

Psychology 335: Gambling and Decision Making
University of British Columbia, Vancouver

Instructor:

The primary Instructor for this course is Dr. Luke Clark, Director of the Centre for Gambling Research at UBC, in the Department of Psychology. For office hours, Dr Clark will be available for brief discussions with students after each class, and on Fridays 1-2pm in his office (CIRS building on West Mall, 4th floor, room 4342B). My email is luke.clark@psych.ubc.ca.

We are fortunate to have some additional guest lecturers contributing to the course: Dr Gerald Thomas is the Director for Alcohol and Gambling Policy at the BC Ministry of Health, and he will contribute 3 classes on gambling policy, and Dr Terri-Lynn MacKay is a clinical psychologist at the UBC Counselling Service, who will give 2 classes on clinical aspects of addiction/problem gambling treatment.

Teaching Assistant:

The TA for this course is Brett Hathaway (email bretthathaway@psych.ubc.ca); Brett is a PhD student in the Neuroscience Graduate Program, studying the neurobiological mechanisms of risky decision making and the influence of reward-paired cues. His office hours will be Wednesdays, 3-4pm at Café Ami in the Centre for Brain Health (2215 Wesbrook Mall).

You may contact the TA or the Instructor in person or by email. In correspondence, please feel free to refer to me as 'Dr Clark' or 'Prof Clark'. Please be judicious in your use of email: if you have more than 2 questions, your best option is to visit in person, in office hours.

Timetable:

Lectures are on Mondays, Wednesdays, Fridays at 12 noon in Buchanan A 201.

Course description:

This course will study gambling behaviour as a lens for examining the psychology of decision-making and the brain mechanisms that support risky choice. Gambling is a ubiquitous form of entertainment that becomes harmful for a minority of people. In British Columbia, around three quarters of the population report past-year gambling, and BC receives over 2% of its total provincial revenue from gambling, which is higher than the revenue from alcohol and tobacco products combined. Approximately 3-4% of the population show some of the signs of problem gambling, but this subset are estimated to generate around a quarter of the gambling revenue in the province.

Two questions dominate the course. First, what does the existence and popularity of gambling tell us about human decision-making? Second, how does gambling become pathological for some people, and how should society respond to these harms? This multi-disciplinary course will combine approaches from cognitive psychology, neuroscience, and clinical psychology, with relevant work from economics and public health.

Online tools:

Course materials will be available via Canvas www.canvas.ubc.ca. Lecture slides will be uploaded to Canvas, typically the evening before class. I will use Canvas to share links to extra material discussed in class, and you should use Canvas to submit the materials for the Written Assignment (see below). I encourage the use of Discussion Threads in Canvas, as it is very often the case that many students share some confusion or misunderstandings about the same topics.

This class will make use of iClickers, for monitoring attendance and in-class polls. I will present at least one iClicker question per class – where possible in the middle section of the class -- in order to have a record of class attendance through the term. Note the 5% course grade from these iClicker data is only linked to your *participation* in the polls, not giving a correct answer. *Please register your iClicker in the Canvas site for this course* (for technical support on browser settings, see <https://lthub.ubc.ca/guides/canvas/clickers-for-canvas/>)

Note: if you need to send me a direct message, including any urgent correspondence about personal matters, please send me a direct email (to luke.clark@psych.ubc.ca using an email client like Outlook). Do not send the message within Canvas, as the reply functionality in Canvas is limited.

Learning Objectives (LOs):

By the end of this course, students will be able to:

- 1) demonstrate knowledge of concepts from the fields of decision-making, neuropsychology and addiction research that are relevant to understanding the psychology of gambling behaviour.
- 2) explain the assessment of gambling involvement, and the clinical status and diagnosis of problem gambling, as well as contemporary theories of problem gambling within an addictions framework.
- 3) consider the application of psychological research on gambling to informing public policy and government regulation of gambling ('responsible gambling').
- 4) evaluate primary literature in gambling research, including the design, key methods, and interpretation, as well as considering strengths and limitations of the research.
- 5) critically consider the media portrayal and public perceptions of gambling.
- 6) synthesize findings across disparate fields of research, in order to appreciate the interdisciplinary nature of gambling research.

