



Apr 14th, 10:00 AM - 11:00 AM

Frontal Midline Theta as an Index of Emotional Modulation in Working Memory

Sean O'Bryan
Illinois Wesleyan University

Joseph Williams, Faculty Advisor
Illinois Wesleyan University

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>



Part of the [Psychology Commons](#)

O'Bryan, Sean and Williams, Faculty Advisor, Joseph, "Frontal Midline Theta as an Index of Emotional Modulation in Working Memory" (2012). *John Wesley Powell Student Research Conference*. 1.

<https://digitalcommons.iwu.edu/jwprc/2012/oralpres3/1>

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Oral Presentation O3.1

**FRONTAL MIDLINE THETA AS AN INDEX OF EMOTIONAL MODULATION
IN WORKING MEMORY**

Sean O'Bryan and Joseph Williams*
Psychology Department, Illinois Wesleyan University

While the influence of emotion on long-term memory processes is well-understood, it remains unclear whether the presence of emotional information improves or diminishes working memory (WM) performance. Emotional stimuli may in fact enhance WM by activating attentional systems in the brain. Electrophysiological investigations have determined that brain areas associated with memory and emotion interact via a phenomenon known as the theta rhythm. As a common correlate of both WM and emotional processing in the frontal lobe, the theta rhythm may serve as a promising neurophysiological link between these cognitive processes. The present study utilized a WM task with dot arrays while electrical activity in the brain was recorded with an electroencephalograph (EEG). Face stimuli (positive, negative, and neutral affective faces) were incorporated throughout the memory task to determine the effects of emotion on both the theta rhythm and working memory performance.