

PSYCH 310 - Research Design + Analysis

Spring 2018

Section 001: 129 MARB on M W F from 10:00 am - 11:40 am

Instructor/TA Info

Instructor Information

Name: Shawn Gale

Office Location: 1060 SWKT

Office Phone: 801-422-9757

Office Hours: Only By Appointment

Email: shawn_gale@byu.edu

TA Information

Name: Hannah Lindsey

Email: hmlindsey@byu.edu

Course Information

Description

The focus of this course is to learn methods related to designing, conducting, and interpreting psychological research.

Prerequisites

210 and 308 (formerly 301; statistics) are prerequisites for this course. You must have also taken 307 (writing; formerly 303) in order to do well in this course. You may take this course concurrently with 309 (formerly 304).

Learning Outcomes

1. Critically review literature

Students will be able to critically review the literature to generate a testable hypothesis based on a summation of current research findings and scientific thought.

Measurement: Writing assignment.

2. Methodological designs

Students will be able to distinguish between methodological designs and implement and execute an appropriate design to test the hypothesis, demonstrating an understanding of and sensitivity to relevant ethical considerations, including how to identify and measure dependent variables and measure or control for independent and other variables critical to the design of the study.

Measurement: Multiple choice tests, short essays.

3. Written report of research

Students will be able to prepare a written report of the research project adhering to APA style in all aspects of presentation (e.g., format, figures/tables, referencing) in a format that would be suitable to submit to an APA journal.

Measurement: Writing assignment.

4. Present research orally

Students will be able to present the research orally to an audience of peers in either a paper or poster format.

Measurement: Presentation assignment.

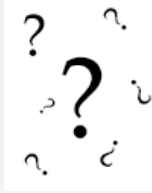
5. Critically evaluate published research

Students will be able to critically evaluate the quality of published research.

Measurement: Writing assignment.

Materials

Item	Price (new)	Price (used)
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	Research Methods in Psychology 3E <i>Required</i> by Beth Morling
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Grading Scale

Grades	Percent
A	93%
A-	90%
B+	87%
B	83%
B-	80%
C+	77%
C	73%
C-	70%
D+	67%
D	63%
D-	60%
E	0%

Grading Policy

Experiment Write-ups: To receive full credit, assignments are due on the dates indicated. Failure to submit the assignment by the deadline will result in a lower grade; one full letter grade if within 3 days. If submitted > 3 days late the maximum grade obtainable will be a C-.

Research Evaluations: these are completed in class. You must attend in order to earn the points. If you have a viable excuse (e.g. illness, sports team) you must let me know ahead of time.

Illness: If you become ill and are unable to come to class please contact other students to find out what you missed. If you become ill and do not think you can make a scheduled exam please let me know ASAP. Similarly, if you anticipate being unable to make any assignment deadlines due to illness please contact me ASAP. A note from your physician is always helpful.

Final Grade: Please note that an overall percentage of 92.9999% (as you see it in Learning Suite) is still an A- and will not be rounded up. Please do not ask me to arbitrarily round up your grade to the next higher grade. Also, please know that grades are based on total points so you may be several points from the next higher grade even if the percentage looks like you are very close. I have included extra credit which should help you even-out a lower than anticipated exam score.

Attendance Policy

I will not be taking attendance. However, I guarantee that you will do better (e.g. learn more) if you attend all class periods, prepare ahead of time, and take notes. Finally, please note that you **must** attend class for the Research Evaluations as well as your oral presentation.

Classroom Procedures

I will try my best to teach you important information related to this course. However, I will also require your assistance in this regard in that I will expect you

to assist me in creating a positive and distraction free learning environment. Please, I will not allow texting, e-mailing, tweeting, surfing the web, blogging, checking out Facebook, listening to music, making phone calls, or any other activity that might distract others (or you) during class. Finally, I will do my best to stick to the outline in this syllabus but I will make changes as necessary, perhaps without written notice, if I think it is in the best interest of the class as a whole. For example, if we need extra (or less) time on a given topic I will adjust the lecture schedule accordingly. Thus, don't plan on scheduling a vacation on a particular class day and be upset if we talk about something that was scheduled for the next class; it is always best to attend all classes.

