MGCFA Class Assignment

Using the RS14 dataset, program the different models of a multigroup analysis using ethnicity as the grouping variable.

Use race\_test as the variable:

* 1 = Black
* 2 = White

Be sure to first change the variable to a factor with labels.

Add partial invariance to your table if necessary.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model | X2 (df) | RMSEA | SRMR | CFI | Change CFI | Different? |
| All Groups | (77) 374.962 | 0.087 | 0.041 | .925 | n/a | n/a |
| White | (77)  342.834 | 0.098 | 0.047 | .902 | n/a | n/a |
| Black | (77)  125.924 | 0.077 | 0.047 | .944 | n/a | n/a |
| Configural  Invariance | (154)  468.76 | 0.094 | 0.047 | .912 | n/a | n/a |
| Metric Invariance | (167)  483.10 | 0.090 | 0.056 | .912 | .000 | NO |
| Scalar Invariance | (180)  533.89 | 0.092 | 0.060 | .901 | .011 | YES |
| RS4 intercept | (179)  513.149 | 0.090 | 0.058 | .907 | .005 | NO! ☺ |
| Strict Invariance | (193) 575.899 | 0.092 | 0.060 | .893 | .014 | YES |
| RS3 residual | (192)  560.317 | 0.091 | 0.060 | 0.897 | .010 | NO! ☺ |

Df AIC BIC Chisq Chisq diff Df diff Pr(>Chisq)

fit.configural 154 23837 24185 468.76

fit.loadings 167 23826 24120 483.10 14.344 13 0.3501

fit.intercepts 180 23851 24091 533.89 50.789 13 0.000002181888 \*\*\*

fit.residuals 194 23890 24072 601.59 67.700 14 0.000000005021 \*\*\*

fit.means 195 23888 24066 601.71 0.119 1 0.7296

Fit measures:

cfi rmsea cfi.delta rmsea.delta

fit.configural 0.912 0.094 NA NA

fit.loadings 0.912 0.090 0.000 0.004

fit.intercepts 0.901 0.092 0.011 0.002

fit.residuals 0.886 0.095 0.015 0.003

fit.means 0.886 0.095 0.000 0.000

Fit measures:

cfi rmsea cfi.delta rmsea.delta

fit.configural 0.912 0.094 NA NA

fit.loadings 0.912 0.090 0.000 0.004

fit.intercepts 0.907 0.090 0.005 0.001

fit.residuals 0.893 0.092 0.014 0.003

fit.means 0.893 0.092 0.000 0.000

Fit measures:

cfi rmsea cfi.delta rmsea.delta

fit.configural 0.912 0.094 NA NA

fit.loadings 0.912 0.090 0.000 0.004

fit.intercepts 0.907 0.090 0.005 0.001

fit.residuals 0.897 0.091 0.010 0.001

fit.means 0.897 0.091 0.000 0.000

What is the CFI you are trying to get to (i.e. CFI - .01)?

For scalar I am trying to get to .912 - .01 = .902

For strict I am trying to get to .907 - .01 = .897

What questions would you freely estimate to get to partial invariance?

RS4 intercept

RS3 residual

Interpret your findings – are the groups invariant? Did you see a break down between groups anywhere? What does that break down imply?

Yes, partially.

One question at scalar level, one question at the strict level.

Scalar = RS4

Black 5.13

White 4.24

Strict = RS3

Black 3.31

White 1.80