RESEARCH METHODS

Class: Tu/Th 11:50am-1:10pm in *HEG 102* | **Lab:** F 10:30am-12:30pm *or* 1:30-3:30pm in *ALBEE 100*

Instructor

Dr. Justin Hulbert
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phone: x4390
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office hours: Tu 4:30-5:30pm,
Th 2:00-3:00pm,
or by appointment

Course Materials

Morling (2015). *Research Methods in Psychology* (2nd ed.). New York, NY: W. W. Norton & Company.

INQUIZITIVE online access ($25)

APA (2010). *Publication Manual of the American Psychological Association* (6th ed.). Washington, D.C.: APA.

Additional materials posted on **Moodle** (see footer for access).

Assessment

- Exams (3): **60%**
- InQuizitive+: **10%**
- Project Reports: **30%**

Course Overview

This course is designed to provide you with the basic methodological tools to design and conduct sound, ethical research in psychological science. Building on the knowledge and skills you developed in Statistics for Psychology/Biostatistics, our work together will help prepare you for moderation and for upper-level courses in the Psychology Program. The lab component of this course will supplement assigned readings, lectures, class discussions, and other activities to provide you with practical research experience. Working both individually as well as in groups, you will improve your skills collecting, analyzing, and presenting data. Throughout the course, you will hone your ability critique psychological research, noting that critical analysis is not necessarily negative. In fact, the best critical analysis acknowledges both the strengths and limitations of the research endeavor.

Learning Objectives

Coming out of this course, you should have:

- Developed a sound understanding of the primary research methods and designs used in psychological science, along with their respective benefits and limitations.
- Received training and certification for the ethical treatment of human research participants.
- Experience collecting data using several different methodologies and analyzing/interpreting them according to the proposed hypotheses and study design.
- Honed your ability to locate, read, interpret, evaluate, and present psychological research (including in written form, using APA style).
- Established a solid foundation for further study of psychological science.

Joint Responsibilities

Achieving the broad aims of this course requires commitments from instructor and students alike. Below you will find an outline of some of those responsibilities.

- **Your instructor agrees to…**
  a) Make himself available outside of class during posted office hours (and by appointment, as necessary) to answer questions, provide extra help, and discuss matters related to the course of study.
  b) Respond in a timely fashion (typically by the end of the next school day) to email queries. In the event that more time is required to fully address the student query, the instructor will acknowledge receipt of the email and provide the student with an estimated response time or suggest meeting in person.
  c) Facilitate a thoughtful, considerate, and engaging learning environment.
  d) Make available on Moodle a skeleton of lecture slides, suitable for downloading/printing prior to class. Note that these skeletons are intended to supplement note taking (e.g., by providing important/complicated figures) but are *not a replacement for attending class*, as they will lack critical information presented only in class.
  e) Provide adequate time to complete assignments, minimize changes to the published schedule/assignments, and immediately notify students about any such changes.
  f) Provide comprehensive and fair assessments of materials presented or assigned. Assignments, with a level of feedback commensurate with the nature and aims of the task, will be returned to students in a timely fashion.
  g) Create and welcome opportunities for students to provide feedback on the course/teaching throughout the semester.
- **You are responsible for…**

Best Practices

To make the most of office hours, it is recommended that you:

- Avoid waiting until the last minute (before an exam/due date) to attend. Seeking help well in advance of deadlines will leave you plenty of time to act on advice discussed.
- Email the instructor in advance or bring with you a concise list of topics/questions you wish to discuss, if possible. Itemizing in this way helps ensure all your questions are addressed and saves you time in the long run. That said, *dropping by for a spontaneous, broader chat is also most welcome.* Tea and/or coffee will be available.

When emailing the instructor, keep in mind that:

- Taking time to draft a concise message with proper spelling/ punctuation is expected and will be met with a similarly considered reply.

Writing/other academic help is available through Bard Learning Commons (lc@bard.edu).

a) Showing up to class regularly, on time, and prepared. Your attendance is critical to your learning (and course grade), as the in-class demonstrations, lab activities, etc. won't necessarily be covered in your textbook or the posted lecture slides. It should be noted that you are responsible for any and all material covered in classes missed. And missing two or more lecture periods could significantly impact your grade. *Attendance in lab is critical.* We will do a considerable amount of group work, which requires everyone to pull their weight for the good of the collective.

b) Checking your college email regularly for important messages about the course.