Study Habits

You will do much better if you complete the readings prior to coming to class. Also, taking notes, especially on concepts that you do not understand well, is a great idea. Please ask questions. In regards to studying, it really is true that you need much more time outside of class going over the information and that you cannot master the information by simply coming to class.

Assignments

Assignment Descriptions

Research Eval #1

Due: Monday, May 14 at 11:59 pm

In class short essay assignment regarding two research paper press releases.

Questions are the following:

1. List the variable(s) in this study (IVs and DVs). (1 point)
2. What type of claim does this study make? How do you know this? (2 points)
3. What type(s) of validity are mentioned in the press release? How do you know this? (2 points)
4. Does this study meet the requirements for establishing causality? Why or why not? (3 points)

Exam #1 [Chps. 1-5, stats, APA style, class]

Due: Tuesday, May 15 at 8:00 pm

Exam #1 will cover the assigned chapters and topics as well as information discussed in class and lectures. The format of this exam will be multiple-choice

Experiment #1 Write Up

Due: Saturday, May 19 at 11:59 pm

Purpose: An empirical research (experiment) article is the most common publication in psychological science. The purpose of this research project is to provide you with firsthand experience in gathering experimental data, analyzing the results, and then effectively communicating what was found and what it means through writing an empirical research article.

Instructions: You are to provide a logically organized, well-written empirical research article that contains a title page, abstract, introduction, method, results, discussion, and references sections. Your textbook gives an example of a manuscript and discusses the order and format of each section to be included. For specifics regarding APA format please consult the APA publication manual Sixth Edition or access this information via <http://owl.english.purdue.edu/owl/resource/560/01/> you may also access your textbook's website for APA style information

Briefly:

Title: states the experimental variables used (or relationship examined) and results.

Abstract: concisely states what was done to whom and summarizes the most important results.

Introduction: summarizes, evaluates and synthesizes research evidence to support your specific hypothesis.

Method: describes the participants, measures, procedure and research design and analysis used in your study and should be clear enough that the reader could replicate your study from reading it. You must use either an experimental design or a factorial design where at least one of the variables is directly manipulated. Although we cover other designs in this class, all research designs are based on understanding the elements of an experimental design. Not directly manipulating at least one variable will lead to a 0 on the method section.

Results: includes the descriptive statistics and provides the results of the appropriate statistical analyses used to test the hypothesis.

Discussion: explains the theoretical rationale for the findings, the main strengths and limitations of the study, and its implications for future research.

References: this section (also in APA format) lists all of the reference used in the article.

Length: The introduction section will usually be approximately 1.5-2 pages. The entire paper must be Times New Roman 12 pt. font, double-spaced, with one inch margins per APA format. There is no specific length requirement for the other sections.

Format: Papers should comply with APA format throughout including title page, abstract, headers, page numbers, margins, tables and figures, in-text citations and references. A minimum of 5 references is required for the Write-Up, although you will be evaluated more on how you use research to support points than the number of sources you use.

Please see the rubric in the content section that includes each section that must be included and that you may use as a checklist.

Proposal for Experiment #2

Due: Monday, May 21 at 11:59 pm

Please upload a brief description of the experiment you will carry out. Please remember, as detailed on this website, that you must manipulate at least one variable.

In the proposal please include:

IVs and DVs

Method

at least a general idea does not have to be detailed.

For example, both “groups will be asked to rate attractiveness of pictures presented to them while receiving electric shocks”

BTW if it includes electric shocks I will veto the idea!

Please detail if you are doing this alone or in a group. Include the names of all of the people in the group

- I need this information so we can schedule in-class labs

Research Eval #2

Due: Friday, May 25 at 11:59 pm

In class short essay assignment regarding two research paper press releases.

