

## Introduction

- Emergence of expressive language is one of the strongest predictors of positive future outcomes in individuals with ASD (Howlin et al., 2004; Venter et al., 1992).
- There is a growing interest in assessing expressive language in ASD in the context of treatment and intervention studies.
- Natural language samples collected across variety of contexts could provide useful measures of expressive language in ASD (Tager-Flusberg et al., 2009).
- No protocol for language elicitation has been specifically designed for individuals with ASD across a range of ages and language abilities.
- Some studies rely on the ADOS for language sampling (e.g., Kover et al., 2014; Suh et al., 2014), but it might not be the most conducive to speech production context.

## Aim

**Aim:** Design and evaluate the effectiveness of a new *Eliciting Language Samples Activities (ELSA)* protocol for individuals with ASD across a range of ages and language ability.

## Methods

**Participants:** N = 50

	M	SD	Range
<b>Chronological Age in years</b>	13.1	4	5-20
<b>Gender (Male/Female)</b>	39/11		
<b>ADOS-2 CSS</b>	8.04	1.08	2-10
<b>Leiter-3 NVIQ</b>	57.5	22.7	30-104

**Assessment of Expressive Language:** Collected natural language samples from all participants following the ELSA protocol.

**Coding Procedure:** Speech utterances were coded using a real-time coding procedure in ELAN (Lausberg & Stloetjes, 2009)

### Measures:

- Frequency of utterances per minute
- Number of conversational turns

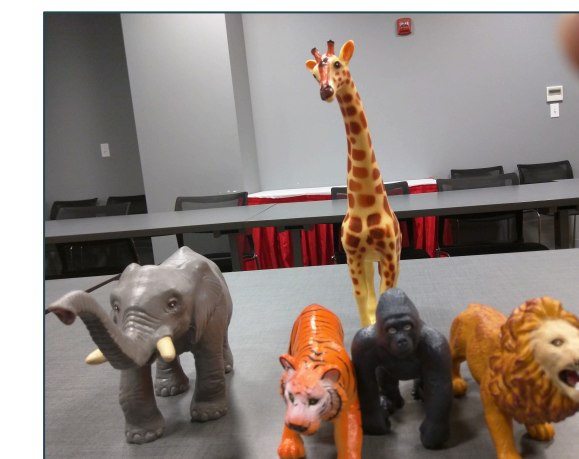
## ELSA

### Eliciting Language Sample Activities

#### ELSA Games:

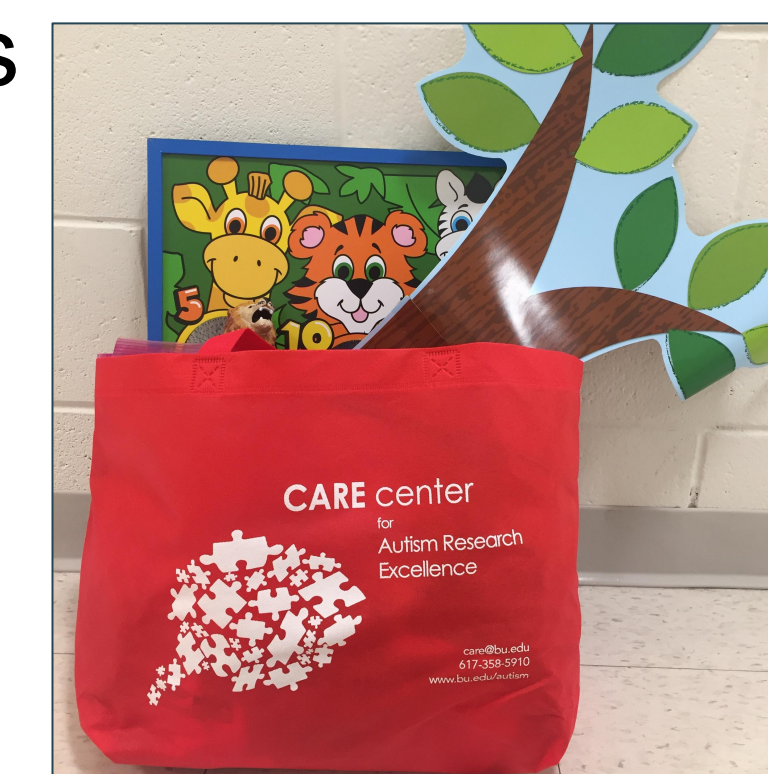
*Nature Adventure:* leaf falling, planting an acorn, hide and seek animals, discovering the animals, helping the animals, making a s'more;

- How can you plant an acorn?
- Where is the raccoon?
- I think the animals are thirsty.



