



PSYCHOLOGY 218-004 & 005 Winter 2025

Analysis of Behavioural Data

Scheduled class periods: MWF 1-1:50 [004] / 2-2:50 [005]

ABOUT PSYC 218

This course will introduce you to the wonderful world of *data*. Information—often in the form of numbers—is all around us. This course will teach you tools for analyzing and interpreting these numbers to answer pressing questions like which of your friends you should recruit to your intramural basketball team, and whether contestants on *The Bachelorette* really are taller than the average guy.

This course takes place on the traditional, ancestral, and stolen territory of the x̱w̱məθḵw̱əy̱əm people, caretakers of this land for generations. Most of us, as settlers, owe them a debt of gratitude for the benefits we get from being here. Learn about UBC’s Indigenous Strategic Plan, and consider getting involved, at <https://isp.ubc.ca/>.

THIS IS AN IN-PERSON COURSE

We will meet in BUCH room A202. I expect you to attend class because this is where the active learning and discussion happens. If you cannot attend class, you can access the course slides online, attend office hours, and / or email your instructor for a recording of the class session. Please be aware that recordings may suffer unpredicted technical issues, and are not a complete substitute for contact with your instructional team and peers.

Should we be unable to meet in person (e.g., due to instructor illness), class will be moved to Zoom or your instructor will post a recording.

Course prerequisites: Psyc 217 + declared major in Psychology, Cognitive Systems, or Speech Sciences

Required Materials

1. Pagano, R. (2012). *Understanding Statistics in the Behavioral Sciences* (10th Edition). Available at the UBC bookstore as a hard copy, or an e-book to rent, or directly from the publisher (see [here](#)).
2. Cuttler, C. (2014). *A Student Guide to SPSS*. (3rd Edition). Available at the UBC bookstore as a hard copy, or an e-book to rent, or directly from the publisher (see [here](#)).
3. SPSS software: Free for UBC students. Click [here](#) and follow the instructions under “**Students”.
4. Top Hat account. Register at: <https://app.tophat.com/register/student/> with join code 354200; we’ll use it right away. Use your real name to register, and select UBC **Arts** (not just UBC), to get it for free.
5. Piazza account: Click [here](#) to sign up, or find it through Canvas.
6. Scientific calculator. You will need a basic scientific calculator (one with inverse and square root functions will be sufficient and should cost about \$15 or less) for exams.

YOUR INSTRUCTIONAL TEAM

Instructor:



Dr. Kristin Laurin
klaurin@psych.ubc.ca
Office hour: Fri 3pm

TAs:

Ni An
nian0602@psych.ubc.ca
Office hour: Thu 2pm



Coral Liu
corall01@mail.ubc.ca
Office hour: Mon 11am



Vasileia Karasavva (she/her)
vkarasavva@psych.ubc.ca
Office hour: Tues 1:30pm



Debbie Chen (she/her)
chenxi07@student.ubc.ca
Office hour: Wed 10am



COMMUNICATION WITH THE TEAM

Have a question about the course? If you checked the syllabus and Piazza (the class discussion board), and the answer is not there, you have three options:

- 1—Post it on Piazza! You’ll get an answer within 24 hours.
- 2—Come to office hours! You have five to pick from for an in-person conversation.
- 3—LAST RESORT: send an email—you may have to wait a week or so for a response since we’ll be focusing on monitoring Piazza and providing office hours.

Learning goals. After this course you should be able to:

