2025-26 FALL

SOCIAL PSYCHOLOGY

Faculty of Arts & Sciences

WEEK 4

SOCIAL COGNITION

Core Questions

1. How do we think?
2. How do we remember social information?
3. Why do our brains sometimes make mistakes?
4. From where does intuition come?
5. Can we trust our intuition?

Mastering the Fear

(http://www.nytimes.com/2009/07/28/health/research/28brain.html.)

- One thing did not quite fit on the morning of Sergeant Tierney's patrol in Mosul. The nine soldiers left the police station around 9 a.m., but they did not get their usual greeting. No one shot at them or fired a rocket-propelled grenade. Minutes passed, and nothing.

- The soldiers walked the road in an odd silence, scanning the landscape for evidence and trying to stay alert for an attack from insurgents. They noticed a car parked on the sidewalk, facing the traffic. The windows were rolled up and the faces of two kindergarten-aged boys stared out the back window, their faces close together.

- The nearest soldier said to Tierney, "Permission to approach, sir, to give them some water." "No," Tierney replied and ordered his men to pull back. Something just seemed wrong. Then a bomb exploded, killing the two boys and sending shrapnel across the face of the nearest soldier.
- Unfortunately, Tierney's intuition could not save the two boys, but it probably prevented an even greater tragedy by saving the lives of some of the men in his patrol.

Mastering the Fear

(http://www.nytimes.com/2009/07/28/health/research/28brain.html.)

- Since then, Sergeant Tierney has often run back the tape in his head, looking for the detail that tipped him off. Maybe it was the angle of the car, or the location; maybe the absence of an attack, the sleepiness in the market: perhaps the sum of all of the above.

- “I can’t point to one thing,” he said. “I just had that feeling you have when you walk out of the house and know you forgot something you got your keys, it’s not that and need a few moments to figure out what it is.”

https://www.nytimes.com/2009/07/28/health/research/28brain.html

Jennifer Murphy, a psychologist at the Army Research Institute, demonstrated a test used to determine the characteristics of service members who might have exceptional abilities at detecting roadside bombs.

How Do We Know?

- It doesn't matter whether you call it "going with your **gut**," "**a hunch**," or **intuition** because it all refers to the same idea:
- ***knowing something without knowing how you know.***
- It is sometimes a **wonderful yet mysterious experience**—when it works, as it did for Sgt. Tierney.

Dimension	Hunch	Gut Feeling	Intuition
Definition	A vague, pre-conscious sense or guess; an early, weak anticipation not yet supported by evidence.	A bodily-based, emotional signal indicating comfort, discomfort, or trust; arises from visceral sensations.	A cognitive process that draws on unconscious pattern recognition and accumulated experience to make fast, accurate judgments.
Cognitive Level	Low – not yet processed or reasoned.	Medium – involves quick emotional appraisal.	High – integrates experience and reasoning without deliberate analysis.
Emotional Basis	Slight or diffuse feeling.	Strong emotional and bodily component.	Balanced integration of affect and cognition.
Origin	Spontaneous thought spark; no clear source.	Somatic markers and emotional memory (Damasio, 1994).	Learned expertise and subconscious pattern recognition (Kahneman, 2011).
Psychological Function	Early signal prompting attention.	Immediate, embodied warning or reassurance.	Experienced-based decision-making shortcut.
Relation to Emotional Intelligence	Emerging awareness of feeling.	Awareness of internal bodily cues (interoception).	Full use and regulation of emotional information in reasoning.
Decision-Making Style	Spontaneous / experimental.	Emotionally guided, instinctive.	Expert intuitive or experiential style.
Conscious Awareness	Pre-conscious; “I have a feeling but I don’t know why.”	Felt physically; “My gut tells me…”	Recognized insight; “I know this feels right.”
Typical Example	“I have a hunch he won’t show up.”	“My gut tells me not to trust this deal.”	“I intuitively know this solution will work.”
Main Theoretical Basis	Early System 1 activation (Kahneman).	Somatic Marker Hypothesis (Damasio).	Dual-Process Theory & Expertise (Kahneman, Gigerenzer).
Closest Turkish Equivalent	Önsezi / içimden bir his.	İçgüdüsel his / iç ses.	Sezgi / içgörü.