*Carnival and Crafts:* coloring, beanbags

- I have some markers and crayons.
- What color do you want?
- I am going to draw a flower.
- What do you want to draw?

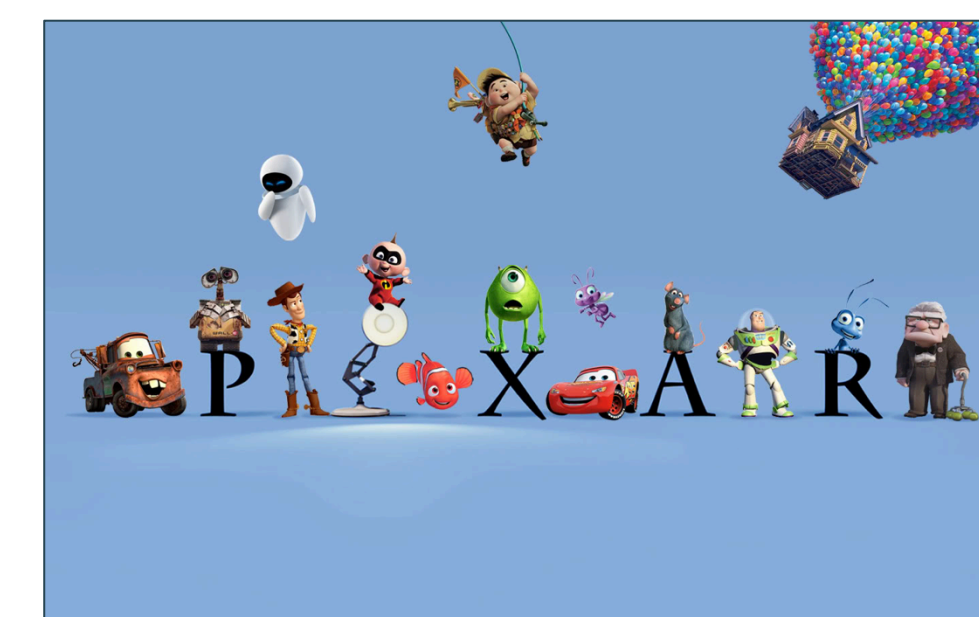


#### ELSA Conversation:

- Tell me about your family/classes/hobbies.

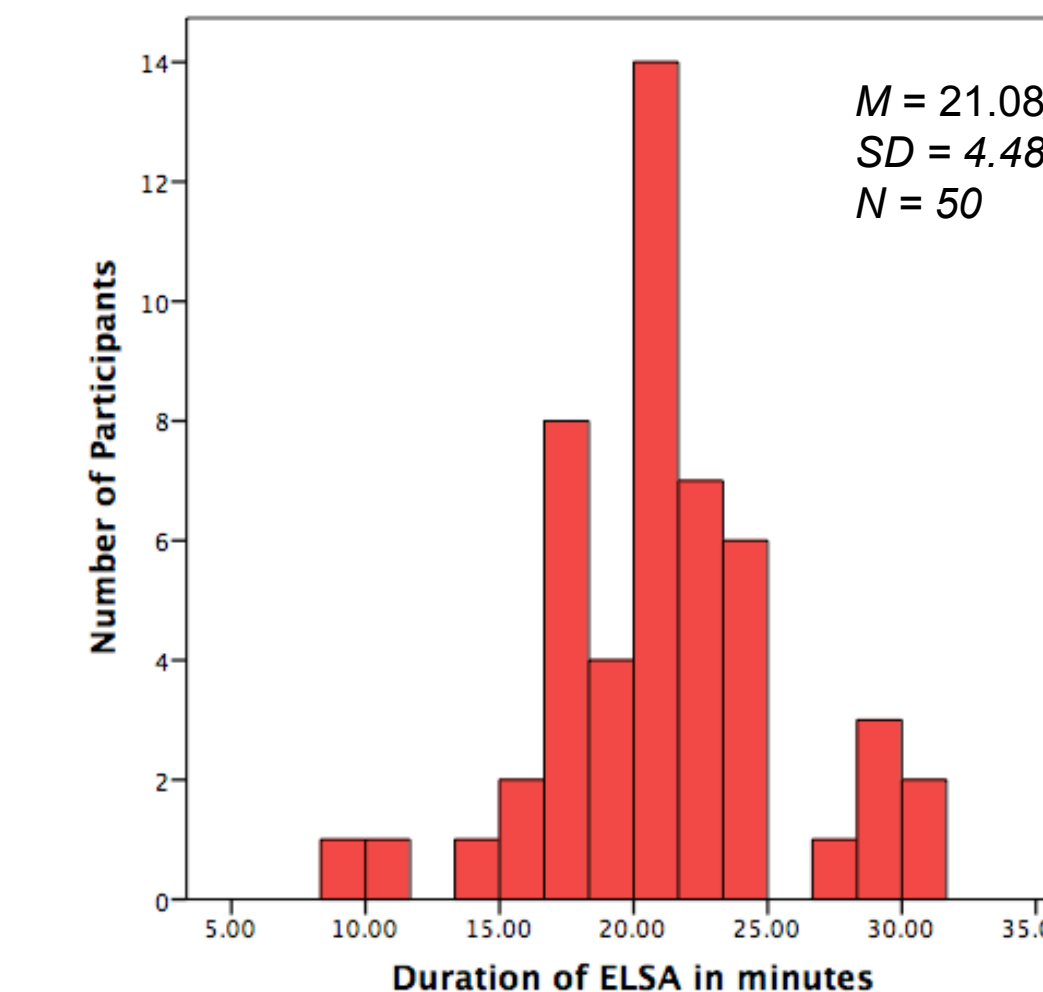
#### ELSA Movie:

