

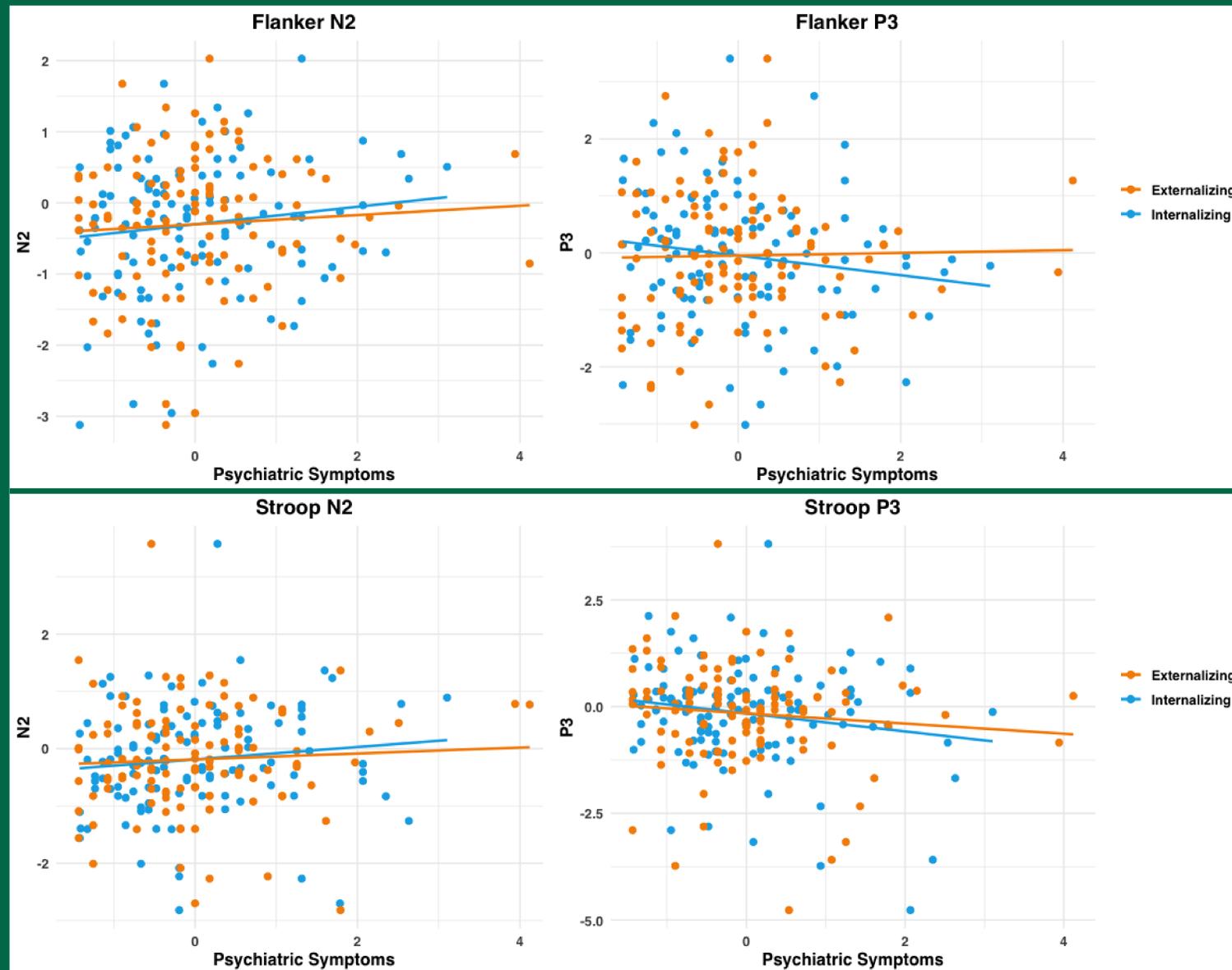
# A MULTIPLE REGRESSION ANALYSIS ON THE RELATIONSHIP BETWEEN STIMULUS MONITORING ERP COMPONENTS AND PSYCHIATRIC SYMPTOMS

 UNIVERSITY OF SOUTH FLORIDA | PRESENTER: Sanikaa Thakurdesai

# Internalizing and Externalizing Symptoms are Unrelated to Stimulus Monitoring measured from Two Tasks

## BACKGROUND:

- Stimulus monitoring ERPs such as N2 and P3 are often examined to understand conflict monitoring process and attentional control processes in relation to psychopathology.
- N2 reflects early detection of conflict monitoring.
  - Blunted N2 have been found to be associated with depression, schizophrenia, and substance use disorders.
  - The relationship between N2 amplitudes and anxiety have been mixed.
  - Exaggerated N2 is often observed in ADHD samples.
- P3 reflects motivated attentional control and response inhibition.
  - Reduced P3 is found across multiple disorders such as depression, substance use disorder, PTSD, and Alzheimer's disease.
  - Enhanced P3 is observed across schizophrenia and OCD.
- Studies examining conflict monitoring ERPs focused on one task only, which might overlook important task-specific effects on ERP-Symptom relationship.
- The current study examined task-specific relationships between the N2/P3 and psychiatric symptom scores on internalizing and externalizing dimensions.



## AUTHORS:

Sanikaa Thakurdesai<sup>1</sup>, Bohyun Park<sup>1</sup>, Peter E. Clayson<sup>1</sup>  
<sup>1</sup>University of South Florida

## DESCRIPTORS:

Stimulus Monitoring ERPs, N2, P3, Conflict monitoring, Cognitive Control, Attentional Control, Internalizing-Externalizing Symptoms.

## METHODS:

- 115 healthy undergraduates (84 women)
- ERPs recorded during two different cognitive tasks.
  - Modified Eriksen flanker task
  - Stroop task
- Achenbach Adult Self Report Questionnaire
  - Internalizing and externalizing composite scores (scaled).

## IMPLICATIONS:

- Stimulus monitoring ERPs evoked from the two different tasks were not related to internalizing or externalizing symptoms.
- These findings suggest that **internalizing/externalizing symptoms are not strongly associated with stimulus monitoring** in a healthy undergraduate sample.
- It is necessary to consider the nature and severity of these symptoms in the sample to understand how they relate to cognitive processes.
- **Future replication in clinical samples is needed** to understand the task-specific effect on the relationships between internalizing/externalizing symptoms and stimulus monitoring ERPs, as this relationship might be more pronounced than it is in a healthy sample.



**Scan to visit  
our OSF  
Preregistration!**

## Contact:

Sanikaa Thakurdesai  
sanikaat@usf.edu