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Being watched can boost productivity

A friendly bystander can increase activity in part of brain used to pay attention

By Laura Sanders 1:00pm, April 17, 2015

The mere presence of someone else can make the brain sharpen its focus. In the company of a friend, monkeys became more productive at a simple job, researchers report April 8 in *Cerebral Cortex*. This diligence was accompanied by heightened activity in brain regions that focus attention.

The results clarify why performance can change when an observer hovers nearby, even if that observer isn't talking or interacting in any way. This effect, known as social facilitation, might explain why people sometimes excel when an audience is watching.

In the experiment, Elisabetta Monfardini of INSERM, the French National Institute of Health and Medical Research, and colleagues trained three rhesus monkeys to touch images of rainbows, armchairs, backpacks and other objects as they appeared on a screen. Sometimes the monkeys worked alone. Other times, a familiar companion that had grown up with the monkey was nearby, but not interacting with the worker. "The companion monkey was just a presence in the room," Monfardini says.

In the company of a friend, the monkeys touched the images about three times more than when the monkeys worked alone, the researchers found. Brain activity changed too. PET imaging revealed that brain regions known to be involved with attention, including the frontal and parietal cortices, were more active when the monkeys worked while an observer hovered nearby. That suggests that the presence of another monkey hones the brain's focus.

But the influence of an observer could easily shift, depending on the particulars of the situation, Monfardini notes. In the experiment, the bystander was a familiar monkey; a strange or hostile observer might evoke a completely different effect. The effect of an observer may also change depending on the task at hand. Easy or well-known tasks may be enhanced by another's presence, while difficult tasks might actually suffer. And the brain regions involved might also change depending on the scenario.

If shifts in attention — and therefore performance — occur when people are observed, the results could have far-ranging implications, Monfardini says. "This should be taken into account in school, at work, and more generally in everyday life."

Given the similarities between people and monkeys, it's "very likely" that the same reaction occurs in people's brains, says psychologist Michael Posner of the University of Oregon in Eugene. Attention is "involved in most things we do," he says, including external actions and internal thoughts, memories and emotions.

Neuropsychologist Chris Frith of University College London calls the results interesting but cautions that more studies are needed to understand what's going on in the brain. Because brain regions are multitaskers, it's difficult to say whether changes in attention are behind the improved performance.

Citations

E. Monfardini *et al.* Others' sheer presence boosts brain activity in the attention (but not the motivation) network. *Cerebral Cortex*.
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10.1093/cercor/bhv067.

Further Reading

L. Sanders. Consciousness emerges.
Science News. Vol. 181, February 25, 2012,
p. 18.

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