Intro to path analysis - Highlights

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Sample Model
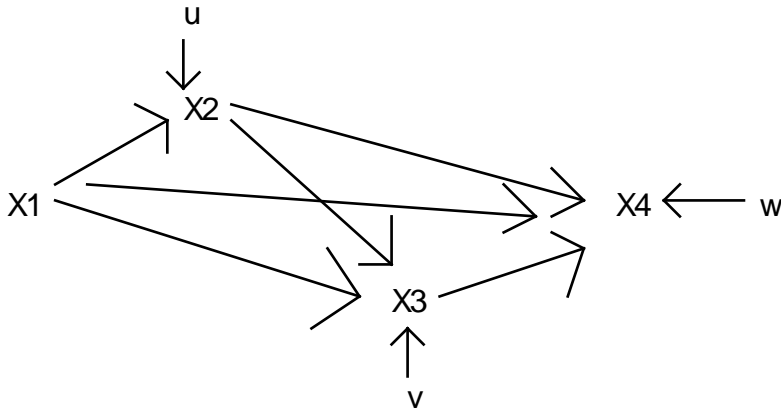
Structural Equations for the Above Model

$$X_2 = \beta_{21}X_1 + u$$

$$X_3 = \beta_{31}X_1 + \beta_{32}X_2 + v$$

$$X_4 = \beta_{41}X_1 + \beta_{42}X_2 + \beta_{43}X_3 + w$$

Correlations implied by the model (if all variables are in standardized form)

$$\rho_{21} = \beta_{21}$$

$$\rho_{31} = \beta_{31} + \beta_{21}\beta_{32}$$

$$\rho_{32} = \beta_{32} + \beta_{31}\beta_{21}$$

$$\rho_{41} = \beta_{41} + \beta_{21}\beta_{42} + \beta_{31}\beta_{43} + \beta_{21}\beta_{32}\beta_{43}$$

$$\rho_{42} = \beta_{42} + \beta_{32}\beta_{43} + \beta_{41}\beta_{21} + \beta_{43}\beta_{31}\beta_{21}$$

$$\rho_{43} = \beta_{43} + \beta_{41}\beta_{31} + \beta_{42}\beta_{32} + \beta_{41}\beta_{21}\beta_{32} + \beta_{42}\beta_{21}\beta_{31}$$