The Impact of Context on the Language Samples of Children with PLI and ASD

Hannah M. Julien, MA, CCC-SLP, Lizbeth H. Finestack, PhD, CCC-SLP

University of Minnesota, Twin Cities

Introduction

- Child language sampling methods affect language productivity and complexity (e.g., Masterson & Kamhi, 1991; Evans & Craig, 1992; Wagner et al., 2000; Southwood & Russell, 2004).

- A child's language output also varies according to the communicative behavior of the examiner (e.g., Nettleblabt, Nettelbladt, Hansson, & Nilhom, 2001; Dethorne & Channell, 2007) and this can be expressed differently across different clinical populations (e.g., Kover, McDuffie, Abbeduto, & Brown, 2012).

- The methods implemented to elicit language may interact with the cognitive skills and behavioral profiles of children with neurodevelopmental disabilities, thus yielding different language output.

- The current study addressed the following research question:

  ✓ **How does language sampling context influence the samples produced by children with primary language impairment (PLI) and children with autism spectrum disorder (ASD)?**
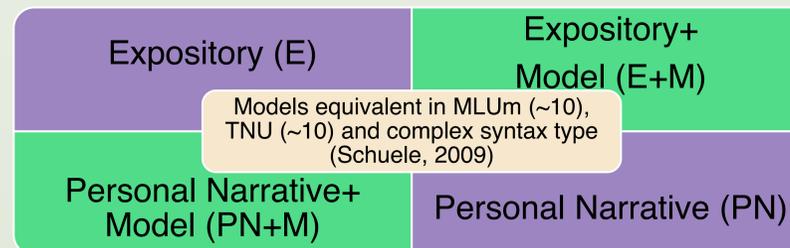
Participant Characteristics

Characteristic	ASD[a] (n = 8)	PLI (n = 10)
Age (years;months)		
Mean	6;2	7;0
SD	1;1	0;8
Min-Max	4;4-7;10	5;6-8;1
Gender (F:M)	2:6	2:8
Nonverbal IQ[b] (SS)		
Mean	93.9	90.8
SD	15.7	18.5
Min-Max	71-115	74-124
Expressive Language[c] (SS)		
Mean	72.0	67.7
SD	13.6	18.3
Min-Max	47-90	44-94
Receptive Language[d] (SS)		
Mean	92.9	87.5
SD	23	21.6
Min-Max	55-128	55-121

[a]Per parent report of educational and/or medial diagnosis;
[b]Indexed by Leiter International Performance Scale-Revised;
[c]Indexed by Structured Photographic Expressive Language Test – 3rd Edition;
[d]Indexed by Test of Auditory Comprehension of Language – 3rd Edition

Approach

- Participants completed four different language samples, on different days, within a two-week timeframe; order of administration was counterbalanced across participants

Expository (E)	Expository+ Model (E+M)
Personal Narrative+ Model (PN+M)	Personal Narrative (PN)

Models equivalent in MLUm (~10), TNU (~10) and complex syntax type (Schuele, 2009)

- A researcher blinded to the condition, transcribed each sample using conventions of the Systematic Analysis of Language Transcripts (SALT; Miller & Chapman, 2000); utterances parsed into C-units

- SALT software used to calculate the dependent variables: total number of utterances (TNU), mean length of C-unit in morphemes (MLUm), type-token ratio (TTR), and maze types per utterance (MzUtt)

- *Mann-Whitney U* test used to test for statistically significant differences between groups across language sampling conditions

Prompts Used in Expository+Model Sample

I am hoping to learn more about what kids know about certain topics, like sports and games. My favorite game is soccer because you have to run really fast on a big field. What is your favorite game/sport like soccer or a board game or an outside game? [Child Response]

We both have a favorite sport or game. Let/'s talk more about them.
1. In soccer, the game starts at midfield.
2. One team passes the ball between two players.
3. Some of the players play defense and others score goals.
4. To score a goal, you have to get the ball in the other team's net.
5. You can use your feet to move the ball.
6. You can use your head too.
7. You can't use your hands or arms.
8. That is against the rules.
9. The game is over after 90 minutes.
10. The team with the most goals wins.
11. To win, you have to be good at passing and shooting the ball.

