

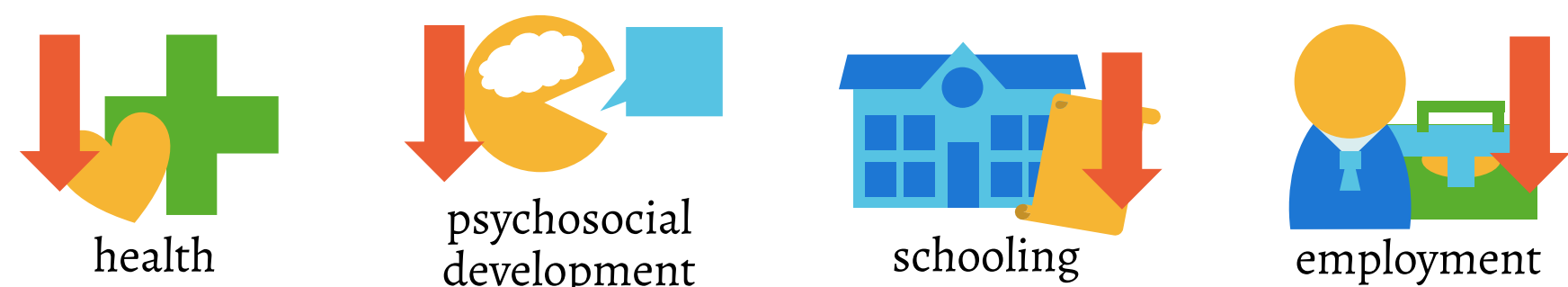
TITLE & COLLABORATORS

Examining the association between temperament, emotion regulation, and anxiety in children and youth with autism spectrum disorder.

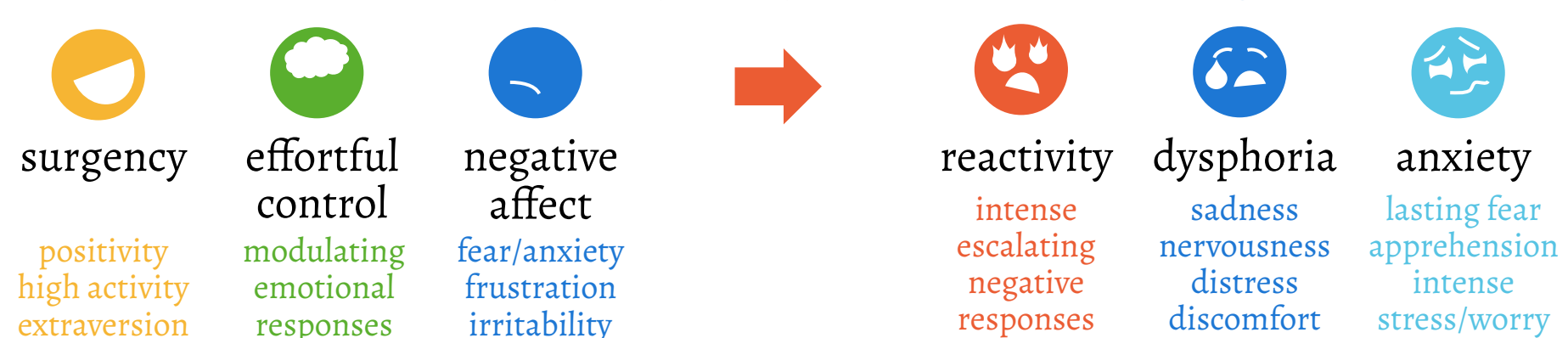
F. Liu, B. Syed, R. Cardy, T. Paul, S. Kassam, J. Nguyen, A. Kushki

BACKGROUND & RATIONALE

Emotion dysregulation and co-occurring anxiety disorders are quite prevalent (71%¹ and 40%³ respectively) in autism spectrum disorder (ASD). These domains can persist over a lifetime negatively impacting:



Although there are currently no known predictors, **temperament** may play a key role in **emotion regulation**.



This has yet to be explored explicitly in youth with ASD.

Few studies have assessed older age groups with ASD.

OBJECTIVES

Examine how temperament profiles are characterised in youth with ASD compared to TD youth.



Examine how temperament impacts ER/anxiety and if these impacts differ across diagnoses.



