

Illustrating the Circuits of Sexual Desire

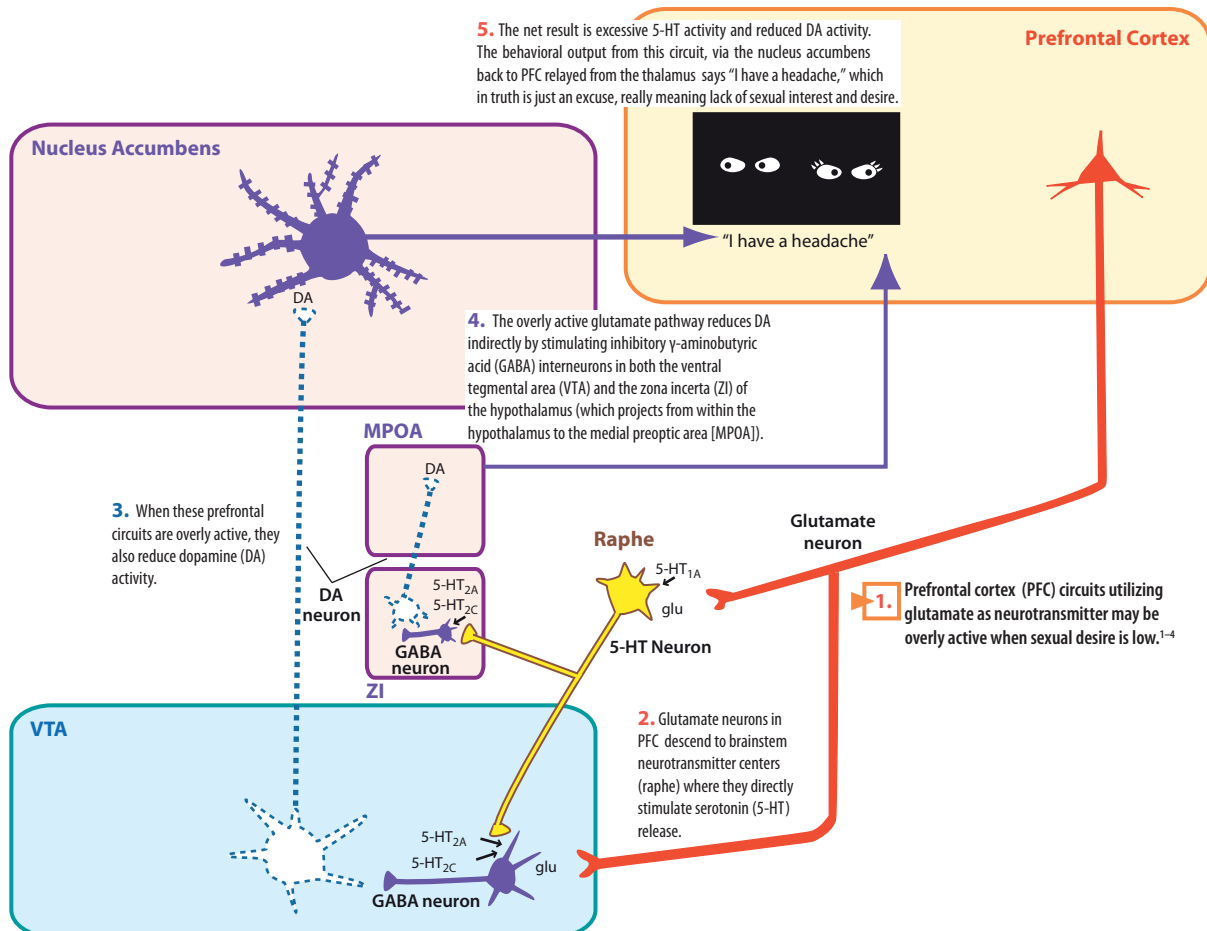
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Issue: *Malfunctioning reward pathways may mediate the reduction of sexual desire caused by depression, sexual disorders, endocrine disorders, hormones, and various psychotropic drugs. Effective treatments for reduced libido target these circuits by enhancing dopamine, reducing serotonin, or both.*

TAKE-HOME POINTS

- ◆ Reward pathways connect the prefrontal cortex with many key brain regions, including neurotransmitter centers, limbic emotional areas, and the hypothalamus.
- ◆ In these circuits, some neurotransmitters, such as dopamine, norepinephrine, oxytocin, and melanocortins, cause sexual excitation whereas other neurotransmitters, such as serotonin, opioids, and endocannabinoids, inhibit sexual excitation in these same circuits.
- ◆ Drugs, hormones, and disorders that disrupt sexual desire may either reduce the neurotransmitters of sexual excitation or enhance the neurotransmitters of sexual inhibition.
- ◆ Potential treatments for reduced sexual desire are those that promote dopamine, oxytocin, or melanocortins or block serotonin in reward pathways.

Figure 1. Circuits of Low Sexual Desire in Hypoactive Sexual Desire Disorder



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Figure 2. Potential Treatments for Low Sexual Desire