Distinguish different ways of measuring variables and be able to compute different metrics of central tendency and variability	<i>What are ways we might measure the height of participants on Love is Blind, what is the “typical” contestant’s height, and as a group, how varied is their height?</i>
Understand the construction of graphs like frequency distributions, binomial distributions, and sampling distributions	
Understand what a normal distribution is, and how to use it to calculate the probability of ranges of outcomes.	<i>How likely is it that if we randomly select one North American person, they will be between 5’7” and 5’10”?</i>
Recognize graphs and be able to calculate linear relationships between two variables as well as use those linear relationships to predict values on either variable.	<i>Do taller people tend to earn more money than shorter people? (they do—but they also die younger.) How would we quantify that relationship? If we know a particular person’s height, what is our best guess about their income?</i>
Understand principles of probability, and how to calculate the probability of certain combinations of events.	<i>What is the probability that any given participant on Love is Blind is born in March and/or leaves the pods engaged?</i>
Formulate appropriate null and alternative hypotheses, and use inferential statistics to test them.	<i>Are participants on Love is Blind taller than the average North American? Are their incomes higher? How confident are we about our estimate for the average contestant’s height?</i>
Understand the concept of statistical power and its application to interpreting inferential statistics.	<i>My statistical test said I cannot conclude that participants on Love is Blind are taller than the average North American person! Could that result be false? How could that have happened, I thought numbers never lied!</i>

Learning assessments. To make sure you have achieved the learning goals we will use:

Assessment	Value	What is it?	When?
Participation	3 pts	Top Hat in-lecture questions. If you plan to miss more than 20% of lectures, you can provide evidence of your <u>consistent</u> and <u>valuable</u> participation on Piazza	Consistently throughout the term
Assignments (5)	25 pts	These will give you practical experience analyzing data	9am on due date
Midterm quizzes (3)	30 pts	NOT cumulative	During class time
Final exam	38 pts	Cumulative, emphasis on material after final quiz	Apr 12-27
REC	4 pts	Note that these are required points, not bonus points	Do them early!!

Quizzes and final will cover lecture *and* textbook; **you are responsible for all this material, whether or not we discuss it in class!**

- 1. Participation:** Every lecture will feature opportunities to test your learning through Top Hat questions. If you answer at least 80% of these questions across all lectures, you will earn the full 3%.
What if I have to miss a bunch of lectures? You can earn participation points by making *valuable* and *consistent* contributions to Piazza. Near the end of the term, I will send out your Top Hat participation points, and if you like, you'll have a chance to prove that you have been active Piazza all term.
- 2. Assignments:** These will give you practical experience analyzing and interpreting data using SPSS. In these assignments, you will analyze and draw conclusions about the class' data. Your TAs will post video tutorials to explain the relevant SPSS functions. You will complete the first assignment in class, with another classmate in an assigned pair (or you can opt out and complete it alone if you prefer).
What if I miss an assignment? In-class assignments will be available on Canvas once class is over, for those who missed class. In addition, you have TWO 1-Day-Late Passes. Use them both on 1 assignment, or one for each of 2 assignments. Once you've used your passes, 10% per day deductions will apply.
What if I need an accessibility accommodation for the in-class assignment(s)? Please talk to your instructor about this to work out an appropriate solution.
- 3. Midterm quizzes:** These will contain multiple choice questions and computation questions, and ideally take place during class. If we must hold them online, you will upload photos of your written work to Canvas following the exam; talk to the instructor if you need help with technology to do that.
What if I miss a quiz? Its points will be redistributed to future quizzes and the final, **no questions asked**.
- 4. Final exam:** The final exam is *cumulative*, with an emphasis on material from Chapters 13-15 of the textbook. You are required to be write the final exam at the scheduled time; if you have three or more final exams scheduled to start and finish within a 24-hour period, you may request to write the second exam on a different day. Make this request to me at least one month before the exam.
What if I miss the final? You or your caregiver must contact your Faculty's Advising office to apply for Academic Concession.
- 5. Research Experience Component:** Most students will choose to earn their REC by participating in psychology studies (worth 1% for each hour) through the Department of Psychology's Human Subject Pool (HSP) system. You can create an account, locate studies and sign up for them at <https://ubc-psych.sona-systems.com/>. If you prefer, you can earn these same extra credits by completing a library-writing project, in which you read and summarize a peer-reviewed research article. You can find out more about how you can earn extra credits at <https://psych.ubc.ca/hsp>. There you will find a detailed guide about how to participate in the HSP, how-to videos, and a list of frequently asked questions.
What if I don't do my full four hours / library assignments? **You will lose the points**. I urge you to sign up for and complete studies early in the term.

