

Field

Cognitive psychology

Studies the mental processes by which we perceive, pay attention, remember, reason and decide.

In Spanish

Psicología cognitiva

Origin

Took shape in the 1950s and 60s; Neisser (1967) popularized the name



What it studies

How we process information and what its limits are. It gives design knowledge about what we see, what we remember and how much we can attend to at once when using a product.

Principles

Limited attention

We can't attend to everything at once.

Imperfect memory

We remember by reconstructing, not by recording.

Two modes of thinking

A fast, intuitive kind of thinking is often told apart from a slow, deliberate one, though the model is debated.

Applications in design

✓ Use it like this

Show few things at once and group information so it is easy to remember.

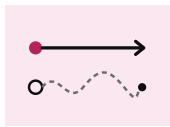
✗ Avoid

Designing as if people read everything and remembered every step.

👁 Don't fall for it

Test with real, distracted people, not just with the team that already knows the product.

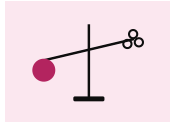
Theories and concepts



Theory

System 1 and System 2

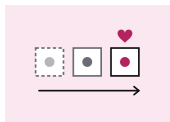
We think in two ways: one fast and intuitive, the other slow and deliberate.



Concept

Negativity bias

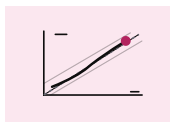
Bad things weigh more and are remembered more than good things of the same intensity.



Concept

Mere-exposure effect

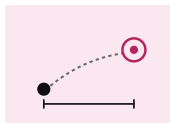
What we see several times ends up appealing to us more, even if we don't know why.



Theory

Flow

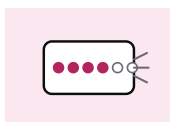
The state of total concentration that appears when the challenge matches our skill.



Concept

Fitts's law

The farther away and smaller something is, the longer it takes us to point at it.



Concept

Cognitive load

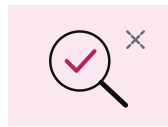
The mental effort a task demands from a memory that can only hold a few things at once.



Theory

Gestalt principles of perceptual organization

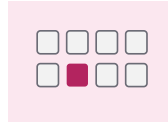
We see groups and whole shapes, not loose pieces: what is close, similar or continuous joins up.



Concept

Confirmation bias

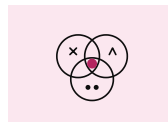
We seek out and believe what confirms what we already think.



Concept

Von Restorff effect

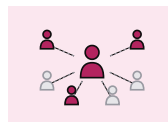
What stands out among similar items is remembered better.



Theory

Self-determination theory

What truly motivates us is what lets us choose, makes us feel capable and connects us with others.



Concept

False consensus effect

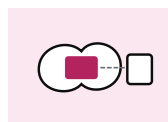
We believe most people think and choose as we do, more than is really the case.



Concept

Hick's law

The more options there are, the longer we take to choose, though each new option adds less time.

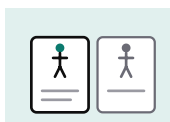


Concept

Mental model

The idea we form of how something works, which we use to predict what will happen.

Methods and tools



Method

Personas

Research-based characters that represent groups of users and their goals.



Method

Usability testing

Watching real people attempt tasks with the product to find out where they get stuck.

Connections

Campos cercanos

■ Behavioral economics

■ Human-computer interaction (HCI)

Used in

■ Interaction design

■ Behavioral design

■ UX design

Authors and works

1956	George A. Miller	Showed the limits of how much information we can hold at once.
1967	Ulric Neisser	Popularized the name of the field with his book Cognitive Psychology.
2011	Daniel Kahneman	Brought the idea of the two modes of thinking to a wide audience.

Sources

Original sources

- Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review*, 63(2), 81–97. [View source \(https://doi.org/10.1037/h0043158\)](https://doi.org/10.1037/h0043158)
- Neisser, U. (1967). *Cognitive psychology*. Appleton-Century-Crofts.

Academic reviews

- Evans, J. St. B. T., & Stanovich, K. E. (2013). Dual-process theories of higher cognition: Advancing the debate. *Perspectives on Psychological Science*, 8(3), 223–241. [View source \(https://doi.org/10.1177/1745691612460685\)](https://doi.org/10.1177/1745691612460685)

Secondary sources

- Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.

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