Decisions, decisions…
The psychology of judgment and choice

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Lecture 6 of 6

Lecture topics

- Week 1. What are decisions and how should we study them?
- Week 2. Beliefs, values and decisions in an uncertain world
- Week 3. Decision heuristics and biases
- Week 4. Expert judgments and decisions
- Week 5. Group decision making
- Week 6. Social decisions and dilemmas

Review

- So far in the course we have examined how people make decisions in situations with outcomes determined by events in nature
  - Games of chance: gambling outcomes, weather outcomes, natural disasters, accidents, diseases, etc.
- But there are many other decision situations with outcomes determined by the decisions of other people, and the decisions of other people are often influenced the decisions we make
  - Games of strategy: chess, checkers, bargaining, negotiation, coordination, compromise, social influence, etc.
  - Von Neumann and Morgenstern (1944) *Theory of Games and Economic Behaviour*
    - Zero sum games and all that. Later: Non-zero sum games (Luce and Raiffa, 1957)
- In social psychology these are often called situations of social interdependence

Social interdependence

- Social interdependence exists when one person's decisions influence the outcomes of at least one other person
- Examples
  - Mary fires Pat then offers a job to Bob
  - Dave asks Frank for a loan at 7% interest
  - Betty helps Ali pass his English language exams, and Ali cuts Betty's lawn
  - John pays Carl and Martha to vote for him
  - Or consider Seth and Hazel versus Tiffany and Josh …
    - For Seth, accept if dinner, decline if curling
    - For Hazel EV(dinner) > EV(curling) when p(accept >0.5)
    - How does Hazel estimate Seth's p(accept?)
    - What will happen to Tiffany and Josh?

Hazel's options	Seth's options	
Invite Seth:	Accept	Decline
for dinner?	**+6, +3**	**-4, -1**
for curling?	**+3, -2**	**-1, 0**

Tiffany's options	Josh's options	
Invite Josh:	Accept	Decline
for dinner?	**+6, +3**	**0, -1**
for curling?	**+3, +5**	**-1, -4**

Social interdependence and the commons

- What is a commons?
  - A community plot of shared land, owned by no one, for grazing livestock
    - Think “Boston Commons” and livestock
    - Think Grand Banks and cod
    - Think poo on the rail trail
    - Think earth, our environment
  - A commons has a finite carrying capacity, depleted by overgrazing/overuse
  - What tends to happen to a commons?
- Garrett Hardin (1915-2003) and the *Tragedy of the Commons (1968)*
  - His article
  - His followers
  - His obituary
- The tragedy summarized
  - Another summary

The Commons Dilemma

- Di – lemma = two equally compelling arguments
  - It is “rational” for people to pursue their own self interest
  - But in many situations, including those using common resources, the pursuit of self interest will not result in the best choices for the self
- Short term gain → long term pain
  - A variant: The Paradox of Proliferation
    - An effective solution to a popular problem tends to be copied
    - But the more the solution is copied, the less effective it becomes
  - Examples
    - Increasing width of Queensway
    - Promoting public transit
    - Proliferation of antibiotics
    - Proliferation of university degrees

The Prisoner's Dilemma
(a Commons Dilemma for two)

- First mentioned in a paper my Merrill Flood and Melvin Dresher, 1950
  - Called a "Prisoner's Dilemma" because it was once explained that way
- Became one of the most popular research topics of social psychology in the 1960s and 70s
- What is it?
  - 2 players, typically "play" a 50-100-trial (iterated) "board game"
  - Each player has two alternatives to play
    - One person chooses between top and bottom rows of a 2x2 table
    - One person chooses between left and right columns of the 2x2 table
  - Experimenter will give them different rewards (money, Smarties, lottery tickets, etc.) depending on which row/column combination they choose

What players see on their board

What the row player sees		C = column player	
		Left column	Right column
R = row player	● Top row	R gets $5, C gets $5	R gets $0, C gets $7
	● Bottom row	R gets $7, C gets $0	R gets $1, C gets $1

What the column player sees		C = column player	
		● Left column	● Right column
R = row player	Top row	R gets $5, C gets $5	R gets $0, C gets $7
	Bottom row	R gets $7, C gets $0	R gets $1, C gets $1

Why a dilemma?

- Best for row player? Bottom row. Best for column player? Right column
- But Bottom-Right gives each $1, while opposite (Top-Left) gives each $5
- But choosing Top-Left exposes each player to other "defecting" for self gain
  - Minimizing what self gets (= 0)
- Often seen as choice between cooperation and individualism (self-interest)
  - Or a test of trust
- How is dilemma resolved? Let's play!

		C = column player	
		Left column	Right column
R = row player	Top row	R gets $5, C gets $5	R gets $0, C gets $7
	Bottom row	R gets $7, C gets $0	R gets $1, C gets $1

Typical results

- Most pairs “lock in” to a stable choice after about 10-20 trials
  - 80% lock in to bottom, right = non-cooperation
    - No sex differences
    - Little effect of communication, understanding, enlightened self-interest
  - Some exceptions
    - Poor folk from subsistence, endangered cultures
    - Children until adolescence
    - Presence of disliked third-party (”y enemy’s enemy …”)
    - Close friends, family (with UBC Open House exception)
- How can we increase cooperation?
  - Superordinate goal – we must all cooperate to survive
  - Change values of the outcomes

Social motives: Rethinking the Prisoner's Dilemma Game

- Why would someone choose Top or Left?
  - Cooperation (maximize joint gain)
- Why would someone choose Bottom or Right?
  - Individualism (maximize own gain)
  - Competition (maximize difference)
- So how much are Bottom-Right choices motivated by Individualism? By competition?

