Apr 14th, 9:00 AM - 10:00 AM

Effects of Allopregnanolone on Object and Spatial Learning

Sarah Hartman  
*Illinois Wesleyan University*

Teresa Banks  
*Illinois Wesleyan University*

Benjamin Becker  
*Illinois Wesleyan University*

Josephine Fairall  
*Illinois Wesleyan University*

Elise Haury  
*Illinois Wesleyan University*

*See next page for additional authors*

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Hartman, Sarah; Banks, Teresa; Becker, Benjamin; Fairall, Josephine; Haury, Elise; Sloan, Kelli; Tesler, Scott; Thomas, Kathryn; Wodka, Malory; and Tinkler, Faculty Advisor, Gregory, "Effects of Allopregnanolone on Object and Spatial Learning" (2012). *John Wesley Powell Student Research Conference*. 4.  
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Presenter Information
Sarah Hartman; Teresa Banks; Benjamin Becker; Josephine Fairall; Elise Haury; Kelli Sloan; Scott Tesler; Kathryn Thomas; Malory Wodka; and Gregory Tinkler, Faculty Advisor
Allopregnanolone (Allo) is a neurosteroid metabolite of progesterone. Allo modulates cognition, specifically learning and memory, but these effects are frequently confounded by its anxiolytic properties. We attempted to dissociate the anxiolytic effects of Allo from its mnemonic effects using a subthreshold pharmacological challenge with the stimulant d-amphetamine. We assessed both spatial and nonspatial memory. Spatial memory was tested in a Morris Water Maze, and nonspatial object memory was tested on a novel discrimination task. Allo, alone or in combination with d-amphetamine did not have any significant effects on spatial memory. Both Allo and amphetamine impaired novel object performance, but the combination of the two enhanced performance. The results suggest that, depending on the cognitive domain being tested, the sedative effects of Allo can be dissociated from mnemonic effects.