

Language Assessment in Toddlers with ASD: Can Measures Derived from Natural Language Samples Replace Scores from Standardized Tests and Parent Reports?

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Introduction

- Expressive language is one of the major predictors of long-term functional outcomes in individuals with ASD (Howlin et al., 2004).
- Natural language sampling (NLS) is a recommended method for assessing expressive language (Tager-Flusberg et al., 2009; Barokova & Tager-Flusberg, 2018).
- We designed the Eliciting Language Samples for Analysis-Toddler (ELSA-T) language elicitation protocol specifically for *younger* (1.5 to 5 years) children with ASD to collect a natural language sample to derive general measures of language and communication.
- However, only one study has validated measures derived from language samples in children (ages 4-14 years) against those from standardized tests (PPVT and CELF; Condouris et al., 2003).

Aim

To validate ELSA-T derived general language and communication measures against widely used parent report (Vineland; VABS) and standardized test (Mullen) expressive language scores in a sample of toddlers with ASD.

Methods

ASD Participants (based on ADOS Modules T-2)

Chronological age, months M(SD)	35.19(10.85)
Gender (M/F)	26/8

Assessment Types	Mean (SD)	N
Standardized Assessment : Mullen		
Expressive Language Raw Score (0-50)	22.37(12.68)	29
Parent Report : VABS		
Expressive Subdomain Raw Score (0-98)	41.57(39.74)	14
Natural Language Sample : ELSA-T		
Total Utterances	121.74(92.77)	34
Total Conversational Turns	97.11(71.53)	34
Utterances per Minute	4.82(3.41)	34
Conversational Turns per Minute	3.84(2.65)	34

Natural Language Sampling

Eliciting Language Samples for Analysis – Toddler (ELSA-T)

Setting

- Naturalistic play-based setting

Format

- Open-ended prompts: designed to maximize opportunities for the child to elicit language
- Language elicitation contexts: play, conversation, and narrative
- Comprised of 8 interactive and developmentally appropriate activities (15-25 minutes)



