**Measurement Invariance Results**

Measurement invariance models were programmed in *R* using the *lavaan* package (Rosseel, 2012). First, the overall one-factor model for the PIL and LPQ were both examined for overall fit. Then each group was fit separately to examine factor structure for each group. Normally, if these models fit well, the models would be nested together to examine each level of measurement invariance, as suggested by Brown (2006). In this supplementary file, we have included these steps regardless of original overall fit because the goal was to examine invariance. Additionally, as discussed in the methods section of the full paper, the factor structure of these scales is contested, therefore, one-factor models may only partially fit the data. When models were nested together, equal form or configural invariance was examined to determine if each group contained a similar one-factor structure. Then constraints to the factor loadings were added to test metric invariance, which posits equivalent loadings of each item onto the latent variable. Nexts, scalar invariance model was conducted by forcing equal item intercepts, often interpreted as equality in item means. Last, strict invariance was examined by constraining item error variances to be equal. The order of steps and terminology is from Brown (2006), as the authors have found this version of invariance testing the most descriptive and interpretable of the different options present in the literature.

Fit indices for model fit included the root mean square error of approximation (RMSEA; Steiger, 1990), standardized root mean residual (SRMR; Chen, 2007), and the comparative fit index (CFI; Bentler, 1990). Small values are desirable for RMSEA and SRMR, while large values close to 1 are desired for the CFI (Hu & Bentler, 1999). When models were nested, a significant change in fit was considered decreasing ΔCFI > .01 from the previous step (i.e., metric compared to configural, Cheung & Rensvold, 2002).

**PIL**

The overall and individual models of the PIL indicated adequate fit that was roughly similar, warranting further examination of the measurement invariance by nesting these models together. Configural invariance was found, in that the overall model statistics matched those of the individual and full sample model. The loadings were then constrained for metric invariance, followed by intercepts (scalar), and error variances (strict). None of these models resulted in changes, thus, suggesting measurement invariance for the PIL questionnaire.

**LPQ**

A similar sequential process was conducted in order to examine measurement invariance on participants who completed the LPQ. Overall, this model fit approximately as well as the PIL, with lower fit indices for the CFI. In contrast to the PIL, overall scalar invariance was not found, with a significant change from configural steps. Therefore, each question was examined individually through modification indices, which indicated the change in CFI when the item was constrained to be equal versus unconstrained. Item 13 was the largest modification index, and when this item was allowed to freely vary on intercepts between the two groups, we found partial scalar invariance. Strict invariance was then found given the separate group intercepts for item 13. This result mirrors the correlation results, as item 13 was the item with the largest differences in correlations; however, it does not match results in that differences between item means were not found. It is also worth noting that this item has means of nearly ceiling, which may have influenced these results.

Table 1

*Fit Statistics for PIL Measurement Invariance.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | *X2*(*df*) | RMSEA | SRMR | CFI | ∆CFI |
| All Groups (*n =* 1898) | (170) = 2232.95 | .080 | .047 | .887 | NA |
| Random (*n* = 1070) | (170) = 1365.83 | .081 | .049 | .884 | NA |
| Not random (*n* = 828) | (170) = 1185.43 | .085 | .051 | .875 | NA |
| Configural  Invariance | (340) = 2551.25 | .083 | .050 | .880 | NA |
| Metric Invariance | (359) = 2587.78 | .081 | .054 | .879 | .001 |
| Scalar Invariance | (378) = 2668.09 | .080 | .055 | .876 | .003 |
| Strict Invariance | (398) = 2743.39 | .079 | .057 | .873 | .003 |

Table 2

*Fit Statistics for LPQ Measurement Invariance.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | *X2*(*df*) | RMSEA | SRMR | CFI | ∆CFI |
| All Groups (*n =* 1632) | (170) = 1629.45 | .073 | .059 | .781 | NA |
| Random (*n* = 883) | (170) = 902.00 | .070 | .057 | .785 | NA |
| Not random (*n* = 749) | (170) = 1002.98 | .081 | .067 | .754 | NA |
| Configural  Invariance | (340) = 1904.97 | .075 | .062 | .770 | NA |
| Metric Invariance | (359) = 1936.66 | .073 | .065 | .768 | .002 |
| Scalar Invariance | (378) = 2028.31 | .073 | .066 | .757 | .011\* |
| Scalar Q13 Free | (377) = 2007.65 | .073 | .066 | .760 | .008 |
| Strict Invariance | (396) = 2057.35 | .072 | .067 | .755 | .005 |