PSYC 217: Lab Research Project Syllabus

Contents

Overview	
Lab Summary and Attendance Policy	
LAB MEETING 1 – RESEARCH DESIGN:	
LAB MEETING 2 – PROPOSAL PRESENTATION:	
LAB MEETING 3 – DATA COLLECTION:	
LAB MEETING 4 – DATA SUMMARY:	
LAB MEETING 5 – WRITING AN APA STYLE RESEARCH REPORT:3	
On Teamwork3	
Ethical Considerations4	
Communicating your Results	
Poster Session (10%):5	
Individual Research Report (25%):5	
Format:5	
Submission:6	
Grading:6	
Psyc 217 APA Style Lab Report Grading Criteria7	
Optional Research Project Pre-registration8	

Overview

The purpose of this project is to give you—and everyone who takes PSYC 217—an opportunity to apply what you are learning in class to a real research project. You will work in a team to generate and test a hypothesis about human behaviour, and you will report these results in professional written and poster formats. This project has been designed to incorporate as many elements as possible of the process in which psychological scientists engage to gain insight into human behaviour.

This document serves as a Lab Syllabus, common across all sections of this course. If you find any information in this document that conflicts with something your section instructor has said or included in their syllabus, please ask your instructor for clarification as soon as possible.

Lab Summary and Attendance Policy

You will receive guidance from your Teaching Fellow at each stage of the process. Lab Meetings, led by a Teaching Fellow, will take place during class time, but in a smaller room, **five times throughout the course (see the course schedule in your section's syllabus for dates)**.

Attendance at all Lab Meetings and the Poster Session (**last Friday of the term, 2:30-4pm**) is required. **You will lose 5% of your course grade for each Lab meeting that you miss** (e.g., if you miss 2 of the meetings, you will lose 10% of your course grade, simply for not showing up). **Students who are more than 15 minutes late for lab will be considered absent. Absences longer than 15 minutes must use the Request for the Excused Absence form (see below).**

If you are unable to attend any lab meeting or the poster session, you must complete the **Request For Excused Absence Form**, available on Canvas or <u>directly here</u>, and send documentation to your instructor, Dr. Benjamin Cheung (<u>bycheung@psych.ubc.ca</u>). This form must be submitted at <u>least 7 days</u> before the session to be missed. *In case of emergency*, the form must be submitted within 2 days of missing the event (*or as soon as possible*). If the 217 course coordinator approves your documentation for missing a Lab, you will still be responsible for communicating with and contributing to your team but you will not lose points for missing lab. If your documentation is approved for missing the poster session, typically you will be expected to schedule a meeting with your Teaching Fellow or Instructor and orally present your poster on your own. You will then receive your group's grade for the poster. *An unexcused absence from the poster session will result in a loss of 10% of your course grade.*

LAB MEETING 1 – RESEARCH DESIGN: You will meet with your team in your lab break-out room to brainstorm a research question and design a brief, simple, <u>minimal risk</u> **experiment** to address the question. The experiment must not require more than 5 minutes of each participant's time. Your Teaching Fellow will be present to assist and guide you. Come to the meeting prepared with some ideas so you can maximize your time together. You will be able to start posting ideas in advance on Canvas as soon as teams are established. *See Cuttler's guide, Chapter 1, for further guidance and tips, as well as Cozby & Rawn textbook Appendix A for ideas.*

LAB MEETING 2 – PROPOSAL PRESENTATION: Your team will give a 5-minute presentation of your proposed research question and design. During this presentation you should: i) state your research question and why it is interesting, ii) clearly describe the independent variable and how it will be manipulated (2 conditions only), iii) clearly describe the dependent variable and how it will be measured, iv) discuss any controls you plan to implement, v) state your hypothesis. Each presentation will typically be followed by a brief discussion period where your classmates and Teaching Fellow will ask questions and provide suggestions for improving your study design. Failing to present a proposal will result in all team members receiving a 5% deduction. Deductions may also apply in cases where there is clear evidence a team member has not contributed to this proposal (see the course instructor). *See Cuttler's guide, Chapter 2, for further guidance and tips.*

Option to Pre-Register your Study. Predict the results of your experiment in advance and make them public! Once you've finalized your research methods by addressing your classmates' and TF's feedback

and, you can join the pre-registration movement **prior** to collecting data in Lab Meeting 3. See the end of this document for an explanation of the importance of pre-registration and instructions on how to pre-register your predictions at AsPredicted.org.

