Meraki
Unleash Your Soul's Expression
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Latest Discovery on Brain Mechanisms Behind Decision Making and Contextual Learning

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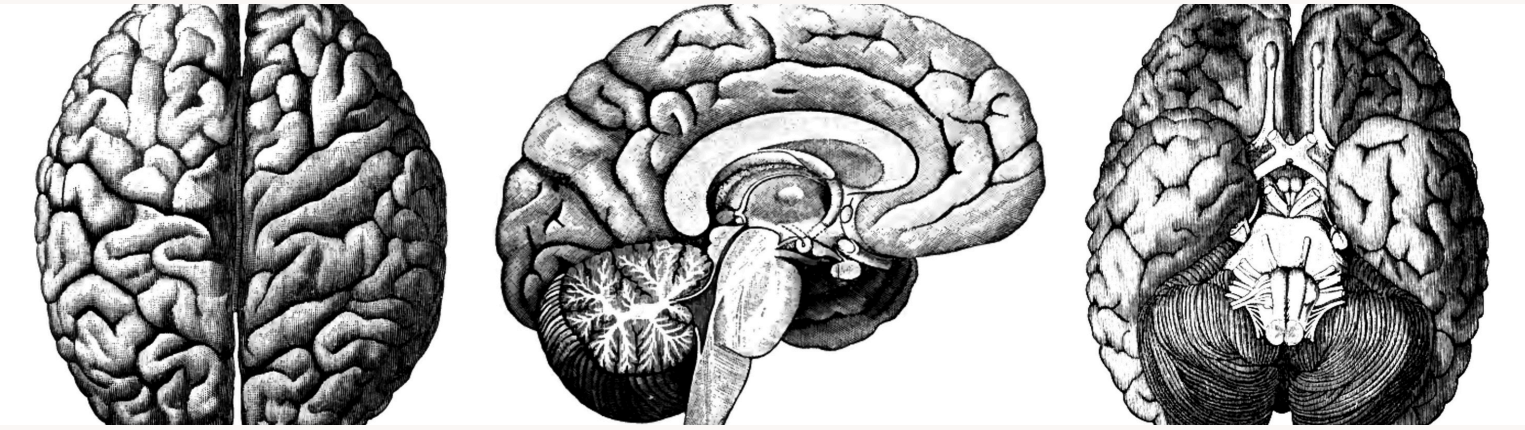

A new study from UC Santa Barbara reveals how the Orbitofrontal cortex (a part of the brain in the prefrontal cortex which is involved in the cognitive process of decision-making) and Dorsal hippocampus (posterior part of hippocampus responsible for cognitive functions such as Memory and Information processing) come together to help us understand ambiguous situations.

“Our ability to grasp that the meaning of stimuli changes with context is the foundation of cognition,” explains UCSB neuroscientist Ron Keiflin. This ability helps us to react differently to specific situations rather than act the same to the stimuli.
For example, Imagine that you are at a restaurant.When the waiter calls your name, you will react differently whether you expect food, talking with someone, or reading a menu. Your reaction would depend on the context in which you are and what is going on around you.
According to research findings published in Current Biology, the orbitofrontal cortex (OFC) and dorsal hippocampus (DH), among parts of the brain that are often credited with making context-sensitive choices, work together to help in selection of the best behavior in a given situation.To understand more on this theory, the researcher did an experiment on rats. They exposed rats to sounds in two different environments: one with a light on and another with the light off. Based on the environment, the same sound led to a reward (sugar water) and sometimes they didn't. The rats eventually learned to connect the sounds with the environment to get the reward, showing how their brains could handle tricky situations with changing information.

Using a special tool called chemogenetics, scientists could temporarily disable parts of the rats’ brains . They found that turning off the orbitofrontal cortex stopped the rats from using the environment to make decisions. But turning off the dorsal hippocampus didn’t affect their ability to perform the task, meaning these two brain areas have different but important roles in understanding context and making decisions.From further tests, scientists found that while the dorsal hippocampus (DH) wasn’t needed to learn context dependent tasks at first, it was very helpful in learning new tasks when the rats already had some prior knowledge on it. Rats that had built a map of past experiences and context-dependent relationships could quickly learn new tasks and connections.