From Hunch to Rational Decision

HUNCH (weak premonition)


Emotional arousal and bodily awareness develop
GUT FEELING (bodily–emotional signal)


Integrates with cognitive pattern recognition and experience
INTUITION (integrated intuitive cognition)


Leads to decision-making supported by emotional intelligence
RATIONAL DECISION (cognitive reflection)

How Do We Think?

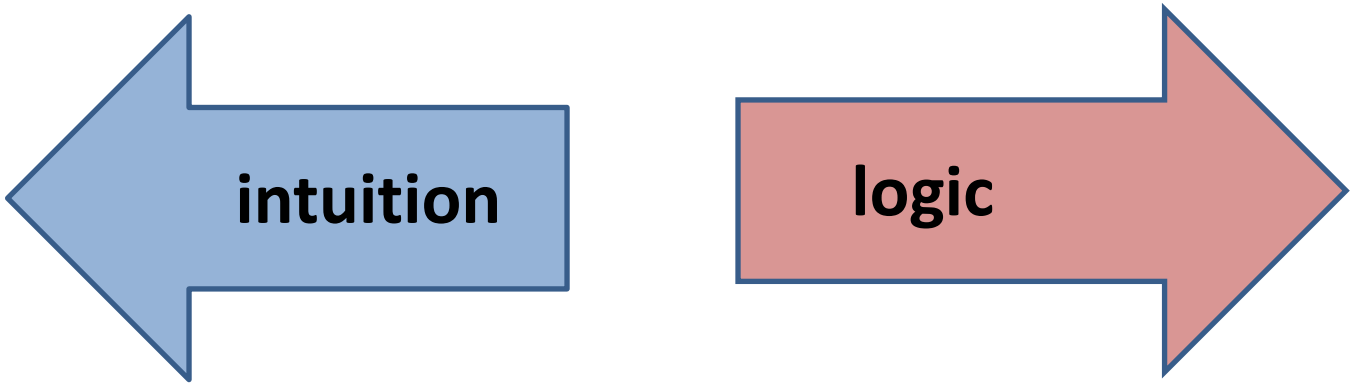
- What, if anything, is so **special about humans**?
- The **combination of intuition and logic** is the answer.
- We are not unique in our ability to think; instead, our most **distinctive ability** may be in **how we think**.
- ***Social cognition*** is the study of how people **combine intuition and logic to process social information**.
- The constant interplay between these two ways of thinking helps us **synthesize enormous amounts of information quickly** and with **relative accuracy**.

Dual Processing: Intuition and Logic

- You have just been surprised by a marriage proposal—you need to figure out how to respond—and fast! Will you use logic, intuition, or both?

- **Responding quickly to complex situations** is one reason that humans developed the **skill of dual processing**, the ability to ***process information using both intuition and logic*** (Bargh & Williams, 2006; DeNeys, 2006; Kahneman, 2003; Schneider & Shiffrin, 1977; Sherman, Gawronski, & Trope, 2014; Simon, 1990).
- These two styles, forms, or systems of thinking have been labeled in many different ways such as “System 1 versus System 2,” “automatic versus effortful,” “implicit versus explicit,” “intuition versus logic” and more.

Two thinking systems



Emotional	Analytical
Associative	Rule-directed
Automatic	Controlled
Effortless	Effortful
Implicit	Explicit
Intuitive	Reasoned
Quick	Slow

intuition & logic

- ***Intuition is the ability to know something quickly and automatically—***
- It could be described as our "gut feelings."
- extremely **important** when we need to **sense and react to potential threats** in the environment.
- **implicit** and **requires**, at that particular moment, only **minimal cognitive effort**. Sgt. Tierney, for example, was not aware of the flow of information entering his brain, but his intuition enabled him to make a lightning-quick decision that saved several lives.

