

Psyo 270
Introduction to Research Methods and Design
Winter Term 1
2024
MWF 8-8:50am

Instructor: Elena Nicoladis elena.nicoladis@ubc.ca (250) 807-8461
Office hour: Tuesdays 1-2pm in Art 322 or by appointment

Teaching assistant(s): see Canvas page for names, office hours, and contact information

Academic Calendar Entry

PSYO 270 (3) Introduction to Research Methods and Design: Introduction to the procedures and difficulties in the design and critical evaluation of research in experimental psychology. Various research designs and basic statistics. A required course of students majoring in Psychology; restricted to students majoring in Psychology. [3-0-0]

Prerequisite: All of PSYO 111, PSYO 121. Or all of PSYC 101, PSYC 102, or PSYC 100.

Required readings

Jhangiani, R. S., Chiang, I.-C. A., Cutler, C., & Leighton, D. C. (2019). Research Methods in Psychology (4th edition). This is a free, open-access textbook which can be viewed online or downloaded in a variety of formats. URL: <https://kpu.pressbooks.pub/psychmethods4e/>

1 Casasanto, D. (2009). Embodiment of abstract concepts: Good and bad in right- and left-handers. *Journal of Experimental Psychology: General*, 138(3), 351–367. <https://doi.org/10.1037/a0015854>

2 Casasanto, D. & Jasmin, K. (2010). Good and bad in the hands of politicians: Spontaneous gestures during positive and negative speech. *Plos One*, 5(7), e11805.

You will also read two research articles of your own choosing related to your project.

Course Overview, Content, and Objectives

This course is designed to introduce you to the scientific inquiry in psychology. You will complete replication studies illustrating key research designs, learn and practice concepts from lectures and course readings, and ultimately conduct your own research project.

Learning Objectives:

1. Demonstrating understanding of research methods and design in psychological science, including the concepts of research ethics, validity and reliability, measurement, single and multiple variable research techniques, survey design, and data analysis and interpretation.
2. Demonstrating understanding of how results from psychological studies are interpreted in

- popular media
3. Proposing a research idea (specification of a testable research idea, development of testable hypotheses).
 4. Development of a research study (choosing the appropriate research design to test specific hypotheses; ethical guidelines; data management).
 5. Analysis and interpretation of research results.
 6. Practicing data entry for analysis
 7. Professional conference-style presentation of research.
 8. Critical evaluation of research and everyday claims made about research.
 9. Demonstrating familiarity with scientific writing and reporting results in APA format.
 10. Demonstrating familiarity with ethical principles commonly accepted among Canadian psychologists
 11. Carrying out basic statistics appropriate for the research question(s)

Evaluation Criteria and Grading

This course is graded as a percentage, with the final grades corresponding to UBC conventions. The table below details the exact assignments, their weight, and the learning objectives targeted with each assignment.

Assignment	%	Due date	Learning objective
Reading quizzes for required readings (best 12 out of 16)	8%	7:50am the days listed below	1
Midterms (x 2; 15% each)	30%	Oct 16, Nov 20	1, 2, 8, 10
Final Exam	24%	TBA	1, 2, 8, 10
CORE-2022 Certificate of Completion	-†	September 27 at 7:50am	1, 10
Group project (GP): Data entry	2%	October 2 at 7:50am	6
Group project (GP): Abstract	6%	October 11 at 7:50am	1, 5
†Your project (YP): Planning	10%	October 28 at 7:50am	1, 3, 4, 10, 11
†Your project (YP): Method/results	5%	November 18 at 7:50am	1, 5, 9, 11
†Your project (YP): Abstract	10%	December 2 at 7:50am	1, 3, 9, 11
†Your project (YP): Presentation	5%	End of term (details to follow)	1, 3, 7, 10, 11

Up to 2% SONA bonus marks also available.

† Marks for “Your project” assignments will be zero if the CORE-2022 Certificate of Completion is not turned in.

Course Format

In order to address the learning objectives related to students’ assimilation of material about lifespan development, the format of the course is lecture. Students are expected to arrive having read any required reading(s) for the day and to engage actively with the lecture material. In order to address the learning objectives related to synthesis and application of the material, students will participate in class discussions.