Hide & Seek Animals



Apple Falling



Picnic Adventure



Bath Time



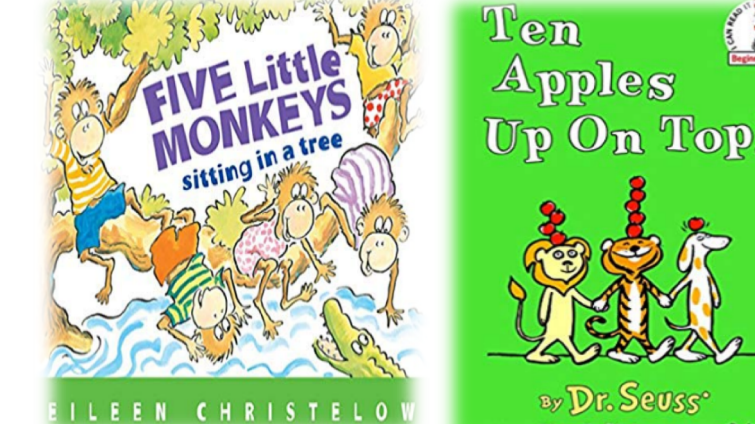
Craft Time



Turtle Toss



Storybook Time



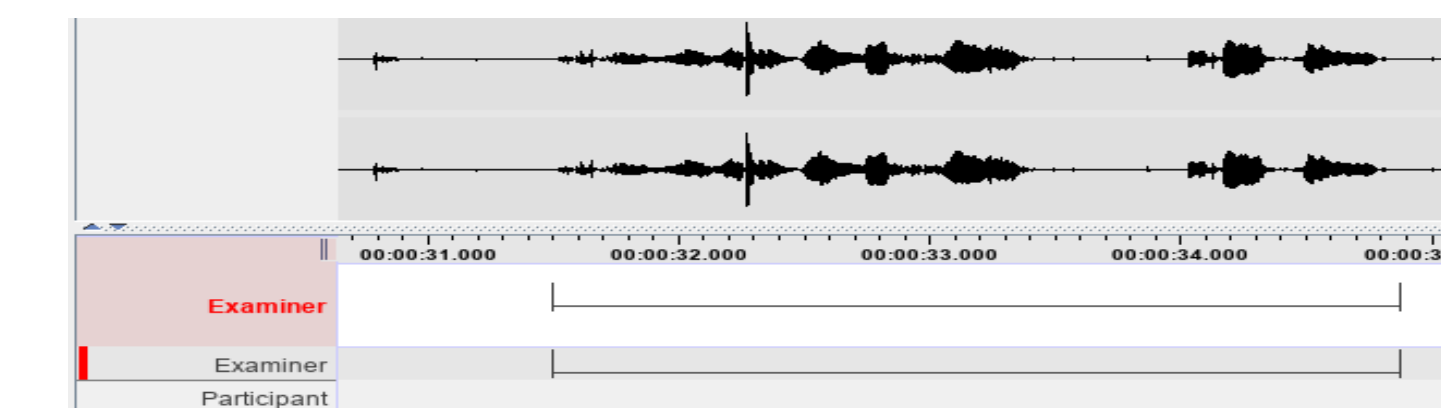
Snack



Procedure & Analysis

Coding Procedure

- ELSA-T's were coded in ELAN using real-time coding
 - Measures of language and communication were derived
 - Frequency of utterances per minute
 - Frequency of conversational turns per minute