Additional notes

- Your grade for each exam and assignment will be posted on Canvas. The Department of Psychology reserves the right to scale grades in order to maintain equity among sections and conformity to departmental norms. Students should therefore note that an unofficial grade given by an instructor might be changed by the department. Grades are not official until they appear on a student's academic record. The Department of Psychology has adopted the following target grade distributions in 100- and 200-level courses, and reserves the right to adjust final grades in this course if the distribution deviates substantially from the target.

Class Performance	Mean	Standard deviation
Strong	72%	13%
Average	70%	13%
Weak	68%	13%

- If you wish to withdraw from this course without a record of it on your transcript, you must do so by Jan 17th.

- Similar to the broader UBC community, the Psychology Department—and this class—seeks to build a community where students feel included and are treated equitably. This class aims to be inclusive of gender identity, gender expression, sex, race, ethnicity, socioeconomic background, sexual orientation, political and religious affiliation, ability, health, and age (this is not an exhaustive list!). If controversial sensitive issues arise, respectful and productive discussion is encouraged, and students should feel safe to explore ideas without fear of being judged. Our goal is not to always agree, but rather to disagree without threatening or alienating. However, if a statement or behaviour is likely to offend others or make them feel alienated in any way, it should not be shared with the class (but can be discussed during office hours). If you ever feel offended, threatened, or alienated by anything that happens in class, please feel welcome to let a member of the instructional team know.

Statement on Academic Integrity

In the Department of Psychology, and with the UBC and scholarly communities at large, we share an understanding of the ethical ways in which knowledge is produced. A core practice of this shared value of academic integrity is that we acknowledge the contributions of others to our own work. It also means that we produce our own contributions that add to the scholarly conversation. We don't buy or copy papers or exams, or have someone else edit them. We also don't falsify data or sources, or hand in the same work in more than one course. Because it is so important that research be done ethically, we expect students to meet these expectations. Any instance of cheating or taking credit for someone else's work, whether intentionally or unintentionally, can and often will result in receiving at minimum grade of zero for the assignment, and these cases will be reported to the Department Head, and the Faculty of Arts Associate Dean, Academic. According to the University Act (section 61), the President of UBC has the right to impose harsher penalties including (but not limited to) a failing grade for the course, suspension from the University, cancellation of scholarships, or a notation added to the student's transcript. See the UBC Calendar entries on "[Academic Honesty](#)," "[Academic Misconduct](#)," and "[Disciplinary Measures](#)," and the [Student Declaration and Responsibility](#). See "[Tips for Avoiding Plagiarism](#)" from the Chapman Learning Commons, and bookmark the OWL website for how to use APA citation style.

WELLNESS RESOURCES

Below you will find a list of resources you may want to use if you are struggling in any way to manage your school responsibilities or the stresses of life in general.

Student Health Services:

<https://students.ubc.ca/health/student-health-service>

604-822-7011

Student health provides students with a variety of healthcare related services to help you maintain your health while studying. Access to doctors and registered nurses.

Counselling Services:

<https://students.ubc.ca/health/counselling-services>

Phone number: 604-822-3811

Counselling services offers a variety of resources to help you maintain your mental health while in school. You may see a counsellor on an individual basis, attend group counselling, or to document an illness if you require academic concession.

Centre for Accessibility (Access & Diversity):

<https://students.ubc.ca/about-student-services/centre-for-accessibility>

604-822-5844

CFA provides accommodations for students living with physical or mental disabilities.

BC Crisis Center:

<https://crisiscentre.bc.ca/>

Phone number: 604-872-3311

Non-profit, volunteer-driven organization that provides emotional support to youth, adults, and seniors in crisis in BC. Crisis line available 24/7.

Distress Line:

Phone number: 1-800-Suicide (784-2433)

If you are in distress or are worried about someone in distress who may hurt themselves, call 1-800-SUICIDE 24 hours a day to connect to a BC crisis line, without a wait or busy signal.

UBC Sexual Violence Prevention & Reporting Office

<https://svpro.ubc.ca/>

604-822-1588

A safe place for students, faculty, staff who have experienced sexual violence, regardless of where or when it took place. This includes any attempt or act of a sexual nature without consent. All gender identities, expressions and sexualities are welcome.