Prerequisites:

Either (a) PSYC 100 or (b) all of PSYC 101, PSYC 102.

Evaluation:

- | | | |
|----------------------|-----|------------------------|
| • Attendance | 5% | (from iClicker data) |
| • Midterm exam | 30% | (assessing LO 1, 2, 4) |
| • Written assignment | 20% | (assessing LO 4, 5) |
| • Final exam | 45% | (assessing LO 1 – 6) |

The purpose of the classes is to cover core material on the lecture slides, which will include discussion of the Set Readings. Please review the *Lecture and Reading Schedule*, and note the date for which each Set Reading is due. On those dates, students should have read the paper prior to class, and be prepared to ask and answer questions regarding the Set Reading.

The Set Readings are not examinable beyond the level that they are discussed in class (i.e. the class content on the readings *is* examinable). The purpose of the Set Readings is three-fold: 1) to help you to prepare for class and extend your knowledge of material covered in class, ii) to introduce you to primary literature on gambling, which will in turn 3) equip you for the Written Assignment and preparing for the longer questions on the Final exam.

The Midterm will consist of multiple choice and short-answer questions, and will take place in the lecture theatre in place of a regular class. Short answer questions may involve drawing or labelling figures discussed in the classes. The Final Exam (2 hours) will be cumulative, with an emphasis on the second half of the course. The Final Exam will involve multiple choice questions, short answers and two longer questions (typically 2-3 handwritten sides each). An example longer question might be “How important is the form of gambling (e.g. poker, lotteries) in understanding the development of gambling problems?”. These questions do not have a right or wrong answer, and students are encouraged to adopt and argue a position. For longer questions, high marks will also be awarded for critical thinking and synthesis of concepts across the course. I recognize that many students are apprehensive about the longer questions, and we will dedicate time in class to exam strategy and essay skills in preparing for the final. Sample questions will be available for both exams.

Attendance:

5% of course grade is available for regular attendance in class, as monitored through iClicker questions that will be linked to Canvas. I will award 0.25% per class taught by me (LC), up to a maximum of 5%. If I failure to set an iClicker question in any class, students will automatically receive the credit for that class. I will not ask guest lecturers to set iClicker questions, but the guest lecture content is nevertheless examinable and will be particularly helpful for the longer questions. The Orientation class, revision classes and midterm are not eligible for attendance credit. This means that you need to attend 20 of the 26 ‘content’ classes taught by me to receive the full credit. This number is carefully chosen so that *students do not (and should not) email the instructor if they miss classes* through sickness, being late, etc. I will not reply to such emails.

Written assignment:

Students are asked to prepare a report (maximum length 5 pages; 12 point Times New Roman, double spaced, 1 inch margins) on a newspaper article that describes a published research paper on gambling. A significant part of this exercise lies in searching for, and identifying, an appropriate article. This is an important transferable skill. We will discuss article selection further in class.

Selection of articles:

- i) The newspaper article must cite the research paper, in a way that the research paper can be located in its published form (e.g. on PubMed or GoogleScholar). The research paper must have been published in a journal. Government reports, prevalence surveys, blogposts, are not acceptable.
- ii) The research paper should be an original article, not a review or opinion piece. This means that the original article must have generated some new experimental data.
- iii) The research paper should have been published since 2010.

- iv) Newspaper articles should have been published (online) in a reputable news outlet e.g. New York Times, BBC, CBC, Vancouver Sun, Washington Post, Wall Street Journal, Globe and Mail, The Guardian. The article should have been written by a journalist; please **do not** choose articles on science websites like medicalxpress.com and ScienceDaily.com, which simply paraphrase university press releases. Part of the purpose of this exercise is for students to evaluate the journalist's interpretation of the research.
- v) The newspaper article and research paper should be relevant to the content of the course: the psychology of gambling, decision-making, problem gambling, behavioural addictions. I suggest you begin searching for suitable articles by entering terms like 'gambling' 'psychology' 'research' in search engines on some of the news sites.