- Which movie do you want to watch?
- This is my favorite movie.
- What happened in the movie?
- Who was your favorite character?

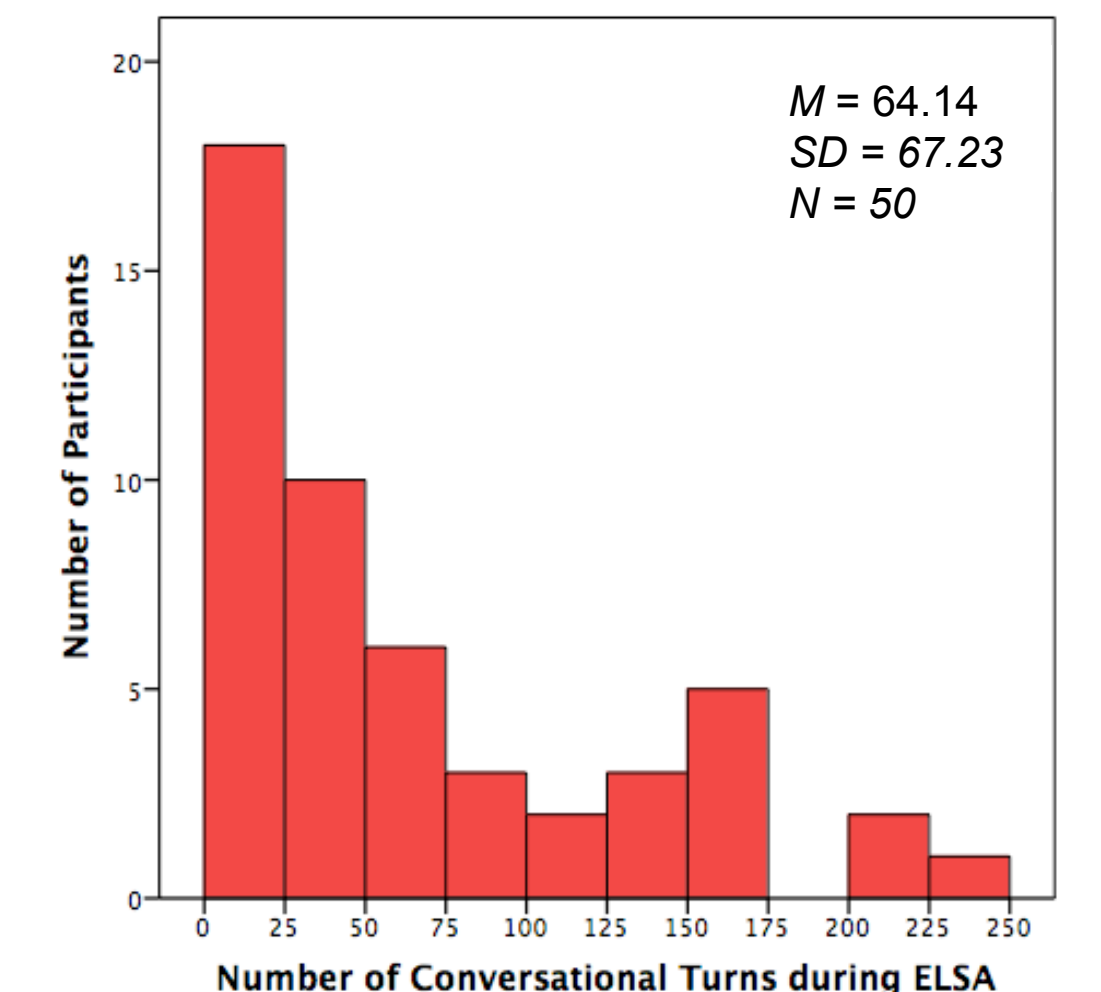


## Results

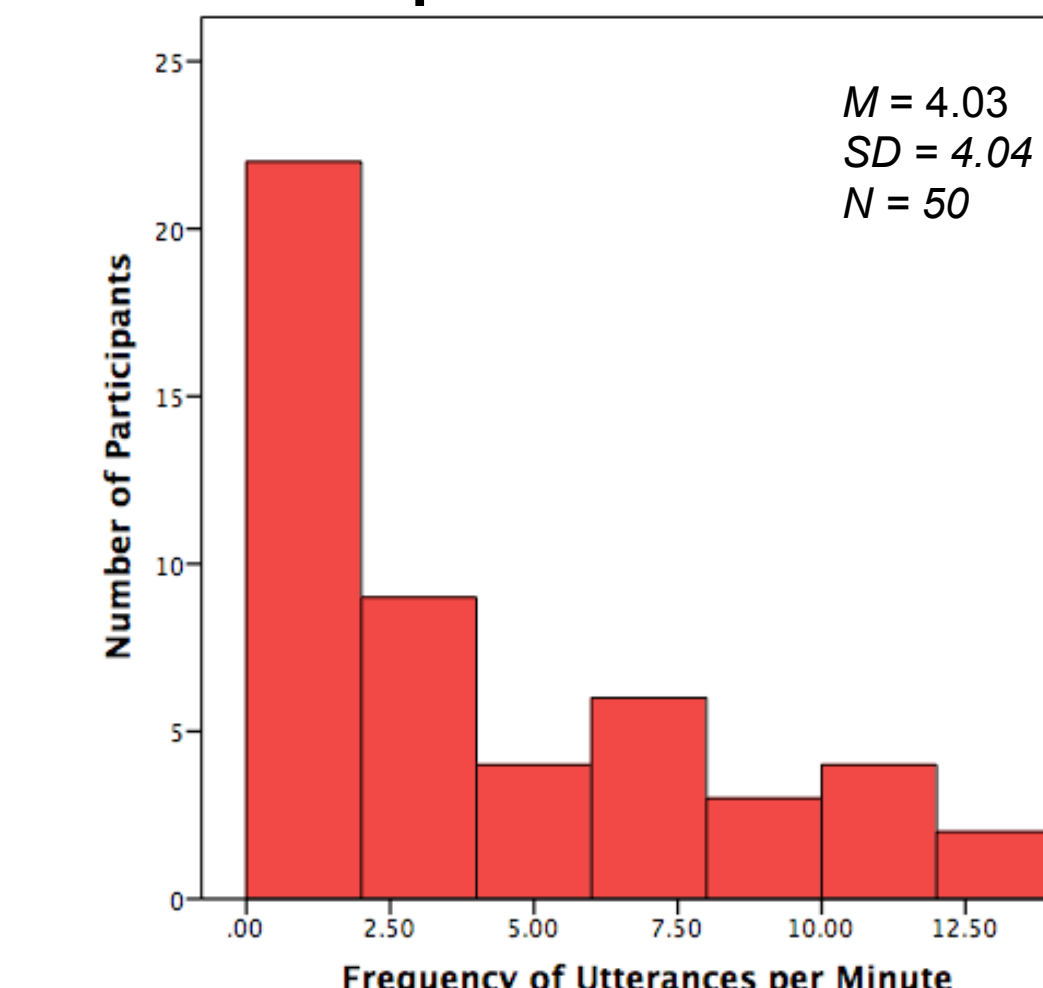
ELSA Duration



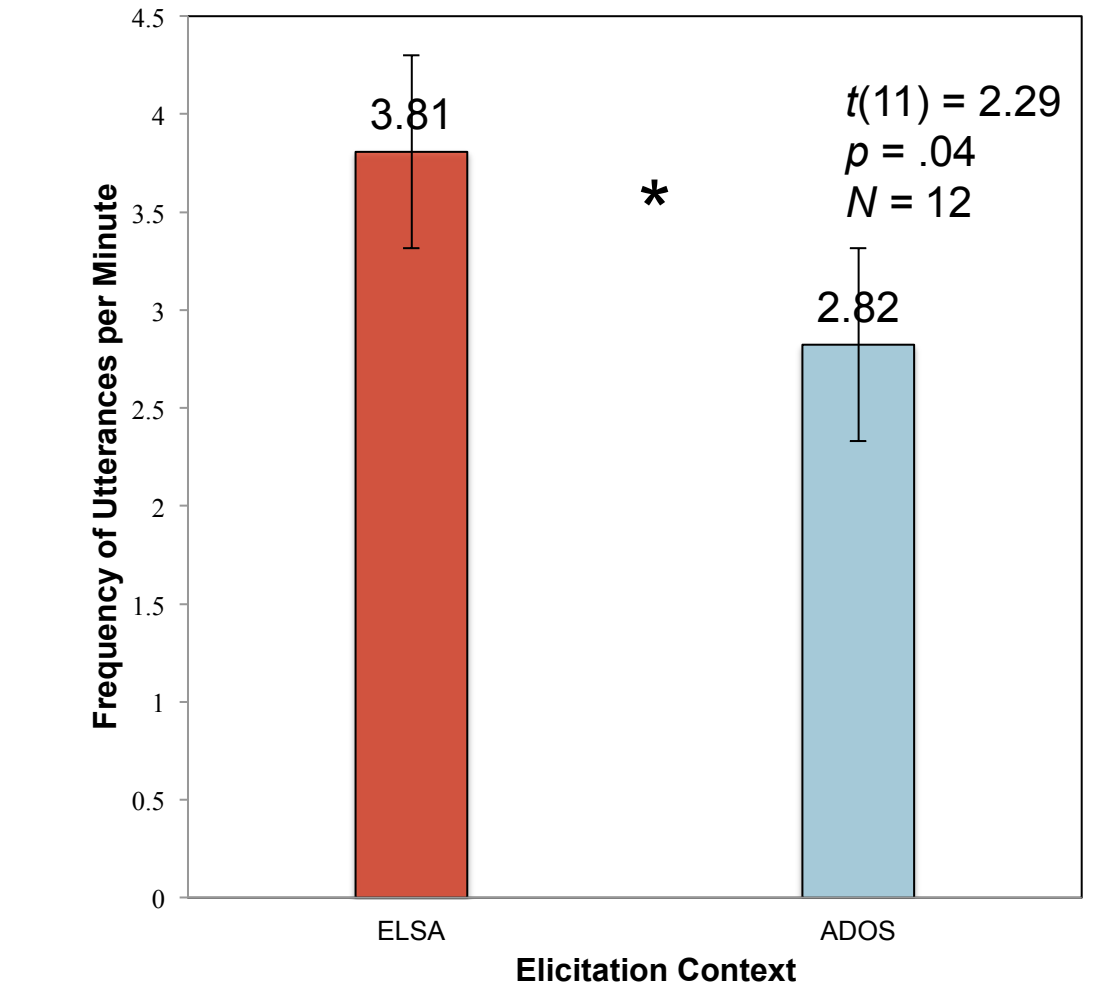
Conversational Turns



Freq. of Utterances



ELSA vs. ADOS



- Frequency of utterances per minute inter-coder reliability N = 10: ICC = .99,  $p < .001$
- Coding vs. transcription measure validation N = 35: freq. of utterances  $r = .99$ ,  $p < .001$ ; number of conversational turns  $r = .98$ ,  $p < .001$

## Conclusions and Next Steps

- ELSA is engaging and elicits language from children and adolescents with ASD across a wide range of age, language ability, and symptom severity.
- ELSA elicits more expressive language than the ADOS as evidenced by participants higher frequency of utterances per minute.
- Real-time coding of ELSA yields measures comparable to those obtained through transcription.
- Generalizability of ELSA
- ELSA administration fidelity
- Caregiver-collected ELSAs
- Measures of intelligibility and stereotyped speech
- Reliability of the measures
- Validity of the measures

## Acknowledgements

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