Subject: Thesis Defense: Gwendolyn Kennedy, MS Biology
Date: Monday, July 24, 2023 at 4:20:05 PM Eastern Daylight Time
From: SSB Faculty List on behalf of Diane St. Germain
To: SSB-FACULTY-LIST-L@LISTSERV.GMU.EDU

Thesis Defense Announcement
To: The George Mason University Community

Candidate: Gwendolyn Kennedy

Program: M.S. in Biology

Date: Friday August 4, 2023

Time: 3:00 P.M. Eastern Time (US and Canada)

Title: “Social Salience Attribution in Opiate Use Disorder: an fMRI Pilot Study”

Committee Chair: Dr. Frank Krueger
Committee Members: Dr. Nadine Kabbani, Dr. Mary Lee

Join Zoom Meeting
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All are invited to attend the defense.

ABSTRACT:
Opioid Use Disorder (OUD) remains a significant health burden across various societal roles, as OUD and addiction affects women with children as they fulfill the role of motherhood. Neurobiological hallmarks of OUD include limbic system neuroadaptations,
dysregulation, and changes in the salience network. This leads to drug craving and seeking behavior, at the detriment of normative social attachments and personal insight/metacognition. Negative behavioral patterns arise as salience attribution shifts away from normative behavior, towards behavior that fulfills opioid use, with adverse consequences for the maternal-child bond. We conducted diagnostic fMRI scans on OUD patients as they performed Incentive Cue tasks with personalized visual cues that included images of the participants' youngest child and images of their preferred opioid, with the aim of observing behavioral differences in cue response indicative of changes to the maternal-child bond.

We conducted Analysis of Variance (ANOVA) and Analysis of Covariance (ANCOVA) on the aggregated behavioral data. Analysis identified significant differences during behavioral response time and error rate in response to the opioid cues. There were no significant differences in behavior response to the cues of the participant's child. These findings emphasize the importance of using cues with varying levels of valance to study differences in salience attribution in OUD mothers, and contribute to the effort in understanding neurological changes resulting from opioid addiction.

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