- The model allows individually-varying covariance $\rho_i \sqrt{\sigma^2_{PA_i}} \sqrt{\sigma^2_{Tired_i}}$ where ρ_i is the correlation
- But ρ_i is not normally distributed so we transform it
- Fisher z-transform: $z = \frac{1}{2}ln[(1+\rho_i)/(1-\rho_i)], z \sim N(\mu, \sigma^2)$
- The reverse formula is $\rho = (e^{2z} - 1)/(e^{2z} + 1)$
- The median of the original ρ is obtained as $(e^{2\mu} - 1)/(e^{2\mu} + 1)$
- z and ρ are almost identical for ρ values between -0.5 and +0.5

Plot of Fisher-z
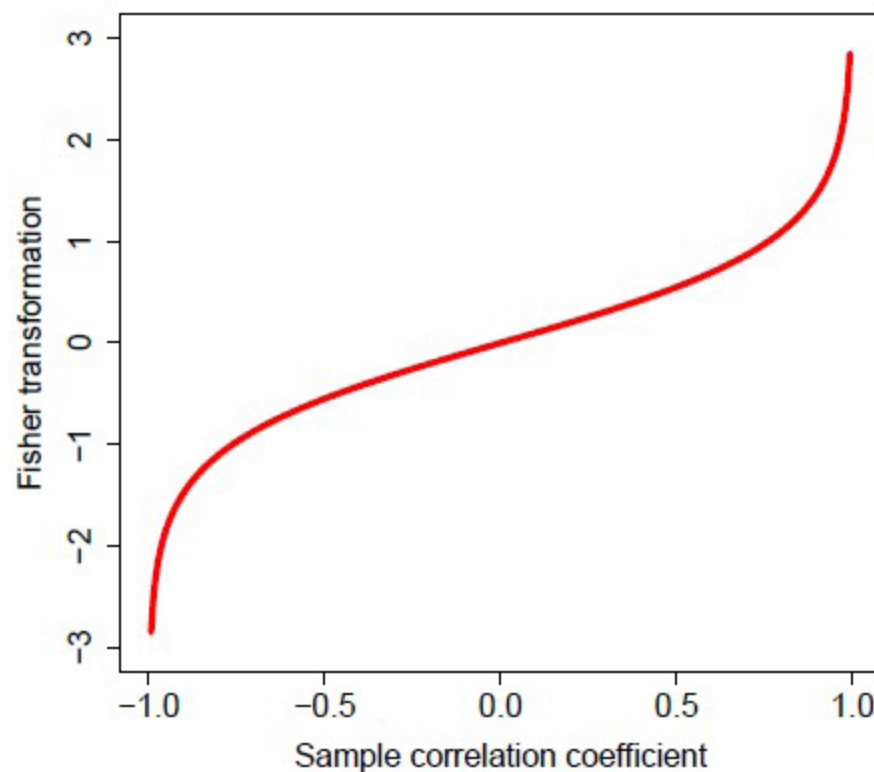
Plot of inverse Fisher-z
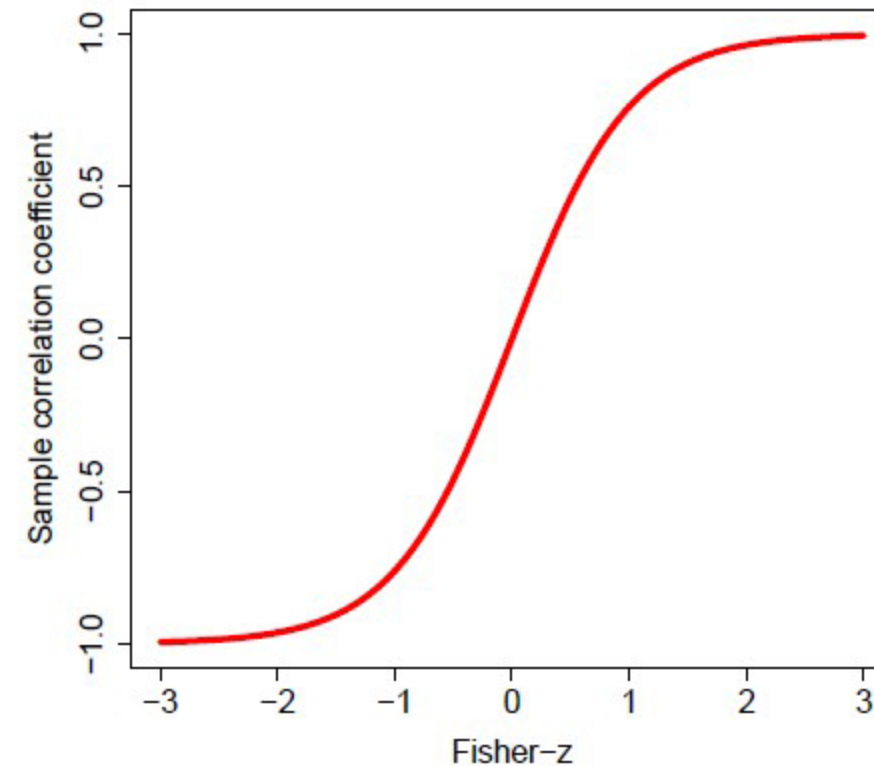
- Asparouhov & Muthén (2010). Bayesian analysis using Mplus: Technical implementation. http://www.statmodel.com/download/Bayes3.pdf