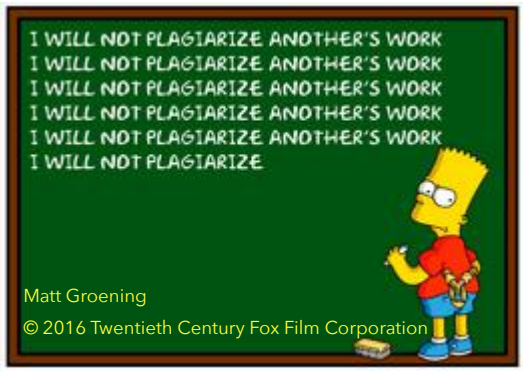
c) Keeping up with the assignments and readings. *Your instructor will make the first few chapters available on Moodle, for those still shopping around for used editions of the textbook.* Please bring your textbook and copies of any additional assigned readings to class (electronic versions are fine, if you have a suitable device for designated in-class activities). In addition to the readings specified below, the instructor may send out/post additional readings. Again, be sure to check your email and pay attention to in-class announcements to avoid surprises.

d) Substantively participating in class and lab. Note that a top-notch level of participation *does not necessitate responding to every question* raised in class or online; active or passive efforts to welcome contributions from everyone in the class are also looked upon favorably. Though you are welcome to challenge your fellow students' or your instructor's thoughts and conclusions, always do so in a fashion that is respectful. Challenge ideas, not the person responsible for them.

e) Keeping distractions to a minimum in class. Unless otherwise specified, laptops, cell phones, tablets, and other electronic devices should remain off and

out of sight during class meetings. As many labs will require computers, you may use your own and/or the available lab machines.

f) Submitting assignments on time. Assignments will be subject to a penalty of one letter grade if not submitted by the beginning of class on the due date (unless another due date/time is specified). The mark will drop by a further letter grade for every additional day the assignment is late. *The only extensions/make-up exams that will be granted involve documented cases of medical or family emergency.* Students requiring alternative testing or course accommodations (e.g., due to disability) should contact the instructor privately as early as possible after the first class meeting (and before the end of the second week of the semester).



g) Upholding academic integrity. Plagiarism (e.g., copying other's words or ideas without proper citation) will not be tolerated. You are expected to work independently on each graded assignment, unless explicitly instructed otherwise. When in doubt as to what constitutes plagiarism within the confines of this course, you are encouraged both to consult the student handbook (http://www.bard.edu/dosa/handbook/index.php?aid=1201&sid=705) and to contact the instructor for further guidance. There is absolutely no penalty for asking for clarification; however, failing to abide by Bard's standards for academic integrity can result in failing the course.

Assessment Details

- **Exams** (*3 in-class exams, each worth 20% of your course grade, 60% in total*) will involve a combination of multiple-choice and short-answer/essay questions. Much of the material introduced after the first exam will build on concepts studied during the early part of the course. Thus, while the second and third exams will not be cumulative in the traditional sense, you will still be expected to have a firm grasp on material tested previously. Study guides will be posted on Moodle in advance of each exam.
- **InQuizitive+** (*10% in total*) offers what is called "formative assessment," serving to reinforce your understanding between formal assessments (i.e., exams) while also helping you (and your

instructor) identify areas that may require additional attention to achieve mastery. Each module (corresponding to or more chapters from your primary textbook) is associated with interactive games hosted online that adapt to your growing expertise in research methods. Research from cognitive psychology indicates that repeated testing of studied information improves long-term retention (Karpicke & Roediger, 2008). That's right: Tests and quizzes can be so much more than a stressful final evaluation of your abilities; they can be used as a powerful study technique, pacing learning, cementing your understanding, and (yes) likely improving grades on formal assessments. Rather than take up class time with stressful pop quizzes to achieve these aims, InQuizitive modules can be completed from anywhere at any time before they're due (the "Grades Accepted Until, GAU date"). For each question you answer, you can earn points based on your confidence level. Not so confident? Get the wrong answer? Not to worry—you are free to keep answering questions (and learning) until you reach the target score for the module and get 100%. Throughout, you can take a break, track your progress, get immediate feedback on why an answer is correct/incorrect, and highlight gaps in understanding that could benefit from additional attention in class, lab, office hours, or during private study.