"When equipped with prior knowledge, learning becomes quicker and more efficient," Keiflin noted.
This study showed that:
- The orbitofrontal cortex (OFC) helps make decisions and control behavior based on context.
- The dorsal hippocampus (DH) helps quickly learn new context related information by building on what the brain already knows.
These brain regions work together to help us adapt and learn well in different situations.

This Research suggests that prior knowledge plays an important role in learning. This was a known knowledge to all but wasn't considered in the neuroscience field. In simple terms, knowing things in advance can make learning new information faster and easier because our brain can connect new experiences to what we’ve already learned.
“A better neurobiological understanding of rapid, context-based learning could lead to breakthroughs in education and cognitive therapies,” Keiflin said. This study deepens our understanding of the brain's decision-making processes and also paves the way for practical applications in improving learning.

EVENTS CORNER

The Department of Psychology at Kristu Jayanti College, Bengaluru, organized a workshop on Basic Counseling Skills from December 12th to 21st, 2024, for M.Sc. Psychology students. Held in the H1 Auditorium of the Humanities Block, the workshop was conducted by the college's skilled and trained faculty. It aimed to enhance fundamental counseling techniques essential for building rapport, understanding clients, and fostering personal growth in a supportive and empathetic environment.

UPCOMING EVENTS

The Department of Psychology at Kristu Jayanti College is organizing the International Conference INSIGHT 2025: Mental Health at Work on March 27-28, 2025, at their Bengaluru campus. The conference will focus on addressing key challenges and strategies related to mental health in professional spaces. Registration opens on December 7, 2024, at 9:00 AM and will close on March 27, 2025, at 5:00 PM. This event provides an excellent opportunity for participants to gain valuable insights and engage in meaningful discussions about fostering mental well-being in workplaces.

STUDENTS ACHIEVEMENTS

STUDENTS' CORNER

Daisy

Shreya Mahli - 23PSYB50

The day has started without you,
How I wish, you'll come out of blue
And will say "Peek-a-boo"

The sun has rose to find my eyes,
Filled with tears for you
I can't help it 'cause I miss you

It's not only the regrets of things I never got to say.
This morbid is mourning for you today.
For you were the one to colour my day
But without you, everything seems grey

How much I loved you and, I know you loved me too

Each time I think of you
My mind plays those beautiful moments I've spent with you.

The day has started without you,
I won't cry again but I still wish to say a "adieu"

The one I love is in Heaven,
And all I wish is peace and happiness for them.

Star Crossed Lovers Stuck In a War

Max Kshetrimayum - 23PSYB29

I will, someday, write a play.
A knock off Romeo Juliet.
Not intended for the bronze stage or the silver screens.
A play where, our hands will stain of the civil blood that
Both our loved ones will proclaim.

In this play that i write,
Our act will fall short,
And it won't mend the feud of our families.
The death of our love, however, inevitable.

When you fall asleep in the casket,
As i scream to defy the stars,
People you know will have died.
Naked and defiled.

All of us will be the victim of this tragedy that i write.
And amidst our love that will certainly die,
The war will envelop us in a cycle of blood.
In every ounce of blood, funnily all of us will be the victim.

In the final act of this play that i plagiarise,
The stars will have humbled me in their lustre,
You will have risen from your slumber,
Only to find yourself far from home,
Flooded in the blood of people you know.

Paushali Dhar - 23PSYA40

Sahana A.P. - 23PSYB48

Sahana A.P. - 23PSYB48

PHOTOGRAPHS

Jasna Joy - 23PSYA23

Navya Hari - 23PSYB41

PSYCHOLOGY NEWS

- Unlocking the science of sleep: How rest enhances language learning-Sleep is critical for all sorts of reasons, but a team of international scientists has discovered a new incentive for getting eight hours of sleep every night: it helps the brain to store and learn a new language.

- Ditch TV and read a book: Research delivers best moves to reduce dementia risk- It's that time of the year when most of us get the chance to sit back and enjoy some well-deserved down time. But whether you reach for the TV controller, or a favorite book, your choice could have implications for your long-term brain health, say researchers.

Source: www.sciencedaily.com

"It is not primarily our physical selves that limit us but rather our mindset about our physical limits."
–Ellen J. Langer