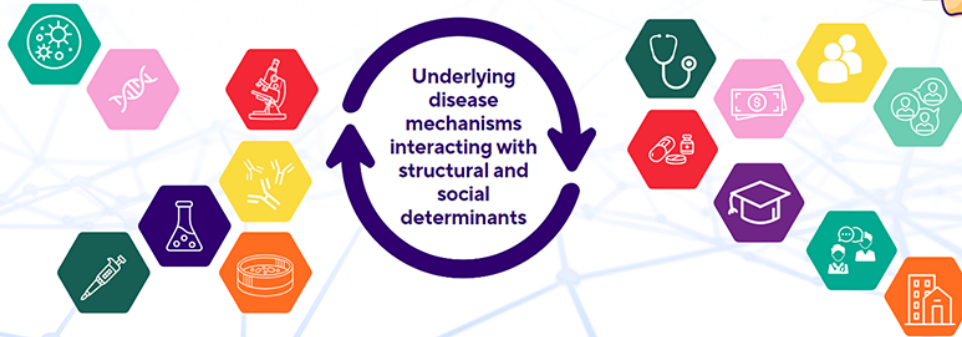




19TH ANNUAL CHILD HEALTH RESEARCH DAYS
Outcomes in Child Health



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Abstract Submission Form

CHRD 2023: Abstract Submission Form

Submitter Name

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Research Category

Clinical

Presenter Status

Undergraduate Students

Role in the project

Design
Perform Experiments
Analyze Data
Write Abstract

Title

Can Multi-Method Online Assessments Identify ADHD Symptoms in Preschool-Aged Children?

Background

Early identification of Attention-Deficit/Hyperactivity Disorder (ADHD) symptoms could present opportunities to provide children with more support systems before enrolment in school. The prefrontal cortex undergoes a sensitive developmental stage during preschool in which executive functioning (EF) drastically improves; while ADHD is closely associated with deficits in EF.

Objective

We hypothesize that ADHD symptomology in preschoolers can be reliably coded from online interactions and predict performance on measures of EF.

Methods

149 mothers and their children aged 2.75–5.98 years old ($M = 4.33$, $SD = .901$) participated in online assessments. Children completed a modified Stroop task to measure EF. Mothers completed self-report measures of their children's behaviours (BRIEF-P and CBCL). Observational ratings of ADHD were conducted using a validated index of ADHD behaviours used by clinicians (BRIC), which identified children as highly symptomatic ($N = 42$) or non-symptomatic ($N = 107$).

Results

BRIC scores had excellent agreement $\kappa = .970$ (95% C.I., .943-.985), $F(37,37) = 33.571$, $p < .001$. There were significant main effects of ADHD symptomology on Stroop performance, $[F(1, 95) = 11.197$, $p < .001$,

$\eta^2 = .105$]. Highly symptomatic children performed worse on Stroop than non-symptomatic children (See Table 1). There were no main effects of parent ratings from BRIEF-P [$F(1, 95) = 0.46, p = .498, \eta^2 = .005$] or CBCL Attention Problem scores [$F(1, 95) = 2.546, p = .114, \eta^2 = .026$]. Parent ratings were not significantly different between highly symptomatic and non-symptomatic children (See Table 1).

Conclusion

Our study identified symptoms of ADHD in preschool-aged children virtually and examined whether symptom presence predicted EF. ADHD symptomology predicted Stroop performance but not parent ratings. These findings highlight the potential to conduct online diagnoses of ADHD through video chat applications, which may improve service accessibility for young children and their families.

Table/Figure File

Leurquin 2023 CHRD Abstract Table.pdf

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Can Multi-Method Online Assessments Identify ADHD Symptoms in Preschool-Aged Children?
(Leurquin et al., 2023)

Table 1

Comparison of Stroop performance and Parent ratings across ADHD symptom groups

Variable by Symptom Group	M	SD
Stroop Score		
Non- Symptomatic	49.48	13.35
Highly Symptomatic	34.26	21.71
BRIEF-P Score		
Non-Symptomatic	30.56	23.64
Highly Symptomatic	37.13	26.71
CBCL Attention Problems Score		
Non- Symptomatic	1.97	1.96
Highly Symptomatic	3.00	2.50

Note. Means and Standard Deviations of Stroop performance scores, Behavior Rating Inventory of Executive Function – Preschool Version (BRIEF-P) and Child Behavior Checklist (CBCL), between children who were identified as highly symptomatic or non-symptomatic of ADHD using the Behavioural Rating Inventory for Children (BRIC).