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### Love At First Sight

#### Not an Emotion, Rather a Drive

Researchers have made a discovery that won't ring true at first hearing but, scientifically, it's valid. This is because the finding seems to go against what we know as strong emotional feelings seems to work different in our brains – more like a motivation or drive.

#### When Someone First Falls in Love

Here's the low down. When someone first falls in love, they feel overwhelmed by a flood of emotions. However, when scientists have investigated this phenomenon, they have observed the brain lighting up in the *dopamine-rich regions* that are documented as relating to motivation and reward. The more passion the person feels, the more activity in these dopamine-rich regions. And what's the object of that drive (or motivation)? Pleasurable activity – *making whoopee!*

#### As the Relationship Develops

As the relationship develops into its deeper phases, the more the emotional regions (such as the *insular cortex* and parts of the *anterior cingulate cortex*) are stimulated. These findings are based on research at Rutgers University in New Jersey, where researchers studied seven men and 10 women who professed to be deeply in love. While the volunteers were inside a functional MRI scanner, the scientists had them gaze at a variety of pictures of people.

And by the way, it turns out that that initial motivation for pleasurable reward also excites other regions of the brain (called *the right caudate nucleus and right ventral tegmentum*), and that these are the same regions that are active when someone is munching on chocolate! (You didn't expect that one!) Scientists also noted that this drive to pleasurable activity is rather similar (brain-wise) to obsessive-compulsive activity (that's the sex-crazed aspect).

#### Differences in the Brain Activity

And finally, to bring their findings clearly into the realm of believability, the researchers found there were differences in the brain activity between passion-pursuing women and men. It seems that the women demonstrate more emotional brain activity early on in the relationship. When look at pictures of their lover, their memory regions are more active – indicating they're recalling their past experience together.

Whereas the men, well good old lust seems to predominate this early period with picture gazing stimulating the visual areas that stimulate sexual excitement. (Who would've guessed that!)

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**Sources: Reward, Motivation, and Emotion Systems Associated With Early-Stage Intense Romantic Love** *Journal of Neurophysiology* 94: 327-337 May 31, 2005 **Romantic Love: an fMRI Study of a Neural Mechanism for Mate Choice** *The Journal of Comparative Neurology* 2005 Dec 5;493(1):58-62 **Contributions of Anterior Cingulate Cortex to Behaviour** *Brain* Vol. 118, No. 1, 279-306, 1995