- Learn more about InQuizitive, how grading works, and how to join a "Student Set" to link your account to the class (required) here: http://wwnorton.knowledgeowl.com/help/inquizitive-students.
- Purchase and create an account by using one of options:
  - *Buy a standalone version ($25) at https://digital.wwnorton.com/researchpsych3*
  - *Or bundle InQuizitive with 3rd Edition e-book ($65) on the same site*
  - *Or use registration code if you purchased the 3rd Edition with included code*
- *Upon creating your account, you'll be prompted to enter a "Student Set ID" to link it to our class. You must enter this exactly and confirm that you're linking it to Bard's Research Methods in Psychology for the current semester.*
  - ***Student Set ID: 138557***
- *To begin an assigned InQuizitive module, click the link provided at the **top** of your Moodle course site and then sign on using your personal login information.*

- So, that's InQuizitive. What's the plus sign in InQuizitive+? I'm glad you asked. Your active participation in class/lab activities (including assigned homework) also contributes to this category of assessment. The more you engage, the more you learn, and the more the rest of us benefit. Unless explicitly instructed otherwise, you are expected to work on these assignments individually.

- **Project Reports** *(accounting for 30% of your course grade)*
  - **Observation Report** (*5% of your course grade*) will contain sections describing methods and results (with a figure) that reflect a hypothesis you developed and examined through the collection of observational data and a subsequent chi-square analysis. As with the other assignments, further details about this report will be discussed in lab/posted on Moodle.
  - **Survey Report** (*10% of your course grade*) will consist of a title page, a short introduction, methods and results sections, a short discussion, and references. This report will stem from a hypothesis you develop and examine through a correlation analysis of survey data you collect from a small number of participants outside of class.
  - **Final Project** (15% of your final grade) involves a combination of group and individual work. (a) Your small group will first select a final project topic and, in writing, describe your hypothesis in the context of the available literature and how you propose to test it. Your group will submit a single copy of this proposal (worth 2% of your course grade). (b) After collecting and analyzing your data, your group will present your methods, results, and conclusions in a short conference-style slideshow (worth 3% of your course grade). (c) Finally, each student will INDIVIDUALLY write an APA-formatted report with a title page, abstract, introduction, method, and results sections, along with references and tables/figures (worth 10% of your course grade).

Planning

Take the time to review all the deadlines and scheduled exam dates below. Transfer them to your personal calendar immediately. Doing so will help you avoid scheduling conflicts and allow you to carve out the necessary time to perform your best. Remember, outside of accommodations facilitated by Bard's Disability Support Services, the only extensions/make-up exams that will be granted involve documented cases of medical or family emergency.