LAB MEETING 3 – DATA COLLECTION: You will collect data for your experiment using your classmates as participants. Your team must arrive to this meeting with all of the materials needed to conduct your experiment, including consent forms for your participants. Use the template Consent Form available for download on Canvas. This meeting is the primary (and required) opportunity to collect data.

Your team may also opt to collect data (along with other teams across all sections) on the Bonus Data Collection day (BDCD). Collecting data on BDCD is optional, but will increase your sample size, impress your TF, and, importantly, make you eligible for the prestigious Best Poster Award!! To participate in BDCD, at least 3 members of your team must present. The time and location of BDCD will be posted on Canvas.

Collecting data outside these two meeting times and/or with individuals other than your 217 classmates and Teaching Fellows is not covered by our ethics approval certificate (H13-01648) and will result in a major deduction from your lab component grade. While some team members are collecting data, you are invited to participate in all other teams' studies. See Cuttler's guide, Chapter 3, for further guidance and tips.

LAB MEETING 4 – DATA SUMMARY: Your TF will help you learn how to meaningfully summarize your data, including calculating descriptive statistics and creating graphs using Microsoft Excel. Come prepared with your raw data and a plan for summarizing it that you can discuss with your TF. *See Cuttler's guide, Chapter 4, for further guidance and tips, and Appendix 2 for examples.*

LAB MEETING 5 – WRITING AN APA STYLE RESEARCH REPORT: Your TF will help you learn how to write an APA style research report. You may wish to come prepared with a rough draft of your paper as well as specific questions and challenges you are having with its preparation. *See Cuttler's guide, Chapter 5, as well as Cozby & Rawn textbook Appendix A for further guidance and tips.*

On Teamwork

The vast majority of research conducted in psychology is collaborative. Reflecting this trend, you will work closely in teams of 5-6 on this project. Teams will be assigned immediately after the add/drop period. We encourage you to **work together in the spirit of collaboration**. We also know that **team work can sometimes be challenging.** To help you achieve excellence in your projects, each team will have a **private discussion thread on Canvas** to collaborate with each other throughout the term. Using this thread provides a permanent record of your team collaborations, and might be helpful if a team dispute arises. You are always welcome to **seek your instructor and/or TFs out for help and advice** on your team dynamics. If your team is having great challenges, there is a form on Canvas (or available directly here) that you can submit a **formal request for mediation**. In the past, such mediation has

typically led to positive team progress. In extreme cases of non-participation, the group poster grade may be decreased for an individual student.

Ethical Considerations

This class project has received ethical clearance by UBC's Behavioural Research Ethics Board (BREB). All Research Projects must adhere to Minimal Risk guidelines in terms of topic, methods, and operational definitions. It is our responsibility on the teaching team and as classmates to interpret these guidelines conservatively, so that this class project does not harm a vulnerable classmate. Please ask your course instructor if there is any ambiguity here whatsoever.

All students must be familiar with the Tri-Council Policy Statement, which is a document outlining various ethical considerations and the obligations of researchers conducting research with human participants. Because you'll be using your fellow classmates as participants in your study, you need to complete and pass the TCPS2 ethics tutorial. The tutorial takes about 2 hours to complete and can be found at https://tcps2core.ca/welcome. After successfully completing the tutorial you will receive a certificate of completion which should be saved as a PDF and submitted to Canvas/your TF. **Students who submit their certificate of completion will receive 1% toward their course grade (consult your Section's syllabus for the specific deadline).** Students who do not submit a certificate by the start of Lab 3 will not be permitted to experiment on classmates, will serve only as participants for others' research, and may incur a deduction on their participation grade.

Communicating your Results

After conducting research and generating conclusions, psychological scientists (like all scholars) need to communicate their methods and findings to the scientific community. For your research projects, we consider our class as well as all sections of Psyc 217 as our common scientific community. You will be asked to communicate your research findings in written form (one APA Style Report per person), and in poster form (one per team) to be presented at the *Annual Psychology 217 Research Methods Poster Session*.



Poster Session (10%): AFTER LAST CLASS, 2-3:30 PM, West Swing Space (SWNG) 121. Approximately All 217-921 students and teaching fellows will meet to share and learn about everyone's research projects. You will prepare, as a team, a poster that summarizes your research project's hypothesis, method, results, and conclusions. This kind of presentation is common at professional scientific conferences; all of us on the teaching team have presented our research at this kind of poster session. During the poster session, you will be asked to evaluate your peers' posters (from a different Teaching Fellow lab group). Your poster grade will be a combination of your Teaching Fellow's rating and the average of your peers' ratings. Each group member should be prepared to discuss their research project in detail, and answer any questions attendees (and evaluators) may have. More details about how to prepare for the poster and presentation, as well as how to evaluate others' posters will be provided later in the term. NOTE: IT IS A MANDATORY COURSE EVENT; MARK YOUR CALENDAR NOW.

