

PSYC4443: Research Practicum in Social & Cognitive Methods

Spring 2020
MWF 1-1:50
Gasson 308

Prof. Andrea Heberlein (andrea.heberlein@bc.edu)
office hours:

McGuinn 306
Th 1:30-2:30 & Fr 9:45-10:45 or by appointment

This syllabus is a draft and may be subject to change until the end of the first week of class (1/20/2020); any changes will be announced in class and updated on Canvas.

This course explores how questions are asked and answered in social and cognitive psychology, focusing on discussions of articles and the conduction of a series of research projects and demonstrations. We will cover topics including research ethics, constructing experimental variables, experiment design, a few specific types of methods and their uses/constraints, and how to write an APA-style research report.

Course goals: The primary goal of this course is to **develop greater insight into the process by which psychological studies are designed and analyzed**, from operationalizing constructs through reporting of results. We will address these processes from both sides, as consumers and producers of psychological science.

In the first third of the course, we'll talk about **experiment design principles**. In the second third of the course, we'll keep these principles in mind as we read a series of papers from diverse areas within psychology. We'll focus on how psychological questions were posed and answered, and discuss the **strengths and limitations of the methods** involved. Through this process, you will also **become more adept at reading primary research reports** (aka scientific journal articles). Reading papers will continue into the last third of the class, but during this time the main focus will be on your **individual projects**: you will each pose a research question that can be answered either with a survey experiment or with an observational experiment. You'll do a literature review on this topic, design an experiment taking into account what you learned, and analyze the data you collect. (Analysis will use techniques from Intro Stats, which will be reviewed/expanded on in class.) Finally, you'll write a **paper in APA style** to report your results, thus gaining some experience with a series of style conventions which are widely followed in the field (and will doubtless be useful for future psychology class assignments).

Note that these could also be understood as applying towards the following stated goals of the psychology major: 2a. (stats); 2b (methodologies/research design); 2c (literature review); 2d (lab techniques and procedures); 2e (ethical issues); 3a (rigor and skepticism); 3b (cause-and-effect thinking); 3c (evaluating scientific arguments); 4c (being able to communicate well in writing). These goals are listed in full here: (<http://www.bc.edu/content/bc/schools/cas/psych/undergrad/major.html>)

Requirements

1. Attendance is mandatory; if you will have to miss a class, please inform me as soon as possible to make alternative arrangements. **Participation during class is worth 10% of your grade.** If you are at all classes (unless excused), you will receive at least 1/2 of the participation credit. You are expected to do all the readings ahead of time and actively participate and contribute to class. This class will be fairly evenly divided between lecture and discussion, with at least some opportunity for discussion on almost every day—where “discussion” refers not so much to your opinion about a study, but rather to talking through your understanding (e.g., of what the researchers did, why, and how). Please note that I fully understand that some people are more comfortable talking in groups than others. If you make constructive contributions on average once/week, you will get the full 10%. Students who make exceptionally constructive contributions throughout the term will have my gratitude, but no further credit; however, students who speak less frequently may be penalized. If you would like advice or suggestions on how to meet this requirement, please email or see me outside of class: this is a life skill which I will be happy to help you develop. Participation credit will also be awarded for submitting *one* question before midnight the night before class, on either the assigned reading for the day *or* the previous class content. To count for credit, this question must be specific and content-ful. If you submit an email on average once/week, you will also get the full 10% even if you rarely speak up in class.
2. There will be 6 graded assignments, 5 of them each worth 5% of your grade, and a final paper worth 15% of your grade. Note that 3 of the smaller assignments as well as the final paper all relate to one specific research question which you will pose and attempt to answer. There will also be an in-class presentation worth 5% of your grade.
3. There will be 3 in-class quizzes. Each will be worth 15% of your grade. Please check the dates against your calendar to ensure that you will not have to miss one; if so, please make arrangements within the first two weeks of class. See the make-up policy below.
4. Sona credit hours are not required for this course, but you must participate in an experiment (for credit or cash, via Sona or elsewhere) in order to write up your participation. Note that you may not write up an experiment in which you participated before this semester. If you require an alternate assignment, please contact me asap.