- ***Logic,*** by comparison***, enables humans to reason, think systematically, and carefully consider evidence about possible futures***.
- Logic **requires mental effort** and **careful, purposeful reasoning**.
- What appears to separate humans from other species is the fluency with which ***we combine intuition and logic for decision making.***

intuition & logic

- Something remarkable must be going on in the human brain, because the **brain** accounts for about only **2% of our total body weigh**t but consumes about **20% of our energy** resources (Dunbar, 1998).
- As we navigate our everyday lives, **intuition** serves as our ***default mode***, making automatic decisions, while **logic** often stays in the background, only stepping in ***when needed*** (Kahneman, 2003, 2011; Stanovich & West, 2000, 2002).
- In this way, we can **conserve the extra energy** needed to think logically and use it only **when we need** it.

PUSH or PULL ?

- As you approach the door, your brain is on automatic pilot and relying on intuition. You use intuition to make the trivial decision about whether to push or to pull.
- If you successfully pull open a PULL door (or push open a PUSH door), then you just keep on going to your destination. You don't congratulate your intuition or start singing, "We are the champions!"
- But what if, based on your intuition, you try to push open a PULL door or vice versa?

PUSH or PULL ?

- If you watch people in this situation, many will continue to push, push, push and rattle the door until their logical thinking breaks through with the logical thought, “Hey! What you’re doing isn’t working. Try something else.”
- That’s when you finally change your behavior and pull on the PULL door. We need both intuition and logic to navigate the hundreds of big and little decisions that we make every day, and both types of thinking sometimes lead to errors—such as trying to push your way through a PULL door.
- https://www.youtube.com/watch?v=yY96hTb8WgI&feature=emb_logo

https://www.istockphoto.com/tr/foto%C4%9Fraf/woman-pulling-on-doors-trying-to-open-gm108175453-4364706

This frustrated woman may need to use logic instead of intuition to realize why the door isn’t opening.

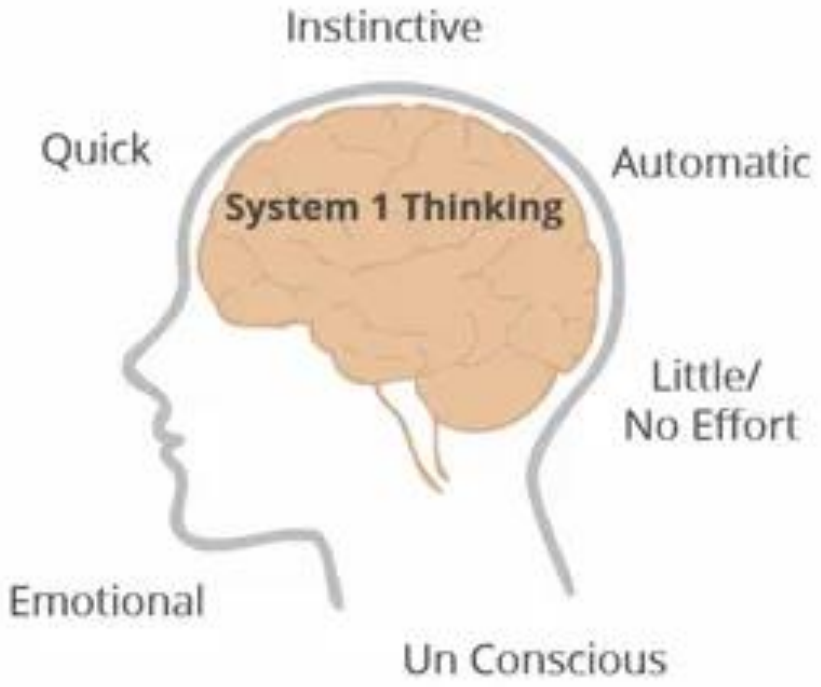
How do we think?

