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Neuroscientists Learn Why Some People Like Surprises

Even if you think you don't like surprises, your brain does, according to a study published in this week's issue of the *Journal of Neuroscience*. Scientists from Emory University and Baylor College of Medicine set out to identify the biological reasons for why some people enjoy the unexpected. They used a machine to squirt either fruit juice or water into the mouths of test subjects-sometimes predictably, sometimes unpredictably-and recorded the participants' reactions. Meanwhile functional magnetic resonance imaging (fMRI) recorded changes in the subjects' brain activity.

"Until recently, scientists assumed that the neural reward pathways, which act as high-speed Internet connections to the pleasure centers of the brain, responded to what people like," Read Montague of Baylor College of Medicine explains. "However, when we tested this idea in brain scanning experiments, we found that reward pathways responded much more strongly to the unexpectedness of stimuli instead of their pleasurable effects." In other words, the subjects' brains were more active when they were exposed to the unanticipated.

"We find that so-called pleasure centers in the brain do not react equally to any pleasurable substance, but instead react more strongly when the pleasures are unexpected," Emory neuroscientist Gregory Berns adds. "This means that the brain finds unexpected pleasures more rewarding than expected ones, and it may have little to do with what people say they like." --*Harald Franzen*