

PSY 341: Predicting Behavior, Spring 2020

Wednesdays, 10:10 a.m. – 12:30 p.m. Albee 100

Tom Hutcheon, Ph.D.

118 Preston Hall

thutcheo@bard.edu

Office Phone: 845-758-7380

Office hours: Tuesdays 11:00 a.m. – noon, Fridays 10:00 a.m. – 11:00 a.m., or by appointment

COURSE DESCRIPTION

One of the primary goals of the science of psychology is to understand and predict human behavior. Linear regression is an important statistical tool in psychological research as it allows for the estimation of the relationship between two or more variables and the translation of this relationship into prediction. This seminar will serve as an introduction into the theory, interpretation, and use of simple and multiple linear regression in the context of psychological research.

LEARNING OBJECTIVES

At the end of this course students will be able to:

1. Read and interpret empirical articles that use linear regression analysis.
2. Conduct simple linear regression, multiple regression, and logistic regression analyses on existing datasets using R statistical software.
3. Collect, organize, and analyze data using linear regression techniques.

REQUIRED READING MATERIAL

All assigned readings will be available through the course google classroom site.

ASSIGNMENTS AND GRADING

ATTENDANCE (10% of final course grade)

As a seminar, this class is founded on discussion among students and you cannot contribute to the class discussion if you do not show up for class. Not including the first day of the semester, there will be 14 class meetings. Students attending 13 or more classes will earn full credit for attendance. Students attending less than 13 classes will lose points towards their attendance grade. If there are extenuating circumstances that prevent you from attending class on a given day, let me know in advance.

WEEKLY DISCUSSION QUESTIONS/COMMENTS (20% of final course grade)

You are expected to submit one question or comment about each of the assigned readings prior to the start of our class meeting. These questions/comments should be posted to the course google classroom site and are intended to help you think more deeply about the articles and to help me organize our class discussion. These questions and comments are due by 9:30 a.m. on the day of class.

IN CLASS AND HOMEWORK ASSIGNMENTS (30% of final course grade)

The only way to really learn a new statistical technique is practice, practice, practice. In this course, you will have a chance to practice what you learn through in-class and homework assignments. These assignments will incorporate hand calculations, statistical procedures in R, and the creation of professional quality figures in R. Assignments will be announced at the end of each class period and will be due at the start of class the following week.

ARTICLE PRESENTATION (10% of final course grade)

On the first day of class you will be assigned an article to present to the class later in the semester. You are welcome to use whatever visual/auditory/printed aides you would like to help the class better understand your article. Although all students are responsible for reading all articles, you should be prepared to serve as the class expert on the article you present (this might entail some outside reading). Presentations should be a maximum of 10 minutes.

DATA COLLECTION PROPOSAL (15% of final course grade)

An important component of understanding statistics is the understanding of study design. In this course, you will be asked to submit a data collection proposal for a novel study that would use linear regression. This proposal will include a brief (1-2 pages) introduction to your research question, a description of your proposed methods (1-2 pages), and expected results (1-2 pages). This proposal will be submitted to me for feedback and then resubmitted with corrections and conclusions (~1 page). More details about the data collection proposal will be provided over the course of the semester. Proposals are due on Wednesday, April 10th.

TAKE-HOME DATA ANALYSIS PROJECT (15% of final course grade)

The final project represents a culmination of the work we will have done over the semester. For this project, you will be provided with a dataset and will be asked to perform statistical analyses, interpret the results of these analyses and create figures in R. Finally, you will be asked to report and summarize your findings to a lay audience. The dataset and specific instructions for this project will be provided to you by May 1st and the project will be due on the final day of class, Wednesday, May 13th.

ADDITIONAL COURSE POLICIES**STUDENTS WITH DISABILITIES**

Students with a documented disability who need reasonable academic accommodations should contact me as soon as possible to discuss your needs. I can only accommodate your needs if you allow me sufficient time to prepare. Informing me of a need on the day of an exam or on the date an assignment is due is NOT sufficient. As stated in the college handbook, "Students who claim physical, learning, or psychological disabilities should register with the Disability Support Coordinator at the start of the semester or as soon as the diagnosis is made." Additional information can be found on the Bard College Learning Commons website (<http://inside.bard.edu/learningcommons/>).

ACADEMIC INTEGRITY

All students are assumed to have read the Bard College Handbook and are familiar with the school's policies regarding Plagiarism and Academic Dishonesty. Violations of these policies are taken extremely seriously and one violation will result in a failing grade for the course and a referral to the Dean of Students for further action. Specific violations include (but are not limited to): Use of prohibited assistance during assignments, sharing or writing assignments, and plagiarism (which includes **both** the use of **words** and **ideas** without attribution)

Class 1: January 29th: The Equation of a Straight Line**Class 2: February 5th: The Regression Line***Reading:*

Richmond, A. S., Berglund, M. B., Epelbaum, V. B., & Klein, E. M. (2015). $a + (b1) \text{ Professor Student Rapport} + (b2) \text{ Humor} + (b3) \text{ Student Engagement} = (Y) \text{ Student ratings of instructors}$. *Teaching of Psychology*, 42, 119-125.