The written assignment is scheduled after the midterm exam (see dates in the Lecture and Reading Schedule). One lecture will give an overview of the objectives and requirements of the written assignment. The newspaper article and research paper should be uploaded (as pdfs) to Canvas by start of class on 29 Oct. The Instructor/TA will inform students of any ineligible articles by 1 Nov. Students are welcome to email the Instructor links to the articles ahead of the deadline to get provisional approval – if you do this, please take a copy (pdf or screenshot) of my reply and upload it with your article submission in Canvas. The deadline for the Report is start of class on Nov 14; Reports should be uploaded to Canvas.

The Report should describe the objectives and findings of the journal paper, including limitations and weaknesses (for a more detailed marking scheme, see below). High marks can be awarded for reports on flawed research. The report should describe the implications of the research for treatment, public policy, or gambling theory. Strong marks will be given for considering implications that are **not** discussed in the article or paper. The report should consider the accuracy of the media coverage (Does the news article 'dumb down' the findings? Does the journalist show evidence of an 'agenda'? How might reporting influence public understanding of gambling, for better or worse?). Strong marks will be awarded for the student's evaluation of the media portrayal of the research.

Some examples of appropriate newspaper articles:

<https://www.theguardian.com/education/2010/sep/27/gambling-brain-dysfunction-improbable-research>

on Shiv et al (2010) Investment Behavior and the Negative Side of Emotion. *Psychological Science*.

http://www.washingtonpost.com/national/health-science/sounds-of-slot-machines-can-manipulate-players-researchers-say/2013/07/06/bfbd34ec-e3f8-11e2-80eb-3145e2994a55_story.html

on Dixon et al (2013) The Impact of Sound in Modern Multiline Video Slot Machine Play. *Journal of Gambling Studies*; 10.1007/s10899-013-9391-8

(It is acceptable to choose these articles/papers for your own report, but be aware they are likely to be popular choices, and it may be easier to attain higher marks by identifying your own paper)

Here is an article that would **not** be approved, as there is no searchable publication linked to the story:

<http://www.theguardian.com/society/2014/feb/28/englands-poorest-spend-gambling-machines>

Marking: The written assignment will be given a mark out of 20, with marks allocated for the following:

- accurately and concisely describing the objectives of the original research article (4 points)
- accurately and concisely describing the design of the original research article, with awareness of limitations (4 points)
- accurately and concisely describing the findings of the original research article (4 points)
- consideration of how the research informs either treatment, gambling theory, or public policy (4 points)
- discussion of the accuracy and objectivity of the media coverage (4 points).

Course grading

In order to reduce grade inflation and maintain equity across multiple course sections, all psychology courses are required to comply with departmental norms regarding grade distributions. According to departmental norms, **the mean grade in a 300-level class is 70 for a good class, 68 for an average class, and 66 for a weak class, with a standard deviation of 13.** Scaling may be used in order to comply with these norms; grades may be scaled up or down as necessary by the professor or department. Grades are not official until they appear on a student's academic record. You will receive both a percent and a letter grade for this course. At UBC, your course percentage is converted according to the key below:

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

Remember, you are earning a degree at a highly reputable post-secondary institution. Therefore, criteria for success are high. The Faculty of Arts offers the following guidelines that broadly characterize the kind of work that is generally associated with the main grade ranges. These characteristics help to put the Psychology Department Grading Policies into context. Please note that adequate performance is in the C range, which is the typical class average.

A RANGE: *Exceptional Performance.* Strong evidence of original thinking; good organization in written work; capacity to analyze (i.e., break ideas down) and to synthesize (i.e., bring different ideas together in a coherent way); superior grasp of subject matter with sound critical evaluations; evidence of extensive knowledge base.