SASC

<https://www.ams.ubc.ca/student-services/sasc/>

604-822-2101

The AMS Sexual Assault Support Centre is here to educate, support, and empower people of all genders who have experienced sexual violence as well as their friends and family.

SpeakEasy:

<https://www.ams.ubc.ca/student-services/speakeasy/>

Phone number: 604-822-9246

A student run service that offers confidential support for students experiencing crisis. Also a good resource for additional information and referrals within the UBC community.

UBC Wellness Centre:

<https://students.ubc.ca/health/wellness-centre>

Phone number: 604-822-8450

Speak with other students about tips for managing stress, keeping healthy sleep and eating patterns, concerns about safe sex and more.

Mood Disorders Clinic UBC:

<http://ubc-mooddisorders.vch.ca/>

A psychiatric program designed specifically to treat individuals living with depression or bipolar disorder.

Health & Wellbeing:

<https://students.ubc.ca/health>

This website is a resource hub that provides students with information to help improve physical and mental wellbeing.

Mental Health Awareness Club:

<http://blogs.ubc.ca/ubcmhac/>

A club that offers opportunities to speak about mental health with others and strives to promote mental health awareness throughout the UBC community.

Pacific Spirit Community Health Centre:

3rd Floor, 2110 West 43rd Ave Vancouver B.C. V6M 2E1

Phone number: 604-267-3970

A free and confidential services for youth and young adults up to the age of 24. Services include Adult Counselling, access to an Addiction Physician - including usage of a methadone maintenance program - and a Drug Education Series.

AMS Food Bank:

<https://www.ams.ubc.ca/student-services/food-bank/>

If you are in a financial emergency AMS food bank can provide you with a food hamper. You are able to use the service up to 6 times each term.

UBC Psychology Clinic:

<https://clinic.psych.ubc.ca/>

Professional psychological services provided to the community, including assessment & treatment for children, adults & families by clinical psychology trainees.

The Kaleidoscope: <http://the-kaleidoscope.com/>

A confidential peer-run mental health support group that takes place on campus 2-3 times a week. You may attend the group if you are experiencing any kind of mental health related challenges, or if you're just feeling stressed about school in general.

COURSE SCHEDULE

Any changes to this schedule will be announced during lecture and on the course website.

Week	Date	In-class topic	Pagano reading		Learning Assessment? (Assignment or Quiz)	Homework? (due PRE-class)
1	Jan 6-10	Intro, measurement basics, frequency distributions	Ch. 1-3	M		
				W		Install SPSS
				F		Install SPSS!
2	Jan 13-17	Percentiles, central tendency, variability	Ch 4	M		Install SPSS!!
				W		Install SPSS!!!
				F		Qualtrics survey
3	Jan 20-24	z-scores	Ch 5	M		Install SPSS!!!!
				W		Install SPSS!!!!
				F	A1	Watch A1 tutorial
4	Jan 27-31	Correlation	Ch 6	M	Quiz 1	
				W		
				F		
5	Feb 3-7	Linear regression, sampling	Ch 7 & 8	M		
				W		
				F		
6	Feb 10-14	Probability	Ch 8	M	A2	Watch A2 tutorial
				W		
				F		
	Feb 17-21	Reading break				
7	Feb 24-28	Binomial distribution	Ch 9	M		
				W	Quiz 2	
				F		
8	Mar 3-7	Hypothesis testing, sign test, sampling distributions	Ch 10 & 12	M		
				W		
				F		
9	Mar 10-14	z-test, power		M	A3	Watch A3 tutorial
				W		
				F		
10	Mar 17-21	Single-sample <i>t</i> -test, effect size, confidence interval	Ch 13	M	Quiz 3	
				W		
				F		
11	Mar 24-28	Two-sample <i>t</i> -tests	Ch 14	M		
				W		
				F		
12	Mar 31- Apr 4	One-way ANOVA	Ch 15	M	A4	Watch A4 tutorial
				W		
				F		
13	April 7-8			M	(A5 due April 15)	

Final exam during exam period, Apr 12-27.