| Total Effects\* | Original Est. | Bootstrap Mean | Bootstrap SD | T Stat. | 2.5% CI | 97.5% CI |
| --- | --- | --- | --- | --- | --- | --- |
| L1  ->  PSQ | 0.11 | 0.12 | 0.05 | 2.06 | 0.01 | 0.22 |
| L1  ->  MA | -0.16 | -0.16 | 0.06 | -2.44 | -0.28 | -0.03 |
| L2  ->  PA | 0.32 | 0.32 | 0.05 | 6.21 | 0.22 | 0.42 |
| L2  ->  PT | 0.15 | 0.15 | 0.07 | 2.27 | 0.02 | 0.28 |
| L2  ->  RT | 0.15 | 0.15 | 0.06 | 2.29 | 0.02 | 0.27 |
| L2  ->  RI | 0.14 | 0.14 | 0.06 | 2.33 | 0.02 | 0.25 |
| L3  ->  NegA | 0.17 | 0.17 | 0.06 | 2.84 | 0.05 | 0.29 |
| L3  ->  PSQ | 0.21 | 0.21 | 0.06 | 3.53 | 0.09 | 0.32 |
| L3  ->  PT | -0.24 | -0.24 | 0.05 | -4.39 | -0.35 | -0.14 |
| L3  ->  MA | -0.13 | -0.13 | 0.06 | -2.24 | -0.24 | -0.01 |
| L3  ->  RT | -0.26 | -0.27 | 0.05 | -4.83 | -0.37 | -0.16 |
| L3  ->  RI | -0.23 | -0.23 | 0.06 | -3.79 | -0.35 | -0.11 |
| L3  ->  Memory | 0.20 | 0.19 | 0.06 | 3.12 | 0.06 | 0.31 |
| L3  ->  Concentration | 0.23 | 0.23 | 0.06 | 3.89 | 0.11 | 0.34 |
| L5  ->  PA | 0.16 | 0.16 | 0.06 | 2.45 | 0.03 | 0.28 |
| L5  ->  PSQ | -0.17 | -0.17 | 0.07 | -2.38 | -0.30 | -0.02 |
| PA  ->  PSQ | -0.18 | -0.18 | 0.06 | -3.02 | -0.30 | -0.06 |
| PA  ->  SE | 0.22 | 0.21 | 0.07 | 3.08 | 0.07 | 0.35 |
| PA  ->  Concentration | -0.15 | -0.15 | 0.06 | -2.56 | -0.27 | -0.04 |
| NegA  ->  PSQ | 0.28 | 0.29 | 0.06 | 4.83 | 0.17 | 0.40 |
| NegA  ->  Memory | 0.43 | 0.43 | 0.05 | 8.26 | 0.33 | 0.53 |
| NegA  ->  Concentration | 0.40 | 0.40 | 0.05 | 7.86 | 0.30 | 0.50 |
| PSQ  ->  Memory | 0.17 | 0.18 | 0.06 | 3.11 | 0.07 | 0.29 |
| PSQ  ->  Concentration | 0.26 | 0.26 | 0.06 | 4.60 | 0.15 | 0.37 |
| MA  ->  PSQ | -0.20 | -0.20 | 0.06 | -3.31 | -0.31 | -0.08 |
| MA  ->  Memory | -0.04 | -0.04 | 0.02 | -2.37 | -0.08 | -0.01 |
| MA  ->  Concentration | -0.06 | -0.06 | 0.02 | -2.98 | -0.11 | -0.03 |

*\** Only significant effects are reported