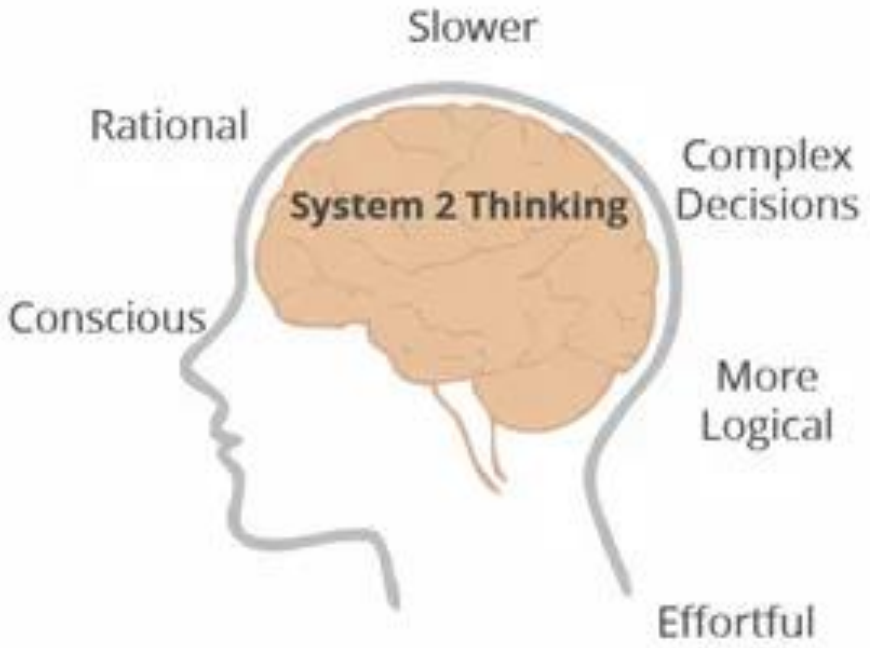
- People only have a **certain and limited capacity** to process information, as well as **individual differences** in whether people prefer intuition or logical thought in general.
- People who prefer to rely on logic have a high "**need for cognition**."
- Social cognition is also **influenced by our culture**. For example, "Western" cultures tend to emphasize **individuality**, whereas "Eastern" or some Asian cultures tend to emphasize **collective** thinking and values.

Our Two Thinking Systems Interact

- Daniel Kahneman (2011) won the Nobel Prize for his research on intuitive versus logical decision making.
- These two systems of thought often **interact** beautifully, like dance partners. **But sometimes** one partner, either intuition or logic, **has to take the lead**.
- There are limits to your **cognitive load**, the amount of information that our thinking systems can **process at one time.**
- Our two thinking systems interact by smoothly switching back and forth **between intuition and logic**, a process also called **cognitive load-shifting**.

DANIEL KAHNEMAN'S SYSTEMS OF THINKING





https://www.simplypsychology.org/what-is-a-heuristic.html

How do we remember social information?

- We have three types of memory or mental structures that help us organize and interpret social information:

1. **schemas**,
2. **scripts**, and
3. **stereotypes**.

- Scripts and stereotypes are two more specific types of schemas.
- A schema is a memory structure that labels and organizes incoming information. It provides a **cognitive structure** for us **to understand** the world.

How do we remember social information?

- One type of schema, for example, is a script;
- **scripts** guide our **expectations** for common, specific types of events.
- We have scripts for funerals, weddings, different types of restaurant experiences, and so on.
- A second type of schema is a **stereotype**, which is when we assume that everyone from a group different from our own is the same.
- For example, if you are not from New York, you might have a stereotype that everyone from New York is aggressive.

Why do our brains sometimes make mistakes?

- We sometimes make **mental mistakes** for two reasons:

1. The first is due to **information overload**; we can't process **too much information at any given time**.

- We are also **cognitive misers**, meaning that most people only think **as much as needed** (and not more).
- The general tendency to think to a minimum level is called **satisficing**; the opposite is called **maximizing**.
- There are advantages and disadvantages to each, and different situations may require each.

https://www.idrivesafely.com/defensive-driving/trending/passing-road-sign-test-first-time

Why do our brains sometimes make mistakes?

2. The second common reason for mental mistakes is called **magical thinking**, which refers to wishful thinking about alternatives to reality.

a) **Downward counterfactual thinking**, for example, is when people imagine another outcome that's **worst than what really happened** as a way to comfort themselves.

- After a tragedy, people might think, "At least we're still alive."

Why do our brains sometimes make mistakes?

b) Upward counterfactual thinking is when we imagine outcomes better than what really happened.

- After a tragedy, people might think, “If only we had more warning, we could have saved more people.”
- Upward counterfactual thoughts are **not very emotionally comforting**, but they can **motivate us to change for the better** the next time around.

