

Living on the Edge: Risk, Danger, and Decision Making

Manya Whitaker & Pedro de Araujo

Tutt Science 209 - Summer 2016

CONTACT INFORMATION	Manya Whitaker: <i>Office:</i> Mierow House 203 <i>Phone:</i> (719) 389-6169 <i>E-mail:</i> manya.whitaker@coloradocollege.edu (preferred mode of communication)
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COURSE WEBSITE	All material for the course will be uploaded on Canvas.
OFFICE HOURS	<u>Manya:</u> 7:30 to 8:30 - Monday to Friday (first week) and by appointment (second week) <u>Pedro:</u> 13:00 to 14:00 - Monday to Friday (first week) and by appointment (second week)
COURSE PREREQUISITES	None
COURSE OBJECTIVE	<p>In general, people are terrible decision makers, but adolescents are simultaneously the best and the worst when it comes to risk-taking. In this course we will discover the way the brain processes information across development, while simultaneously investigating theories of bargaining and risk diversification from an economics and statistical stand point. By simulating real-life scenarios such as the stock market and games of chance, in conjunction with developing a theoretical framework around the decision making process, we will learn the influence of developmental stage, social context, and preferences on adolescent choices.</p> <p>Also, in this course, students will develop skills and confidence to engage in class discussion by learning effective strategies for class preparation and participation. There will be an opportunity to write a short research paper, develop data organization skills, and learn about how to make college-level oral presentations. The course will help students begin to develop the skill to approach complex, multi-faceted topics and dissect them with the analysis tools from different disciplines.</p>
COURSE STRUCTURE	We will have class Monday through Friday from 9am-11:30/11:45am. On Thursday, August 11th at 11am we will attend a workshop on library research strategies in TLC 1. Come to class at 9am as usual.

REQUIRED MATERIALS

1. What are they thinking?! Straight facts about the risk-taking, social-networking, still-developing teen brain; by Aaron White & Scott Swartzwelder [AS]
2. Risk and Rationality in Adolescent Decision Making: Implications for Theory, Practice, and Public Policy (2006); by Reyna & Farley, in Psychological Science in the Public Interest [RF]

COURSE ASSIGNMENTS AND WEIGHTS

- Discussion Leading - 20%
- Problem Sets - 20%
- Paper and Presentation - 30% (draft - 10%, final paper - 10%, and presentation - 10%)
- Basketball Project - 30%

GRADE DISTRIBUTION

A	100-94	B	86-81	C	73-68	D	60-55
A-	94-90	B-	81-77	C-	68-64	NC	55-0
B+	90-86	C+	77-73	D+	64-60		

DISCUSSION PARTICIPATION

Your participation in class discussion is an essential part of the learning experience for all of us. It is important that you raise questions or offer your perspective and reflections about the class content. You are a valuable member of this class, and as such, **you will be required to lead discussion in a small group at some point during the class.** This means you should come to class everyday prepared to possible lead discussion in a collaborative manner.

PROBLEM SETS

You will have problem sets with many questions covering the material taught up until the day the problems are handed out. You can complete these problems in pairs.

PAPER AND PRESENTATION

Research papers are an important way to expand your knowledge while simultaneously learning how to balance your personal voice with a scholarly tone. This 5-page double spaced paper is your opportunity to explore the psychology behind risk-taking. Optional topics include: Groupthink; Attribution Theory; Brain Health; Brain Chemistry; Self-efficacy. Your paper must utilize data from your in-class case study(ies) and use at least one empirical source as evidence to support your thesis. You will also be required to create slides as if you were to give a presentation at a professional conference.

BASKETBALL PROJECT

Class will start every day with everyone shooting 10 free throws outside. In groups of two, you will need to collect data and decide on an optimal composition for a free throw team. We will then have a free throw tournament at the end of class. Groups will be required to present their rationale for their decisions after the tournament. Half of your grade on this assignment will come from the tournament and the other half from your presentations. More details about this assignment will be given throughout the block.

TENTATIVE
COURSE
OUTLINE

Psychology Topics

Brain Structure and Neurons
Brain Health
Neurological Basis of Decision Making
Classical Decision Theory: Self-efficacy theory and Attribution theory
Naturalistic Decision Making: Motivation theory and Self-regulation
Neuro-economics of Decision Making
Group decision-making: Role theory
Influence of emotions on decision-making

Economics/Statistics Topics

The big picture: descriptive versus inferential statistics
Data organization and management in Excel
Measures of center and variation;
Introduction to Probability Theory: random variables, events, distributions, expected values;
Game Theory Applications: Nash equilibrium, bargaining, repeated games;

READING
ASSIGNMENTS
AND DEADLINES

August 10- Why is adolescent risk-taking important to study? [RF]
August 11- What constitutes good decision-making? [RF]
August 12- Explanatory models of risk-taking [RF] and Chapters 1-3 [AS]
August 15- Influence of Individual Difference on risk taking [RF]
August 16 - Developmental differences in decision making [RF]
August 17 - Chapters 4, 7, and 8 [AS]

ATTENDANCE

Attendance is not mandatory; however, do not expect us to cover material taught in class during office hours if you were not present for that particular day unless you have proper documentation justifying your absence. Also, this course requires a substantial amount of group work and credit is only given to members of the group that are present in class.

CHEATING

For every assignment in this course you must follow CC's honor code. If you have not yet done so, we encourage you to read the honor code, which can be found at the Pathfinder under Honor Council Constitution. The penalty for cheating in this course is a final grade of no credit (NC).

ACCESSIBILITY
RESOURCES

If you have a disability that requires accommodation for this course, please see either one of us by Wednesday, August 10, so that your needs are appropriately met. If you have not already done so, you will need to register with and get the appropriate paperwork from the Accessibility Resources office (227-8285).