Questions are the following:

1. List the variable(s) in this study (IVs and DVs). (1 point)
2. Was this study an experiment or a correlational study? How do you know this? (2 points)
3. Answer *either* 3a or 3b (not both). (2 points)
 - 3a. If the study is an experiment, what type of experimental design was employed here? Why did the experimenters choose this design?
 - 3b. If the study was correlational, list any covariates included in the study. Why were they included?
4. Does this study meet the requirements for establishing causality? Why or why not? (3 points)

Exam #2 [Chps. 10-13, class]

Due: Wednesday, May 30 at 8:00 pm

Exam #2 will cover the assigned chapters and topics as well as information discussed in class and lectures. The format of this exam will be multiple-choice

Revision of Exp #1

Due: Monday, Jun 04 at 11:59 pm

Revise and Resubmit

You have the opportunity to revise your experiment #1 write up. Please do the following:

Submit a revision that includes "track changes" in Microsoft Word that compares your original submission with the revision. In that way the reviewers can see where you clarified, revised, re-analyzed, etc. your manuscript. Use the Compare documents in the track changes area of Microsoft Word. Upload this revised document by the due date in order to improve your original grade.

Here is a link that explains how to use Track Changes

<https://support.office.com/en-us/article/Compare-and-merge-two-versions-of-a-document-f5059749-a797-4db7-a8fb-b3b27eb8b87e>

After you are finished upload the revised document with the changes marked in it to Learning Suite in the assignment section entitled: Revision of Exp#1

Good Luck!

Research Eval #3

Due: Friday, Jun 08 at 11:59 pm

In class short essay assignment regarding two research paper press releases.

Questions are the following:

1. List the variable(s) in this study (IVs and DVs). (1 point)
2. Was this study an experiment or a correlational study? How do you know this? (2 points)
3. Answer *either* 3a or 3b (not both). (2 points)
 - 3a. If the study is an experiment, what type of experimental design was employed here? Why did the experimenters choose this design?
 - 3b. If the study was correlational, list any covariates included in the study. Why were they included?
4. Does this study meet the requirements for establishing causality? Why or why not? (3 points)

Exam #3 [Chps. 6-9, 14, class]

Due: Tuesday, Jun 12 at 8:00 pm

Exam #3 will cover the assigned chapters and topics as well as information discussed in class and lectures. The format of this exam will be multiple-choice

Oral Presentation

Due: Monday, Jun 18 at 12:59 am

At the end of the semester each student will give an oral presentation on experiment #2. The format for the presentation is similar to what is typically done at scientific meetings.

The presentations are done in class at towards the end of the semester-see schedule.

BYU Research Participation SONA

Due: Monday, Jun 18 at 11:59 pm

Participate in ongoing research projects at BYU through the SONA research center during the semester in which our class meets. You may not use SONA credits from prior semesters. You may not use credits used for other courses. You earn "credits" for participation in these studies based on the amount of time you are involved in the studies. In order to receive the 10 points possible, you must earn at least 12 credits. There will be no E.C. if you earn less than 12 credits (no partial extra credit for less than 12 credits).

You may access/sign up for various studies at:

<http://byu.sona-systems.com/Default.aspx?ReturnUrl=%2f>

It will be up to you to make sure that I receive some type of confirmation from the researcher(s) that you have earned credits. You **must** upload the SONA output showing the credits you earned for this class. The easiest way to do this is to log into SONA and take a "snapshot" of the page that confirms your participation and save it as a .jpg or .png or even .pdf file and upload this into Learning Suite.

If you would prefer not to participate in research I will gladly provide a different assignment for you to obtain the same amount of extra credit

Experiment #2 Write Up

Due: Monday, Jun 18 at 11:59 pm

Purpose: An empirical research (experiment) article is the most common publication in psychological science. The purpose of this research project is to provide you with firsthand experience in gathering experimental data, analyzing the results, and then effectively communicating what was found and what it means through writing an empirical research article.