Lecture schedule

Date	Slide #	Topic	Readings	Assignments
Sept. 4		Introduction		
Sept. 6	01	Does bilingualism confuse children?		
Sept. 9	02	Psychology as science	Chapter 1	RQ#1
Sept. 11	03	Research questions	Chapter 2	RQ#2
Sept. 13	04	Abstracts and introductions	1 pp. 351-353 2 first two pages	RQ#3
Sept. 16	05	Research ethics	Chapter 3	RQ#4
Sept. 18	06	Measurement	Chapter 4	RQ#5
Sept. 20	07	Method sections	1 Experiments 1-3 2 Materials and Methods	RQ#6
Sept. 23	08	Experiments	Chapter 5	RQ#7
Sept. 25		Guest lecture: Marjorie Mitchell		
Sept. 27		Guest lecture: Zak Draper		CORE-2022 Certificate of Completion
Sept. 30	NO CLASS: DAY FOR TR			
Oct. 2	11	Non-experimental research	Chapter 6	RQ#8; GP-Data entry
Oct. 4	12	Psychology in the news		
Oct. 7	13	Results and discussion sections; GP results	Finish 1 and 2	RQ#9
Oct. 9	14	Survey research	Chapter 7	RQ#10
Oct. 11	15	Midterm review		GP-Abstract
Oct. 14	NO CLASS: THANKSGIVING			
Oct. 16		Midterm #1		Midterm #1
Oct. 18	16	Graphs		
Oct. 21	17	Quasi-experiments	Chapter 8	RQ#11
Oct. 23	18	Factorial designs	Chapter 9	RQ#12
Oct. 25		In-class questions on YPs		
Oct. 28	19	Single-subject research	Chapter 10	RQ#13; YP-Plan
Oct. 30	20	Presenting research	Chapter 11	RQ#14
Nov. 1		Guest lecture: Rachel Hussey		
Nov. 4	22	Descriptive statistics	Chapter 12	RQ#15
Nov. 6	23	Inferential statistics	Chapter 13	RQ#16
Nov. 8		Guest lecture: Derrick Wirtz		
Nov. 11-15	NO CLASS: READING WEEK			
Nov. 18	25	Midterm review		YP-Method/results
Nov. 20		Midterm #2		Midterm #2

Nov. 22	26	Psychology in the news		
Nov. 25		YP: Discussion groups		
Nov. 27		YP: Discussion groups		
Nov. 29		TBA		
Dec. 2		Presentations		YP-Abstract
Dec. 4		Presentations		
Dec. 6		Presentations		

RQ = reading quiz; The chapters are from the textbook; 1 = Casasanto (2009); 2 = Casasanto & Jasmin (2010)

Assignments

Reading quizzes

Reading quizzes are meant to encourage you to keep up with the required reading and to test your comprehension of the main points. Questions will often be multiple-choice. Quizzes will usually have 5 questions (sometimes 4). Once you open the quiz, you will have 20 minutes to complete it. You may only open the quiz once. Sorry about the timer: there doesn't seem to be any way to turn it off. Just keep in mind that most students who have done their readings finish these quizzes in under 5 minutes. The quizzes will always close at **7:50am** the due date listed in the course schedule above. ***It is not possible to re-open or make up the quizzes for any reason.***

Midterm exams (marked on 30 points)

Midterm exams will be done on paper, in class. They will consist of approximately 40 multiple-choice questions (20 points) and two short-answer questions (10 points). Reading quizzes will provide representative questions for the multiple-choice questions. The exercises in the textbook might be good practice for the short-answer questions. The content of the second midterm will focus more on the second half of the material, although it is highly recommended that students revise the main points from the material from the first half for the second midterm. You have the 50-minute class period to complete the midterms.

It is not possible to make up a midterm. If you miss the first midterm for a valid reason, the weight of the first midterm will be transferred to the second midterm. If you miss the second midterm for a valid reason, the weight will be transferred to the final exam.

Final exam

The format of the final exam will be announced in class and shared on the Canvas site, well in advance of the exam itself. The content will be cumulative. If you miss the final exam for a valid reason, please schedule a make-up exam with the instructor as soon as possible.

CORE-2022 Certificate of Completion

In order to receive points toward your research project, you must complete the workshop on the Tricouncil Policy on ethics in research. Sign up and complete the workshop here:

<https://tcps2core.ca/welcome>

You will upload your CORE-2022 Certificate of Completion on the Canvas site (under Assignments). This is due by **September 23 at 7:50am**.

