Figure 4. Path Model of a Reciprocal Causal Relationship of Property Delinquent Peers and Property Delinquency

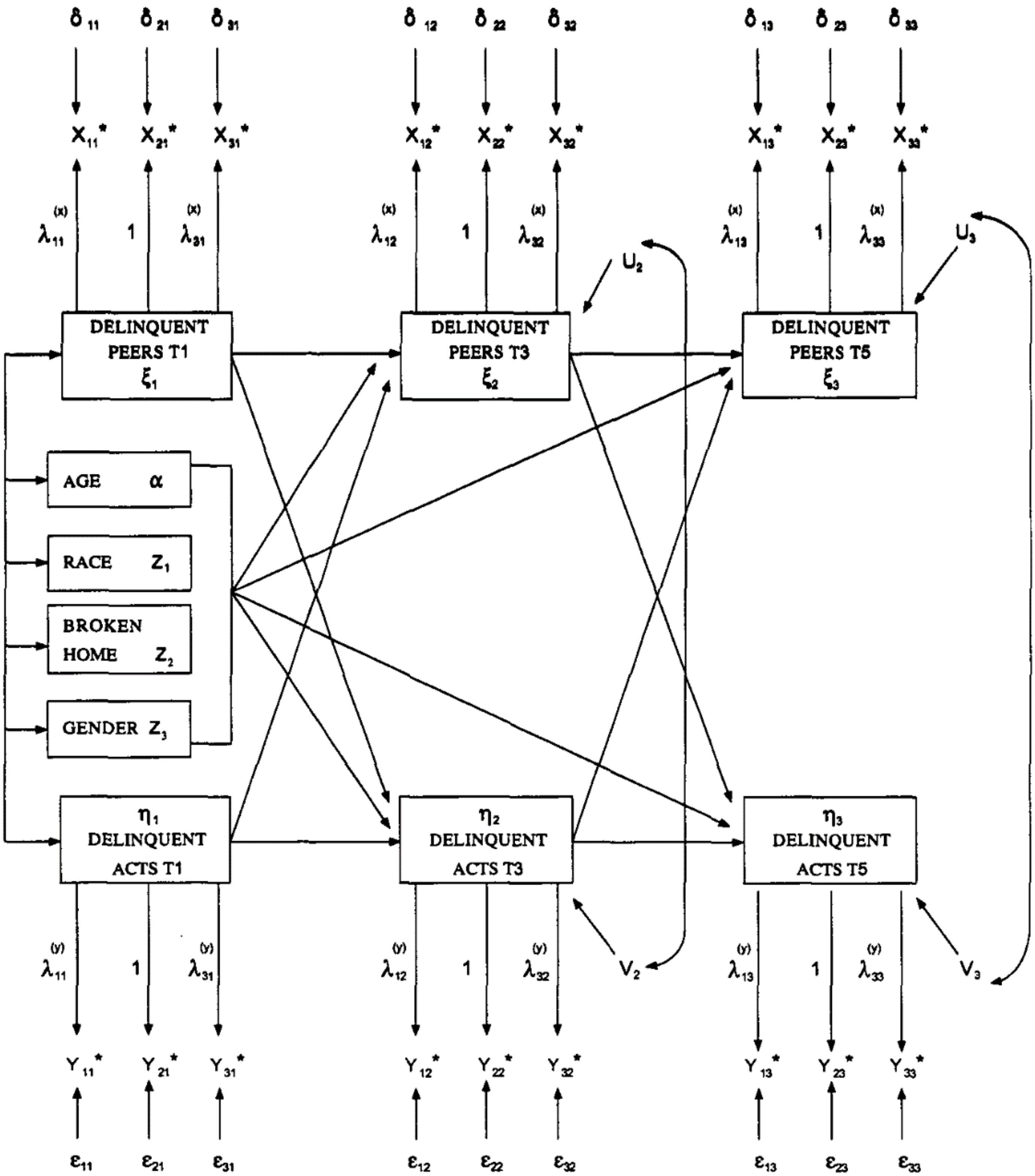
