EDCP 742
Environments

Instructor: Dr. Julie J. Park
Thursdays 9-11:45 AM
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See http://bit.ly/Ppz1XB for exact times and to sign up

Stats Consultant (Beginning Week 8)
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Goals

The goal of this course is for you to develop a conceptual and practical understanding of research and evaluation in higher education. Course topics include basic statistics, survey design, data analysis, assessment issues, and article critique. You will become familiar with various models used to assess the impact of college environments on students. Specific focus is on how multiple regression analysis is used to understand how students' college environments and experiences influence their development, net of students' pre-college characteristics.

Serious credit is due to Kevin Eagan, Linda Sax, Alexander Astin, and Karen Inkelas, whose curriculum has been adapted for this class.

Logistics

Phones. Turn them off during class. If there's a reason you need to keep it on (e.g., pending emergency) please let me know in advance.

Laptops. Please turn your Wi-Fi off, have relevant materials downloaded to the desktop prior to the start of class if you're using it to reference articles. If folks use laptops/iPads for extraneous reasons (web surfing, email, working on other class work) then we will likely go to a no laptop policy. Don't spoil this one for your peers—stick to using the laptop for only class-related work, if you plan to use one.

Guidelines about academic integrity are at: http://umd.edu/honorpledge Simply put: Do Not Cheat. Or plagiarize! Please attribute all sources used to the proper authors and consult the APA/Chicago/MLA Manuel for citation guidelines.

If you have a disability that affects your participation in the course and/or need accommodations, please let me know during the first week of class.
Attendance: You are expected to attend all classes. Per university attendance policy, excused absences are permissible in the case of illness, religious observances, and “compelling circumstances beyond the student’s control.” Please let me know at the beginning of the semester if you will be absent due to a religious observance. After a first absence due to illness (please let me know via email asap), documentation from a healthcare provider is required to qualify as an excused absence. For excused absences, assignments should be turned in by email on the due date unless other arrangements are made. For unexcused absences or otherwise, late assignments will be dropped a letter grade when turned in within 1 week of the original due date.

**Student Assignments**

**Weekly Assignments (30% of course grade).** Each week, students will complete written assignments based on that week’s readings and class discussion. During the first half of the semester, assignments are available on Canvas. *These assignments should be uploaded to Canvas no later than 5 p.m. Tuesday of each week.* This early deadline will allow for students to receive quicker feedback on their work. Students should be prepared to discuss the assignments at the beginning of each class.

In the (roughly) second part of the semester, assignments will consist of “bring it to class and turn it in” assignments. They are as follows:

*Crosstab summary table and narrative.* Students will run at least two crosstabs (one two-way crosstab and one three-way crosstab) using the dependent variable for their study and one or two important input or environmental variables. Students will submit the SPSS output for both crosstabs and create summary tables that tell a clear story from the findings. These tables should be in APA format. Accompanying each summary table should be a short (one paragraph) description of what the table shows. **Due April 10, 2014.**

*Research questions and problem statement (10% of grade).* Students will submit a two-page (double-spaced, 12-point font) problem statement that presents the policy relevance and/or practical importance of their study. This statement should explain how the findings from this study might influence future policy, practice, and/or research while articulating a strong rationale for the study. Specifically, students should consider the “so what” question for their study. Why does this study matter? **Due April 17, 2014.**

*Short Beta table and summary.* Students will submit a “short” Beta table that shows the changes of regression coefficients in successive models. In the accompanying summary narrative, students should describe the findings. What variables significantly predict the outcome? What is the direction and strength of these relationships? What variable represents the most important predictor in the model? How much variation is accounted for by variables in the model? Were there any suppressor effects? If so, describe them. Were interaction terms tested? The accompanying summary should be no more than two pages (double-spaced, 12-point font). **Due April 24, 2014.**
Brief literature review. In preparation for the final paper, students will synthesize empirical research relevant to their topic. The literature should help to frame the study, describe how previous work has approached this question, and begin to articulate how this study makes a unique contribution to the field. This version of the literature review should be no more than three pages (double-spaced, 12-point font). Due May 2, 2014.