PARTICIPANTS, PROTOCOL, & ANALYSIS

31 children confirmed (ADOS/ADI-R) with ASD (age: mean = 11.27y, SD = 2.14y; 25 males, IQ>85)

37 typically-developing (TD) children (age: mean = 9.38y, SD = 1.66y; 19 males, IQ>85)

Parents of all participants completed the following questionnaires:

demographics

TMCQ (temperament)

EDI (ER)

SCARED (anxiety disorders)

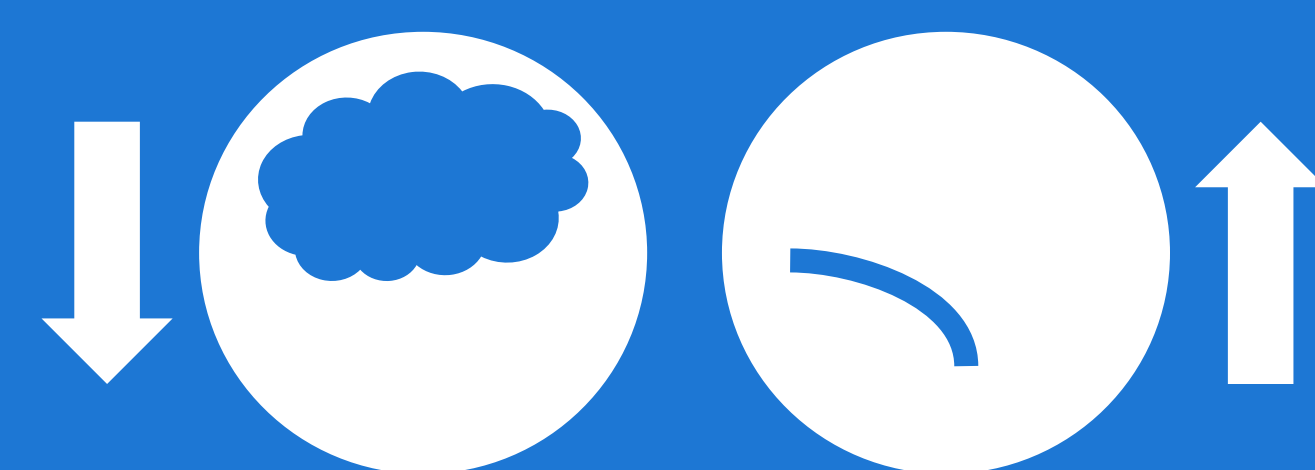
wilcoxon tests

examine the effect of diagnosis on the TMCQ dimensions

linear regression

explore diagnosis correlations between EDI, SCARED, and TMCQ dimensions

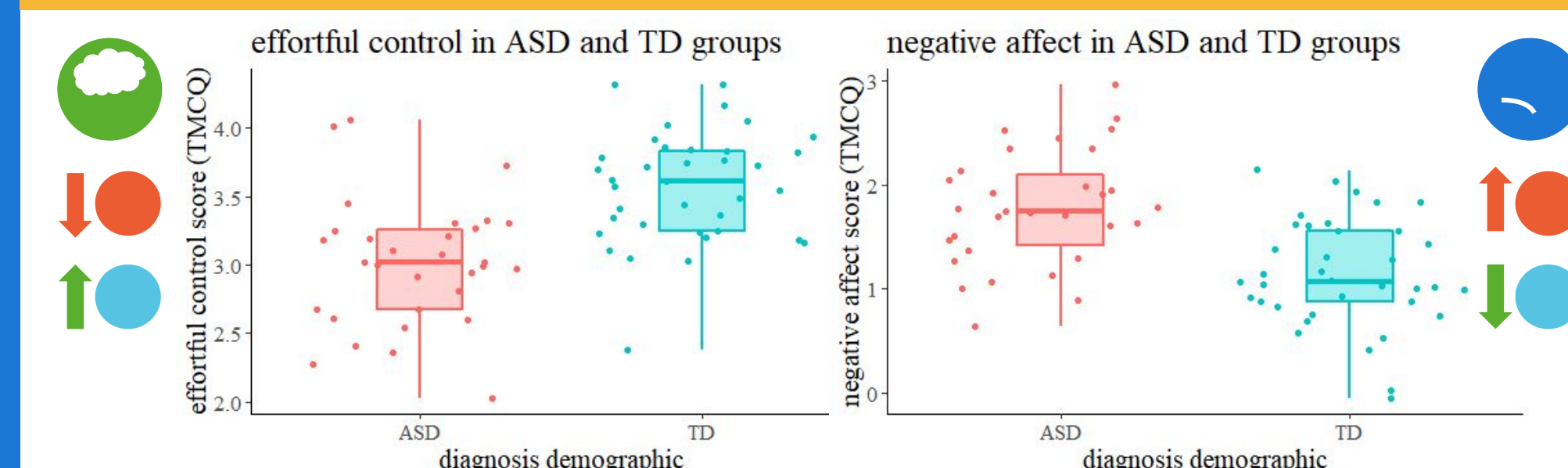
Consistent with literature, results show **lower** effortful control and **higher** negative affect among school-age children and youth with ASD.