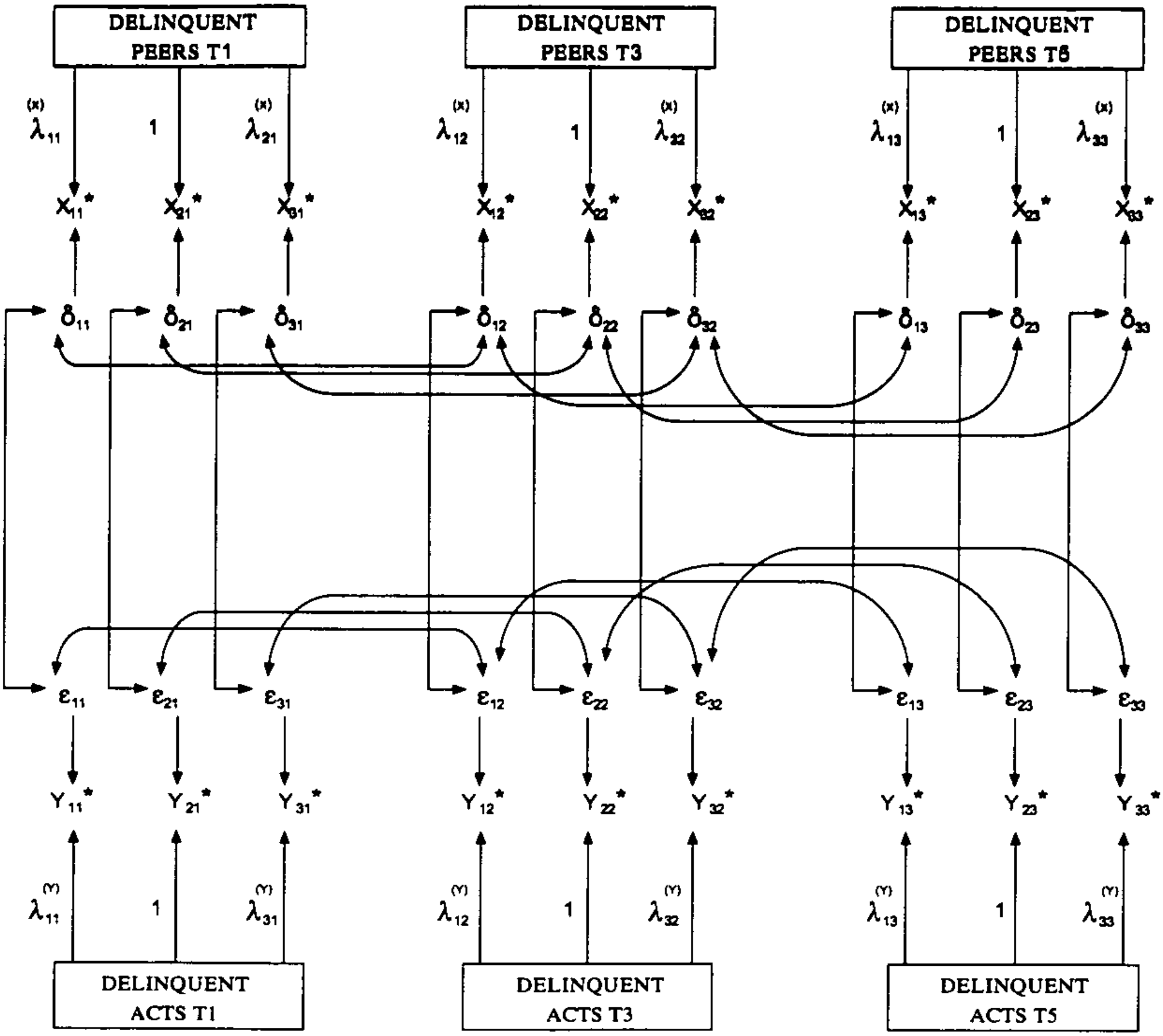
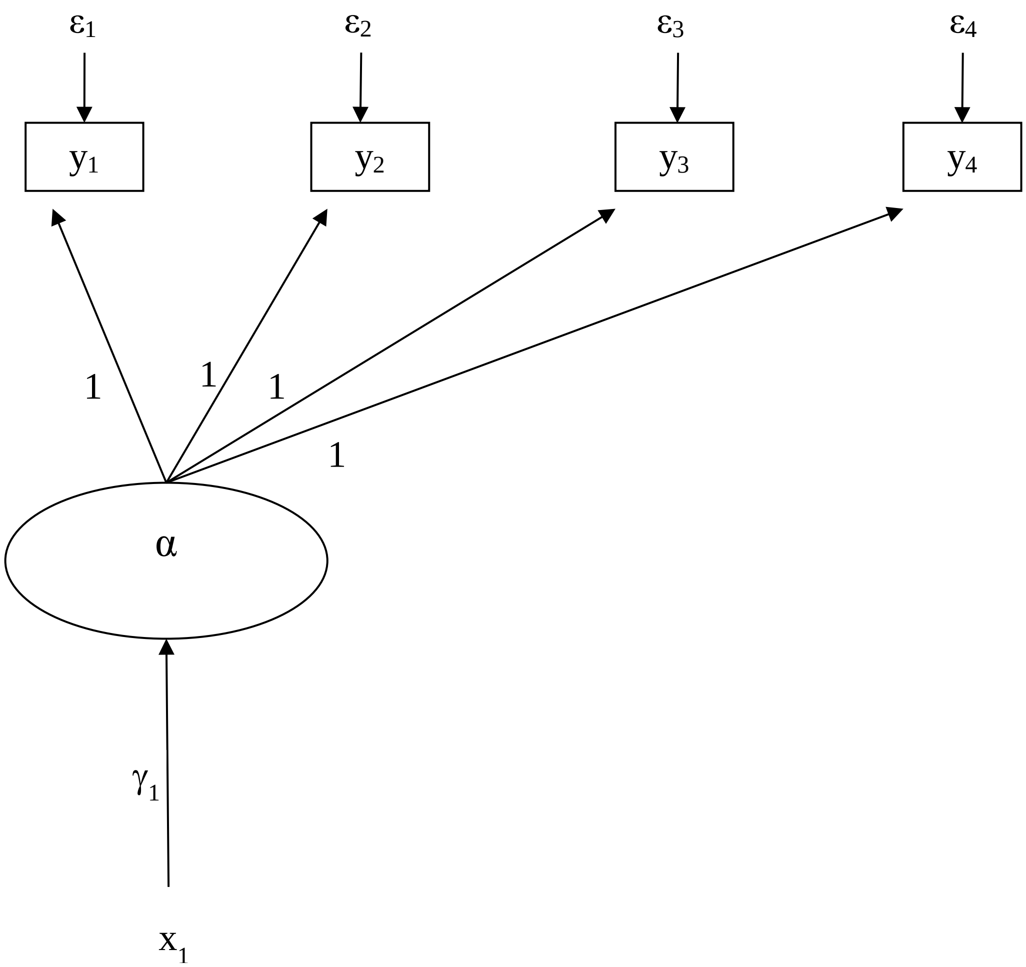