B RANGE: *Competent Performance.* Evidence of grasp of subject matter; some evidence of critical capacity and analytic ability; reasonable understanding of relevant issues; evidence of familiarity with the literature.

D-C RANGE: *Adequate Performance.* Understanding of the subject matter; ability to develop solutions to simple problems in the material; acceptable but uninspired work; not seriously faulty but lacking style and vigor.

F RANGE: *Inadequate Performance.* Little or no evidence of understanding of the subject matter; weakness in critical and analytical skills; limited or irrelevant use of the literature.

Course Policies:

Please mute your cell phones during class. Laptops are permitted but use of social media, Youtube etc during class is obviously discouraged.

Academic Misconduct:

Cheating, plagiarism, and other forms of academic misconduct are very serious concerns of the University, and the Department of Psychology has taken steps to alleviate them. Relevant to this course, the Department has implemented software that can reliably detect cheating on multiple-choice exams by analyzing the patterns of students' responses. Second, the Department subscribes to TurnItIn, a service designed to detect plagiarism. If a student has any questions as to whether or not their work is even a borderline case of plagiarism or academic misconduct, they are advised to consult the instructor.

In all cases of suspected academic misconduct, the parties involved will be pursued to the fullest extent dictated by the guidelines of the University. Strong evidence of cheating may result in a zero credit for the work in question. 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 a student's transcript.

Required readings:

There is no textbook for this course. All readings will be available for download from Canvas:

Blaszczynski, A., & Nower, L. (2002). A pathways model of problem and pathological gambling. *Addiction, 97*, 487–499. doi:10.1046/j.1360-0443.2002.00015.x

Clark, L. (2016). Decision-making in Gambling Disorder: understanding behavioural addictions. In J.-C. Dreher & L. K. Tremblay (Eds.), *Decision Neuroscience*. Elsevier. doi:10.1017/CBO9781107415324.004

Delgado, M. R., Beer, J. S., Fellows, L. K., Huettel, S. A., Platt, M. L., Quirk, G. J., & Schiller, D. (2016). Viewpoints: Dialogues on the functional role of the ventromedial prefrontal cortex. *Nature Neuroscience, 19*(12), 1545–1552. doi:10.1038/nn.4438

Drummond, A., & Sauer, J. D. (2018). Video game loot boxes are psychologically akin to gambling. *Nature Human Behaviour, 2*, 530–532. doi:10.1038/s41562-018-0360-1

Fortune, E. E., & Goodie, A. S. (2012). Cognitive distortions as a component and treatment focus of pathological gambling: A review. *Psychology of Addictive Behaviors, 26*, 298–310. doi:10.1037/a0026422

Heather, N. (2018). Rethinking addiction. *The Psychologist, Jan*, 23–28.

Hodgins, D. C., Stea, J. N., & Grant, J. E. (2011). Gambling disorders. *Lancet, 378*, 1874–1884. doi:10.1016/S0140-6736(10)62185-X

Ladouceur, R., Shaffer, H. J., Blaszczynski, A., & Shaffer, P. (2017). Responsible gambling: a synthesis of the empirical evidence. *Addiction Research & Theory, 25*(3), 225–235. doi:10.1080/16066359.2016.1245294

Ladouceur, R., & Walker, M. (1996). A cognitive perspective on gambling. In P. M. Salkovskis (Ed.),

- Trends in Cognitive and Behavioural Therapies* (pp. 89–120). Hove, U.K.: John Wiley & Sons.
- Lilienfeld, S., & Lynn, S. (2015). Clinical Decision Making. In R. L. Cautin & S. O. Lilienfeld (Eds.), *The Encyclopedia of Clinical Psychology* (pp. 1–13). Wiley & Sons.
doi:10.1002/9781118625392.wbecp563
- Lower the Stakes: A Public Health Approach to Gambling in British Columbia (Provincial Health Officer's 2009 Annual Report)*. (2013). BC Ministry of Health, Victoria, BC.
- Pickles, A. (2016). There's no such thing as a natural-born gambler. *The Conversation*.
<https://theconversation.com/theres-no-such-thing-as-a-natural-born-gambler-57899>
- Province of BC. (2015). *A Plan for Public Health and Gambling in British Columbia*. Victoria, BC.
<https://www.gaming.gov.bc.ca/reports/docs/plan-rg-public-health-and-gambling-2015.pdf>
- Yücel, M., Carter, A., Harrigan, K., van Holst, R. J., & Livingstone, C. (2018). Hooked on gambling: a problem of human or machine design? *The Lancet Psychiatry*, 5(1), 20–21. doi:10.1016/S2215-0366(17)30467-4

