

EDMS 722 Final Project Poster Proposal

Grading: This has no immediate point value. It is a chance for you to get initial feedback from the instructor, and is intended to be a first step in assembling your final project. Your final project, of which this is a preparatory part, will carry a weight equal to 15% of your final grade. In addition to this first step, it is assumed that you will be meeting/corresponding with your instructor to discuss your project in the near future. It is your responsibility to facilitate such communication.

Format: Please type or word-process this proposal. Your path diagrams may be drawn neatly by hand, or done on a graphics package.

Teams: Students are encouraged to work in teams of two (no more). This is not required, but strongly encouraged.

Due date: This proposal is due _____. Though this carries no immediate point value, the only way I can provide timely feedback is to receive this in a timely manner. Earlier is always preferred.

You are expected to get data from some source, presumably a source in your field of interest. These data may be from a study that you, your colleagues, or your advisor are working on or have worked on. The data may be from a public database, or from a published study in which descriptive information (i.e., correlations and standard deviations, and means if necessary) are given.

Acceptable types of projects

- Fairly elaborate path analysis model.
- Confirmatory factor analysis, usually for the purpose of scale validation. Single factor models are not acceptable. Testing competing models as part of the project is desired.
- Structural models with latent factors (should have three or more factors).
- Multi-group path analysis models -- if you have data from two or more groups and would like to test if the path models are identical.
- Multi-group confirmatory factor models -- if you have data from two or more groups and would like to test the similarity of the factor structure across groups.
- Multi-group structural models with latent factors -- if you have data from two or more groups and would like to test the similarity of the structural relations across groups.
- Latent means models -- these approaches allow you to do the equivalent of t-tests and ANOVAs on factors. "Do these populations differ in terms of their average amount of the latent factor?"
- Latent growth models -- when you have one or more measured variables taken at multiple points in time from the same individuals, you can construct a model to characterize the nature of the individuals' change over time (e.g., linear, quadratic, etc.). Also, and this is the most powerful feature of these models, you can model predictors of individuals' growth. These are simple but powerful models for longitudinal data.
- Methodological investigation -- this may be an analytical/population exploration, or a simulation (a.k.a., Monte Carlo) study, where you manipulate some feature of a structural equation model and note its behavior. Simulation examples include: drawing data from known nonnormal populations and seeing how it affects the parameter estimates, goodness of fit measures, or the power of tests of the entire model (or of individual parameter estimates); comparing SEM approaches with approaches in other branches of statistics in terms of some criterion such as power. LISREL does have a simulation function that facilitates some of these types of investigations.

Proposal content

- Which type of project from above do you see yourself doing?
- Provide a brief description of the area from which your proposed data may come (including any relevant citations).
- Describe the variables and/or factors that might be of interest to you.
- Show some tentative models you may be interested in modeling. If your questions of interest are from model types we've not yet learned, such as latent growth models or latent means models, then just describe in detail what you might want to investigate.