

Genetic markers underlying the natural addiction of love

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Theorists speculate that love is a natural addiction. Indeed, continued motivation and desire to be with a beloved serves many beneficial functions such as companionship, bi-parental care of young, and attachment. However, when romantic love relationships are thwarted or dysfunctional, unwanted symptoms, similar to those seen in substance addictions, are often expressed from mild depression and withdrawal to obsessive rumination, stalking, mood swings, and even suicide and homicide. As such, it is important to understand the biological and genetic basis of this natural addiction, which may also elucidate pathways and treatments for other types of addictions. In a series of studies my colleagues and I examined neural expressions of OXTR and AVPR gene variants in newlywed lovers. OXTR and AVPR are known for their involvement in mating, and social and reproductive behaviors; and are associated with OT and AVP function. Results revealed that OXTR and AVPR were associated with greater activation of major dopamine, serotonin, oxytocin, and opioid centers. Moreover, this pattern of neural expressions was sustained and enhanced over time for individuals with genetic variants sensitive to AVP and OT variants. These results highlight the need to look beyond traditional dopaminergic markers of addiction, to other variants that may sustain attachment to pleasurable substances, even when disruptive.