Social Isolation as Affecting Aggression and Neurotransmitter Concentration

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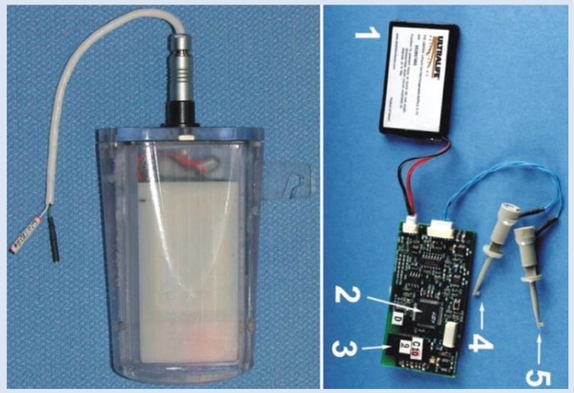
Aggression has in humans been linked to early life social isolation, as well as the decision making and impulse control areas of the brain such as the prefrontal cortex and emotional regulatory systems.

Impaired serotonergic function and neurotransmitter concentration in the brain have also been connected to decrease in impulse control, and aggressive behaviors.

Rats are separated into social housing or into isolation, and remain in these conditions for 8 weeks.



After 8 weeks in group conditions, rats are subjected to a resident-intruder paradigm, and acts of aggression are recorded. Subjects' serotonin and dopamine concentrations are measured using WINCS

- Neurotransmitter concentration could be above or below normal in socially isolated participants

- Aggression could be negatively or positively correlated with socialization

- Projected results would likely suggest hypothesized values

Hypothesis: In Socially isolated subjects, rats will demonstrate higher aggression in the resident-intruder paradigm, and have significantly lower concentrations of serotonin and dopamine