The Impact of Context on the Language Samples in Children with Autism Spectrum Disorders

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Introduction

- Child language sampling methods, including context and examiner behavior, influence sample-derived measures of complexity and productivity (e.g., Dethorne & Channell, 2007; Evans & Craig, 1992; Masterson & Kamhi, 1991; Nettelbladt, et al., 2001; Southwood & Russell, 2004; Wagner, et al., 2000)
- Natural language samples are recommended for measuring the expressive language skills of children with ASD (Tager-Flusberg et al., 2009); however, conversational language samples may not reflect full linguistic abilities as children with ASD show weaknesses in contingent talk within conversational contexts (Tager-Flausberg & Anderson, 1991)
- Language performance of children with ASD may be particularly sensitive to sampling context given evidence that as social communicative demands associated with language tasks increase, language complexity decreases (Condouris, et al., 2003)
- The current study addressed the following research question:

✓ **How does language context influence the personal narrative and expository language samples produced by children with ASD?**

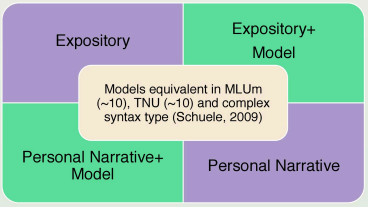
Participant Characteristics

Characteristic	*N* = 8
Age (years;months)	
Mean	6;2
SD	1;1
Min-Max	4;4-7;10
Gender (Female: Male)	2:6
Diagnosis[a]	
Autism Spectrum Disorder	5
Asperger's Syndrome	1
PDD-NOS	2
Nonverbal IQ[b] (SS)	
Mean	93.9
SD	15.7
Min-Max	71-115
Expressive Language[c] (SS)	
Mean	72.0
SD	13.6
Min-Max	47-90
Receptive Language[d] (SS)	
Mean	92.9
SD	23
Min-Max	55-128

[a]Per parent report; [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



- 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 mazes per utterance
- Wilcoxon signed rank test used to determine statistically significant differences between language produced in different language sampling tasks (Personal Narrative vs. Expository) and with different amounts of support (Model vs. No Model)

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]

Example Expository Model Sample

E Tell me everything you can think of so that someone who has never play/ed football before would know how to play.
C Like when (you) you/'re quarterback %aaahhh.
C And you throw it.
E What else?
C Then someone else has to catch it, like a wide receiver.
E Mmhmm.
C Or you could hand it off to a running back.
C (Um) there can be flag/s like when someone cheat/3s.
C And there/'s also (like) endzone/s and touchdown/s <and>^
E <Uhhuh, Oh be careful with that>.
C Other stuff.
C What else?
E Can you tell me anything more about football?
C People get hurt a lot.
E Yeah?
C Yeah, they get torn ACL/s and^
E Oh ouch!
C Yep, you/'re right ouch is the word.
C What are you go/ing to say now?
E Well I was just go/ing to say thanks for tell/ing me about football.
E Thanks for tell/ing me how to play.
C Well you/'re welcome.
E Is there anything else you want/ed to add about it?
C No.
+00:01:49

Results

Variable	Expository	Expository +Model	Personal Narrative	Personal Narrative +Model
TNU	19.14 (5.0-37.0)	21.75 (4.0-51.0)	21.0 (5.0-61.0)	19.29 (8.0-44.0)
MLUm	5.35 (2.5-10.39)	5.11 (1.67-9.38)	5.51 (2.8-8.64)	5.44 (3.13-7.77)
TTR	.66 (0.38-0.83)	.62 (0.39-0.86)	.67 (0.38-1.0)	.62 (0.49-0.83)
Mazes per Utterance*	.16 (0-.71)	.10 (0-.62)	.04* (0-.22)	.14* (0-.28)

Note: *significant difference, $z = -2.02$, $p = 0.04$, $r = -0.54$; other comparisons had small to medium effect sizes ($r = 0.03$ to $r = 0.27$)

Conclusions

- Sampling type and amount of examiner support affect the mazes children with ASD produce, but may not significantly impact other measures of language productivity
- Personal narrative context without a clinician model may have been less cognitively demanding because there were fewer social expectations; thus, decreasing maze production

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