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WHY FALLING IN LOVE GIVES YOU BUTTERFLIES? THESE SWOONY SENSATIONS WE RECOGNIZE AS SIGNS OF TRUE LOVE ARE REALLY MORE ABOUT LUST

How do you know you're in love or that you have a crush? Probably you get a fluttery sensation in your stomach, aka, "you feel butterflies." It's a poetic image: a belly full of glittering monarchs and swallowtails that alight when your beloved walks into the room: but it's more than just a moving metaphor; it's a physical phenomenon that points to the profound tie between body and mind. And it's not just a jittery stomach. It's usually also clammy palms, a racing heart and an inability to focus on anything but the apple of your eye. And the absence of these distinctly physical symptoms can be just as telling as their presence. These swoony sensations we recognize as signs that we're truly into someone are symptoms of sexual passion — not of undying devotion. Dr. Daniel Amen, a psychiatrist, neuroscientist and the author of several books including "Change Your Brain, Change Your Life," agrees that these bodily symptoms point more to lust than love, and cites the activation of the basal ganglia in the brain as a crucial factor. "Falling in love — or rather falling in lust — activates those pleasure centers housed in [the basal ganglia] which causes an immediate physiological response. The heart beats fast, your hands will get cold and sweaty and you're super-focused on that person," "Your limbic or emotional brain activates the vagus nerve that goes from the brain to your gut," says Dr. Amen. "When you get nervous, or when you get excited (as I explain to my patients, it's the same feeling, but it depends on your interpretation of it) this nerve is stimulated that activates the gut." Dr. Prause points to a region in the brain called the cingulo-opercular network, aka the salience network, which is associated with motivation and may trigger in the early stages of a relationship. "The butterflies feeling is partially your body saying I'm stressed but I'm motivated to do something or see this person again. It's actually the same when you want to punch somebody in the face; the body interprets it in different ways."

Our brain isn't just pushing magic buttons to get our heart rate to pump up, or our cheeks to turn red; it's releasing potent chemicals when our crush walks by. "Dopamine is the first neurotransmitter to respond to seeing an attractive person," "Your dopamine levels instantly increase because you've detected something desirable in your environment. You are instantly focused and excited by the person you see. Your norepinephrine levels also increase which further focus you, but also make you nervous and a bit cautious." And just how intensely you feel this nervousness could depend on your personality. "Shy people have low serotonin which causes the norepinephrine to go up even higher, producing the high anxiety associated with meeting a new person, especially if they are attracted to them," adds Carroll.

We also experience the release of oxytocin, but perhaps not as quickly as one would expect. "Oxytocin, your bonding neuropeptide, starts to increase when you to start to feel comfortable with and close to the person."

To sum up, love is rather a chemical reaction than an emotion. But because of that, it doesn't get any less wonderful.

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