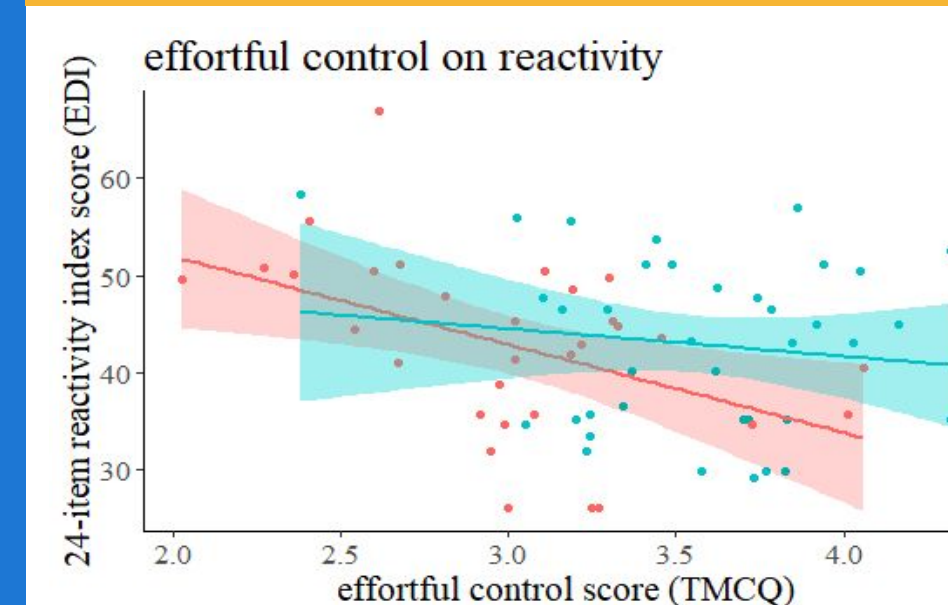
These temperament domains **correlate positively** with reactivity, dysphoria, and anxiety.



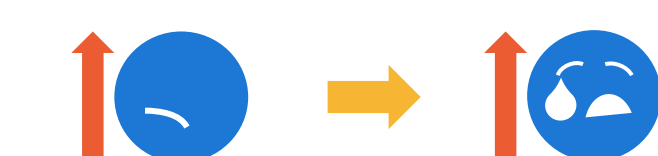
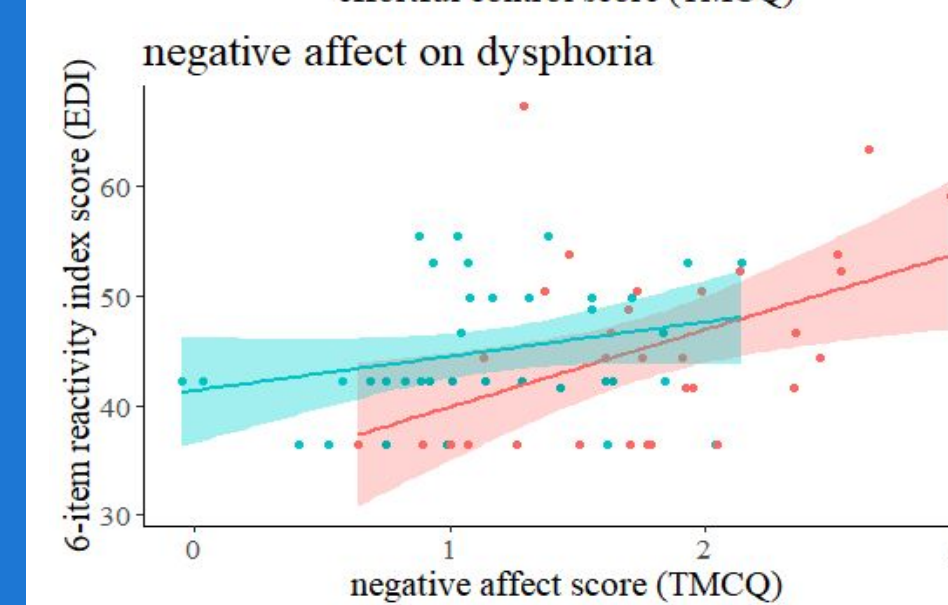
FIGURES & RESULTS