Grading breakdown

| | |
|--|------------------------|
| Participation in class: | 10% |
| Assignments: | [45% total] |
| <i>CITI training (due 1/17)</i> | (required, not graded) |
| <i>Lit search assignment (due 1/24)</i> | 5% |
| <i>Experiment participation write-up (due 2/17)</i> | 5% |
| [commit to research topic/question by 2/26] | (required, not graded) |
| <i>Questionnaire analysis (due 2/28)</i> | 5% |
| <i>Methods draft (due 3/20)</i> | 5% |
| <i>Results draft (figures + analyses; due 4/6)</i> | 5% |
| <i>In-class presentation (dates vary; all slides due 4/24)</i> | 5% |
| <i>APA-style paper (due 4/29)</i> | 15% |
| Quizzes, 3 total | 45% |

Readings

All readings for this class will be online except those from the APA manual. Copies of the APA manual (6th edition) are in most of the libraries throughout campus, but if you anticipate writing a lot of psychology papers, buying a copy might be a good investment.

Outline

| Date | Topic | Reading/assignments Complete <i>before</i> class |
|---|--|--|
| OVERVIEW OF EXPERIMENTAL PSYCHOLOGY; ETHICS; MEASUREMENT | | |
| M 1-13 | Organizational Meeting: Why, how, who | |
| W 1-15 | Introduction to psychological research + the QALMRI framework | Morning 1; QALMRI handout |
| F 1-17 | Research ethics: working with human subjects | Rosnow & Rosenthal 3; CITI certificate due |
| M 1-20 | NO CLASS, MLK Day | |
| T 1-21 *NOTE DATE | Literature searches: when and how * bring laptops if you have them* | Morning 2 |
| W 1-22 | Research ethics: fraud (DISCUSSION) | Wakefield readings (1 retracted article, 2 news articles); last day to add/drop or declare P/F online |
| F 1-24 | Research ethics: ethics of writing | APA1; Lit search assignment due |
| M 1-27 | Ethics: Deception costs vs. benefits (DISCUSSION) | Epley & Huff |
| W 1-29 | Operationalization: variables, independent & dependent | Rosnow & Rosenthal 2 |
| F 1-31 | Ethics: What is p-hacking? (DISCUSSION) | Simmons et al. |
| M 2-3 | Manipulations, demand characteristics and bias, placebo effects | Gray blog post |
| W 2-5 | Reliability and validity | Rosnow & Rosenthal 6 |
| F 2-7 | QUIZ 1 | |

| Date | Topic | Reading/assignments Complete <i>before</i> class |
|-------------|--------------|--|
|-------------|--------------|--|

EXPERIMENT DESIGN BASICS

| | | |
|--------|---|---|
| M 2-10 | Within vs. between-subject designs; counterbalancing; randomizing | Rosnow & Rosenthal 7 (skim before class, read after) |
| W 2-12 | Designing a questionnaire | |
| F 2-14 | Designing a questionnaire, cont. (including Qualtrics mechanics) | <i>*2/14 is the last day to drop in the Dean's office</i> |
| M 2-17 | The participant's experience (DISCUSSION) | <i>experiment participation write-up due</i> |

SPECIFIC MEASURES, METHODS & DESIGNS

| | | |
|------------|---|---|
| W 2-19 | Reaction-time studies | Shepard & Metzler, 1971 |
| F 2-21 | Implicit measures: the IAT (DISCUSSION) | Read here: implicit.harvard.edu/implicit/demo/background/ and take at least two IATs here: implicit.harvard.edu . Click on either tab: "Take a Demo Test" or "Try a Study" Note: IATs take <10 minutes. |
| M 2-24 | Analyzing questionnaire data <i>bring laptops if you have them</i> | APA5 |
| W 2-26 | Analyzing questionnaire data, cont. <i>bring laptops if you have them</i> | <i>Deadline for committing to a research topic</i> |
| F 2-28 | Looking time and other developmental psychology measures | Baillargeon, 1987 <i>Questionnaire analysis due</i> |
| 3-2 to 3-6 | SPRING BREAK, NO CLASS | |
| M 3-9 | Perception studies | Simons & Chabris, 1999. NOTE: skim the Introduction, and focus on the Methods & Results |
| W 3-11 | APA style: Writing a Methods section | Bem article pp 2-7; APA2 |
| F 3-13 | QUIZ 2 | |
| M 3-16 | Workshop Day 1: Discussion of individual projects | |

| Date | Topic | Reading/assignments Complete <i>before</i> class |
|-------------|-----------------------------------|--|
| W 3-18 | Memory measures | Kensinger & Schacter, 2006 |
| F 3-20 | Manipulating and measuring affect | Killingsworth & Gilbert, 2010 Methods drafts due |
| M 3-23 | Neuroimaging in humans | Young & Saxe, 2008 |
| W 3-25 | Psychophysiology | Gramzow, Willard & Mendes, 2008 |