Prisoner's dilemma game		**C**	
		Left column	Right column
R	Top row	R gets $5, C gets $5	R gets $0, C gets $7
	Bottom row	R gets $7, C gets $0	R gets $1, C gets $1

Prisoner's Dilemma game *versus* Maximize Difference Game

- In PDG
  - Cooperation leads to Top-Left
  - Individualism and competition leads to Bottom-Right
- In MDG
  - Cooperation and individualism leads to Top-Left
  - competition leads to Bottom-Right

Prisoner's dilemma game		**C**	
		Left	Right
R	Top	R gets $5, C gets $5	R gets $0, C gets $7
	Bottom	R gets $7, C gets $0	R gets $1, C gets $1

Max difference game		**C**	
		Left	Right
R	Top	R gets $7, C gets $7	R gets $1, C gets $5
	Bottom	R gets $5, C gets $1	R gets $0, C gets $0

So any shift in bottom-right frequency from PDG to MDG should tell us how often motive is individualism!

Results

- How much did MDG shift choices from Bottom-Right to Top-Left?
- Almost none!
  - Demonstrating that non-cooperation is more the result of competition than individualism
  - Demonstrating that economists overlooked a key component of values: social comparison
- More … (from subsequent experiments)
  - Is competition more the result of
    A. Wanting to win (get more than other)?
    B. Wanting not to lose (avoid getting less than other)?
  - Answer = B
    - How related to envy?

Social comparison and values

- Where do values come from?
  - Historical comparisons: comparing ourselves now with our past
    - I am happy when I do no worse today than I did yesterday
    - Progress is doing better now than before now
  - Social comparisons: comparing ourselves now with other people now
    - I am happy when I do no worse today than other people did today
    - Progress is doing better than more other people
    - AKA “relative deprivation”
- Communication media and the revolution of rising expectations
  - Accelerating with manufacture of cheap transistor radios
  - Causing a shift from historical to social comparisons
  - Increasing popularity of envy (cf. social comparisons in advertising)

Social comparison, values, and justice

- John Stacy Adams' *Equity Theory (1965)*
  - People should get what they deserve
  - What they deserve (outcomes) should be proportional to what they invest (inputs)
  - Consider two people, A and B

A and B worked on a joint project.
A worked 5 hours and received $50
B worked 10 hours and received $100

$$\frac{\text{A's Outcomes}}{\text{A's Inputs}} = \frac{\text{B's Outcomes}}{\text{B's Inputs}} \rightarrow \text{Equity}$$

A and B worked on a joint project.
A worked 5 hours and received $50
B worked 10 hours and received $20

$$\frac{\text{A's Outcomes}}{\text{A's Inputs}} \neq \frac{\text{B's Outcomes}}{\text{B's Inputs}} \rightarrow \text{Inequity}$$

- Inequity motivates people to restore equity
- But their strategies are not symmetrical
  - People behind try to increase the value of their outcomes
  - People ahead try to increase the perceived value of their inputs

Life's goodies, distributive justice, and politics

- The errors of our judgments and decisions come in two flavours
  - Errors of **inclusion**: rewarding someone who does not deserve a reward
  - Errors of **exclusion**: not rewarding someone who does deserve a reward
- Political left-wing traditionally concerned with reducing exclusion errors
  - Think undeveloped talent, lack of opportunity, unemployment, no health care
- Political right-wing traditionally concerned with reducing inclusion errors
  - Think illegal immigrants, bad hires, cheats, criminals, government waste
- Alas, the errors are inversely related: as one kind increases, the other declines

	deserve	~deserve
reward	"Hits"	inclusion errors
no reward	exclusion errors	"Correct rejections"

Left-wing values

	deserve	~deserve
reward	+5	0
no reward	-10	+2

Right-wing values

	deserve	~deserve
reward	+2	-10
no reward	0	+5

So what? A small sample of hand-waving lessons from the world of decision research

- Do not make big decisions when aroused, frightened, euphoric, panicked, etc.
  - Think slow; the 48-hour test
- Avoid giving too much weight to only one aspect of outcomes
  - Only amount gained or to amount lost, only to chances of gain or of loss
- Consider the effects of your decisions on other people
  - And how these effects might influence what happens next
- When uncertain, stick to small and reversible decisions, be flexible, and learn from experience
  - Trial-and-error is a great teacher as long as you can make errors and try again
  - Be willing to admit your errors when you or others see them
- Think of biological rationality: in order to do better in the long run, you must first have a long run
  - Never make a bet that you can't afford to lose, unless you have nothing to lose
- Remember that improving decision making skills does not guarantee good decisions
  - It just reduces the frequency of bad decisions, often not by much

And remember …

- Decision making is only part of problem solving: the art of choosing among possible solutions. Once you have chosen, you must do – you must attempt to implement the chosen solution
  - Attempting to solve a problem almost always leads to other problems – the devils in the details. If you can solve these other problems without creating unsolvable problems for other people, congratulate yourself on a good choice!
- Finally …

Finally …

- Recall that a problem is a difference between what we have and what we want.
- A solution is anything that reduces this difference.
  - Our natural inclination is to solve problems by trying to change what we have to suit what we want.
  - But if this does not work, we must try to change what we want to suit what we have.
  - Leading us to the most important lesson from decision making research …
    - “If at first you don’t succeed, try, try again?” WRONG!

If all else fails, lower your standards.

Note to self:

- Problem: How do I end this course?
- Solution: Thank everyone, then shut up.