Methods description. Students will submit a draft of their methods section. This version of the methods section should be no more than four pages (double-spaced, 12-point font). The methods section should provide a description of the data and sample. Students should give particular attention to describing their variables, especially if any of their variables are scales or factors. Finally, students should provide some detail on their analytic technique and describe both descriptive and regression analyses used to address the research questions. Due May 8, 2014.

Periodic presentations (Completion Credit). Students will present to the class one of the following: a two-way crosstab, a three-way crosstab, or a “short” Beta table. These presentations should be no more than five minutes in length. Students should discuss the main story or takeaway message from the analysis. Students should come prepared with both a summary table to describe the data as well as the original output from SPSS. These presentations will be followed by a brief question and answer period with the class. Each student will present on either a two-way or three-way crosstab (April 10), as well as short Beta tables (April 24).

Take-Home Quiz (10% of course grade). Students will complete one take-home quiz at Week 4 that will cover information from the first four weeks of the term.

College Impact Model Presentation (15% of course grade). Students will select one of the following college impact models or propose a different model for their presentation. Students will select their model during class on Week 2. Teams will prepare a 15 to 20 minute presentation for the class in Week 4, 5, or 6. Students should consider the following questions for their presentation: What are the strengths and weaknesses of the model for studying the impact of college on students? What are the key components and assumptions of the model? How applicable is this model to different groups of college students (e.g., underrepresented racial minority, first-generation, adult)? How has this model been utilized in the literature? As part of the presentation, please bring handouts summarizing key points to class for everyone. Presentations will take place Feb 27 and March 6.

College Impact Models (Each Team Pick 2):
- Bean’s Explanatory Model of College Student Dropout Syndrome
- Berger and Milem’s Organizational Impact on Student Outcomes
- Nora, Barlow, and Crisp’s Student/Institution Engagement Model of Persistence
- Pascarella’s General Model for Assessing Change
- Tinto’s Theory of Student Departure
- Weidman’s Model of Undergraduate Socialization
Article Critique (15% of course grade). A key way of getting better at quantitative research is through developing a critical eye and fluency in deciphering quantitative work. Students will work in pairs to write a 8-10-page critique of a higher education research article that uses ordinary least squares regression. Students will choose an article from the list provided. **The critique is due in class on April 3.**

Final presentation (5% of grade). During finals week, students will present their final paper to the class. These presentations should be no more than **12 minutes** in length, per typical length of a conference presentation. Presentations will provide an overview of the problem, brief summary of prior literature and theory informing the study, a description of the methods, a discussion of the results, and some context for implications for policy, practice, and/or research. Following each presentation, students will entertain questions from the class.

Final paper (25% of grade). The final paper, which should be no more than 20 pages (double-spaced, 12-point font), should represent a short-form journal article. Given the compressed timeframe for the study, students are not expected to have a fully formed literature review; however, students should have a synthesis of several seminal studies that inform their project as well as a discussion of the theoretical or conceptual framework(s) that guided their model building and variable selection. The bulk of the paper (roughly two-thirds) should be devoted to the methodology, results, and discussion sections. **Due by 3 PM, Weds May 21 to Canvas.**

**Readings**

Required Texts: Assessment for Excellence (AFE)
All other required readings are uploaded to Canvas

**College Impact Models (Not on Canvas)**

*Bean's Explanatory Model of College Student Dropout Syndrome*

*Berger & Milem's Organizational Impact on Student Outcomes*

*Nora, Barlow, and Crisp's Student/Institution Engagement Model of Persistence*

*Pascarella's General Model for Assessing Change*

Tinto’s Theory of Student Departure

Weidman’s Model of Undergraduate Socialization

Article Critique Options (Not on Canvas)


