



Conscious Decision Making

Health Psychology (CMED2006)

LKS Faculty of Medicine

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Learning Objectives

At the end of the lecture, student should be able to

- Define rationality in relation to human decision making
- Describe how human decision making could be affected by a lack of information
- Suggest ways to enhance people's ability to make better decision



Activity 1

Choice of Envelop and Ticket



Instructions

I'm going to show you a number of scenarios. In each of the scenarios, you will be given 2 choices – and you need to decide which of the two choices do you prefer.



Scenario 1

You are given a choice of two envelopes



Envelope A contains \$1000

Envelope B contains \$500

Which one would you choose?



Discussion

Can you describe your/your classmates' decision?

Can you explain your/your classmates' decision?

Can you predict your/your classmates' decision?

Can you affect your/your classmates' decision?



Scenario 2: Lottery Tickets

Ticket C gives you a 50% chance of winning \$1000 and
50% chance of winning \$500

Ticket D gives you a 50% chance of winning \$500 and
50% chance of winning \$0

Which one would you choose?



Scenario 3: Lottery Tickets

Ticket E: 90% chance of winning \$1000;
10% chance of winning \$500

Ticket F: 80% chance of winning \$1000;
20% chance of winning \$500

Which one would you choose?



Scenario 4: Lottery Tickets

Ticket G: 50% chance of winning \$1000;
50% chance of winning \$100

Ticket H: 50% chance of winning \$600;
50% chance of winning \$400

Which one would you choose?



Scenario 5: Lottery Tickets

Ticket I: 80% chance of winning \$4000;
20% chance of winning \$0

Ticket J: 100% chance of winning \$300

Which one would you choose?



Scenario 6: Lottery Tickets

Ticket K: 60% chance of winning \$10,000;
40% chance of losing \$10,000

Ticket L: 100% chance of winning (and losing) \$0

Which one would you choose?



Scenario 7: Lottery Tickets

Ticket M: 100% chance of winning \$10,000 now

Ticket N: 100% chance of winning \$10,000 next year

Which one would you choose?



Discussion

Can you describe your/your classmates' decision?

Can you explain your/your classmates' decision?

Can you predict your/your classmates' decision?

Can you affect your/your classmates' decision?



Part 1

Basic Theory of Decision Making



Decision Making

We can learn many things from the way we make simple choices

The science of Economics gives us some simple and pure examples of decision making

By studying how people make these “pure” choices, economists (and psychologists) can begin to understand how people behave



Homo Economicus / Economic Man

In the traditional study of economics, human beings are assumed to be always self-interested – i.e., we make decisions according to what give us the greatest reward

The word “rational” is used to describe someone who analyze the situation and decide what is the most rewarding choice; and process is referred as “rationality”



Rationality as an Explanation of Behaviour

Rationality is a robust explanation of behaviours, and is also a very commonly used explanation of behaviours

Some people might even say that it is an ideal way to make decisions



Definition of Greatest Reward / Return

Technically, there are different ways to determine (or calculate) the reward/return of a decision

In the simplest form, one chooses the option that gives the “highest expected monetary value” by calculating the sum of [value of each choice x probability of the choice]

Or we can choose the option with the highest minimum return



Tool 1: Rationality

People often choose to do things that
maximise their gains or minimise their losses

If that is the case,
more information would mean better decision making –
we just need the time and energy to calculate the pros and cons



Part 2

Beyond Simple Rationality



Scenario 5a: Lottery Tickets

Ticket I: 80% chance of winning \$4000;
20% chance of winning \$0

Ticket J: 100% chance of winning \$300

Most people will choose J over I. Can you explain why?



Tool 2: Certainty Effect

People usually prefer certain gain
over larger-but-uncertain gain

This is particularly relevant to health related outcomes
which are often long-term and uncertain



Scenario 6a: Lottery Tickets

Ticket K: 60% chance of winning \$10,000;
40% chance of losing \$10,000

Ticket L: 100% chance of winning (and losing) \$0

Most people will choose L over K (i.e., they choose not to bet).
Can you explain why?