INTERPRETING AND REPORTING DATA

| | | |
|----------------|--|---|
| F 3-27 | Making figures in excel <i>* bring laptops if you have them*</i> | |
| M 3-30 | Writing results (brief), then Workshop Day 2: Discussion of ongoing projects | |
| W 4-1 | APA style: writing an abstract, writing an Introduction | Bem article pp 7-16 ; APA6 |
| F 4-3 | Correlations, T-tests, and Anovas (WORKSHOP) <i>* bring laptops if you have them*</i> | |
| M 4-6 | Replication | Carpenter, 2012; Results drafts due |
| W 4-8 | QUIZ 3 *NOTE COULD SWITCH WITH 4-15 | |
| F 4-10, M 4-13 | EASTER VACATION, no class | <i>4/14 is the last day to withdraw</i> |
| W 4-15 | Powerpoint mechanics and giving a scientific talk | |
| F 4-17 | Workshop abstracts | <i>Instructions on how to submit your abstract for workshopping will be discussed the week before class</i> |
| M 4-20 | PATRIOT'S DAY, no class | |
| W 4-22 | WEIRD science and representativeness | Henrich et al., 2010 |
| F 4-24 | In-class presentations | Powerpoint slides due |
| M 4-27 | In-class presentations | |
| W 4-29 | In-class presentations | Final papers due |

List of readings:

“APA” refers to chapters from the American Psychological Association’s publication manual. Copies are available on reserve at O’Neill, as well as in most libraries on campus.

Morling, *Research Methods in Psychology: Evaluating a World of Information (2nd edition)*; Chapters 1 & 2

Rosnow & Rosenthal, *Beginning Behavioral Research: A Conceptual Primer (7th edition)*; Chapters 2, 3, 6, 7

Wakefield, A. J., et al. (1998). Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. *The Lancet*, 351, 637-641. *NOTE: THIS PAPER HAS BEEN RETRACTED (skim it for background)

Deer, B. (2011). How the case against the MMR vaccine was fixed. *BMJ*, 342:c5347

Deer, B. (2011). How the vaccine crisis was meant to make money. *BMJ*, 342:c5258 doi: <http://dx.doi.org/10.1136/bmj.c5258>

Epley, N., & Huff, C. (1998). Suspicion, affective response, and educational benefit as a result of deception in psychology research. *Personality and Social Psychology Bulletin*, 24, 759-768.

Simmons J., Nelson L., Simonsohn U. (2011). False-Positive Psychology: *Undisclosed Flexibility in Data Collection and Analysis Allow Presenting Anything as Significant. Psychological Science*, 22, 1359-1366

Gray, P. blog post: <https://www.psychologytoday.com/blog/freedom-learn/201310/why-zimbardo-s-prison-experiment-isn-t-in-my-textbook?tr=MostViewed>

Shepard, R. & Metzler, J. (1971). Mental rotation of three dimensional objects. *Science*, 171, 701-3.

Simons, D. J. & Chabris, C. F. (1999). Gorillas in our midst: sustained inattentive blindness for dynamic events. *Perception*, 28, 1059 – 1074.

Kensinger, E.A. & Schacter, D.L. (2006). When the Red Sox shocked the Yankees: Comparing negative and positive memories. *Psychonomic Bulletin and Review*, 13, 757-763.

Bem, D. J. (2003). Writing the empirical journal article. In J.M. Darley, M. P. Zanna, & H. L. Roediger III (Eds), *The Compleat Academic*. Washington, DC: American Psychological Association.

Killingsworth, M.A., Gilbert, D.T. (2010). A wandering mind is an unhappy mind. *Science*, 330, 932.

Gramzow, R., Willard, G., & Mendes, W. B. (2008). Big tales and cool heads: Academic exaggeration is related to cardiac vagal reactivity. *Emotion*, 8, 138-144.

Young, L., Saxe, R. (2008). The neural basis of belief encoding and integration in moral judgment. *NeuroImage*, 40, 1912-1920. doi:10.1016/j.neuroimage.2008.01.057

Carpenter, S. (2012). Psychology’s Bold Initiative. *Science*, 335, 1558-1561.

Henrich, J., Heine, S. J., & A. Norenzayan (2010). Most people are not WEIRD. *Nature*, 466, 29.

Course policies

Canvas: A copy of this syllabus will be posted on Canvas. Downloadable copies of the lecture slides, details on the assignments, and all assigned readings will be posted there as well.

