

# RESEARCH METHODS

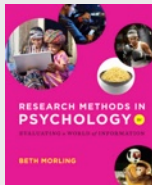
Class: Tu/Th 11:50am-1:10pm in HEG 204 | Lab: W 10:30am-12:30pm or 1:30-3:30pm in HDR 101A

## Instructor

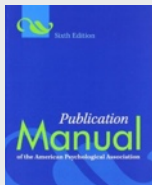
Dr. Justin Hulbert  
 office: Preston 108  
 phone: x4390  
 e-mail: [jhulbert@bard.edu](mailto:jhulbert@bard.edu)  
 office hours: Tu 4:30-5:30pm,  
 W 3:30-4:30pm,  
 or by appointment

## Course Materials

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



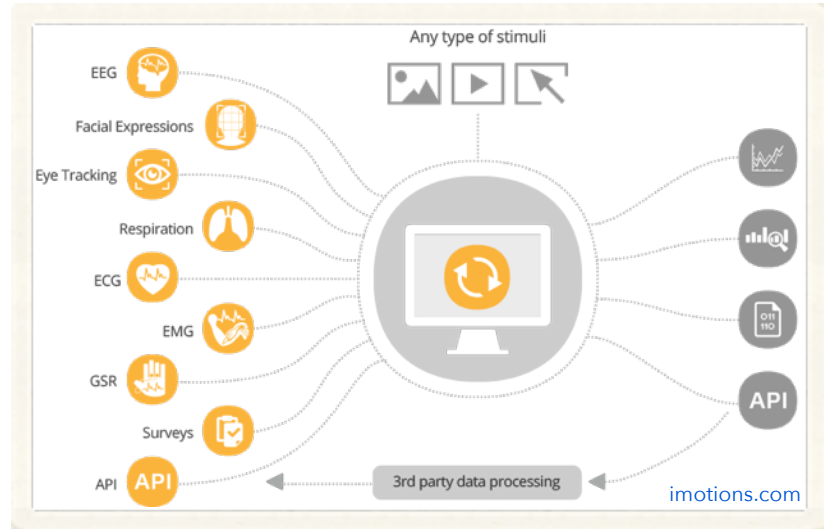
APA (2010).  
*Publication Manual of the American Psychological Association* (6th ed.). Washington, D.C.: APA.



Additional materials will be posted on **Moodle2** (see footer for URL & access code).

## Assessment

- Exams (3): **60%**
- Quizzes (top 5/6): **5%**
- Lab/Homework: **5%**
- Observation Report: **5%**
- Survey Report: **10%**
- Final Project: **15%**



## 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.

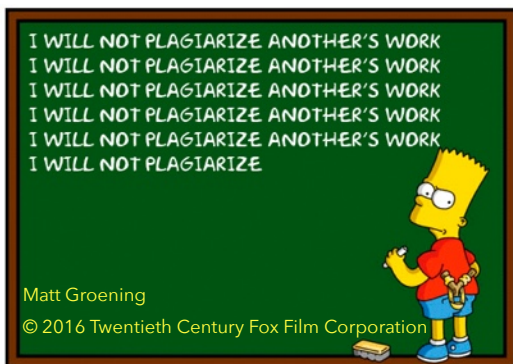
When emailing the instructor, keep in mind that:

- 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](http://moodle2.bard.edu) ([lc@bard.edu](mailto: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. *No make-up quizzes will be offered*. Your lowest quiz score will be dropped, meaning that it is possible to miss one quiz without necessarily penalizing your grade. However, 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 the textbook*. Please bring your textbook and printed copies of any additional assigned readings to class. Certain in-class activities may require these materials. 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 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.

- **Quizzes** (*your top 5 quiz scores, each worth 1% of your course grade, 5% in total*) assessing comprehension of material presented in class (and/or in the assigned readings, including that which was due on the quiz date) will be administered during class. These announced quizzes (each consisting of a combination of about 5 multiple choice, matching, or true/false questions) are cumulative, though questions will be heavily weighted towards recently covered material. The reasoning for this is threefold. Repeated testing of studied information improves long-term retention (Karpicke & Roediger, 2008). The testing schedule promotes consistent and effective reading/study habits (Ruscio, 2001), along with regular class attendance. Moreover, the results of the quizzes will serve to highlight gaps in understanding that could benefit from additional attention in class, lab, office hours, or during private study. In other words, these quizzes are designed to maximize your memory for course material. They are *not* designed to be punitive, lengthy, or particularly picky/difficult, provided you've been keeping up with the readings and attending class. Only your 5 best quiz scores will count towards your grade (i.e., your worst quiz score will be completely ignored, including a quiz that may have been missed due to absence). No makeups for quizzes will be offered.
- **Lab Work** (*accounting for 35% of your course grade*)
  - **Lab/Homework** (*together accounting for 5% of your course grade*) pertains to activities completed during lab time and the homework that will periodically be assigned. Unless explicitly instructed otherwise, you are expected to work on these assignments individually.
  - **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 a final APA-formatted report with a title page, abstract, introduction, methods, results, references, and tables/figures (worth 10% of your course grade).

