

Narrative production in children with Autism Spectrum Disorder

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Plan of the talk

- A brief introduction: Discourse
- Results from a cross-disorder study
- Clinical and research implications
- Questions

DISCOURSE

What is *discourse*?

- Connected speech
 - Connected ideas, sentences
- Genres
 - **Toddlers, preK:** Play, adult-child interactions
 - **Early school-aged:** Conversation, Personal and fictional narratives
 - **Later school-aged:** Expository
- Modalities
 - Oral and written *text*
- Conversation—what is it really?

Why and how is *discourse* relevant for individuals with ASD?

- Narrative production is a demanding task that draws upon linguistic, social, and cognitive abilities
- Narrative skills are linked to both social and academic success
 - Socially
 - Friendships, peer interactions
 - Academically
 - Texts pervade the curriculum
 - Increased expectations with age

Assessment and intervention

- Narrative production is an assessment context that parallels natural communication events
- Some children will do well on standardized tests, yet...
 - Predictable and structured
 - Focus mostly at the word and sentence level
- Narrative production can highlight strengths and weaknesses that are not readily observable in standardized testing
- It can thus provide rich information regarding language in use to guide intervention

A CROSS-DISORDER STUDY

Colozzo, Morris, and Mirenda (under review)

Narrative production in children with autism spectrum disorder and specific language impairment

Goals of the study

To obtain a **profile of narrative abilities of children with ASD** along multiple dimensions in order to **highlight relevant areas** to consider for **assessment** and **intervention**.

Study in brief

- Three **age-matched** groups of children ($N = 36$), **monolingual** English-speaking, **6 to 10 years old**
 - Verbal children with Autism Spectrum Disorder (ASD)
 - No other comorbid diagnoses (e.g., seizure disorder, genetic disorder)
 - Able to complete the narrative tasks
 - Children with Specific Language Impairment (SLI)
 - Children with typical development (TD)

- Three subtests from the *Test of Narrative Language* (TNL; Gillam & Pearson, 2004)

- **Comprehension:**
 - **Shipwreck:** 5-picture sequence
- **Production:**
 - **Late for School:** 5-picture sequence



- **Aliens:** single picture scene



- Narratives analyzed along **multiple dimensions of language**, with variables reflecting

- Productivity
- Form
- Content

Why use cross-disorder comparisons?

- Can provide useful information to support improvements in the language and communication abilities of children with either diagnosis
- May point to areas of assessment beyond those generally assumed to be vulnerable in one group or the other

Why compare ASD and SLI?

- A subgroup of verbal children with ASD present with structural language difficulties that overlap with the deficits of children with SLI
- Children with SLI may have secondary deficits that manifest themselves in language use/pragmatics, including discursive tasks
- Children from both groups are part of clinical caseloads, and have needs re. discourse
- Prior research has rarely included both groups within a single study

Who are children with SLI

- By definition, “children with SLI experience significant limitations in language ability that cannot be attributed to problems of hearing, neurological status, nonverbal intelligence, or other unknown factors”

Leonard, 1998, p. 25

Group profiles

Dx group	Structural language	Pragmatics	Intellectual level
ASD	variable	weak primary/core difficulties	variable
SLI	weak	variable mild, secondary difficulties?	typical range

Summary of narrative studies comparing either **ASD** or **SLI** to TD controls

Area of focus	ASD	SLI
Productivity	+/-	+/-
Structural language		
• Grammatical accuracy	?	-
• Syntactic length or complexity	+/-	-
• Referencing	-	+/-
Content		
• Overall content/organization	+/-	+/-
• Appropriate content	-	
• Mental states	-	+/-

Few cross-disorder studies

- Results **NOT** clear-cut
 - particularly given differences in the characteristics of the clinical samples
- Nonetheless, studies converge in **highlighting** more **similarities** than differences between **ASD** and **SLI** groups
 - including possibly with respect to vulnerabilities in structural language (Norbury & Bishop, 2003; Norbury et al., 2014)

Results and Discussion

Scores on subtests of the TNL

Measures	ASD	SLI	TD
TNL, Shipwreck (max. 11)	5.8 ^a (4.1)	9.5 ^b (1.3)	10.3 ^b (0.8)
TNL, Late for School (max. 30)	8.0 ^a (3.2)	10.9 ^a (4.0)	18.0 ^b (4.1)
TNL, Aliens (max. 34)	12.4 ^a (6.3)	13.8 ^a (5.4)	22.4 ^b (4.7)

- Mean scores for Late for School and Aliens tasks suggested that
 - Although both clinical groups produced stories that were poorer compared to those of the TD peers,
 - ASD and SLI groups did not differ in narrative production abilities
- **BUT**, composite TNL scores reflect various aspects of narrative ability incorporated into the scoring system

Analyses of the language samples

- Analyses based on the story texts considered whether the groups of participants differed in systematic ways on **specific language measures**

