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In male Syrian hamsters, serotonin (5-HT) mediates the expression of avoidance behaviors between conspecifics. 24 hours after social defeat, increased extracellular 5-HT levels via systemic administration of the selective serotonin reuptake inhibitor (SSRI), fluoxetine, prior to social avoidance testing increases social avoidance. However, 24 hours after social defeat, site specific microinjection of 8-OH-DPAT, a 5-HT_{1a} receptor agonist, into the anterior hypothalamus decreases social avoidance. Thus, there is a discrepancy between the systemic and site-specific effects of 5-HT on social avoidance. The goal of this study is to determine if the anxiolytic effects of 5-HT_{1a} receptor activation prior to avoidance testing are specific to the anterior hypothalamus or if systemic activation of 5-HT_{1a} receptors prior to avoidance testing is sufficient to reduce social avoidance. Our data suggest that systemic activation of 5-HT_{1a} receptors after social defeat and prior to avoidance testing does not affect social avoidance. Therefore, the ability of 5-HT_{1a} receptors to reduce social avoidance in male hamsters is specific to 5-HT_{1a} receptor activation in the anterior hypothalamus.

Keywords:

Avoidance

Anxiolytic

Anterior hypothalamus

Conditioned defeat

8-OH-DPAT

5-HT (Serotonin)

5-HT_{1A}