Tentative Course Schedule

Date (day)	#	Topic | Assignments
1/29 *(tu)*	**1**	**WELCOME, PSYCHED TO MEET YOU!** • Optional reading: Putnam et al. (2016) • OPTIONAL tutorial on "How to Use InQuizitive" activity found via Moodle link
1/31 *(th)*	**2**	**THINKING LIKE A PSYCHOLOGIST** • Have read: Morling Ch. 1 ✦Come to class prepared with at least one example of pop psych-science
2/1 *(f)*	**3**	**LAB 1:** Hypothesis development & literature searches • OPTIONAL tutorials: http://www.apa.org/pubs/databases/training/tutorials.aspx
2/5 *(tu)*	**4**	**SOURCES & RESOURCES** • Have read: Morling Ch. 2; Mueller & Oppenheimer (2014) ✦**InQuizitive** Module 1 (Chapters 1-2) grades accepted until *Wed. 2/6 @ 9pm*
2/7 *(th)*	**5**	**FREQUENCY, ASSOCIATION, & CAUSAL CLAIMS (OH MY!)** • Have read: Morling Ch. 3 (2nd ed. pp. 55-66 or 3rd ed. pp. 57-68) ✦**Reading worksheet** for Mueller & Oppenheimer (2014) uploaded by *9pm today*
2/8 *(f)*	**6**	**LAB 2:** Reading & writing research reports (without plagiarizing) • OPTIONAL readings: Bem (2003); Kording & Mensh (2016); Roig (2015) • Familiarize yourself with these guidelines: https://ori.hhs.gov/plagiarism-0 • OPTIONAL resource: https://owl.english.purdue.edu/owl/resource/560/01/ ✦**QALMRI worksheet** for Mueller & Oppenheimer (2014) uploaded before lab ✦Bring your APA manual to lab ▸ Review sample QALMRI responses after lab (available on Moodle)
2/12 *(tu)*	**7**	**AUDITING CLAIMS WITH THE BIG 4 VALIDITIES** • Have read: Morling Ch. 3 (2nd ed. pp. 65-82 or 3rd ed. pp. 68-83) ✦**APA Spot-the-Errors Extra Credit** accepted until *9pm today* ✦**InQuizitive** Module 2 (Chapter 3) grades accepted until *Wed. 2/13 @ 9pm*
2/14 *(th)*	**8**	**FOR GOOD MEASURE[MENT]** • Have read: Morling Ch. 5 (2nd ed. pp.121-136 or 3rd ed. pp. 117-132)
2/15 *(f)*	**9**	**LAB 3:** Operationalizing reliability & validity
2/19 *(tu)*	**10**	**#VALID** • Have read: Morling Ch. 5 (2nd ed. pp. 136-151 or 3rd ed. pp. 132-147) ✦**InQuizitive** Module 3 (Chapter 5 only) grades accepted until *Wed. 2/20 @ 9pm*
2/21 *(th)*	**11**	**EXAM #1**
2/22 *(f)*	**12**	**LAB 4:** Observational designs ✦**Observational proposal** due *Tues. 2/26 @ 9pm*

Date (day)	#	Topic | Assignments
2/26 *(tu)*	**13**	**SURVEY SAYS... AND OTHER OBSERVATIONS** • Have read: Morling Ch. 6-7 • OPTIONAL reading: Bakeman (2000)
2/28 *(th)*	**14**	**THE ETHICIST RETURNS (WITH A VENGEANCE)** • Have read: Morling Ch. 4; Gross (2011)
3/1 *(f)*	--	NO LAB - JUSTIN PRESENTING AT EPA CONFERENCE • Work on InQuizitive (due today at 9pm), human subjects training certificate (due Tues. 3/5), observational report (due Fri. 3/8), or short moderation papers ✦**InQuizitive** Module 4 (Chapters 6-7) grades accepted until *Fri. 3/1 @ 9pm*
3/5 *(tu)*	**15**	**BIVARIATE CORRELATION** • Have read: Morling Ch. 8 • SUGGESTED reading: Morling's Review of Descriptive Statistics (2nd ed. pp. 441-461 or 3rd ed. pp. 457-479) ✦**Human subjects training certificate** (screenshot of score or emailed certificate) due by the start of class (click "+Expand" at https://www.bard.edu/irb/train_cert/)
3/7 *(th)*	**16**	**BIVARIATE TO MULTIVARIATE CORRELATION** • Have read: Morling Ch. 9
3/8 *(f)*	**17**	**LAB 5:** Survey design • Have read: Walonick (1997); Panorama's Survey Design Checklist ✦**Observational report** due by the start of lab
3/12 *(tu)*	**18**	**JUST CAUSAL CLAIMS** • Have read: Morling Ch. 10 • SUGGESTED reading: Morling's Review of Inferential Statistics (2nd ed. pp. 463-486 or 3rd ed. pp. 479-504) ✦**InQuizitive** Module 5 (Chapters 8-9) grades accepted until *Wed. 3/13 @ 9pm*
3/14 *(th)*	**19**	**CONFOUND IT!** • Have read: Morling Ch. 11 ✦*Note for moderating students: short moderation papers due tomorrow, Friday 3/15*
3/15 *(f)*	**20**	**LAB 6:** Survey data collection ✦**Survey questions** due by the start of lab ✦**InQuizitive** Module 6 (Chapters 10-11) grades accepted until *Mon. 3/25 @ 9pm* ➡During lab: Course feedback survey (online, anonymous)
3/19 *(tu)*	--	NO CLASS - SPRING BREAK ROCKS!
3/21 *(th)*	--	NO CLASS - SPRING BREAK ROCKS!
3/22 *(f)*	--	NO LAB - SPRING BREAK ROCKS! ✦*Reminder:* **InQuizitive** *Module 6 grades accepted until Mon. 3/25 @ 9pm*