Individual Research Report (25%): Due Tuesday of the last week of classes, 11:59pm

The most important step in the research communication process for researchers is to clearly document their research and the contribution it makes to understanding human behaviour in a written manuscript. These written manuscripts are then reviewed by their peers, and (hopefully!) published in a journal. This individual report is designed to give you experience with a part of this process.

Reports are to be prepared <u>independently</u>; each team member must prepare a report separately from other team members. Evidence of collaboration or co-writing the reports will result in major deductions from your lab component grade and in severe cases may result in a grade of zero on the lab component.

Format: Your report must be written using APA style and must include the following sections: Abstract, Introduction, Method, Results (including at least one graph), Discussion and References (at least 2). See Appendix A of your Cozby and Rawn text, the Publication Manual of the American Psychological Association (6th ed.), and Cuttler's guide (Chapter 5), for guidance in writing APA style reports. Reports must be between 5 and 7 double spaced 8.5 x 11 inch pages (approximately 1500-1700 words). This page limit does NOT include a cover page, references, graphs, tables or appendices. You must use 12 point Arial, Times New Roman, or Calibri font and margins must be set to 1 inch all around. Your paper should integrate into the introduction section at least 2 references to related empirical journal articles (e.g., to set up a foundation for your hypothesis). Articles can also be used in the discussion section to help put results into context.

Submission: **Reports are due on the Tuesday of the last week of classes by 11:59pm**. If you fail to do either submission by the deadline, your report will be considered late. You will lose 10% for each day the report is late. You do **not** need to submit a physical copy of your paper.

- 1. Convert your paper to a single .pdf file. Submit this .pdf on Canvas in the relevant Assignment by 11:59pm on the due date.
- Remove identifying information from the cover page, and convert your paper to a single .pdf file. Submit this anonymized .pdf on TurnItIn by 11:59pm on the due date. Go to <u>turnitin.com</u>, create an account (if you do not yet have one), enter your course ID and password, specific to your Teaching Fellow.

The content of both copies must match each other, with the exception of the identifying information. We will use TurnItIn to cross-check your paper with an enormous database of websites, past submissions, and published works. To learn more about TurnItIn and UBC's policies about it, see http://vpacademic.ubc.ca/academic-integrity/turnitin-at-ubc/.

Grading: The lab report is worth 25% of your grade, and marked using a rubric common across all sections. You will be graded on the following: Abstract and Introduction, Method, Results (including Figure), Discussion, proper use of APA format and writing style. Please see the next page for key components to include for each category. In addition to your TF and instructor, Lab 5, Cuttler Chapter 5, and Cozby & Rawn Appendix A are all helpful resources for preparing your paper.

Psyc 217 APA Style Lab Report Grading Criteria

1.	ABSTRACT AND INTRODUCTION
-	Abstract clearly summarizes the paper within the word limit (100-150 words)
-	Introduction flows from more general topic area to specific hypothesis
-	Clearly describes the relevant details for one past published research study.
-	Clearly describes the relevant details for a second past published research study.
-	Clear purpose for the study is discussed in relation to the past research and/or observed phenomenon
-	Clear description of hypothesis
2.	METHOD
-	Brief description of participant characteristics
-	Clear enough description of materials & procedures to permit replication
-	Complete description of how independent variable was manipulated
-	Complete description of how dependent variable was measured
-	Discussion of controls implemented
3.	RESULTS AND FIGURE
-	Clear explanation of how each variable was calculated
-	Appropriate descriptive statistic(s) clearly provided/described (e.g., mean and standard deviation for
	each group)
-	Graph is appropriate and features data relevant to hypothesis test
-	Data and labels on the graph are correct and are coloured/patterned uniquely from the rest of your
	group
4.	DISCUSSION
-	Clear and correct summary of results
-	Evaluation of result in context of hypothesis
-	Comparison or connection to research findings or theory (typically those from the introduction)
-	Discuss one limitation to the study's internal validity
-	Discuss one limitation to the study's external validity
-	Discuss and justify one concrete idea for future research (e.g., address a limitation, extend the theory)
-	Discuss one meaningful contribution and/or implication of the study (e.g., tied to original purpose)
5.	WRITING STYLE AND APA FORMAT
-	Written clearly, concisely, and grammatically
-	Proofread: No typos or spelling errors
-	Content organized using APA style (IMRD) paper structure and headings
-	Used APA style for citation and references

Optional Research Project Pre-registration

The Importance of Prediction in Evaluating Scientific Theory. Researchers often times make predictions about how the results of their experiment will turn out. They often derive these predictions from theories of human behavior. When a theory makes a correct prediction about an experiment, researchers can argue that the theory is supported, or strengthened.

