

INTRODUCTION

- Sensory differences are common among autistic people beginning in early life^{1,2} and have been reported in children and adults with ADHD.³
- Autism and ADHD may share causal pathways.¹
- Whether infants with elevated likelihood for ADHD present similar sensory profiles to infants at elevated likelihood for autism remains unclear.
- Understanding similarities/differences in early sensory reactivity, and associations with autism/ADHD traits, could inform differential diagnosis.

OBJECTIVES

- Evaluate whether infants with family histories of autism, ADHD, or neither show sensory differences
- Examine association between sensory behaviors and early autism/ADHD characteristics in 12-month-olds

METHODS

Participants

- To date, 28 12-month-old infants included from ongoing prospective study (target $n = 160$)
 - Elevated likelihood for autism ($n = 5$)
 - Elevated likelihood for ADHD ($n = 9$)
 - Lower likelihood (LL; $n = 14$)
- 8 infants were female, 20 were male
- 21.4% identify as Hispanic, 46% as Mixed Race, 46% as White, and 0.03% as Asian

Measures

- Sensory Processing Assessment (SPA⁴):** Play-based assessment measuring hyporeactivity, hyperreactivity, sensory seeking
- Autism Observation Scale for Infants (AOSI⁵):** Measure of early signs of autism; used total score
- Behavior Rating Inventory for Children (BRIC⁶):** Examiner-rated attention, activity, impulsivity
- Examiner-Rated Social Engagement^{7,8}:** Frequency of eye contact, shared affect, overall responsiveness



ANALYSES & RESULTS

- Familial likelihood group differences assessed via ANOVA
- Correlations between SPA sub-scores and other variables

Objective 1

- No significant differences in SPA scores between groups ($ps > 0.05$; Fig. 1)
- Cohen's d : Medium-to-large effect sizes for low likelihood vs elevated likelihood autism contrasts; variable for elevated likelihood autism vs. ADHD contrasts (Table 1)

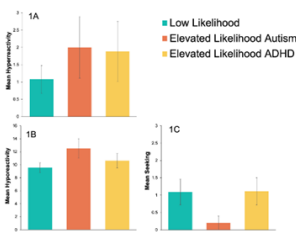


Fig. 1. SPA performance based on familial likelihood groups: (A) Hyperactivity, (B) Hyporeactivity, (C) Seeking.

Table 1. Cohen's d values.

	LL vs. Autism Likelihood	LL vs. ADHD Likelihood	Autism vs. ADHD Likelihood
Hyperreactivity	0.53	0.38	0.05
Hyporeactivity	1.08	0.38	0.60
Seeking	0.97	0.02	1.03

Objective 2

- In full sample, higher hyperreactivity/avoidance associated with higher AOSI scores, $r = 0.399$, $p = 0.039$ (Fig. 2)
- No other correlations were significant

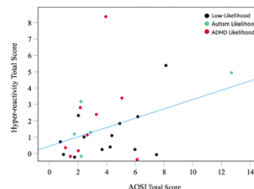


Fig. 2. Correlation between SPA hyperreactivity and autism symptoms at 12 months of age.

CONCLUSIONS

- Infants at elevated likelihood for autism or ADHD did not differ statistically from infants at low likelihood at 12 months of age
- Higher hyperreactivity was associated with higher early characteristics of autism

Strengths

- First study to examine the development of sensory reactivity behaviors of autism and ADHD traits simultaneously in 12-month-olds
- Use of direct observation to assess sensory behaviors

Limitations

- Small sample size, preliminary
- Outcomes (autism diagnosis, ADHD concerns, typical development) are not yet available

Future Steps

- Examine whether there are differences in sensory reactivity from 12 to 24 months among infants who meet criteria for autism or show signs of ADHD at 36 months
- Incorporate physiological measurements during SPA
- Compare sensory questionnaire data with behavioral data

ACKNOWLEDGMENTS

I would like to deeply thank Dr. Kadlaskar and Dr. Miller for their mentorship and support throughout this project, as well as all Miller Lab staff and students and the participating families.

REFERENCES