Why do our brains sometimes make mistakes?

c) Another form of "magical" thinking is the **optimistic bias**, which is an **unrealistic expectation** that things will turn out well.

- The optimistic bias has been found when people estimate their chances of being in an accident, getting a divorce, and so on.
- One specific type of optimistic bias is the **planning fallacy**, which is when people believe a project will go as planned and not need any additional time, money, and so forth to be completed.

From where does intuition come?

- While intuitive decisions sometimes seem mysterious or "psychic," the **principle of parsimony** suggests that intuition comes from **mental availability** and **accessibility**. Three things that can increase mental accessibility (or how quickly/easily concepts come to mind) are

1. **priming**,
2. **experience**, and
3. **heuristics**.

PRIMING

- Priming refers to the **initial mental activation** of a concept (like “cake”) that subsequently makes that concept more likely to **come to mind** or to be **processed more easily**.
- Priming is an **automatic cognitive process** that influences perception, memory, and behavior **without conscious awareness**.

Mechanism of Priming

- Concepts in memory are stored as **interconnected nodes in a semantic network**. When **one concept** is activated, **related nodes** are partially **activated** as well. This spread of activation facilitates faster recognition and response to associated ideas.
- Priming one concept can also, indirectly, **prime concepts related to the first one** in someone's semantic network (for example, priming "cake" might also prime "ice cream" or "birthdays").
- https://www.youtube.com/watch?v=HRAKt0GakJM

Can we trust our intuition?

- We often rely on intuition because it allows for very efficient problem solving. However, it can lead to several cognitive errors and biases.
- Fewer errors are made if we use **algorithms**, which are systematic, logical approaches to solving problems—but algorithms are slow.
- In a stress-free, no-hurry world, there is a purely logical approach to such problem solving. **An algorithm** is a systematic way of searching for an answer that will eventually lead to a solution—if there is one.
- Using algorithms to solve problems is definitely logic. It is usually a slower but surer way to solve a problem.
- Faster (but potentially mistaken) approaches include **heuristics**, which are ***mental shortcuts*** we use to solve problems.

From where does intuition come?

- Several studies have shown that priming concepts can lead to interesting results relevant to stereotypes;
- for example, priming “old” caused people to walk more slowly in one study.
- Another variable that is positively correlated to mental accessibility is **experience with a subject**.
- For example, African Americans are more accurate at detecting subtle forms of racism compared to White participants.

experience & intuition

- Experience sharpens intuition.
- A surgeon who had trained many other surgeons across a long career summed up the importance of experience at refining intuition.
- “Good judgment comes from experience,” he reported, “and experience comes from bad judgment.”
- *Intuition is characterized by speedy integration of multiple pieces of information. Heuristics, by contrast, ignore information.*

Heuristics vs. Algorithms

- These are two distinct modes of cognition.
- For example, if you are thoughtfully reading every line of this article, you are using **an algorithm**.
- On the other hand, if you are quickly skimming each section for important information or perhaps focusing only on sections you don't already understand, you are using **a heuristic**!
- **Heuristics** → Fast, intuitive, sometimes biased thinking (System 1)
- **Algorithms** → Slow, deliberate, logical thinking (System 2)

https://www.simplypsychology.org/what-is-a-heuristic.html

Feature	Heuristic	Algorithm
Nature	Mental shortcut, intuitive rule	Logical, rule-based procedure
Speed	Fast	Slow
Accuracy	Approximate, sometimes biased	Always accurate if applied correctly
Effort	Low cognitive effort	High cognitive effort
Use Case	Everyday judgments, uncertain situations	Formal problem-solving, well-defined tasks
Outcome	"Good enough" solution	Optimal / exact solution
Example	"If it looks like a duck, it's a duck." (*Representativeness*)	Solving an equation step-by-step
In AI	Used for flexible decision-making and pattern guessing	Used for exact computation and optimization