For example, Theory A predicts that X will happen and that Y will not happen.

- If we observe X, then it appears that Theory A is supported (or correct)
- If we observe Y, then it appears that Theory A is refuted (or incorrect)

But, if we observe Y, researchers might argue that the theory is not refuted because some other superficial variable interfered. For example, researchers might argue that, "we would have observed X if we used a better measure," or that, "the testing environment was not correct to observe X." In this way, researchers can protect the theory by proposing superficial reasons why it failed to predict the results of an experiment.

There is another way to protect the theory. If we observe Y, researchers might argue that they actually predicted Y, and not X, all along. Thus, observing Y now supports rather than refutes the theory!! Outside observers don't often know what researchers actually predicted in advance, and we see in this example that predictions are an important way we evaluate scientific theory.

Pre-registration: Making our Predictions Public. The scenario described above is problematic because we need to know what researchers predicted in advance, but we usually don't have that information. Predictions were made by the researchers in private. The pre-registration movement proposes that all researchers <u>publicly predict</u> the results of an upcoming experiment.

Now we can know what researchers predicted in advance and how to evaluate the results of their experiments - awesome!!

AsPredicted.org: A Free Pre-registration Platform. In this class, we invite all of our student researchers to join in the pre-registration movement. To do this, all students can use the free online pre-registration platform at <u>https://AsPredicted.org</u>

To complete a pre-registration document, student researchers need only to answer <u>8 simple questions</u> about their upcoming experiment. These questions ask about the experiment's <u>hypothesis</u>, <u>independent</u> <u>and dependent variables</u>, <u>participant sample</u>, and <u>analytic approach</u>.

AsPredicted.org: How-to Guide. Below is a step-by-step guide to make your own pre-registration document. It's simple, quick, and helps us all do better science!

<u>Step 1</u>: Navigate to <u>https://AsPredicted.org</u> and click on the button labeled "**CREATE**"--note that you **DO NOT** need to create an account to use AsPredicted.

<u>Step 2</u>: Enter contact information for 1 or more student researchers. You will need to enter at least one valid email address to retrieve your pre-registration document.

<u>Step 3</u>: Answer questions about your experiment and your experimental predictions.

- 1. Data Collection. Choose "No, no data have been collected for this study yet"
- 2. Hypothesis. Here you can write a few sentences about the <u>Theory</u> that you are testing, and what <u>Hypothesis</u> or <u>Predictions</u> you are making about your experimental results.
- Dependent Variable. If participants will complete a standard survey/questionnaire, describe
 it. If observing people's behavior, describe the behavior and how you will quantify it.
- Conditions. This is your <u>independent</u> or <u>manipulated</u> variable. All research projects will consist of 2 conditions or levels of the independent variable. Describe the difference or differences between your conditions.
- *5. Analyses.* Usually student researchers will conduct **descriptive analyses**, but some may also conduct a Student *t*-test.
- 6. Outliers and Exclusions. Are there any reasons why you would not analyze a person's data? Usually, you can enter "N/A" for this item.
- 7. Sample Size. State the <u>number</u> of participants you wish to sample from. An acceptable answer for your research project may be: "As many participants as possible during the 2 in-class data collection opportunities"
- Other. Anything else you would like to pre-register? Describe anything unusual about your experiment that will help others know more about your <u>predictions</u> or your <u>experimental setup</u>. Usually, this item is left **blank**.
- 9. Name. Give your pre-registration document a title!
- 10. Finally. For record keeping purposes, please tell us the type of study. Choose "Class project or assignment"

<u>Step 4</u>: Select "**PREVIEW**" to see your full pre-registration, then click "**SUBMIT**" at the bottom of the preview page.

<u>Step 5</u>: Check your email for confirmation of your submission. Click on the link in the email, then click "APPROVE" at the bottom of the screen. That's it, you've pre-registered your study!