

Effects of Sleep on Emotions



Not getting enough sleep can make us feel a lot of things, but more than anything else it can make us feel super emotional, according to a new [study](#) published in the *Journal of Neuroscience*.

Up until now, researchers didn't know how exactly sleep deprivation affected our emotions. Study author Talma Hendler of Tel Aviv University said she was particularly interested in "how lack of sleep leaves us with a short emotional fuse." So she and her team kept 18 adults awake all night, which, as one would imagine, was no small feat.

Participants were given two rounds of tests while undergoing brain scans both during their all-nighter and the day after a good night's sleep. *New Scientist* reported that one of the tests asked participants to describe which direction yellow dots were moving, in which the dots were laid over distracting images. These images could be "positively emotional" (cat photos), "negatively emotional" (a mutilated body), or neutral (a spoon).

Researchers found that when participants got a good night's sleep, they were quicker and better at telling the direction of movement when the dots were over a neutral image. Without sleep, however, participants performed equally bad when the dots were over neutral and emotional images. Hendler said it could be sleep deprivation "universally impairs judgment," but it could also be "that lack of sleep makes neutral images

suddenly provoke an emotional response.”

To further their study, researchers conducted a second experiment that involved participants being shown neutral and emotional images while inside an fMRI scanner. This time, as participants completed a task, researchers could measure activity in different areas of the brain. And like the first experiment, researchers found that sleep deprived participants were distracted by every image whereas non-sleep deprived participants were only distracted by emotional images.

In the brain, [the amygdala](#) – a region associated with emotion – was activated when non-sleep deprived participants were seeing emotional images. Among those who were sleep deprived, the amygdala fired up in response to neutral *and* emotional images. What’s more is researchers found unusual activity in the anterior cingulate cortex, a brain region believed to regulate the amygdala.

“You lose neutrality,” Hendler added. “The ability of the brain to tell what’s important is compromised – it’s as if everything is important.”

The solution, of course, is obvious: try to get some sleep. If not for better control of emotions then for the fact that sufficient sleep can help you avoid a host of health problems. [See your dentist if you suspect you have sleep apnea or a sleep disorder.](#)

Source: Hendler T, et al. Losing Neutrality: The Neural Basis of Impaired Emotional Control without Sleep. *Journal of Neuroscience*. 2015.