Performance of ASD and SLI groups compared to TD peers and each other

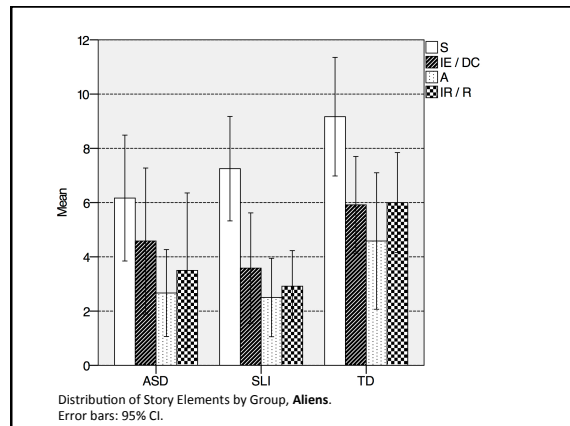
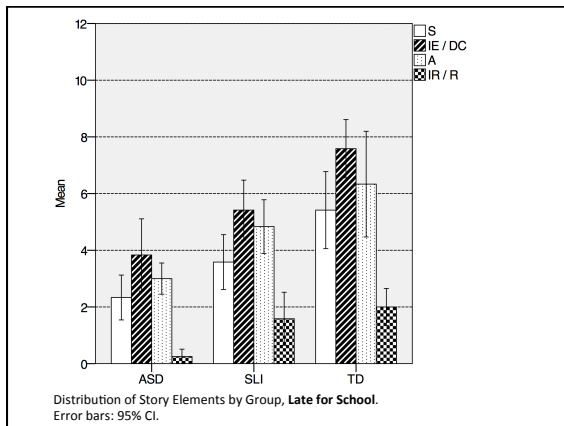
<i>Productivity</i>			
Utterances	21.7* (11.5)	23.3* (9.3)	32.2 [†] (12.8)
<i>Structural language</i>			
Errors per word	0.18* (.09)	0.10 [§] (.06)	0.03 [†] (.02)
MLU in words	6.5* (1.1)	6.5* (0.8)	7.9 [†] (1.0)
Clauses per utt	1.24* (.23)	1.37* (.19)	1.66 [†] (.17)
<i>Content</i>			
Story elements	26.3* (18.4)	31.7 [†] (14.4)	47.0 [†] (18.3)
Prop extraneous utts	.23* (.21)	.10 [†] (.12)	.06 [†] (.08)

Performance of ASD and SLI groups compared to TD peers

At least one mention of cognitive states per story	ASD	SLI	TD
Yes	2	8	9
No	10	4	3

Interesting similarity across groups

- Despite differences in productivity, the patterns for the distribution of story element categories were remarkably similar across groups for each story.
- And the story differences in these patterns were consistent across groups.



- This suggests that many of the children in the clinical groups were showing an emerging ability to produce stories with an episodic structure
- These results are generally in line with those of Merritt & Liles (1987) for children with SLI and age-matched peers

Clinical implications

- In comparison to their TD peers, the groups with ASD and SLI had similar profiles of narrative abilities along multiple dimensions
- Thus, **clinical assessment should**
 - **be broad** regardless of diagnostic label
 - **go beyond areas that are generally assumed to be vulnerable** for a specific population
- Discursive tasks such as narrative production may provide a complementary assessment context to identify areas of difficulty in children with ASD and SLI alike

- Beyond test scores, the analyses of story texts provided much information that would inform intervention
- Language sample analysis is a powerful approach to clinical assessment for obtaining descriptive data for goal-setting and measuring progress
- Clinical tools such as SALT (Systematic Analysis of Language Transcripts; Miller & Iglesias, 2012) provide a means to make this task more efficient
- Additional information can be gleaned by using a combination of elicitation contexts that provide more or less scaffolding

Intervention strategies and research

- Target the various aspects of language and communication that are constraining communicative success
- Narrative-specific intervention research is emerging
 - SLI: small body of intervention studies
 - ASD: Petersen, et al. (2014). Systematic individualized narrative language intervention on the personal narratives of children with autism. *Language, Speech, and Hearing Services in Schools*, 45, 67-86.

Back to the clients

- Particularly for those clients with ASD with more **limited linguistic and social-cognitive abilities**, these **compounding constraints** may result in the production of fictional and personal narratives that result in **unsuccessful communicative events** given the ambiguity resulting from idiosyncratic content and unclear referencing, combined with simple and ungrammatical form.

Challenges for peer interactions from a young age

Recent study drives home this point:

- Dean, Adams, & Kasari (2013). How narrative difficulties build peer rejection: A discourse analysis of a girl with autism and her female peers. *Discourse Studies*, 15, 147-166. doi: 10.1177/1461445612471472

A lifespan perspective: The ALL Group

- Young adults with developmental disabilities, many of whom have diagnoses of ASD
- Focus on social-communicative competence
 - Conversation; talking about self, past and future events; showing interest in what others' have to say
 - Explaining, narrating, etc.
- Ten year anniversary of the ALL Group
<http://www.audiospeech.ubc.ca/an-anniversary-for-all/>
- Personal narratives may be even more challenging for older individuals
 - See Rollins (2014)

Limitations and Research implications

- The limited sample size calls for caution
- The composition of the samples limits the generalizability to specific groups of children
 - those with profiles that would allow them to complete similar tasks
- Future studies could replicate and extend the results of this study in order to
 - provide relevant clinical information
 - further our understanding regarding the relative constraints of deficits in structural language and social-cognition on discursive abilities
- More intervention research is clearly needed

A few suggestions for further reading

- Dean, Adams, & Kasari (2013). How narrative difficulties build peer rejection: A discourse analysis of a girl with autism and her female peers. *Discourse Studies*, 15, 147-166
- Finestack (2012). Five principles to consider when providing narrative language intervention to children and adolescents with developmental disabilities. *Perspectives on Language Learning and Education*, 19, 147-154.
- Petersen, Brown, Ukrainetz, Wise, Spencer, & Zebre (2014). Systematic individualized narrative language intervention on the personal narratives of children with autism. *Language, Speech, and Hearing Services in Schools*, 45, 67-86.
- Rollins (2014). Personal narratives in individuals with high-functioning ASD: A lens into social skills. *SIG 1 Perspectives on Language Learning and Education*, 21, 13-20.

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