Figure 5. Measurement Model of Property Delinquent Peers and Property Delinquency

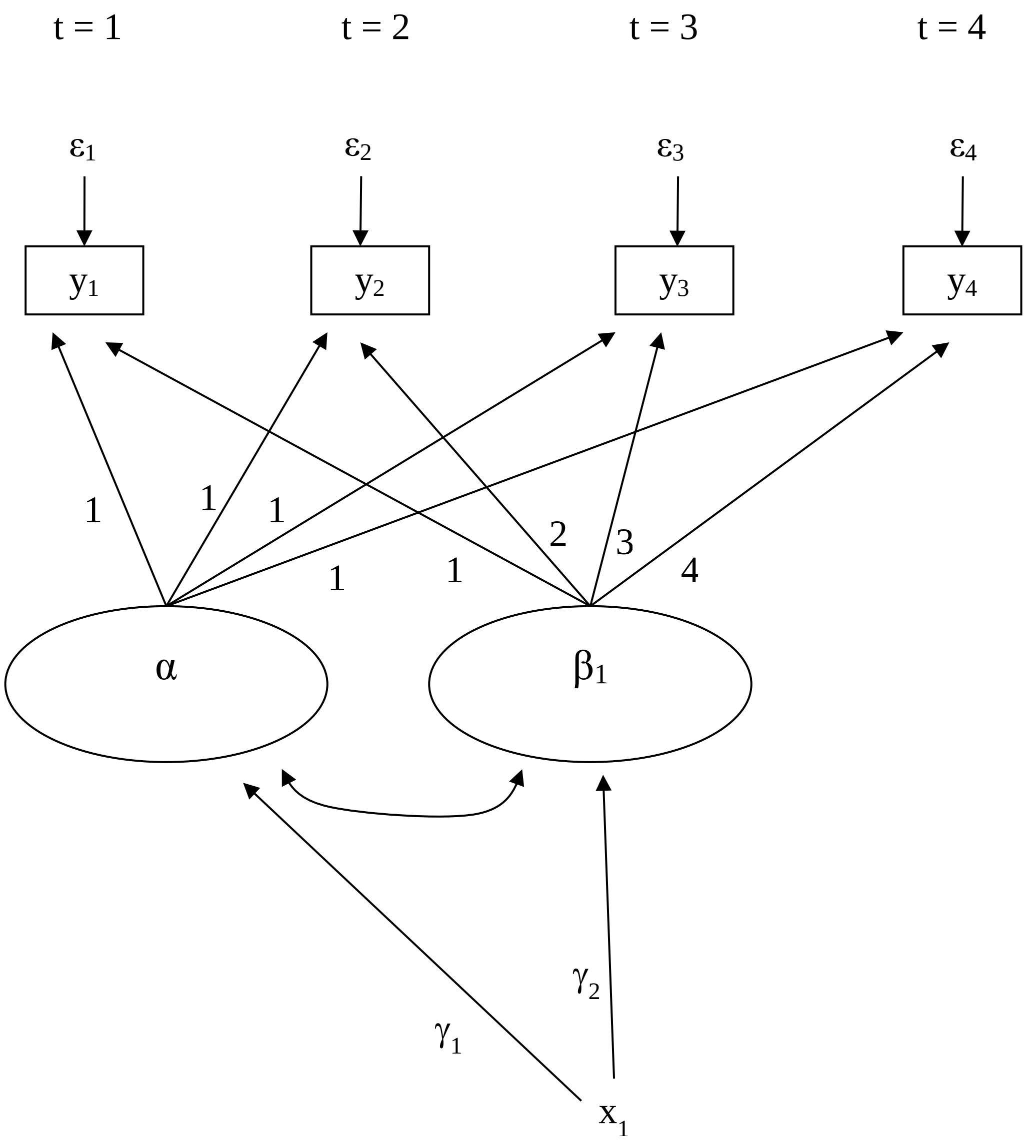




Path diagram of a four-wave random intercept model.

