

SEM Seminar Paper Assignment

Objective:

This assignment provides students an opportunity to estimate a structural equation model and write up the results using the format of a published article. The paper topic must address a social science problem. The empirical analysis must use a structural equation model (with at least two equations) covered in the list of topics for the course. Data for the paper may come from the student (but not fabricated), from published sources, such as a correlation matrix included in an article, or from the instructor. Students will analyze their data using structural equation methods and write up the results following the format of a social science research article.

Format:

The paper should be no more than 10 pages of text, not including figures, tables, and references. Use 12pt Times New Roman font. Use double spacing and approximately 1-inch margins. Use APA-style citations. Include a cover page with the title, your name, the course number, and date. One possible format would use the following outline:

1. **Introduction** (½ page)
 - a. Here, you simply introduce the topic and mention the thesis of the paper.
 - b. You could end with a brief summary of the paper's sections.
2. **Theoretical Background or Substantive Issues** (2 pages)
 - a. Here you discuss the theoretical background or substantive issue addressed in the paper.
 - b. Discuss why this is important in the literature and briefly mention key prior research on the topic.
 - c. End up explaining how you are going to address the theory or substantive issue (and perhaps why that is better than previous work)
3. **Model and Hypotheses** (2 pages)
 - a. Describe the model, perhaps using a path diagram. Be sure to link the model to the discussion in the previous section.
 - b. Justify the specification of the model (e.g., we assume this causal ordering based on prior research).
 - c. Present key hypotheses to be tested (they should follow from section 2 above).
4. **Data and Methods** (1 page)
 - a. Describe the sample, subjects, data collection method all in one paragraph!
 - b. Describe methods used to estimate the model's parameters (e.g., ML using LISREL 8).
 - c. Discussion key assumptions of the model (e.g., specification, distribution of outcomes).
5. **Results** (3 pages)
 - a. Present the results of the parameter estimates.
 - b. Prioritize empirical findings and be sure the reader knows which are the key findings.
 - c. Be sure to keep substantive issues in mind when presenting key results.
 - d. Present tests of hypotheses and draw conclusions.
6. **Discussion** (1½ pages)
 - a. Highlight the key parameter estimates and hypothesis tests and link them to the substantive questions raised in the front end.
 - b. Provide any necessary caveats (quality of measures, data quality, causal assumptions, etc.)
 - c. Perhaps speak to broader issues (e.g., policy or theoretical) that your findings have implications for or discuss avenues for future research to build on your findings by addressing remaining unanswered questions.

Grading:

The paper will be evaluated on the following criteria:

1. How well does the model (and data) follow from the substantive or theoretical questions raised?
2. Is the model specification plausible and well-justified? Are appropriate caveats mentioned?
3. Are tests of key hypotheses logically linked to the substantive issues underlying the model?
4. Are model parameters estimated correctly and interpreted correctly?
5. Are tests of hypotheses interpreted correctly?
6. Are conclusions drawn consistent with the results of the analysis?
7. Are model assumptions justified, and if questionable, are appropriate caveats added?
8. Is the paper well organized and clearly written?

Advice:

1. Start small. Begin with a very simple model of a few variables that constitute the core of your argument. Only after you get familiar with the data and have a fairly stable basic model should you move to complicate the model with additional variables (e.g., controls). If the complications end up failing, you still have the basic model to fall back on and write up.
2. In writing up the paper, think of the model as the core of the paper. The front end should set up the model—that is, justify the model’s specification, and link it to substantive/theoretical issues. The model section will present the model—that is, translate the substantive/theoretical issues into a structural equation model—and present hypotheses, which should be set up in the substantive section. The data and methods will inform the reader of how you will estimate the model’s parameters. The results section should be a very straight-forward answer to the question, “how do my empirical results bear on the hypotheses” (which in turn, should be derived from the substantive/theoretical section). And the conclusions should tie the results back to the larger theoretical questions.
3. When you write a draft of the paper, read it backwards, section by section: conclusions, results, data and methods, models and hypotheses, substantive/theoretical issues, introduction. Each section should be set up by each earlier section and nothing extraneous should appear; if there are extraneous sentences or paragraphs, delete them, and use the space to beef up the core sections.
4. The most important feature of any paper using structural equation models, or any statistical model for that matter, is the justification of the model (assumptions, causal order, proper specification) and its fit to the substantive/theoretical issues raised.

Due Date:

Seminar papers are due **Thursday June 7, 5pm**. You may email the paper to me or drop it in my mailbox in Savery 211. Remember, *I will not be giving incompletes*, so please get your paper in on time.