Course Schedule

Week 1 January 30

- Introductions
- The research and assessment process
- Introduction to College Impact Models
- Assessing outcomes
- Basic statistics – Mean to Z score

Assignment for next week:
- Complete Assignment 1 (due Feb 4 by 5 p.m.)
- Read AFE chapters 1-3
- Read AFE Appendix pp. 255-265 (till last section)
- Read Wiersma chapter 1 (web site)
- Read Light chapter 6 (web site)
Week 2  Feb 6
- Assessing inputs
- Assessing environments
- Statistics: Z-score to simple regression
- Choose college impact models for presentation

Assignments for next week:
- Complete Assignment 2
- Read AFE chapters 4-5
- Read AFE Appendix pp. 265-277 (till assessing environmental effects)
- Read Ewell paper (web site)
- Read Light chapter 4 (web site)

Week 3  Feb 13
- Analyzing data
- Using assessment results
- Presenting descriptive statistics
- Statistics: Multiple regression

Assignments for next week:
- Complete Assignment 3 after reading 2 HERI reports
- Read AFE chapters 6-7
- Read AFE Appendix pp. 277-293
- Read Hurtado, Eagan, Pryor, Whang, & Tran (web site)
- Read Pryor, DeAngelo, Palucki-Blake, Hurtado, & Tran (web site)

Week 4  Feb 20
- Variable coding and scales
- Designing survey questions
- Statistics: Standardized regression coefficients and suppressor effects

Assignments for next week:
- Read AFE Appendix pp. 293-301 (till Causal Modeling)
- Review CIRP surveys / codebook (UCLA HERI website)
- TAKE HOME QUIZ due next week

Week 5  February 27
- College Impact Model presentations
- Validity and reliability
- Interpreting regression results
- Statistics: Following Betas and interaction effects

Assignments for next week:
- Complete Assignment 4
• Read *AFE* Appendix pp. 301-313  
• Read Porter (web site); come prepared to discuss  
• Read McCormick & McCluney (web site); come prepared to discuss  
• Read Astin & Dey (web site); come prepared to discuss  
• Read Wiersma chapter 11 (web site)

**Week 6 March 6**
- College Impact Model presentations  
- Validity and reliability – Discussion of Porter and McCormick  
- Discussion of Astin & Dey  
- Finalize article selection for critique  
- Statistics: Interaction effects

Assignments for next week:  
- Complete Assignment 5  
- Read Fairchild & McQuillin (web site)  
- Read Campbell (web site); come prepared to discuss/critique

**Week 7 March 13**
- Conducting an article critique  
- Discussion and critique of Reynolds, Sveva, & Beehler  
- Discussion and critique of Campbell et al.  
- Issues of survey nonresponse  
- Statistics: Factor analysis

Assignment for next week:  
- Complete Assignment 6 (due March 25)  
- Read Agresti & Finlay chapter 16 (web site)  
- Read PDQ Statistics Chapter 16 (web site)  
- Read Porter & Whitcomb (web site)  
- Read Porter & Umbach (web site)  
- Read Creswell chapter 6 (web site)

**SPRING BREAK!**

**Week 8 March 27: Meet in Benj PC Lab**
- Introduction to class dataset  
- Discussion of study ideas  
- Lab session (Benjamin PC Lab): SPSS layout/housekeeping, frequency distributions, descriptive statistics, filtering cases, split file

Assignment for next week:  
- (Re-)read the appendix of *Assessment for Excellence*  
- Review file documentation and survey instruments
• Run frequency distributions and other descriptive statistics on your potential dependent variable(s) to determine its(their) viability for the study; pay special attention to missing data and skewness/kurtosis
• Come prepared next week to discuss study idea. What is your dependent variable? What is your sample? What predictor variables are you considering?
• ARTICLE CRITIQUE DUE APRIL 3

