Appendix C: To determine if men and women could be included in the same factor analysis, we conducted tests for both strong and weak measurement invariance. First, we tested for weak measurement invariance: that is, does each survey item have similar factor loadings for men and women? To test for this, we compared the model fits of a free model (in which all factor loadings and intercepts are freely varying for each gender/sex group) and a metric model (in which the factor loadings are fixed to equity across gender/sex groups, but the intercepts were allowed to freely vary).

This free model (CLI = 0.95, TLI=0.93, RMSEA = 0.076, SRMR=0.056) and the metric model (CLI = 0.94, TLI = 0.93, RMSEA = 0.074, SRMR = 0.058) were not statistically significantly different ($\Delta\chi^2 = 15.2$, Δd.f. = 9, $p = 0.084$). Thus, we assumed weak invariance.

Next, we tested for strong measurement invariance: that is, does each survey item have similar factor loadings and intercept for men and women? We compared the model fits of a free model (in which all factor loadings and intercepts are freely varying for each gender group) and a scalar model (in which both the factor loadings and intercepts are fixed to equity across gender/sex groups). The chi-squared difference test between the free model and the scalar model (CLI = 0.94, TLI=0.94, RMSEA = 0.071, SRMR=0.059) was also nonsignificant ($\Delta\chi^2 = 23.0$, Δd.f. = 18, $p = 0.191$). The chi-squared difference test between the metric model and the scalar model was also nonsignificant ($\Delta\chi^2 = 7.74$, Δd.f. = 9, $p = 0.561$). Because of the non-significant chi-squared tests, we also assumed strong invariance, so we included both men and women in our factor analysis.