From Measurement Model to Structural Model

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Plan

• Introducing ‘structural’ equations
• Examples of structural models
• Alternative models
• Non-recursive models & instrumental variables
• Mediation models
• Direct, indirect & total effects
Steps in Structural Equation Models

• 1. Establish satisfactory measurement model for key concepts using latent variables

• 2. Fit regression paths between concepts
  – These are the ‘structural equations’ which specify how concepts are related to each other

• Test hypotheses on model parameters

• Assess model fit
A Simple SEM
More complex SEM
Multiple Indicators Multiple Causes (MIMIC) Model

Latent endogenous

Observed exogenous
Alternative Models

• If your model has good fit it is tempting to conclude it is the ‘true’ model

• This temptation should be avoided

• Many alternative generating mechanisms could have produced the observed data

• An example…
Political trust causes social trust

Data: European Social Survey 2004, GB only

Chi2 35.889; DF 8; p = .000; RMSEA = .035; CFI .995;
Social trust causes political trust

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