Cohen, M., Buzinksi, S. G., Armstrong-Carter, E., Clark, J., Buck, B., & Reuman, L. (2019). Think, pair, freeze: The association between social anxiety and student discomfort in the active learning environment. *Scholarship of Teaching and Learning in Psychology*, 5, 265-277.

Due:

Weekly discussion comments/questions #1

Class 3: February 12th: Goodness of Fit*Reading:*

Wilson, J. H., Ryan, R. G., & Pugh, J. L. (2010). Professor-student rapport scale predicts student outcomes. *Teaching of Psychology*, 37, 246-251.

Leslie, S.-J., Cimpian, A., Meyer, M., & Freeland, E. (2015). Expectations of brilliance underlie gender distributions across academic disciplines. *Science*, 347, 262-265.

Due:

Weekly discussion comments/questions #2

Class 4: February 19th: Testing the Significance of Parameters*Reading:*

Fried, C. B. (2008). In-class laptop use and its effects on student learning. *Computers & Education*, 50, 906-914.

Rohrer, J. M., Richter, D., Brümer, M., Wagner, G. G., & Schmukle, S. C. (2018). Successfully striving for happiness: Socially engaged pursuits predict increases in life satisfaction. *Psychological Science*, 29, 1291-1298.

Due:

Weekly discussion comments/questions #3

Class 5: February 26th: Multiple Regression*Reading:*

Strahan, E. Y. (2003). The effects of social anxiety and social skills on academic performance. *Personality and Individual Differences, 34*, 347-366.

Duckworth, A. L., & Seligman, M. E. P. (2006). Self-discipline outdoes IQ in predicting academic performance of adolescence. *Psychological Science, 16*, 939-944.

Due:

Weekly discussion comments/questions #4

Class 6: March 4th: Hierarchical versus stepwise regression*Reading:*

Baepler, P., Walker, J. D., & Driessen, M. (2014). It's not about seat time: Blending, flipping, and efficiency in blended learning classrooms. *Computers & Education, 78*, 227-236.

Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development, 72*, 625-638.

Due:

Weekly discussion comments/questions #5

Class 7: March 11th: Linear Regression with Categorical Variables (Dummy Coding)*Reading:*

Benjamin, L., T. (1991). Personalization and active learning in the large introductory psychology class. *Teaching of Psychology, 68-73*.

Rodriguez, F., Kataoka, S., Rivas, M. J., Kadandale, P., Nili, A., & Warschauer, M. (2018). Do spacing and self-testing predict learning outcomes. *Active Learning in Higher Education*.

Due:

Weekly discussion comments/questions #6

Class 8: March 18th: Mediation and Moderation*Reading:*

Rowa, K, Paulitzki, J. R., Ierullo, M. D., Chiang, B., Antony, M. M., McCabe, R. E., & Moscovitch, D. A. (2015). A false sense of security: Safety behaviors erode objective speech performance in individuals with social anxiety disorder. *Behavior Therapy, 46*, 304-314.

Lee, J. C., Hall, D. L., & Wood, W. (2018). Experiential or material purchases? Social class determines purchase happiness. *Psychological Science, 29*, 1031-1039.

Due: Weekly discussion comments/questions #7

Class 9: April 1: Logistic Regression (Guest Lecture)

Reading:

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology, 92*, 1087-1101.

Due:

Weekly discussion comment/question #8

Class 10: April 8th: Assumptions of Regression and Diagnostics

Reading:

Pritchard, M.E., & Wilson, G. S. (2003). Using emotional and social factors to predict student success. *Journal of College Student Development, 44*, 18-28.

Due:

Data Collection Proposal

Class 11: April 15th: Planning Additional Data Collection

Reading:

Demir, M., Burton, S., & Dunbar, N. (2019). Professor-student rapport and perceived autonomy support as predictors of course and student outcomes. *Teaching of Psychology, 46*, 22-23.

Turnwald, B. P., Bertoldo, J. D., Perry, M. A., Policastro, P., Timmons, M.,...& Crum, A. J. (2019). Increasing vegetable intake by emphasizing tasty and enjoyable attributes: A randomized controlled multisite intervention for taste focused labeling. *Psychological Science, 30*, 1603-1614.

Due:

Weekly discussion comments/questions #9

Class 12: April 22nd: Advanced Topics in Regression*Reading:*

Greitemeyer, T., & Osswald, S. (2010). Effects of prosocial video games on prosocial behavior. *Journal of Personality and Social Psychology, 98*, 211-221.

Due:

Weekly discussion comment/ question #10

Class 13: April 29th: Project Discussion*Reading:*

TBD

Due: Weekly discussion question #11

Class 14: May 6th : Recap*Reading:*

TBD

Due: Weekly discussion question #12

Class 15: May 13th:

Due: Take-Home Data Analysis Project