Week 9 April 3: Meet in Benj PC Lab
• Two- and three-way crosstabs
• Creating summary tables
• Discussion of study ideas
• Lab session: two-way crosstabs, three-way crosstabs, compute statements, conditional compute statements, recode commands

Assignment for next week:
• Conduct a two-way crosstab with two of your key variables (one variable should probably be your dependent variable)
• Conduct a three-way crosstab with three of your key variables
• Provide summary tables for both the two-way and three-way crosstabs; provide a one paragraph summary for each table (due April 15th)
• Read Chapter 2 from Light, Singer, & Willett (1990)
• Read Streiner (1994)

Week 10 April 10: Meet in Benj PC Lab
• Presentations by 1/2 of class on two-way crosstabs and ½ of class on three-way
• Review of factor analysis
• Review of linear regression
• Lab session: factor analysis, correlation, missing data

Assignment for next week:
• Write a two-page problem statement and research questions (due April 22nd)
• Practice data manipulations (i.e., recode, compute) on at least two variable; run frequency distributions on old and new variables; upload the output and syntax to the web site prior to class. [do this but optional turn-it-in]
• (Re-)read Astin & Dey (1998)
• Read Boot & Beile (2005)

Week 11 April 17: Meet in Benj PC Lab
• Examining printouts: Where to find Beta and b; r, multiple R, and R-square
• How to make Beta tables
• Review of normal and suppressor effects
• Lab session: count, aggregate, regression, beta tables
Assignment for next week:

- Create a correlation table for proposed variables; identify correlations greater than 0.50; consider plans to address extreme multicollinearity (e.g., eliminating variables, creating factors)
- Create short Beta table for 10 predictors. In no more than two pages, describe your results. Identify any suppressor effects, and discuss any surprising findings (due APRIL 24 May 6th).
- Read Denney & Tewksbury (2012)
- Read Peng, Lee, & Ingersoll (2002)

**Week 12 April 24: Meet in Benj PC Lab (?)**

- Presentation of short Beta tables by 1/3 of class
- Review of interaction effects
- Review of logistic regression
- Lab session: logistic regression, SPSS Q&A

Assignment for next week:

- Conduct full regression using all variables
- Complete brief literature review and submit for feedback (due Friday May 2)
- Begin drafting methods section
- Read Bem (1987)
- Read Sax (1994)

**Week 13 May 1**

- Discussion of Sax (1994) and Bem (1987)
- Expectations for class paper and final presentations
- Acknowledging limitations of research
- Statistics Q&A

Assignment for next week:

- Send draft of introduction and literature review (maximum 8 pages) to peer reviewer by Friday, May 2, send back feedback by May 8
- Complete methods section draft (upload to Dropbox web site by Tues May 8, Julie will give feedback)
- Continue to refine regression model
- Read materials – from proposal to publication

**Week 14 May 8**

- Meet with your peer reviewer and discuss drafts of introduction/literature review sections; formal part of class will begin at 10 AM.
- Packaging your studies for conference proposals
- Considering feedback from conference and journal reviewers
- Individual meetings with Julie
Assignment for next week:
- Revise introduction, literature review, and methods sections based upon feedback
- Finalize regression model; build tables
- Prepare for presentations/Final

**Finals Week May 15 Presentations**

**FINAL PAPER is due Weds May 21 by 3 PM, upload to Canvas**

**References from Readings**


Chapter 16: Introduction to Advanced Methodology (pp. 630-634)


Chapter 6: Research questions and hypotheses (pp. 108-113)


Chapter 4: The basics of crafting good questions (pp. 65-106)


McCormick, A. C., & McClennen, K. (2012). Will these trees ever bear fruit? A response to


Chapter 8 – Logistic Regression
Chapter 16 – Factor Analysis


Chapter 1: Educational Research: Its nature and characteristics (pp. 1-13)
Chapter 11: Measurement and data collection (pp. 272-280)


