

Brain Region That Motivates Behavior Change Discovered

N NEUROSCIENCE NEWS OCTOBER 24, 2017

FEATURED NEUROSCIENCE PSYCHOLOGY 6 MIN READ

Summary: Researchers report neurons in the posterior cingulate cortex ramp up activity prior to divergent behavior.

Source: University of Pennsylvania.

Simplified by Craig Geis for ease of understanding

Have you ever been stuck in a rut, going through the same motions day in and day out? How do you motivate to change your behavior?

Researchers from the University of Pennsylvania, Yale University, Columbia University and Duke University now better understand how this happens, and it has to do with a region in the brain called the posterior cingulate cortex. They learned that neurons in this central location ramp up firing rates, peaking just before a divergent or new behavior occurs.



Research evidence suggests that this region is highly diverse and may play a direct role in regulating the focus of attention.

“This circuit in our brain allows us to focus on a particular task, especially a task that leads to reward.

What’s less established is which trigger in the brain causes people to break from a routine and try something new, especially when doing so poses potential risks.

Doing the same thing over and over, habit patterns, do not provide adequate neural activity /stimulation in this brain region. You’d become hyper-focused on one option, and you may never make a change.

Research shows, as neural activity builds to a peak in this region of the brain we move to more divergent thinking and action, you become more exploratory. This allows the exploration of other opportunities that may be more successful.

These findings have potential applications in terms of innovation, creativity and exploration. Techniques that directly activate the posterior cingulate cortex like brain stimulation or game play that promotes distraction, particularly within situations that don’t allow a routine to form, can lead to more creativity.

How does this apply to our more experienced workers who are set in their ways? What are some other applications?