Group project

As a class, we will be trying to replicate the results of Casasanto and Jasmin (2010), only with talk show hosts. Each student will find at least one **publicly available** video segment of Oprah Winfrey and one of Stephen Colbert. Each student is responsible for entering four data points: Oprah talking about something positive, Oprah talking about something negative, Stephen talking about something positive, and Stephen talking about something negative. If possible, the speech will be accompanied by a one-handed gesture.

Data entry. Each student will enter their four data points here:

https://docs.google.com/spreadsheets/d/1F9tyYYGXPA18a0sYxdUDc5MoepG36d_tqkgTO8K74eU/edit?gid=0#gid=0

This is a Google sheet so you will have to ask permission to edit the document (click on the link to ask permission!). Please ask for permission well in advance of the due date for data entry (**October 2nd, 7:50am**). In the datasheet, you will be asked to enter your student ID (that's so we can credit you with data entry points!). Each of the four data points will be entered on a separate line, make sure to enter your student ID all four times!

Abstract. Each student will write an abstract about the results of the group project. The abstract should be no more than 250 words long. The results will be presented in class on **October 7th**. Your abstract should cover the motivation for the study, the methodology, the results, and the interpretation. Your abstract is due on the Canvas site by **October 11th at 7:50am**.

Your project (YP)

Remember that you will get a zero for all the assignments below if you do not upload your CORE-2022 Certificate of Completion on the Canvas site!

Your goal is to carry out a small research project of your own, using publicly available data. Ideally, your research idea will correspond to a design that you know how to carry out (i.e., either compare two groups/conditions with a t-test or perform a correlation between two variables). Please consult with the instructor and/or TAs early and often (as needed) to get feedback on whether your idea is appropriate for this assignment. You are welcome to work with at least one other student in the class; if so, you will receive individual marks for the planning assignment and the bibliography/method/results and the same marks for the abstract and the presentation (only one student needs to turn in the same-mark assignments).

Here are some ideas to get you started:

- Do people gesture more when they are excited vs. when they are calm?
- Are there indications of lying in verbal or nonverbal communication?
- Are there gender differences in how people present themselves on dating sites (e.g., pictures, wording, information included/excluded)?
- How do people tell the story of their lives? Does this change with age?
- Are trauma narratives fragmented?
- Compare how left- and right-wing journalists report on the same event. What do they include/exclude? Or what metaphors do they use?

- What kinds of metaphors do people use to talk about romantic relationships? (e.g., JOURNEY; see George Lakoff's work!)
- Are there differences in what is posted on bulletin boards in the Arts building and the Science building?
- Are restaurant reviews different for downtown restaurants vs. suburban restaurants?
- Do people tend to enter on the right side and exit on the left side of doorways at university buildings?

Planning. Canvas. Open once and you have as long as you want to fill it out before submitting it.

- What is your research idea?
- Provide the full citation information of two relevant articles that you will read as background material in APA format.
- What is the research question and/or hypotheses?
- Do you have any predictions? If yes, what are they? If not, why not?
- How are you operationalizing your key constructs?
- What are your variables? Are they dependent or independent?
- What is the source of your data? Are there any ethical considerations to take into account?
- How much data will you include? Provide a justification.
- Other. For example, are you working with someone else? How will the work be divided equitably?

Bibliography/method/results.

Summarize the main points of two relevant previous studies as the results relate to your project (approximately 250 words in total).

Write out your method section (participants, materials, procedure, coding). The length here could vary considerably depending on the project but will probably be about a page or two, double-spaced. Please note that longer does not necessarily mean better so choose what to include judiciously.

Write out a summary of your results. Include descriptive data (if relevant). Include inferential statistical results (if relevant). Consider including a graph or table of the most important results. The length here could vary considerably depending on the project but will probably be between one and four pages, double-spaced. Please note that longer does not necessarily mean better so choose what to include judiciously.

Each individual student will turn this in separately, even if working in pairs. Include all of these parts in a single document. Upload to the Canvas site by the due date:

Abstract. Students will write an abstract about the results of their project. The abstract should be no more than 300 words long. Your abstract should cover the motivation for the study (including citing the two previous studies you read), the methodology, the results, and the interpretation. The abstract is due on the Canvas site by **December 2 at 7:50am**. If students are working in pairs, make sure both students' names are entered: the same mark will be given.

