

Psychometrics - HW 9 solutions

#1

Model 1

- # observations = $\frac{p(p+1)}{2} = \frac{6(7)}{2} = 21$

- # parameters = 14

↳ 0 factor variances (fixed for identification)

↳ 6 factor loadings

↳ 6 residual variances

↳ 2 residual covariances

- $df = 21 - 14 = 7$

- model is identified (scaled with factor variance = 1
↳ $df \geq 0$)

Model 2

- # obs = $\frac{p(p+1)}{2} = \frac{5(6)}{2} = 15$

- # pars = 15

↳ 0 factor variances (fixed for identification)

↳ 1 factor covariance

↳ 7 factor loadings

↳ 5 residual variances

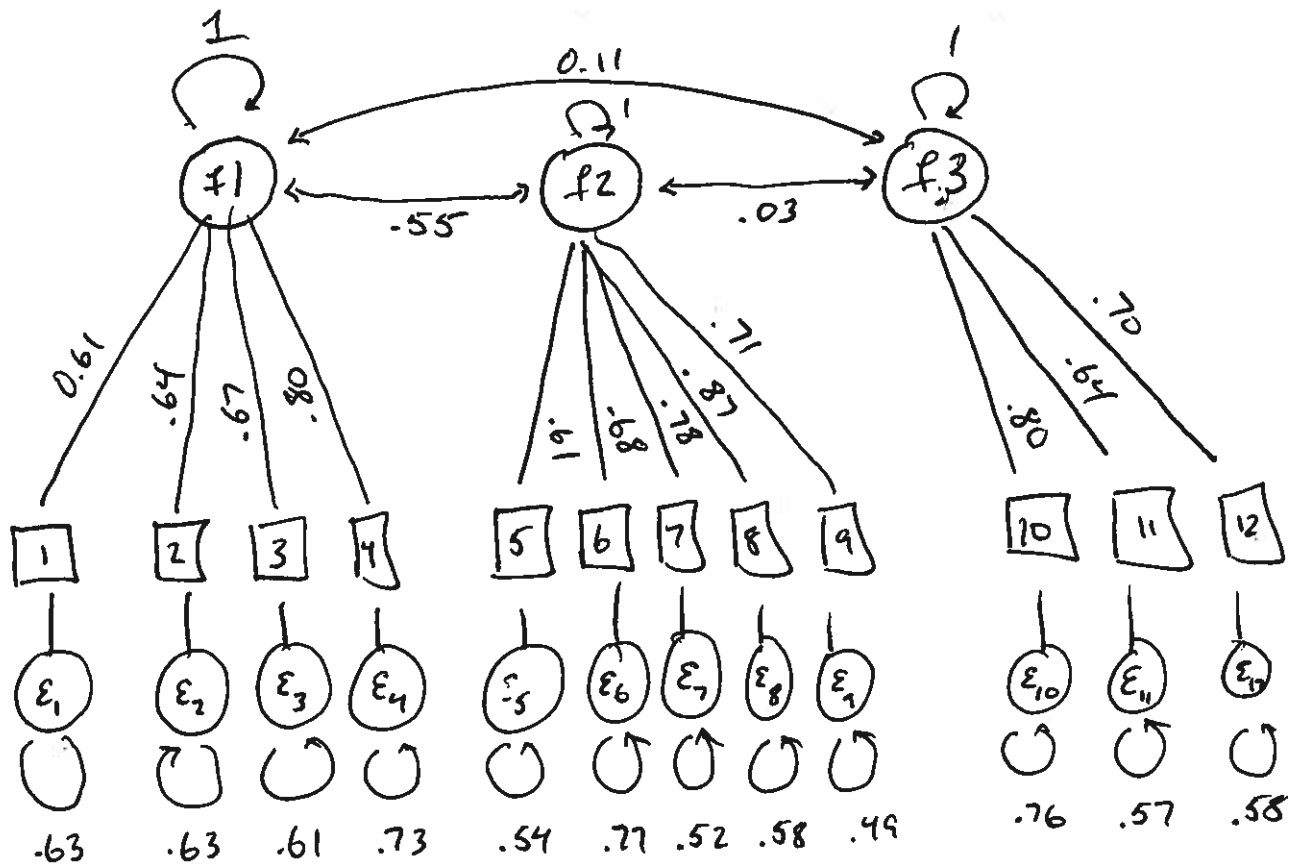
↳ 2 residual covariances

- $df = 15 - 15 = 0$

- identified

↳ Yes (but saturated)

#2



$\chi^2(51) = 55.82$, $p = 0.291$. Fail to reject H_0 of "exact fit", implying model fits the data reasonably well.

RMSEA = 0.022, 90% CI = (0, 0.052)

↳ very good fit (since $RMSEA < 0.05$)