$$y_{it} = \alpha_i + \varepsilon_{it}$$

$$\alpha_i = \gamma_1 x_{1i} + \zeta_i$$

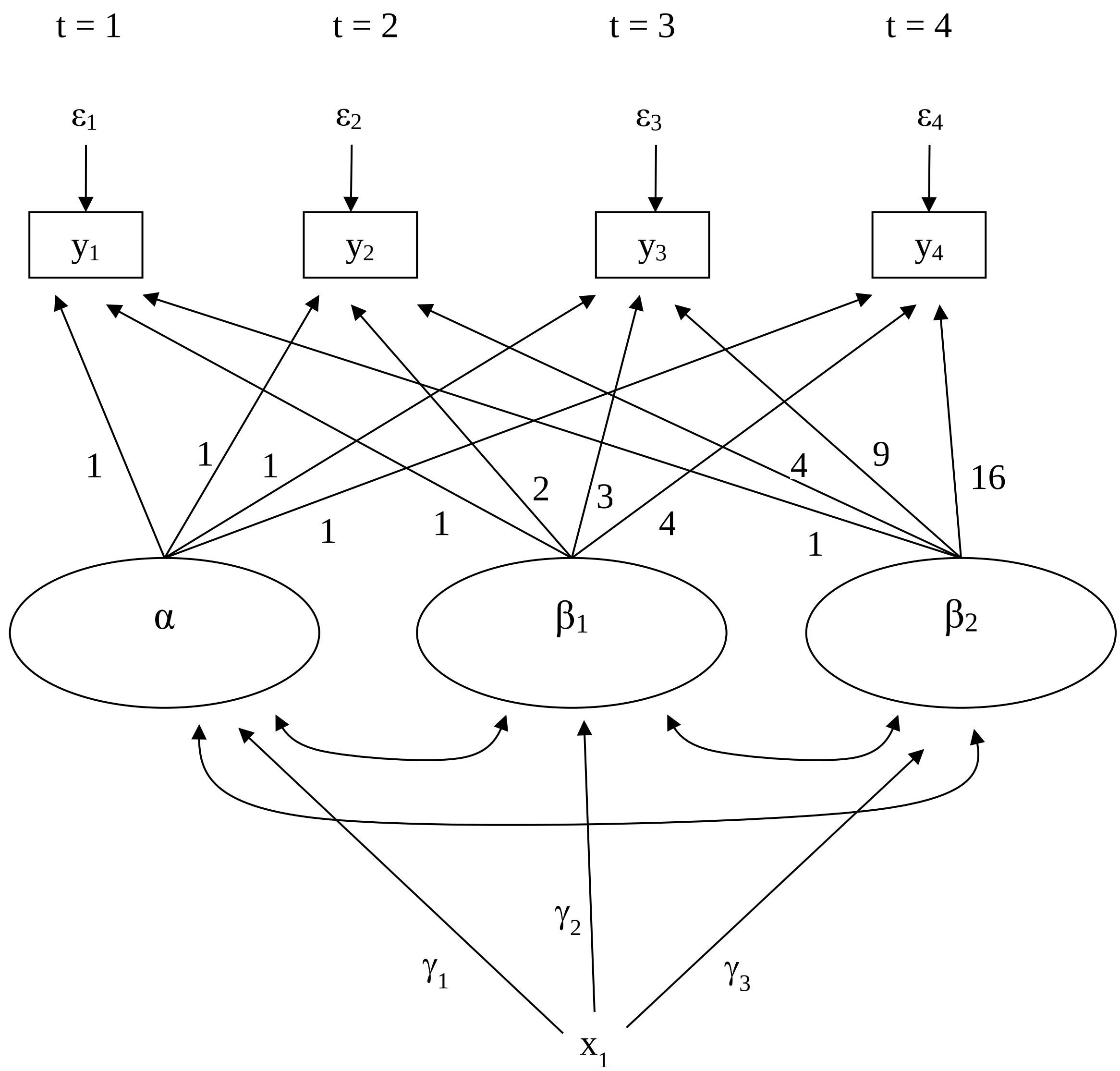


Path diagram of a four-wave linear latent growth curve model.