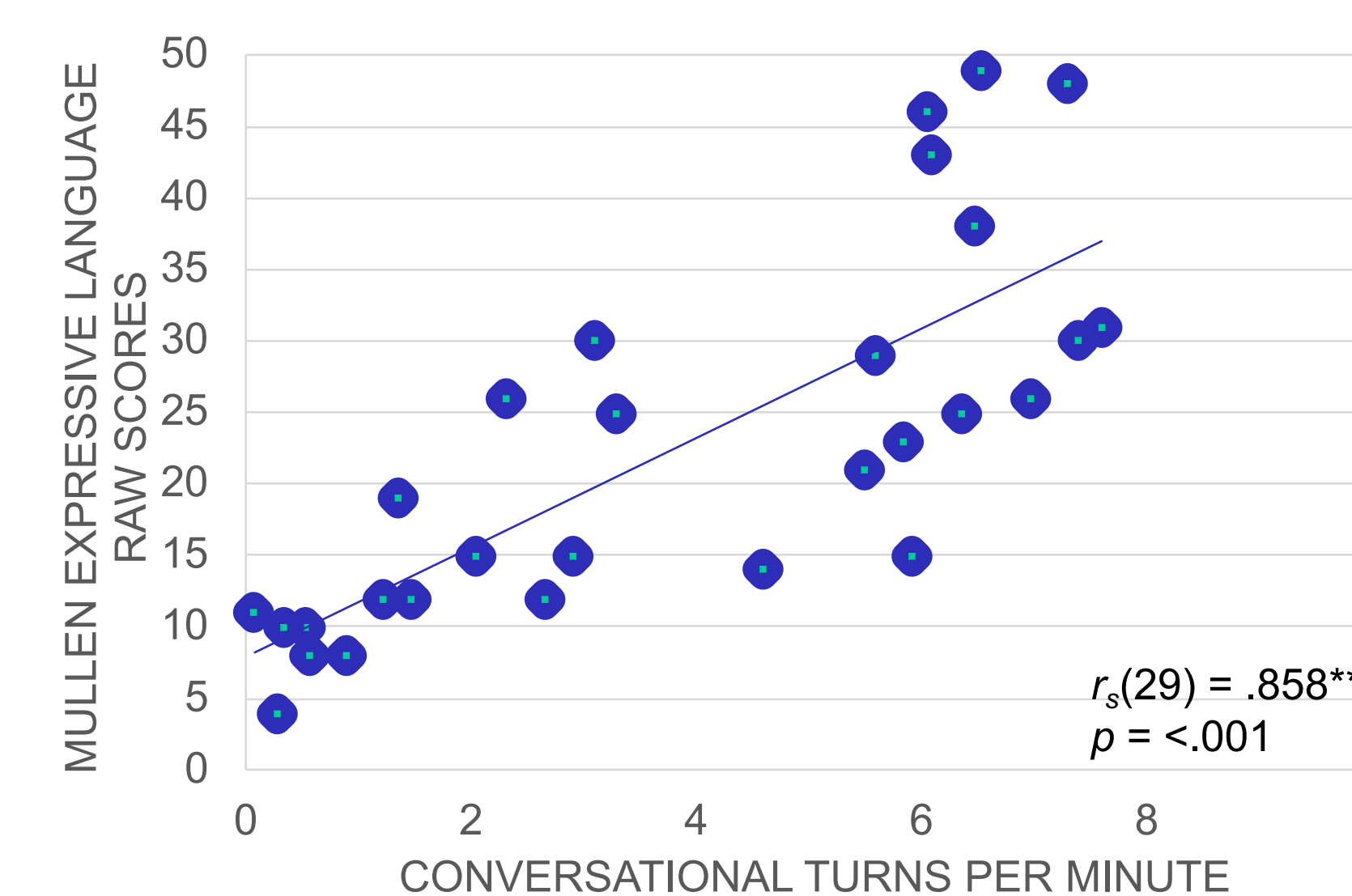
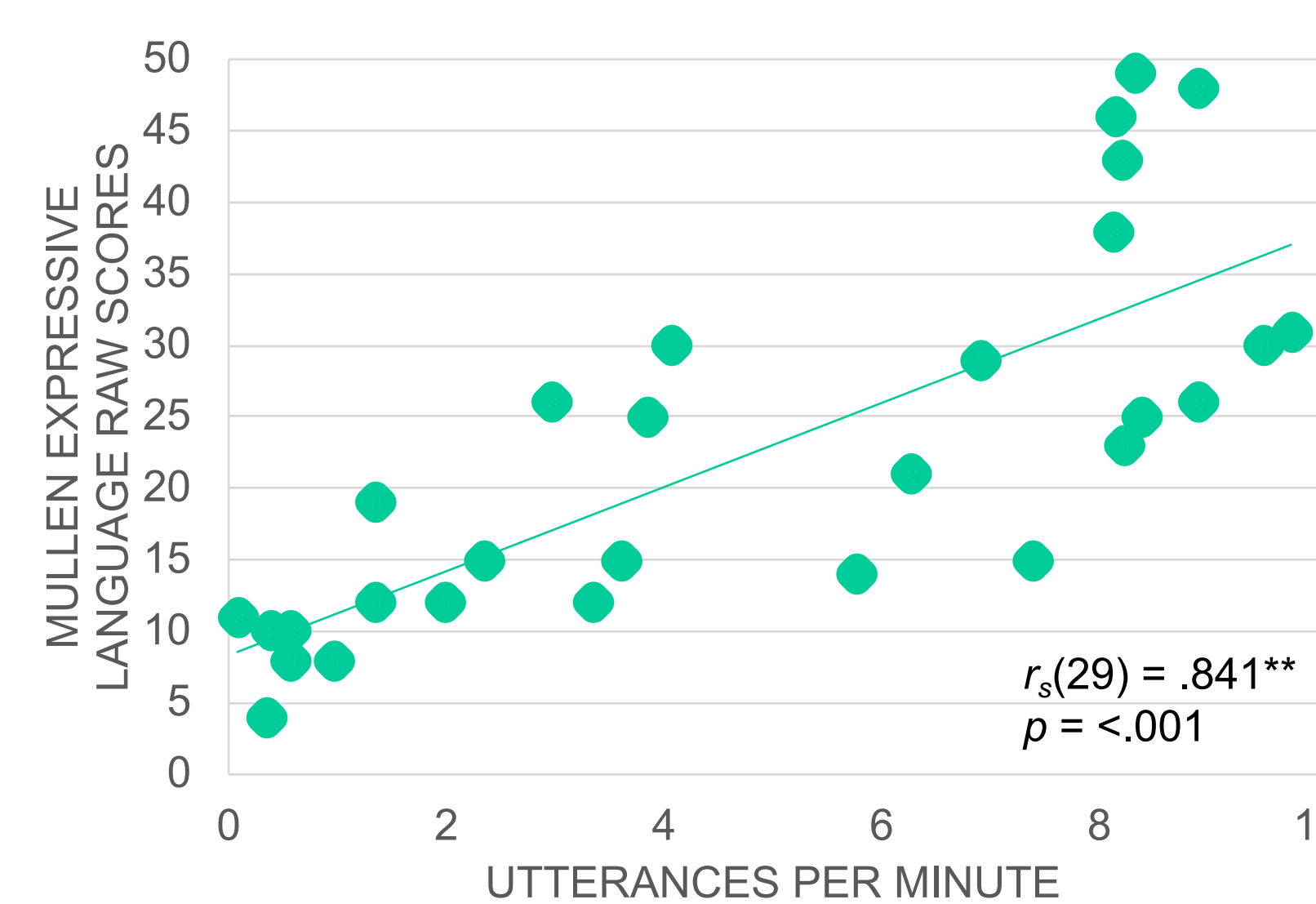