Presentation. Each student will present to the class the motivation, methodology, results, and interpretation of their own project. More details about the presentation will be given in class and

on the Canvas site well in advance of the due date (most likely between December 2 to 6). Presentations will be marked for comprehensibility, coherence, and engaging style.

Grades

Percentage%	Letter Grade
90-100	A+
85-89	A
80-84	A-
76-79	B+
72-75	B
68-71	B-
64-67	C+
60-63	C
55-59	C-
50-54	D
0-49	F

Academic Integrity:

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. **Incidences of plagiarism or cheating usually result in a failing grade or mark of zero on the assignment or in the course.** Careful records are kept to monitor and prevent recidivism. A more detailed description of academic integrity, including the University's policies and procedures, may be found in the Academic Calendar at: <http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,54,111,0>

UBC Okanagan Disability Resource Centre:

The Disability Resource Centre ensures educational equity for students with disabilities and chronic medical conditions. If you are disabled, have an injury or illness, and require academic accommodations to meet the course objectives, please contact Earllene Roberts, the Diversity Advisor for the Disability Resource Centre located in the University Centre building (UNC 214).
UNC 214 250.807.9263

Email: earllene.roberts@ubc.ca

Web: www.students.ok.ubc.ca/drc

UBC Okanagan Equity and Inclusion Office:

UBC Okanagan is a place where every student, staff, and faculty member should be able to study and work in an environment that is free from discrimination and harassment. UBC prohibits discrimination and harassment on the basis of the following grounds: age, ancestry, colour, family status, marital status, physical or mental disability, place of origin, political belief, race, religion, sex, sexual orientation or unrelated criminal conviction. If you require assistance related

to an issue of equity, discrimination or harassment, or to get involved in human rights work on campus, please contact the Equity and Inclusion Office. **UNC 216** 250.807.9291

Email: equity.ubco@ubc.ca

Web: www.equity.ok.ubc.ca

Health & Wellness:

At UBC Okanagan health services to students are provided by Health and Wellness. Nurses, physicians and counsellors provide health care and counselling related to physical health, emotional/mental health and sexual/reproductive health concerns. As well, health promotion, education and research activities are provided to the campus community. If you require assistance with your health, please contact Health and Wellness for more information or to book an appointment.

UNC 337 250.807.9270

Email: healthwellness.okanagan@ubc.ca

Web: www.students.ok.ubc.ca/health-wellness

Student Learning Hub:

The Student Learning Hub (LIB 237) is your go-to resource for free math, science, writing, and language learning support. The Hub welcomes undergraduate students from all disciplines and year levels to access a range of supports that include tutoring in math, sciences, languages, and writing, as well as help with study skills and learning strategies. For more information, please visit the Hub's website (<https://students.ok.ubc.ca/student-learning-hub/>) or call 250.807.9185.

Office of the Ombudsperson for Students:

The Office of the Ombudsperson for Students offers independent, impartial, and confidential support to students in navigating UBC policies, processes, and resources, as well as guidance in resolving concerns related to fairness.

Email: ombuds.office@ubc.ca

Web: www.ombudsoffice.ubc.ca

SAFEWALK:

Don't want to walk alone at night? Not too sure how to get somewhere on campus? Call 250.807.8076

For more information, see: www.security.ok.ubc.ca

Sexual Violence Prevention and Response Office (SVPRO):

A safe and confidential place for UBC students, staff, and faculty who have experienced sexual violence regardless of when or where it took place. Just want to talk? We are here to listen and help you explore your options. We can help you find a safe place to stay, explain your reporting options (UBC or police), accompany you to the hospital, or support you with academic accommodations. You have the right to choose what happens next. We support your decision, whatever you decide.

Visit svpro.ok.ubc.ca or call 250.807.9640.

Independent Investigations Office (IIO):

If you or someone you know has experienced sexual assault or some other form of sexual misconduct by a UBC community member and you want the Independent Investigations Office (IIO) at UBC to investigate, please contact the IIO. Investigations are conducted in a trauma informed, confidential, and respectful manner in accordance with the principles of procedural fairness.

You can report your experience directly to the IIO via email: director.of.investigations@ubc.ca or by calling 604.827.2060 or online by visiting investigationsoffice.ubc.ca