### *Planning*

Take the time to review all the deadlines and scheduled quiz/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, the only extensions/make-up exams that will be granted involve documented cases of medical or family emergency.

## Tentative Course Schedule

Date (day)	#	Topic for Class   Assignments for NEXT Class
1/31 (tu)	1	<b>WELCOME</b> <ul style="list-style-type: none"> <li>• Optional reading: Putnam et al. (2016)</li> <li>➔HW: Find examples of “bad science” in popular/social media for next class</li> </ul>
2/1 (w)	--	NO LAB
2/2 (th)	2	<b>THINKING LIKE A PSYCHOLOGIST</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 1; Brossard &amp; Scheufele (2013)</li> <li>◆Come to class prepared with an example of “bad science” from the media</li> </ul>
2/7 (tu)	3	<b>SOURCES &amp; RESOURCES</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 2; also at least <u>one</u> of the following articles: <ul style="list-style-type: none"> <li>- Assefi &amp; Garry (2003)</li> <li>- Mueller &amp; Oppenheimer (2014)</li> <li>- Lee et al. (2014)</li> </ul> </li> <li>• Check out: <a href="http://www.apa.org/pubs/databases/training/tutorials.aspx">http://www.apa.org/pubs/databases/training/tutorials.aspx</a></li> </ul>
2/8 (w)	4	<b>LAB 1:</b> Hypothesis development & literature searches <ul style="list-style-type: none"> <li>• Check out: <a href="https://owl.english.purdue.edu/owl/resource/560/01/">https://owl.english.purdue.edu/owl/resource/560/01/</a></li> </ul>
2/9 (th)	5	<b>FREQUENCY, ASSOCIATION, &amp; CAUSAL CLAIMS (OH MY!)</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 3 (pp. 55-66)</li> </ul>
2/14 (tu)	6	<b>AUDITING CLAIMS WITH THE BIG 4 VALIDITIES</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 3 (pp. 66-85)</li> <li>▶ <b>QUIZ #1</b> on Morling Ch. 1-3</li> </ul>
2/15 (w)	7	<b>LAB 2:</b> Reading & writing research reports <ul style="list-style-type: none"> <li>• Have read: QALMRI instructions; Bem (2003); Goetz et al. (2013)</li> <li>• Optional reading: Kording &amp; Mensh (2016)</li> <li>◆Bring your APA manual to lab</li> </ul>
2/16 (th)	8	<b>FOR GOOD MEASURE[MENT]</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 5 (pp. 121-136)</li> </ul>
2/21 (tu)	9	<b>#VALID</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 5 (pp. 136-153)</li> <li>▶ <b>QUIZ #2</b> on Morling Ch. 5</li> </ul>
2/22 (w)	10	<b>LAB 3:</b> Reliability & validity
2/23 (th)	11	<b>EXAM #1</b>
2/28 (tu)	12	<b>SURVEY SAYS... AND OTHER OBSERVATIONS</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 6; Bakeman (2000)</li> </ul>
3/1 (w)	13	<b>LAB 4:</b> Observational designs <ul style="list-style-type: none"> <li>◆Observational proposal due at the end of lab</li> </ul>