Lecture and Reading Schedule

| Lecture | Date | Day | Topic | Set Reading |
|---------|--------|-----|---|--|
| 1 | 5 Sep | W | Orientation | |
| 2 | 7 Sep | F | Gambling: Definitions | (Drummond and Sauer 2018) |
| 3 | 10 Sep | M | Gambling: Culture & History | (Pickles 2016) |
| 4 | 12 Sep | W | Foundations 1: Decision Making | (Lilienfeld and Lynn 2015) |
| 5 | 14 Sep | F | | |
| 6 | 17 Sep | M | | |
| 7 | 19 Sep | W | Foundations 2: Neuropsychology | |
| 8 | 21 Sep | F | Gambling Policy in Canada and BC (GT) | (Lower the Stakes, pg 1-18, 71-73) |
| 9 | 24 Sep | M | Foundations 2: Neuropsychology (cont.) | (Delgado et al. 2016) |
| 10 | 26 Sep | W | | |
| 11 | 28 Sep | F | Treatment of Drug Addictions (T-LM) | |
| 12 | 1 Oct | M | Foundations 3: Addiction | (Heather 2018) |
| 13 | 3 Oct | W | | |
| 14 | 5 Oct | F | | |
| 15 | 8 Oct | M | NO CLASS - THANKSGIVING | |
| 16 | 10 Oct | W | Problem Gambling: Diagnosis, Epidemiology, Assessment | (Hodgins et al. 2011) |
| 17 | 12 Oct | F | | |
| 18 | 15 Oct | M | Revision Class | |
| 19 | 17 Oct | W | MIDTERM | |
| 20 | 19 Oct | F | Theories of Problem Gambling | (Blaszczynski and Nower 2002) |
| 21 | 22 Oct | M | | |
| 22 | 24 Oct | W | Arousal and Conditioning (info on written assignment) | (Ladouceur and Walker 1996) |
| 23 | 26 Oct | F | Cognitive Distortions | |
| 24 | 29 Oct | M | Illusion of Control (submit articles) | |
| 25 | 31 Oct | W | Gambler's Fallacy | |
| 26 | 2 Nov | F | Near-Misses | |
| 27 | 5 Nov | M | Rage against the machines | |
| 28 | 7 Nov | W | Treatment of Problem Gambling (T-LM) | (Fortune and Goodie 2012) |
| 29 | 9 Nov | F | | |
| 30 | 12 Nov | M | NO CLASS – REMEMBRANCE DAY | |
| 31 | 14 Nov | W | Responsible Gambling (submit written assignment) | (Ladouceur et al. 2017) |
| 32 | 16 Nov | F | | |
| 33 | 19 Nov | M | | |
| 34 | 21 Nov | W | Policy and Programmatic Responses to PG in BC (GT) | (Lower the Stakes, pg 19-25, 53-64) |
| 35 | 23 Nov | F | Gambling Policy in BC: Current Status (GT) | (Lower the Stakes pg 65-68; A Plan for Public Health and Gambling in BC (2015) |

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|----|--------|---|---|--|
| 36 | 26 Nov | M | Under the influence: Alcohol & Gambling | |
| 37 | 28 Nov | W | Conclusion / Exam Strategy | |
| 38 | 30 Nov | F | Revision Class | |
| | TBA | | FINAL EXAMINATION | |

GT = Dr Gerald Thomas, T-LM = Dr Terri-Lynn Mackay