Instructions: You are to provide a logically organized, well-written empirical research article that contains a title page, abstract, introduction, method, results, discussion, and references sections. Your textbook gives an example of a manuscript and discusses the order and format of each section to be included. Briefly (for specifics regarding APA format please consult the APA publication manual or access this information via <http://owl.english.purdue.edu/owl/resource/560/01/>

Title: states the experimental variables used (or relationship examined) and results.

Abstract: concisely states what was done to whom and summarizes the most important results.

Introduction: summarizes, evaluates and synthesizes research evidence to support your specific hypothesis.

Method: describes the participants, measures, procedure and research design and analysis used in your study and should be clear enough that the reader could replicate your study from reading it. You must use either an experimental design or a factorial design where at least one of the variables is directly manipulated. Although we cover other designs in this class, all research designs are based on understanding the elements of an experimental design. Not directly manipulating at least one variable will lead to a 0 on the method section.

Results: includes the descriptive statistics and provides the results of the appropriate statistical analyses used to test the hypothesis.

Discussion: explains the theoretical rationale for the findings, the main strengths and limitations of the study, and its implications for future research.

References: this section (also in APA format) lists all of the reference used in the article.

Length: The introduction section will usually be approximately 1.5-2 pages. The entire paper must be Times New Roman 12 pt. font, double-spaced, with one inch margins per APA format. There is no specific length requirement for the other sections as long as they adhere to the criteria on the rubric.

Format: Papers should comply with APA format throughout including title page, abstract, headers, page numbers, margins, tables and figures, in-text citations and references. A minimum of 5 references is required for this write-up, although you will be evaluated more on how you use research to support points than the number of sources you use.

These papers will be formatted in APA style and written exactly like the scientific research journal articles that you critique.

IRB Human Subjects in Research Training

Due: Monday, Jun 18 at 11:59 pm

Go to this website
<https://orca.byu.edu/IRB/irbtutorial.php>

Once you are finished you must upload a copy of the certificate into LearningSuite. You can save the certificate as a pdf or perhaps take a screenshot.

Alternative to BYU research participation

Due: Monday, Jun 18 at 11:59 pm

If you prefer not to participate in a SONA research study you may review a book chapter or empirical article of your choosing. You may not use one of the critiques you have already turned in. This will be a two-page APA formatted paper and similar to the critiques you have already completed. Please let me know ahead of time what the article/book chapter is so that I can approve it.

Course Rating

Due: Monday, Jun 18 at 11:59 pm

You may receive Extra Credit by completing the course evaluation at the end of the semester. I appreciate constructive criticism in order to assist me in improving this class. In order for me to know that you have completed this task you must "un-block" your ID/name when you complete this online. This will NOT allow me to tie your name to your evaluation, it will only allow the system to confirm that you have completed an evaluation. I then receive a list of names of those that have completed evaluations.

Final Exam (Comprehensive)

Due: Monday, Jun 18 at 11:59 pm

Final exam is comprehensive

University Policies

Honor Code

In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing

grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and every instructor's expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

Preventing Sexual Misconduct

In accordance with Title IX of the Education Amendments of 1972, Brigham Young University prohibits unlawful sex discrimination against any participant in its education programs or activities. The university also prohibits sexual harassment-including sexual violence-committed by or against students, university employees, and visitors to campus. As outlined in university policy, sexual harassment, dating violence, domestic violence, sexual assault, and stalking are considered forms of "Sexual Misconduct" prohibited by the university.

University policy requires all university employees in a teaching, managerial, or supervisory role to report all incidents of Sexual Misconduct that come to their attention in any way, including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Incidents of Sexual Misconduct should be reported to the Title IX Coordinator at t9coordinator@byu.edu or (801) 422-8692. Reports may also be submitted through EthicsPoint at <https://titleix.byu.edu/report> or 1-888-238-1062 (24-hours a day).

