

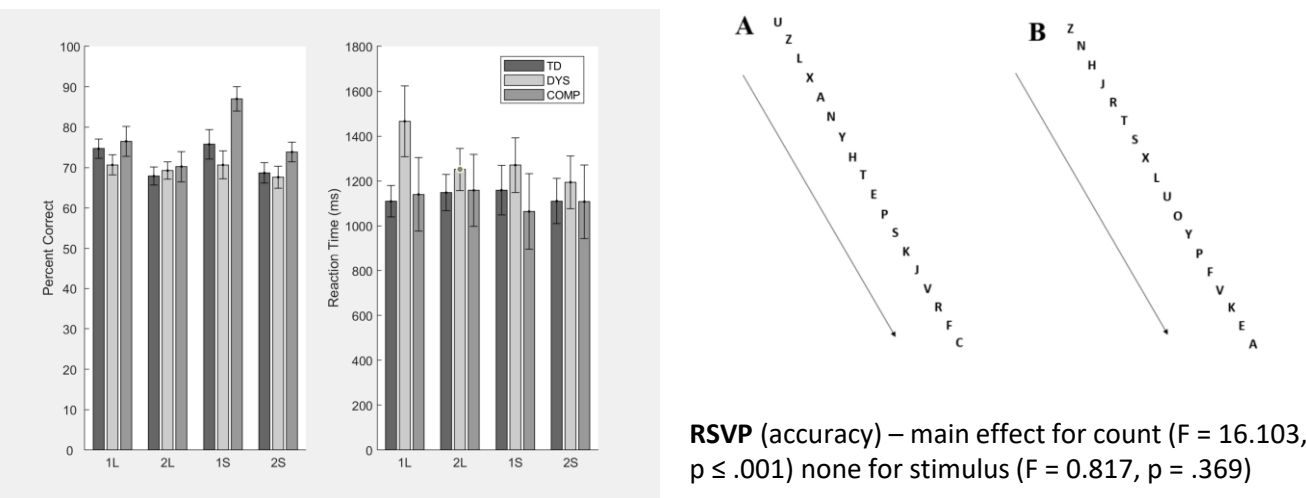
## Introduction

- Developmental Dyslexia (DD) is a heritable disorder that effects approximately 5-12% of children (Shaywitz et al., 1990)
- Rapid automatized naming deficits are the most widely reported deficit in children with dyslexia (Araújo, et al., 2019)]
- The RAN deficit has an unknown cause, but it could stem from either general rapid processing deficits or a specific letter-sound binding problem
- AIM:** measure rapid visual processing deficits and their relation to reading skills in children with dyslexia to determine the extent of visual processing in RAN deficits of dyslexia

## Participants and Design

- Initial assessment
  - KBIT-2** (Kaufman & Kaufman, 2004) for nonverbal IQ ability
  - WRMT-3** (Woodcock, 2011) for word identification and word attack
  - TOWRE-2** (Torgesen, Wagner, & Rashotte, 2012) for sight word efficiency and phonemic decoding efficiency
- RSVP** (Amador-Campos et al., 2015) as detection of a target in a rapidly presented stream of stimuli
- VSWM** (Sander, Werkle-Bergner, & Lindenberger, 2011) for working memory and visual acuity at different speeds

## Methods and Results

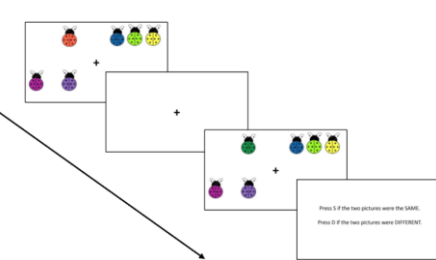


## Conclusion

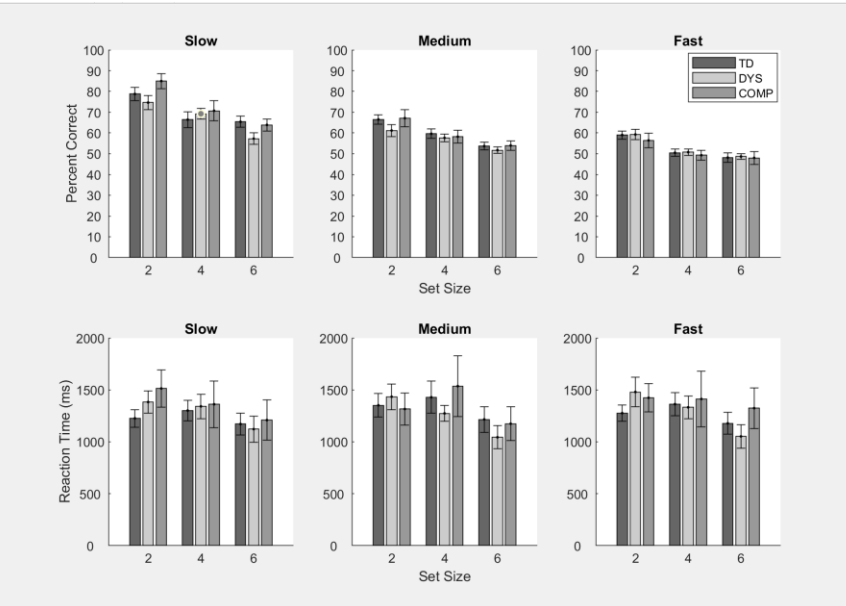
In this experiment, no main effects or interactions were observed in either task. The main effects and interaction we did observe were expected based on prior use of these tasks. Our research suggests that RAN might not be affected by rapid visual processing in dyslexia.

## Future Directions

In the future, we plan to examine rapid auditory perception skills in these children as well as evaluate potential genetic markers of RAN. Future work is needed to replicate these results when in laboratory testing resumes.



**VSWM (accuracy) – main effect for set size, ( $F = 87.396, p \leq .001$ ) and speed ( $F = 37.041, p \leq .001$ ). Interaction between set size and speed ( $F = 2.405, p = .050$ ).**  
**VSWM (reaction time) – main effect of speed ( $F = 3.723, p = .027$ ).**



Group	Typically Developing	Dyslexia	Compensated
Sample size (female)	33 (16)	33 (15)	11 (7)
Age	9.5 ± 1.46	9.94 ± 1.51	10.37 ± 1.01
Nonverbal IQ (KBIT-2 Matrices)	115.27 ± 12.41	107.12 ± 11.50	111.82 ± 12.21