Date (day)	#	Topic | Assignments
3/26 *(tu)*	**21**	**GET READY:** Exam review & further practice with empirical articles • Bring your exam questions to class (review will be driven entirely by your questions) • Have read: Strick et al. (2009) for in-class activity (bring it with you)
3/28 *(th)*	**22**	**EXAM #2**
3/29 *(f)*	**23**	**LAB 7:** Working with survey data ✦**Survey data** due by the start of lab (to be organized & analyzed in lab)
4/2 *(tu)*	**24**	**FACTORIAL DESIGNS** • Have read: Morling Ch. 12 ✦**InQuizitive** Module 7 (Chapter 12) grades accepted until *Wed. 4/3 @ 9pm*
4/4 *(th)*	**25**	**FACTORING IN EXTRA TIME FOR FACTORIAL DESIGNS** • Have reviewed: Morling Ch. 12
4/5 *(f)*	**26**	**LAB 8:** Intro to the experiment project & PsyToolkit ✦**Final survey report** due by the start of lab ✦**Group experiment topic** due at the end of lab (instructions provided during lab)
4/9 *(tu)*	**27**	**QUASI-EXPERIMENTAL DESIGNS** • Have read: Morling Ch. 13
4/11 *(th)*	**28**	**ON ERROR BARS & OUTLIERS** • Have read: O'Brien & Cousineau (2014); Osborne & Overbay (2004)
4/12 *(f)*	**29**	**LAB 9:** Experiment project methods ✦**Determining Design HW** due by the start of lab (completed individually or in pairs) ▸ *Note for moderating students: Moderation Saturday is tomorrow (4/13)* ✦**Experiment Project Methods Information** due *by Monday 4/15 @ 9pm*
4/16 *(tu)*	**30**	**POWERPOINT POINTERS** • Have read: Doumont (2005); Williams (2008); Vogel (2005) ✦**InQuizitive** Module 8 (Chapters 13-14) grades accepted until *Wed. 4/17 @ 9pm*
4/18 *(th)*	**31**	**REPLICATION & GENERALIZATION** • Have read: Morling Ch. 14; Galak et al. (2013) • OPTIONAL reading: Munafò et al. (2017)
4/19 *(f)*	**32**	**LAB 10:** Analyzing factorial data
4/23 *(tu)*	**33**	**DIVING DEEPER: COG NEURO METHODS** • Have read: Purves (2008)
4/25 *(th)*	**34**	**NON-HUMAN GUINEA PIGS** • Have read: Roelfsema & Treue (2014); Novak & Suomi (1988); Vogel (2015)
4/26 *(f)*	**35**	**LAB 11:** Measuring brain signals
4/30 *(tu)*	--	NO CLASS - ADVISING DAY

Date (day)	#	Topic | Assignments
5/2 *(th)*	**36**	**EXAM REVIEW**
5/3 *(f)*	--	NO LAB • Study for the exam as you continue to work on final research project report & presentation
5/7 *(tu)*	**37**	**EXAM #3**
5/9 *(th)*	--	NO CLASS - PSYCHOLOGY BOARDS
5/10 *(f)*	--	NO LAB - PSYCHOLOGY BOARDS
5/14 *(tu)*	--	NO CLASS - PSYCHOLOGY BOARDS
5/16 *(th)*	**38**	**GROUP PRESENTATION PREP/RESEARCH REPORT PEER REVIEW**
5/17 *(f)*	**39**	**LAB 12: GROUP PRESENTATIONS** ✦**Final presentation slides** uploaded to Moodle by the start of lab ✦**Final research report** due by the start of lab
5/23 *(tu)*	--	NO CLASS - COMPLETION DAYS

Schedule is subject to change to improve pacing and/or accommodate unforeseen events (e.g., severe weather). For planning purposes, every effort will be made to maintain scheduled exam and due dates.