PATH ANALYSIS

Basic Assumptions

1. *Theory*

    a. For any given structural equation, all causal relations are *linear* and *additive*

        i.   *No* curvilinear functions
        ii.   *No* interaction effects

    b. For any given structural equation, the errors (i.e., residuals or disturbances) are uncorrelated with the predictors (or direct effects) in that equation

    c. The causal system of equations is fully *recursive*

        i.   *No* reciprocal causality
        ii.   *No* feedback loops
        iii.   *No* correlated errors (i.e. residuals or disturbance terms)

    d. The causal system of equations conforms to a minimal *weak causal ordering*

        i.   Endogenous and exogenous variables clearly distinguished
        ii.   Endogenous variables placed in an explicit causal order

    e. The causal system of equation includes *all* relevant variables, or *complete causal closure*

2. *Measurement*

    a. All variables assessed on an *interval* scale
    b. All variables *standardized* to a zero mean and a unit variance
    c. All variables measured *without error* (i.e., reliabilities of unity)

N.B.: Some of these assumptions will be relaxed later in the course, but only by rendering the subsequent causal analysis far more complicated.