

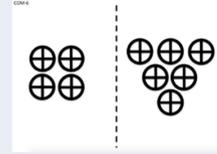
Introduction

- Intelligence Quotient (IQ) tests measure various behaviors hypothesized to indicate 'intelligent behavior,' or the ability to think abstractly and adapt to environmental changes (Sternberg & Detterman, 1986; Wechsler, 1997).
 - As IQ scores are predictive of successful functioning in many domains (see Brody, 1997; Wagner, 1997), identifying the factors that influence intelligent behavior is socially significant for behavioral scientists and may be useful in application with individuals with disabilities such as autism.
- Relational Frame Theory (RFT), a contemporary behavior analytic account of human language and cognition, addresses the emergent nature of language and may provide a framework for understanding the factors that influence intelligent behavior (Hayes, Barnes-Holmes, & Roche, 2001; O'Toole et al., 2009)
- The PEAK Transformation Module is the final component of an assessment and curriculum, which is based in RFT and is designed to evaluate and teach language to individuals with autism in terms of his/her ability to relate words or objects together in diverse ways, and to make inferences that lead to a meaning understanding and use of language using contemporary behavior analytic language theories (Dixon, 2016).
- This project aims to evaluate the relationship between intelligence (as measured by IQ scores) and performance on the PEAK assessment with children with autism or other development and intellectual disabilities, as a potential demonstration of convergent validity.

Methods

- 33 individuals with participated in the study.
 - Setting: Midwestern clinic for individuals diagnosed with ASD and other disabilities.
 - Demographic Information: 3 and 13 (M=5.79, SD=2.52), including 28 males and 5 females.
 - Primary diagnoses: Autism Spectrum Disorder, Developmental Delay, Down Syndrome, Pervasive Developmental Disorder, Not Otherwise Specified, Sensory Processing Disorder
- Participants were administered the PEAK Transformation Module Pre-Assessment (PEAK-T PA) by trained graduate students.
 - The PEAK-T PA includes two component subtests: Receptive and Expressive
 - Each subtest included 16-item assessments of each relational frames: Coordination, Comparison Opposition, Distinction, Hierarchy, Deictic
- Participants were administered an assessment of intelligence by trained graduate students, and Full Scale IQ (FSIQ) Scores were calculated for each participant.
 - 20 participants under the age of 6 were administered the Weschler Preschool and Primary Scale of Intelligence (WPPSI-IV).
 - 13 participants age 6 or older were administered the Weschler Intelligence Scale for Children (WISC-V).
- Pearson's correlation analysis were conducted to examine the relationship between participant's scores on the PEAK T-PA and IQ scores.

Results

Example PEAK T-PA Pre-Assessment Items			
	Comparison Item 6		Deictic Item 15
Receptive		Say, "Show me more."	
Expressive	Coordination Item 13 Say, "If CUG is same as snow...How are CUG and cloud the same?"		Hierarchy Item 7 Say, "Which one belongs to the ocean...Earth or Dolphin?"

Pearson's correlation analyses were conducted to examine the relationship between the PEAK T-PA and FSIQ, suggesting statistically significant strong positive relationship between:

- Figure 1. PEAK T-PA Total Score and FSIQ: $r = 0.8082$, $R^2 = 0.6532$, $p < 0.0001$
- Figure 2 (top). PEAK T-PA Receptive Subtest Score and FSIQ: $r = 0.7944$, $R^2 = 0.6311$, $p < 0.0001$
- Figure 2 (bottom). PEAK T-PA Expressive Subtest Score and FSIQ: $r = 0.7578$, $R^2 = 0.5742$, $p < 0.0001$

Figure 1. Relationship between FSIQ and PEAK T-PA

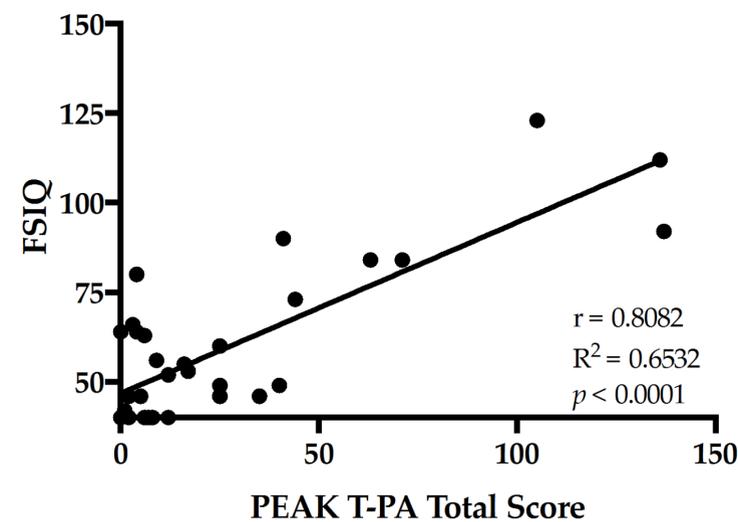
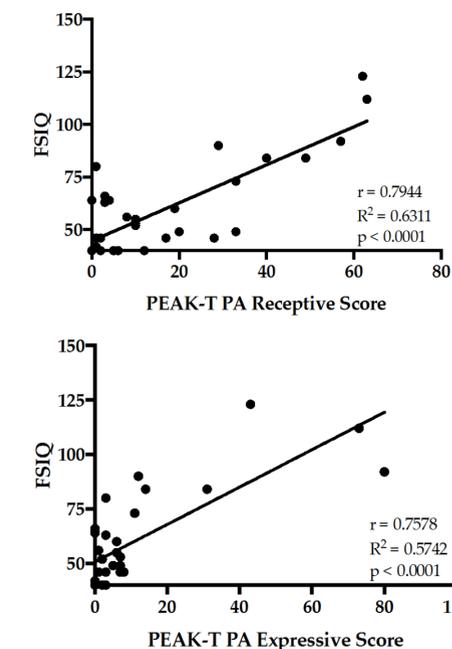


Figure 2. Relationship between FSIQ and PEAK T-PA Subtest Score



Discussion

- Results of the present study suggest that there is a significant strong positive correlation between IQ scores and scores on the PEAK Transformation Pre-Assessment, indicating a relationship between intelligence and relational responding as outlined Relational Frame Theory for this sample of participants.
- Although behavioral scientists have largely rejected hypothetical constructs such as intelligence as a cause of behavior, understanding the factors that influence intelligent behavior is a socially significant undertaking given the predictive validity of IQ assessments and the diminished intellectual functioning of many individuals with developmental and intellectual disabilities.
- Some limitations of the study include: a relatively small sample size, homogeneity of primary diagnoses, and the use of a convenience sample.
- Future research may elaborate on these findings by replicating these procedures with a larger sample or with typically developing individuals. Researchers may also evaluate the relationship between relational abilities and other common assessments of language and cognitive functioning.

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Acknowledgements

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