

ABSTRACT

This chapter describes and compares two approaches to modeling longitudinal data: the random effects growth curve model and the latent trajectory model. Our primary purpose is didactic, as we show how to construct these models through a detailed example with NOSY data, and include computer program syntax in the Appendix. We also show that while these two approaches begin from very different assumptions, in the case of continuous longitudinal data they provide identical parameter estimates and very similar standard errors. Employing an example with NOSY data, we show how these two approaches can model the within-case error structure in various fashions. We also illustrate how each of these approaches can handle predictors that are either time-invariant, or predictors that change over time, and that handling missing data on the dependent variable is straightforward. The similar results from each approach suggest that the researcher can obtain reliable parameter estimates from the method which he or she is most familiar with. However, we conclude by pointing out that the latent trajectory model has an additional advantage of allowing the researcher to assess the overall fit of the model, something that isn't currently feasible using a random effects growth curve strategy.