What about [named sport/game]? Tell me about how you play. Tell me everything you can think of so that someone who has never played would know how to play. [Child Response]

Results

- No statistically significant differences observed between groups for TNU, MLUm, and TTR

- PLI > ASD for average number of mazed repetitions per utterance in both PN + M (U=47.5, p=0.02) and E + M (U=66, p=0.02)

Average Number of Repetitions Per Utterance Across Sampling Context
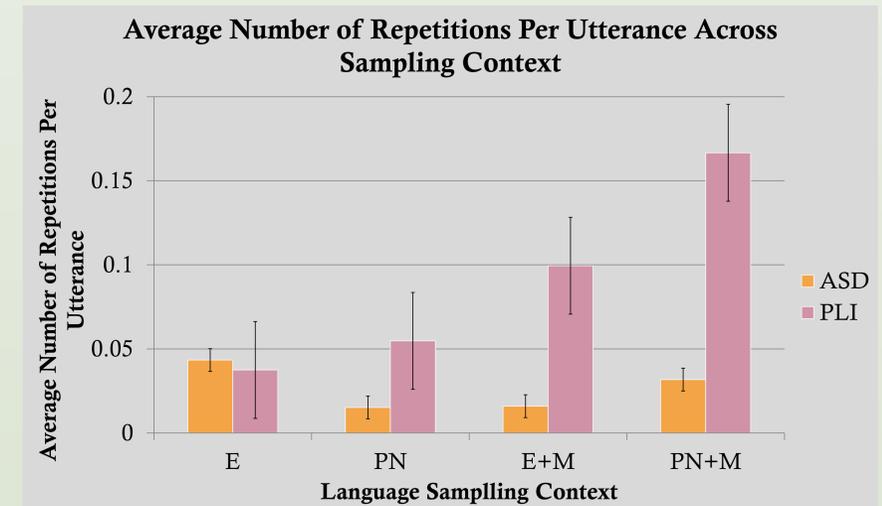
- PLI > ASD for average number of revisions per utterance in PN (U=50.0, p=.01)

Average Number of Revisions Per Utterance Across Sampling Context
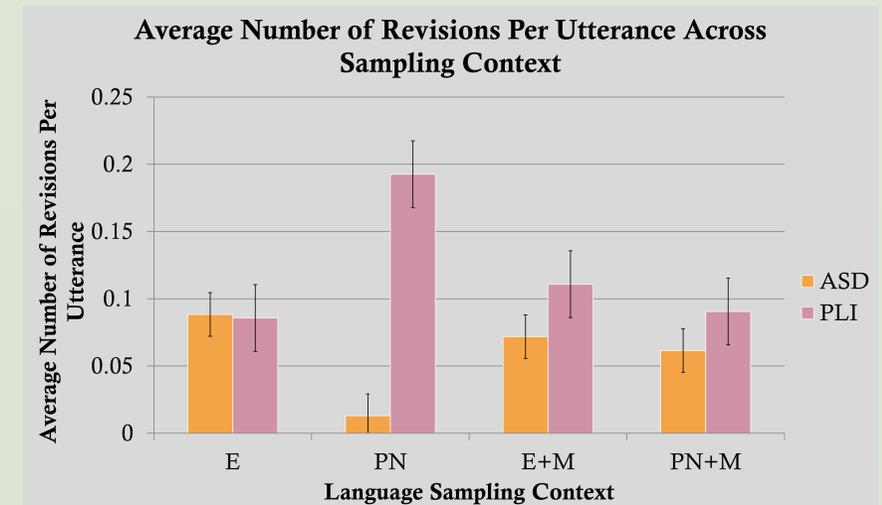
Conclusions

- The demands of different language sampling contexts may interact differently with children's unique cognitive and behavioral profiles.

- +M contexts may have greater social expectations.

  - Children with PLI may have produced more repetitions in the +M contexts to ensure that they were generating language similar to that modeled by the examiner.

  - Children with ASD may have been less likely to use the model in this way.