

Poster Title: Impact of Cooccurring Conditions on EEG Biomarkers in Young Autistic Children

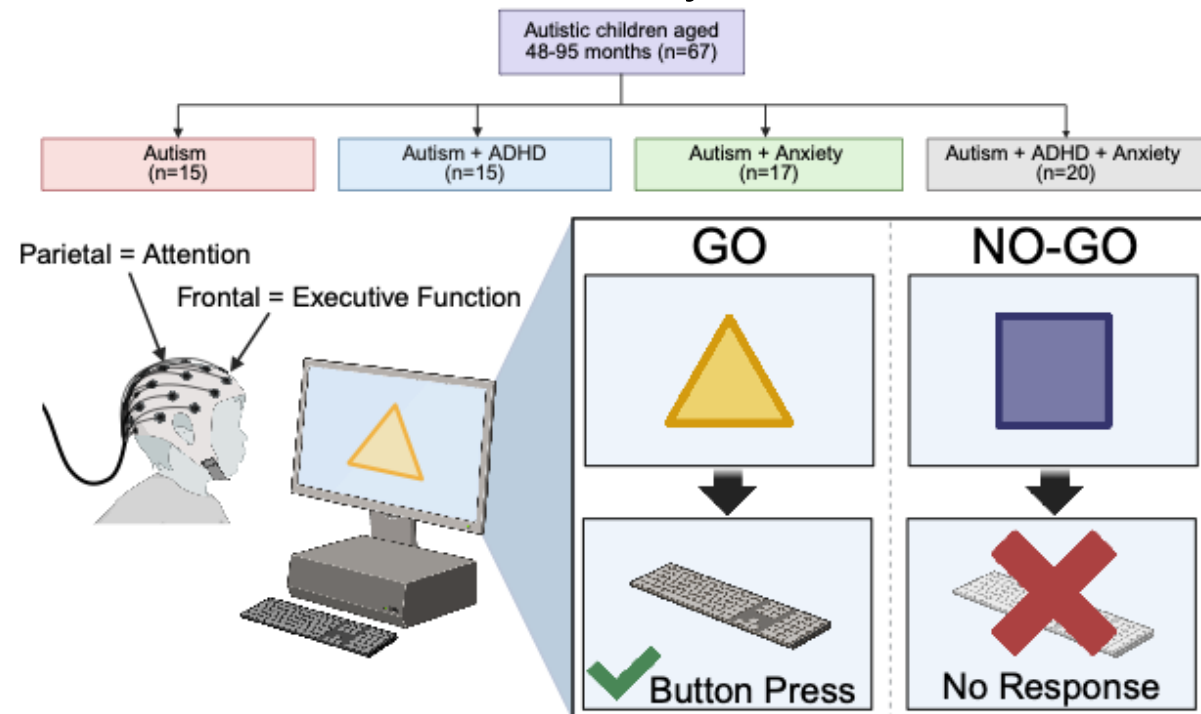
Presented by: Jamie Courtland MD PhD

Why:

- Autistic features present heterogeneously and early in development
- Reliable biomarkers can help stratify patients and enable appropriate treatment monitoring
- Limitations in current approaches to studies of autistic children:
 - Reliance on caregiver reports
 - Limited validity of frequently employed assessment tools
 - Cooccurring conditions impact findings (high prevalence of ADHD and/or anxiety in autistic children: ~50%)

What We Did:

Evaluated EEG-based neural signatures during a go/no-go behavioral paradigm as a biomarker of executive function in autistic children with or without ADHD and/or anxiety



What We Found:

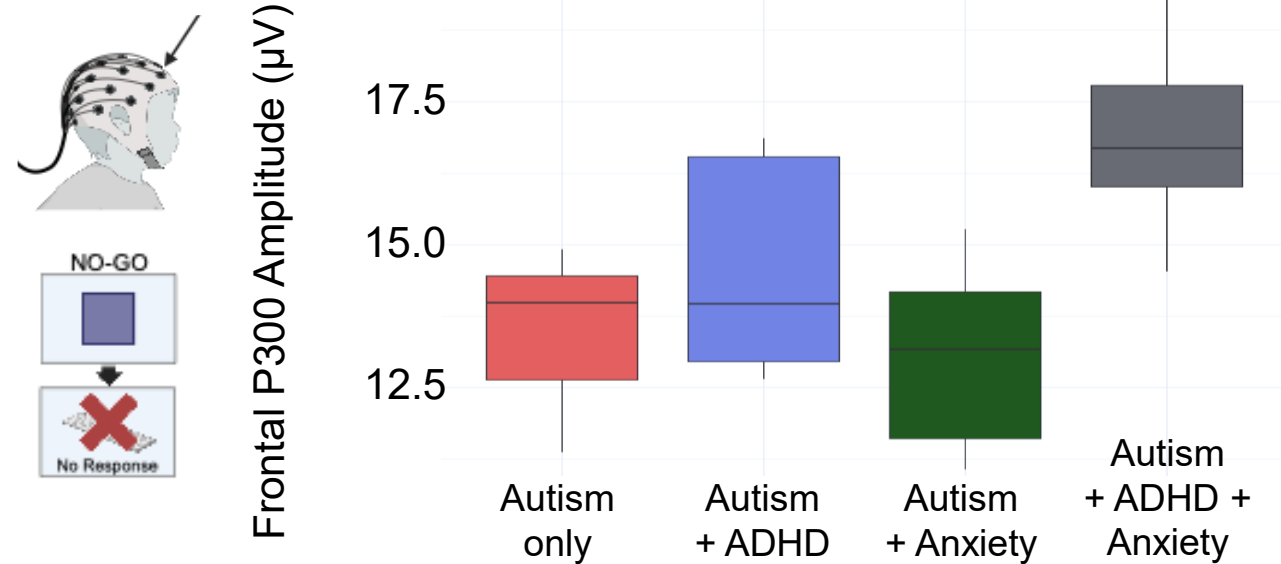
In no-go trials:

- Cooccurring ADHD led to quicker frontal N200 latencies ($p=0.03$) and larger frontal N200 amplitudes ($p=0.04$) compared to autism alone
- Cooccurring anxiety led to quicker parietal N200 latencies ($p=0.04$) and smaller parietal N200 amplitudes ($p=0.02$) compared to autism alone

Clinical Implications:

- Unique ERP signatures identified for cooccurring ADHD and anxiety in frontal and parietal regions, respectively
- Go/no-go paradigms could aide in stratifying autistic cohorts and decrease heterogeneity of clinical study samples

Frontal ERP differences based on presence of ADHD



Parietal ERP differences based on presence of anxiety