BYU offers confidential resources for those affected by Sexual Misconduct, including the university's Victim Advocate, as well as a number of non-confidential resources and services that may be helpful. Additional information about Title IX, the university's Sexual Misconduct Policy, reporting requirements, and resources can be found at <http://titleix.byu.edu> or by contacting the university's Title IX Coordinator.

Student Disability

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability which may impair your ability to complete this course successfully, please contact the University Accessibility Center (UAC), 2170 WSC or 422-2767. Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. The UAC can also assess students for learning, attention, and emotional concerns. Services are coordinated with the student and instructor by the UAC. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the Equal Employment Office at 422-5895, D-285 ASB.

Schedule

Date	Topic	Reading	Assignments & Exams
W May 02 Wednesday	Introduction to the syllabus and discussion of assignments.	Syllabus & Introduction to course	
	Overview of Psychological Research	Chapter 1	
	In Class Experiment #1	Statistics Review- Descriptives (p. 441-461)	
		Statistics Review- Inference (p. 463-486)	

F May 04 Friday	Sources of Information Discussion of the Experiment #1 and the Write up Where to find articles Exploring the Literature of Psychology	Chapter 2 Reporting Results - APA style (p. 487-521)
M May 07 Monday	Three claims, Four validities, interrogation tools for consumers of research	Chapter 3
W May 09 Wednesday	Ethical Guidelines for Psychology Research Practice for Research eval#1	Chapter 4
F May 11 Friday	Identifying Good Measurement Let's talk more about Write-up #1	Chapter 5
M May 14	Research eval	Research Eval #1

Monday	Test Review for Exam #1		The Research eval is like a mini-exam completed in class. Not in groups
			Exam #1 [Chps. 1-5, stats, APA style, class] Opens
T May 15 Tuesday			Exam #1 [Chps. 1-5, stats, APA style, class] Closes
W May 16 Wednesday	Introduction to simple experiments	Chapter 10	
F May 18 Friday	More on Experiments: confounding, obscuring variables	Chapter 11	
Sa May 19 Saturday			Experiment #1 Write Up
M May 21 Monday	Experiments with > 1 Independent variable	Chapter 12	Proposal for Experiment #2
W May 23 Wednesday	Quasi-Experiments and Small-N Designs	Chapter 13	
F May 25 Friday	Research eval		Research Eval #2
	Test Review for Exam #2		

M May 28 Monday	Memorial Day		
T May 29 Tuesday			Exam #2 [Chps. 10-13, class] Opens
W May 30 Wednesday	Surveys and Observations	Chapter 6 Chapter 7 Sampling: estimating freq of behaviors	Exam #2 [Chps. 10-13, class] Closes
F Jun 01 Friday	Bivariate Correlational Research	Chapter 8	
M Jun 04 Monday	Multivariate Correlational Research	Chapter 9	Revision of Exp #1
W Jun 06 Wednesday	Replicability, Generalization, and the "Real World"	Chapter 14 Presenting Results (Posters, Talks) (p. 522-525) How to give an oral presentation	
F Jun 08 Friday	Research eval		Research Eval #3
	Test Review Exam #3		
M Jun 11 Monday	TBD		Exam #3 [Chps. 6-9, 14, class] Opens

T Jun 12 Tuesday			Exam #3 [Chps. 6-9, 14, class] Closes
W Jun 13 Wednesday	Oral Presentations		
F Jun 15 Friday	Oral Presentations		
M Jun 18 Monday	Review for Final exam Last day of class All assignments due today	Note: All extra credit due today!!! Note: Experiment write-up #2 due today by 11:59PM!!!	Final Exam (Comprehensive) Oral Presentation Experiment #2 Write Up Course Rating BYU Research Participation SONA IRB Human Subjects in Research Training Alternative to BYU research participation
T Jun 19 Tuesday	Spring Exam Preparation (06/19/2018 - 06/19/2018)		
W Jun 20 Wednesday	First Day of Spring Final Exams (06/20/2018 - 06/21/2018)		Final Exam in class. Wednesday June 20 11:00AM-12:50PM