$$y_{it} = \alpha_i + \lambda_t \beta_{1i} + \varepsilon_{it}$$

$$\alpha_i = \gamma_1 x_{1i} + \zeta_i$$

$$\beta_{1i} = \gamma_2 x_{1i} + \zeta_2$$



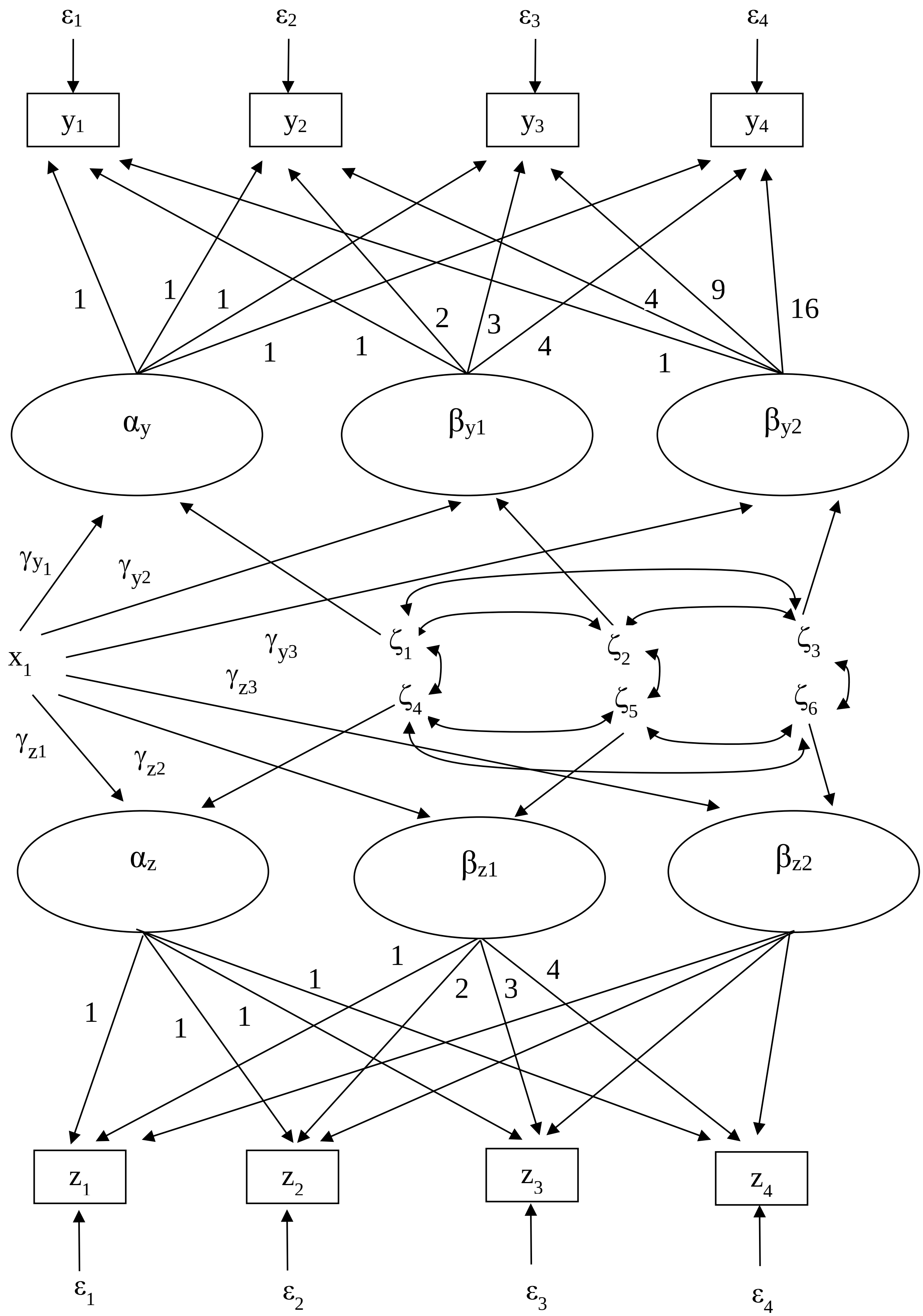
Path diagram of a four-wave quadratic latent growth curve model