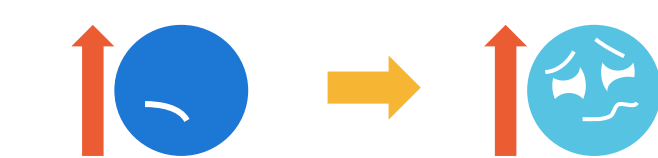
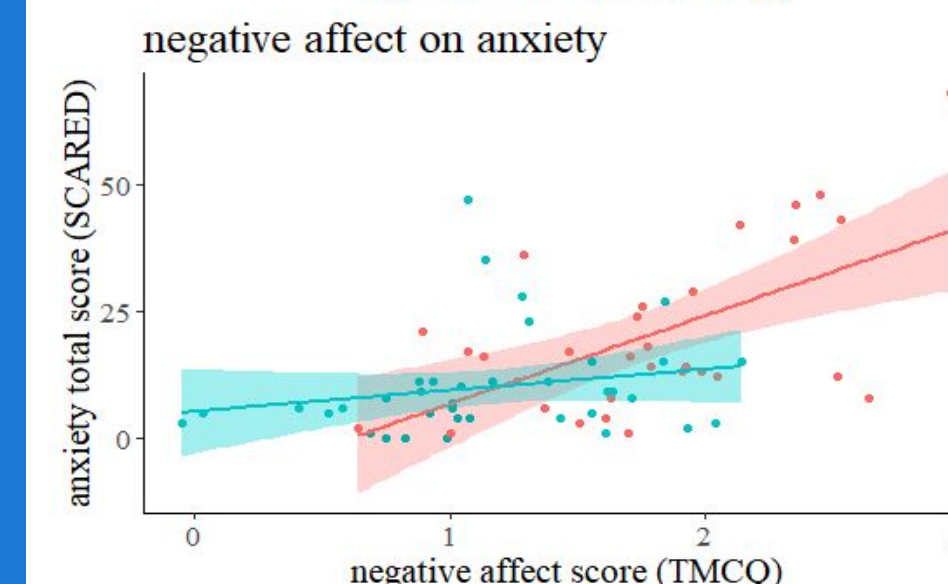
The ASD group showed significantly lower effortful control and higher negative affect (p -value<0.001) compared to the TD group, consistent with the temperament profiles in studies involving infants with ASD².



Results indicated that temperaments of lower effortful control correlated to higher reactivities in ER responses ($R^2=0.1866$; p -value<0.01).



Temperaments of higher negative affect increased dysphoria scores ($R^2=0.1822$; p -value<0.01).



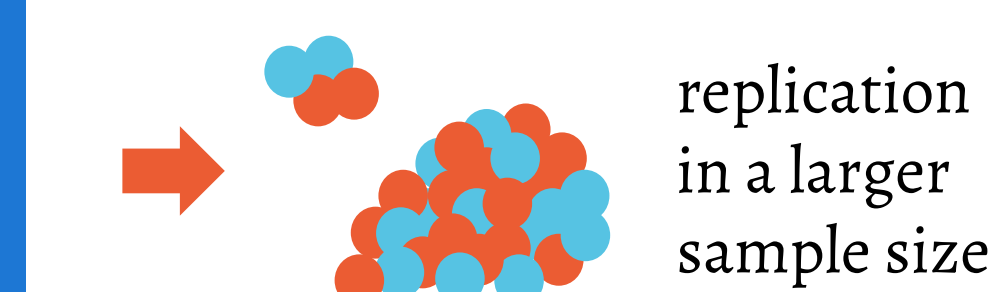
Higher negative affect was also shown to increase anxiety symptom scores ($R^2=0.3221$; p -value<0.001).

DISCUSSION & RELEVANCE



Improving our understanding of the temperament predictors associated with ER and anxiety disorders in youth can assist in **personalising** and **targeting** future interventions.

NEXT STEPS



replication in a larger sample size



implications for clinical care and interventions

ACKNOWLEDGEMENTS & REFERENCES

Thank you to the Ward Summer Student Program and the Institute of Biomedical Engineering at the University of Toronto for funding my incredible summer student research experience.

1. Anxiety in Autism Spectrum Disorder. Accessed July 6, 2021. <https://adaa.org/learn-from-us/from-the-experts/blog-posts/consumer/anxiety-autism-spectrum-disorder>
2. The BASIS Team, Clifford SM, Hudry K, Elshabagh M, Charman T, Johnson MH. Temperament in the First 2 Years of Life in Infants at High-Risk for Autism Spectrum Disorders. *J Autism Dev Disord*. 2013;43(1):673-686. doi:10.1007/s10803-012-1612-7
3. Mazefsky CA, Herrington J, Siegel M, et al. The Role of Emotion Regulation in Autism Spectrum Disorder RH: Emotion Regulation in ASD. *J Am Acad Child Adolesc Psychiatry*. 2013;52(1):679-688. doi:10.1016/j.jaac.2013.05.006