Date (day)	#	Topic for Class   Assignments for NEXT Class
3/2 (th)	14	<b>THE ETHICIST RETURNS...WITH A VENGEANCE</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 4; Gross (2011)</li> <li>• Check out: <a href="https://ori.hhs.gov/plagiarism-0">https://ori.hhs.gov/plagiarism-0</a></li> <li>➔HW: Complete human subjects training: <a href="http://www.bard.edu/irb/train_cert/">http://www.bard.edu/irb/train_cert/</a></li> </ul>
3/7 (tu)	15	<b>BIVARIATE CORRELATION</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 8</li> <li>• Suggested reading: Morling's Review of Descriptive Statistics (pp. 441-461)</li> <li>♦Human subjects training certificate due by the start of class</li> </ul>
3/8 (w)	16	<b>LAB 5: Survey design</b> <ul style="list-style-type: none"> <li>• Have read: Walonick (1997); Panorama's Survey Design Checklist</li> <li>♦Observational report due by the start of lab</li> </ul>
3/9 (th)	17	<b>MULTIVARIATE CORRELATION</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 9</li> <li>▶ <b>QUIZ #3</b> on Morling Ch. 8</li> </ul>
3/14 (tu)	18	<b>JUST CAUSAL CLAIMS</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 10</li> <li>• Suggested reading: Morling's Review of Inferential Statistics (pp. 463-486)</li> </ul>
3/15 (w)	19	<b>LAB 6: Survey data collection</b> <ul style="list-style-type: none"> <li>♦Survey questions due by the start of lab</li> <li>➔At end of lab: Course feedback survey (online, anonymous)</li> </ul>
3/16 (th)	20	<b>CONFOUND IT!</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 11</li> <li>▶ <b>QUIZ #4</b> on Morling Ch. 9-11</li> <li>♦Note for moderating students: short moderation papers due tomorrow, Friday 3/17</li> </ul>
3/20 (tu)	--	NO CLASS - SPRING BREAK ROCKS!
3/21 (w)	--	NO LAB - SPRING BREAK ROCKS!
3/23 (th)	--	NO CLASS - SPRING BREAK ROCKS!
3/28 (tu)	21	<b>GET READY: Exam Review &amp; Moderation Day Prep</b> <ul style="list-style-type: none"> <li>• Have read: Strick et al. (2009)</li> <li>♦Come prepared with a short article of interest printed from the journal <i>Psychological Science</i> (one you haven't already read): <a href="http://journals.sagepub.com/home/pss">http://journals.sagepub.com/home/pss</a></li> </ul>
3/29 (w)	22	<b>LAB 7: Working with survey data</b> <ul style="list-style-type: none"> <li>♦Survey data due by the start of lab (to be organized &amp; analyzed in lab)</li> </ul>
3/30 (th)	23	<b>EXAM #2</b>
4/4 (tu)	24	<b>FACTORIAL DESIGNS</b> <ul style="list-style-type: none"> <li>• Have read: Morling Ch. 12</li> </ul>



Date (day)	#	Topic for Class   Assignments for NEXT Class
4/5 (w)	25	<b>LAB 8:</b> Intro to the experiment project ♦Final survey report due by the start of lab ♦Group topic due at the end of lab
4/6 (th)	26	<b>FACTORING IN EXTRA TIME FOR FACTORIAL DESIGNS</b> • Have reviewed: Morling Ch. 12
4/11 (tu)	27	<b>QUASI-EXPERIMENTAL DESIGNS</b> • Have read: Morling Ch. 13
4/12 (w)	28	<b>LAB 9:</b> Experiment project methods
4/13 (th)	29	<b>ON ERROR BARS &amp; OUTLIERS</b> • Have read: O'Brien & Cousineau (2014); Osborne & Overbay (2004); Leys et al. (2013) ▶ <b>QUIZ #5</b> on Ch. 12-13
4/18 (tu)	30	<b>POWERPOINT POINTERS</b> • Have read: Doumont (2005); Williams (2008); Vogel (2005)
4/19 (w)	31	<b>LAB 10:</b> Analyzing factorial data
4/20 (th)	32	<b>REPLICATION &amp; GENERALIZATION</b> • Have read: Morling Ch. 14; Galak et al. (2013)
4/25 (tu)	33	<b>DIVING DEEPER: COG NEURO METHODS</b> • Have read: Purves (2008) ▶ <b>QUIZ #6</b> on Ch. 14
4/26 (w)	34	<b>LAB 11:</b> Neuroimaging or physiological data
4/27 (th)	35	<b>NON-HUMAN GUINEA PIGS</b> • Have read: Roelfsema & Treue (2014); Novak & Suomi (1988); Vogel (2015)
5/2 (tu)	--	NO CLASS - ADVISING DAY
5/3 (w)	--	NO LAB • Work on research project report
5/4 (th)	36	<b>EXAM REVIEW</b>
5/9 (tu)	37	<b>EXAM #3</b>
5/10 (w)	--	NO LAB - PSYCHOLOGY BOARDS
5/11 (th)	--	NO CLASS - PSYCHOLOGY BOARDS
5/16 (tu)	--	NO CLASS - PSYCHOLOGY BOARDS
5/17 (w)	38	<b>LAB 12:</b> Group presentation preparation ♦Final research report due by the start of lab

Date (day)	#	Topic for Class   Assignments for <i>NEXT</i> Class
5/18 (th)	39	<b>GROUP PRESENTATIONS 1</b> ◆Final presentation slides uploaded to Moodle by the start of class
5/23 (tu)	40	<b>GROUP PRESENTATIONS 2</b>

*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.*