$$y_{it} = \alpha_i + \lambda_t \beta_{1i} + \lambda_t^2 \varepsilon_{it}$$

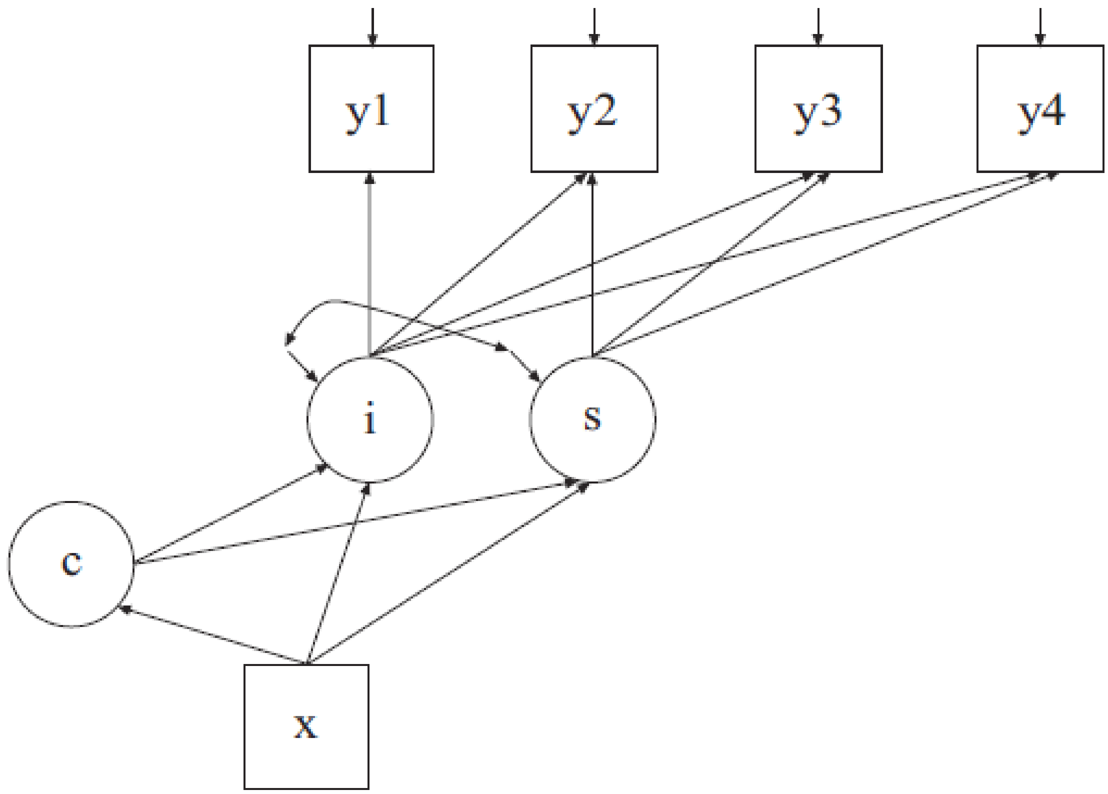
$$\alpha_i = \gamma_1 x_{1i} + \zeta_i$$

$$\beta_{1i} = \gamma_2 x_{1i} + \zeta_2$$

$$\beta_{2i} = \gamma_3 x_{1i} + \zeta_3$$



Path diagram of a four-wave quadratic latent curve dual trajectory model



Growth Mixture Model (GMM) in Mplus (Muthén and Muthén 2012)

Here, *i* indicates the intercept and *s* indicates the slope and *c* is a categorical latent variable consisting of one or more latent classes of trajectories. The effects of *c* on *i* and *s* are analogous to regressing i and s on k – 1 dummy variables representing the k latent classes of trajectories. Substantively, this means that each class of trajectories can have distinct intercepts and distinct slopes. X is a vector of exogenous covariates affects *c*, the latent classes of trajectories, via a multinomial logit model. X also affects *i* and *s* via a linear model. This model allows for heterogeneity of trajectories within classes. If such heterogeneity is assumed to be zero, this model is identical to Nagin's (2005) group-based trajectory model.