Office hours: I am happy to go over questions from the lecture or reading, questions about assignments, or to discuss anything else at least marginally related to the course and/or to psychological research. My scheduled office hours are noted above, but please contact me if that time doesn't work to set up another time.

Quiz make-up policy: Quiz make-ups may only be scheduled due to personal emergency (e.g., death of a close family member), documented medical emergency, or BC-sanctioned travel (e.g. sporting events). These must be discussed and approved *before* the scheduled quiz time.

Late policy: Written assignments must be turned in **by the beginning of class** (i.e., 1pm) via Canvas on the day they are due. Any assignment received after this time will automatically receive a full letter grade deduction. A full letter grade will be deducted for each day or partial day thereafter. The only exceptions to the late policy are due to personal, medical or family emergency. That said, if you are struggling for any reason, please contact me so that we can make a plan. If you will have a foreseeable conflict before an assignment is due (travel, etc.) please make arrangements *beforehand* to hand in your assignment early. Assignments must be uploaded to Canvas, but may be submitted via email only if your browser is incompatible with Canvas' upload feature. Please note that if your paper fails to upload properly, or if it's emailed but lost in the ether, it will still be considered late, no matter when you sent it. **It is your responsibility to make sure that your paper was received on time. (If you are worried that it failed to upload, you may bring a hard copy to class just to prove that it was done and thus avoid being marked late.)**

Grade questions/grade changes/grade communication: If you have a question about a graded assignment, you must contact me no later than one week after the assignment was returned, detailing your concerns. Grade concerns will only be discussed in person (email or see me after class to set up a time), and I will re-grade the entire quiz or assignment in question, substituting the newer grade for the original.

Plagiarism and Academic Integrity: Students at Boston College are expected to have high standards of integrity. Any student who cheats or plagiarizes on examinations or assignments may fail the course, and a letter of explanation will be placed in their files. Students who plagiarize are subject to dismissal from the College. Note that substantial paraphrasing, or knowingly using the words or thoughts of another individual (from conversation, web sources, or published or unpublished material) without citation can also be considered plagiarism. Any work that has been confirmed to be plagiarized will receive a grade of 0. For information on Boston College's Integrity Policy, see: <http://www.bc.edu/offices/stserv/academic/integrity.html>. If you are unsure of the appropriate way to give credit in a paper or about any other aspect of an assignment, please contact me. One of the topics we will cover in this course is how to appropriately cite sources using APA style.

Note too that data collection is a component of several of the course assignments. **Evidence of faked or made-up data will result in a grade of 0.**

Some collaboration among students on analyses is expected, but your write-up of the analyses should be in your own words and show evidence of your own thinking.

Policy on Appropriate Use of Course Materials: The materials distributed in this class and on Canvas, including the syllabus, exams, slides, handouts, study aides, and in-class presentations, may be protected by copyright and are provided solely for the educational use of students enrolled in this course. You are not permitted to re-distribute them for purposes unapproved by the instructor; in particular you are not permitted to post course materials or notes from lectures and discussions on commercial websites (sharing notes with your fellow students in this class is fine). Unauthorized uses of course materials may be considered academic misconduct.

Students with Documented Disabilities: If you are a student with a documented disability seeking reasonable accommodations in this course, please contact Kathy Duggan, (617) 552-8093, dugganka@bc.edu, at the Connors Family Learning Center regarding learning disabilities and ADHD, or Paulette Durrett, (617) 552-3470, paulette.durrett@bc.edu, in the Disability Services Office regarding all other types of disabilities, including temporary disabilities. I will be happy to arrange accommodations but cannot do so retroactively (e.g. after a quiz has already taken place). We can also add accommodations for subsequent assignments, exams, and quizzes if you receive a diagnosis or documentation at any point in the semester.

Electronic devices in the classroom: Cell phones should be turned off during class; texting during class discussion is distracting to everyone present. Please note also that it is obvious to everyone around you if you are using your computer for anything other than note-taking or analysis; this is both distracting and disrespectful.

2 notes:

If you are feeling stressed and/or are having challenges managing your time, managing your sleep, or making choices around alcohol and/or food, the Office of Health Promotion (OHP) offers Individual and Group Health Coaching appointments with a trained Health Coach. Please reach out by going to the [OHP website](#) or walk over to Gasson 025 and talk with a staff member.

Any student who is having difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Dean of Students for support. Furthermore, please notify the professor if you are comfortable doing so. This will enable her to provide any resources that she may possess.