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Associate Professor of Graduate Psychology  
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**Educational Background**

Ph.D., University of Texas at Austin (2001)  
Concentration: Educational Psychology/Measurement and Statistics  
B.A., University of Texas at Austin (1995)  
Concentration: Psychology

**Primary Research Interests**

Hierarchical linear modeling  
Explanatory item response modeling  
Cluster analysis and mixture modeling  
College student learning and development

**Title:**

Modeling item response profiles using factor models, latent class models and latent variable hybrids

**Abstract:**

There are a wide variety of latent variable models, both old and new, appropriate for modeling the relationships among observed variables. More traditional models use only latent continuous variables or latent categorical variables, whereas the more recently introduced models, known as latent variable hybrids (Muthén, 2008), incorporate both latent continuous and latent categorical variables. These models allow for greater flexibility in modeling, but perhaps because of their relatively recent introduction, have yet to be widely utilized in applied research. To enhance the understanding of the hybrid models, Muthén (2008) provided a framework which highlights how the hybrid models are both similar and different to one another and to their traditional counterparts. In the present exposition, Muthén's (2008) framework is used to illustrate the model-implied item response profiles (IRPs) that correspond to these latent variable models when used with dichotomous item response data. A graphical representation of item response profiles is described, followed by a discussion of the ways in which IRPs can vary across examinees and the latent variable models best utilized to capture certain forms of variation. To illustrate the use of these models in practice, an exploratory model selection approach is then used to determine which of the various models best represents college students' responses to items assessing their knowledge of ethics and generalizability in psychosocial research.