

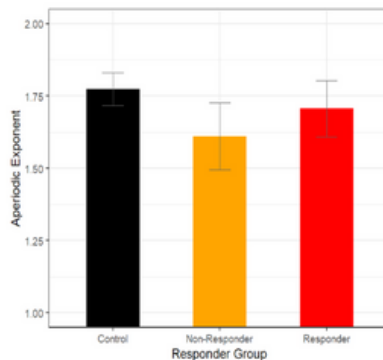
ARNETT LAB

Newsletter

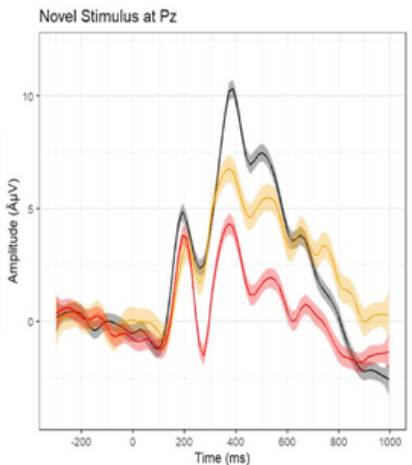
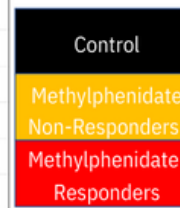
RESEARCH FINDINGS

Methylphenidate (e.g., Concerta, Ritalin) is commonly used to treat children with ADHD; however, individual responses to this medication vary considerably. Dr. Arnett and her colleagues at the University of Washington recently published a paper in the journal *Frontiers in Neuroscience* demonstrating that electroencephalography (EEG) may be used to predict whether a child will show ADHD symptom improvement on methylphenidate.

Specifically, this study found that the resting aperiodic slope (a measure of background neural oscillatory patterns) and the novelty P3 amplitude (a measure of neural firing) together achieve moderate to high accuracy in predicting parent-report of prior methylphenidate response. Children with reduced P3a amplitude may respond more positively to methylphenidate compared to children who have normal P3a amplitudes and flatter aperiodic slope.



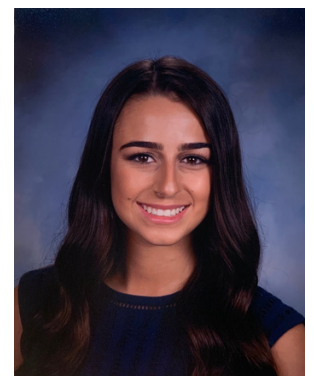
(A) Methylphenidate non-responders reveal a flatter aperiodic slope compared to responders and controls.



(B) Methylphenidate responders have reduced novelty P3a amplitude compared to non-responders and controls

MEET THE TEAM

Erica Ferrara joined the Arnett Lab in October 2021 as a clinical research assistant. She attended Villanova University as an undergraduate majoring in Psychology, and earned her M.S. in Clinical Research Methods from Fordham University in May 2021. She has loved continuing her passion for ADHD research, from etiology to interventions, at BCH so far. Outside of the lab, Erica enjoys learning to cook with HelloFresh, exploring different areas of Boston, and having family and friends come to visit!



RECRUITING STUDIES

The RHINO Study is now recruiting! We are looking for: 1) 2.5-4 year old children with or without a family member who has ADHD and 2) 7-11 year old children with or without ADHD. If you know or have a child that qualifies for this study, please visit our website or contact us for more details. Participation in this study involves the completion of online questionnaires, a remote interview, and a single in-person visit to our laboratory, during which your child will complete an EEG and a neuropsychological evaluation. The visit takes about 3 hours and you will earn \$40, plus reimbursement for parking and public transportation.

CONTACT INFORMATION

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