Data Analysis

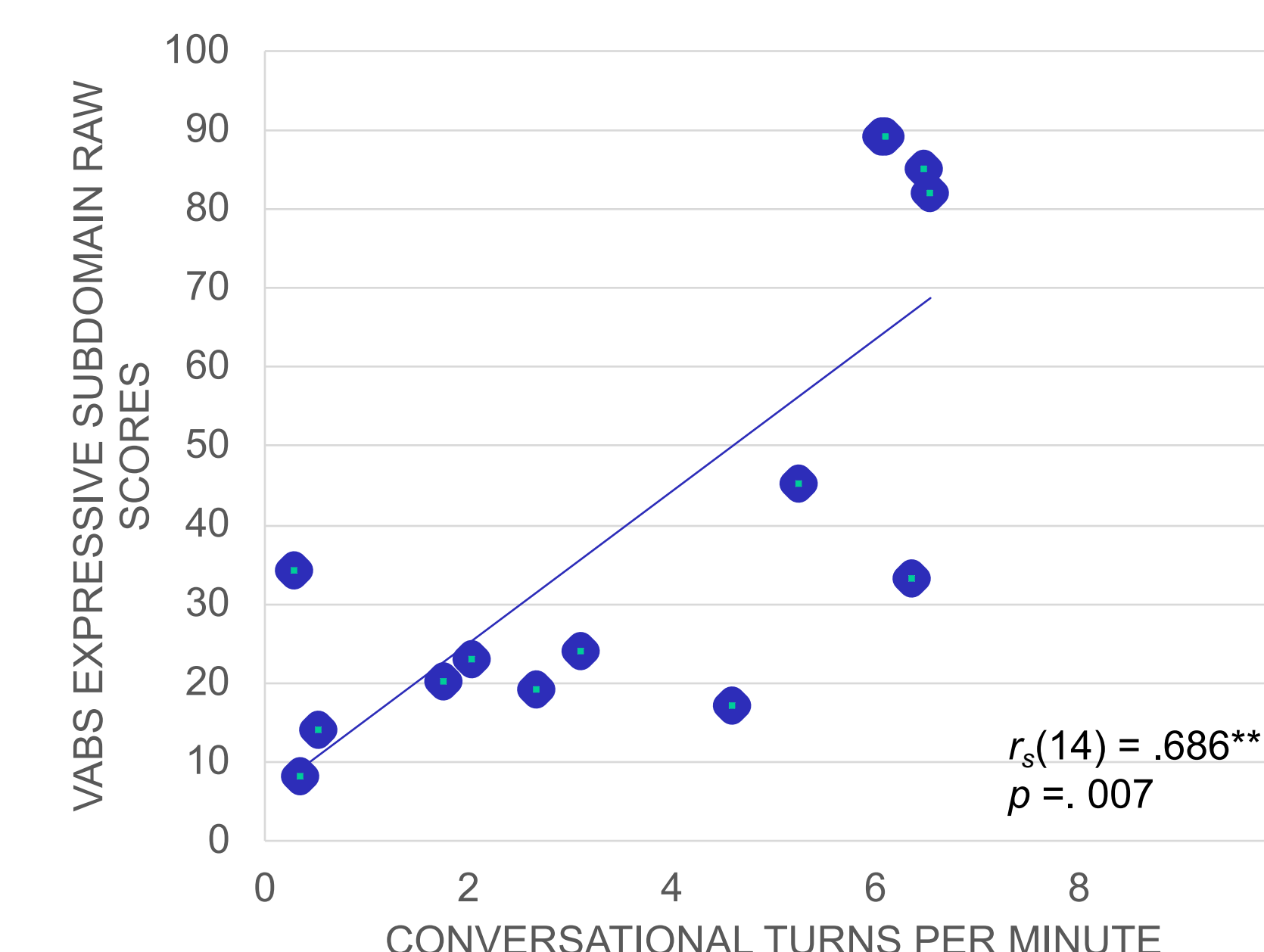
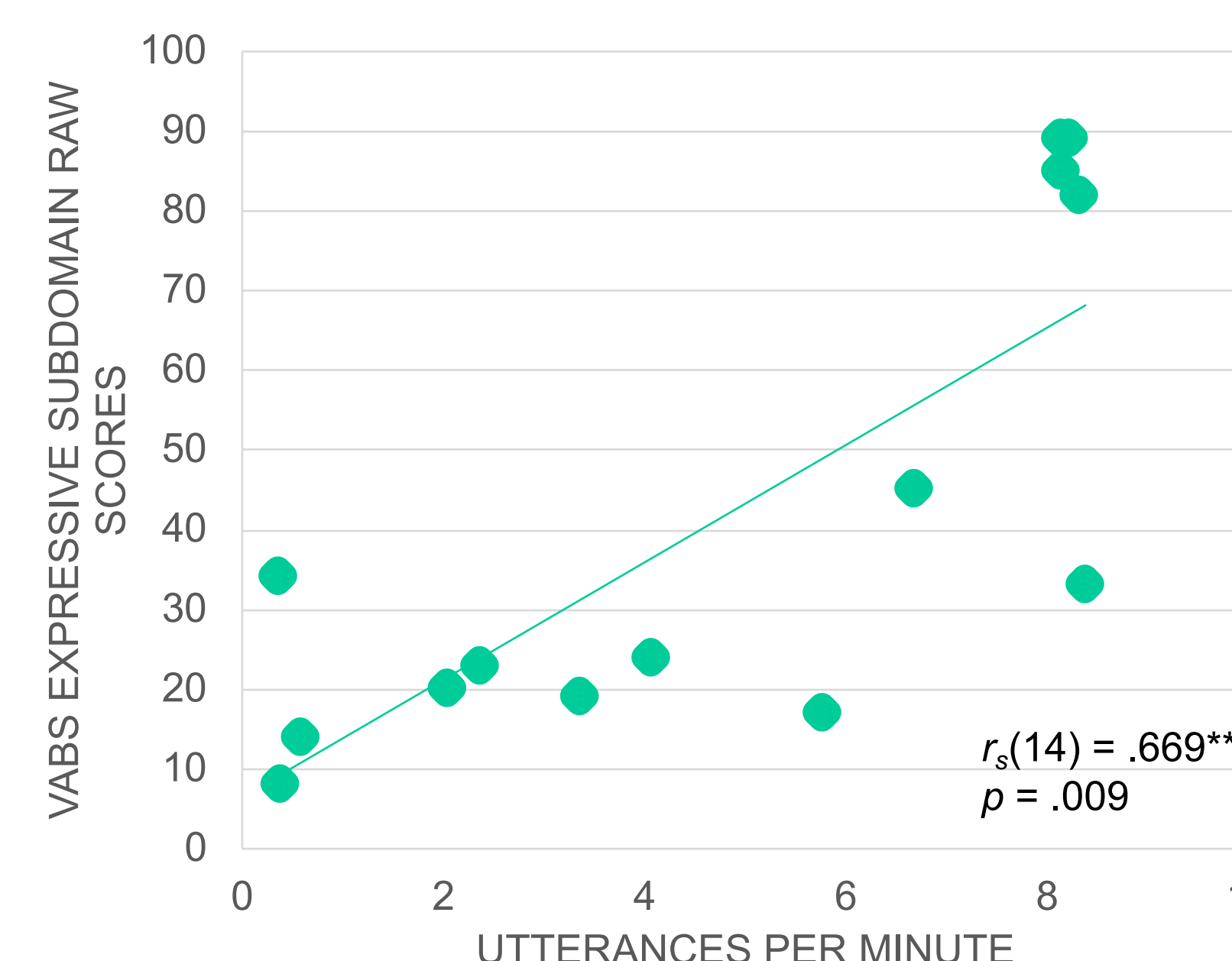
- Spearman's Rho correlational analyses were conducted to investigate the relationship between expressive language and communication scores on standardized tests, parent-report measures, and measures derived using NLS methodology

Results

Standardized Assessment (Mullen) & NLS (ELSA-T)



Parent Report (Vineland) & NLS (ELSA-T)



Discussion

- In our study, ELSA-T derived general language and communication measures were positively correlated with standardized measures (Mullen: expressive language scores) and parent-report measures (Vineland: expressive communication subdomain) in a sample of toddlers with ASD, who varied in their language abilities (ADOS modules T-2).
- Our findings confirm and validate the utility of natural language sampling for quantifying and documenting developmental changes in expressive communication in young children with ASD who have a range of language and symptom profiles.
- The current work demonstrates the usefulness of ELSA-T for capturing a language sample and the validity of real-time coding measures.

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