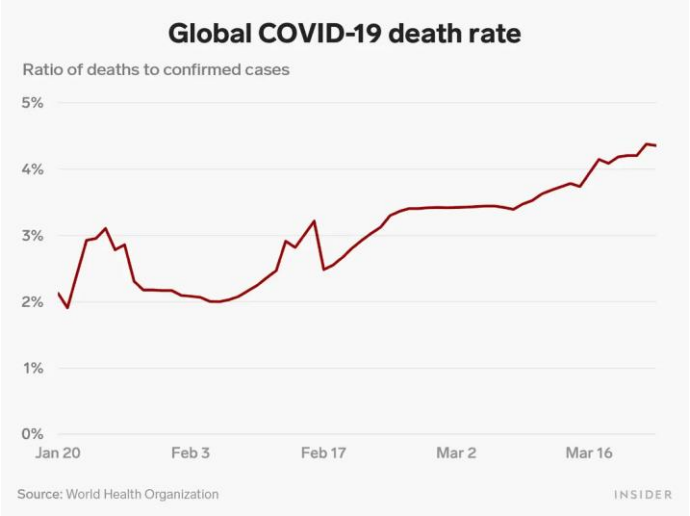
Psychological Context

- Amos Tversky and Daniel Kahneman (1974) defined **heuristics** as mental shortcuts that represent the ways in which the human mind deviates from rationality.
- People often rely on **intuitive rather than algorithmic** thinking, which can lead to **cognitive biases** and **systematic errors in judgment**.
- However, researchers such as Gerd Gigerenzer view **heuristics** as "**adaptive tools**" — fast, efficient, and **ecologically valid** strategies that enable humans to make reasonable decisions in real-world environments.

Types of heuristics

- The **anchoring and adjustment heuristic** occurs when we make decisions by starting with an arbitrary number that unduly influences our final solution.
- The **availability heuristic** is our tendency to overestimate the frequency of something based on how easily it comes to mind.
- A third common heuristic is the **representativeness heuristic**, which occurs when we make guesses based on how closely people resemble the "typical" case of a certain category we have in mind.
- These heuristics all **work in parallel** and can be very **persuasive** when they point toward a common answer.

"On average, how many people died of covid a day on earth?"
___ More than 2000
or
___ Fewer than 2000
(anchoring & adjustment)



Hollywood couples are much more likely to have ugly divorces (availability)

https://www.thehollywoodgossip.com/2017/03/kim-kardashian-and-kanye-west-1-dollars-billion-divorce-ahead/

Who is most likely to be a college student? (representative)

https://webcomicms.net/clipart-9841214-photo-people-talking

Heuristic / Bias	Definition	Key Effect	Example
Availability	Judging frequency or probability based on ease of recall	Overestimating vivid or recent events	Thinking air travel is more dangerous after seeing crash news
Representativeness	Judging based on similarity to stereotype	Ignoring base rates	Assuming a quiet, studious man is a librarian
Anchoring & Adjustment	Relying too heavily on initial information	Insufficient adjustment	Guessing closer to a suggested number

Can we trust our intuition?

- While intuition doesn't always lead to errors, it does influence our tendency to use biased thought processing.
- For example, the **confirmation bias** occurs when we search for evidence that confirms what we already believe (and ignore or forget information that goes against what we believe).
- The **hindsight bias** is when we think we "knew something all along," even though we would not have guessed an outcome beforehand.
- A third example of biased intuition is the **negativity bias**, which leads us to focus on, notice, and remember negative information more than positive information.
- **We Can Respect—but Not Trust—Our Intuitions**

Bias	Definition	Mechanism	Example	Psychological Effect
Confirmation Bias	Tendency to seek and favor information that supports existing beliefs.	Selective attention and memory; ignoring opposing evidence.	Reading only news that aligns with one's political views.	Reinforces preconceptions, reduces openness to change.
Hindsight Bias	Believing, after the fact, that one "knew it all along."	Memory reconstruction after learning the outcome.	Saying "I knew the stock would drop" after it happens.	Distorts memory and hinders accurate self-assessment.
Negativity Bias	Giving greater weight to negative experiences or information.	Stronger emotional and neural response to threats or losses.	Remembering criticism more vividly than praise.	Promotes fear, anxiety, and pessimistic judgments.

Car Crash Experiment

- https://www.youtube.com/watch?v=-hha1bAtV5c