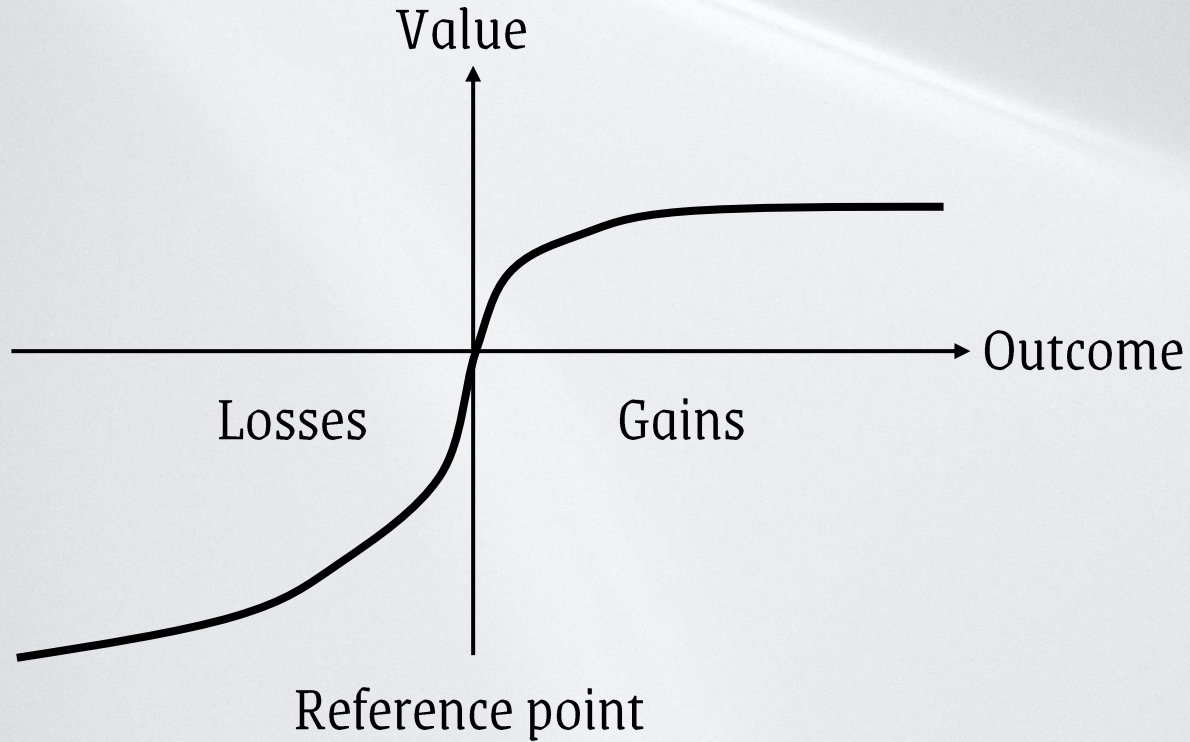
Tool 3: Loss Aversion

People often choose to avoid options that may result in losses,
and this aversion is stronger than the allure of gains

Note it is not always clear what counts as losses and what
counts as gains – and is affected by framing



Prospect Theory





Scenario 7a: Lottery Tickets

Ticket M: 100% chance of winning \$10,000 now

Ticket N: 100% chance of winning \$10,000 next year

Most people will choose M over N. Can you explain why?



Tool 4: Time Preference

People prefer present gains to future gains; and prefer future losses to present losses

Economically, one can argue that this is because present gains can be invested – which leads to larger future gains; but this effect is present even if the gains cannot be invested



Activity 2

Explain the following behaviours



Scenario 8

Amy is at a restaurant.

She looks at the menu and sees that there are
only a choice of 4 set lunches,
which all have the same price.

She orders set A.



Scenario 9

Barry is a social drinker, and drinks with his friends every Friday until everyone passes out.

He drinks mostly red wine,
and believes that red wine is good for his heart.

He understands the risk of drink driving and traffic accident,
and therefore only drinks at his own (or his friend's) home.



Scenario 10

Mr Chan is a heavy smoker. He works a very stressful job and really values cigarettes as a way to quickly relief his stress.

He understands that smoking can cause diseases like lung cancer, COPD, and heart diseases in the long term – but that knowledge does not lead him to stop smoking.



Scenario 11

Davina is wondering whether to go to lecture or not.

The subject is a bit boring, but the lecture is probably going to be relevant to the exam and result in a better GPA.

On the other hand, the 2 hours can also be spent on revising more important subjects and/or improving one's mental health.

Ultimately, Davina decides that if there is a way to fake her attendance, she will not go to the lecture.



Part 3

Behavioural Change



Changing the Behaviour of a Rational Person

We know that people are not always rational (more of that later)

However, just by knowing that people's behaviour are affected by rationality, certainty effect, loss aversion, and time preference, we can attempt to explain, predict, and influence a lot of behaviours



Case 1

Canice, 10, is your younger brother. He is very fond of soft drinks and consume on average two cans of it everyday. Usually one at school (where he buys it from the vending machine) and one at home (where he just gets it from the fridge).

He likes the sweet taste of soft drinks, as well as the fact that it feels good to have a cold drink after spending time in the hot weather (or after any physical activities).



Case 1 – Explain the Behaviour

Identify the possible reasons for Canice's behaviour

(Generally) using the bio-psycho-social framework; but also

(Specifically) focusing on rationality and conscious decision making



Case 1 – Individual Interventions

Provide information to encourage more informed choice

Change the return/gain/loss of a choice

(increase or reduce costs) (increase or reduce benefits)

Make things more certain or more immediate



Case 1 – Population-Level Interventions

Same as individual interventions

Information / educational campaign

Tax (e.g., tobacco tax) and subsidies

Fees, fines, and punishment



Law of Demand, Elasticity, and Substitutes

Law of Demand: if a good becomes cheaper, more will be bought

Price elasticity of demand: even if the price change is the same, the change of the number bought might be different for different goods

If a substitute becomes cheaper, less of the good will be bought



Conclusion

If people are indeed rational, more information would mean better decision making. What we can do as third party is to provide more (and better) information so that they can make the most informed choice.

If we really want to affect people's choice, we can try to change the actual costs and benefits of the choice(s) – but that is not always morally justified



Reading / References

- Taylor, SE (2018) Health Psychology (10th ed.). McGraw-Hill.
- Boyd, DR & Bee, H (2019). Lifespan development (8th ed.). Boston, MA: Pearson.



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