

Internal State Language Production in Storybook versus Personal Narratives in TD Children and Children with ASD



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Introduction

- Challenges on narrative tasks have been linked to the social communication challenges routinely experienced by those with ASD^{1,2}
- Studies have found that narratives of school-age children with ASD are less likely to include internal state language (ISL) that refer to emotional (e.g., “happy”)³ and/or cognitive (e.g., “think”)⁴ states, as compared to TD peers
- However, most of the studies conducted have relied solely on storybook narratives, which may not be appropriate for teens; personal narratives may be more socially relevant for this population
- Within personal narratives, *children* with ASD have demonstrated differences in structural language compared to TD peers (e.g., shorter MLUs), while these differences did not show up within storybook narratives⁵
- However, the use of ISL within these two contexts has not been examined

Objectives

- Determine if challenges with producing ISL exist in teens with ASD
- Assess whether different narrative contexts (i.e., storybook vs. personal) affect ISL production in teens with ASD

Methods

	TD* (n = 15)	ASD* (n = 12)	t	p-value	Cohen's D
Mean Age Years (SD)	14.8 (3.0)	15.3 (3.3)	-0.438	.665	-0.170
Sex Ratio (M:F)	10:5	11:1	—	—	—
CELF-IV Word Classes (AE in years)	17,7	10,4	3.249	.005	-1.39

- English primary language for all teens
- * From LSEL; matched on language at onset⁶

- Storybook narratives** elicited using *Tuesday* wordless picture book
- Personal narratives** elicited with the investigator prompting teen to narrate specific events (e.g. “Can you tell me about a time you got jabbed by something?”)⁷
- Coding of narratives:
 - Total # word tokens extracted via CLAN
 - Total # of ISL tokens (emotional adjectives & verbs, and cognitive adjectives & verbs) extracted manually via CLAN
 - Preliminary analyses revealed no differences between ISL tokens individually, so ISL tokens were collapsed into one single ISL measure
 - Proportions of ISL tokens were calculated out of the total number of word tokens⁸

Results

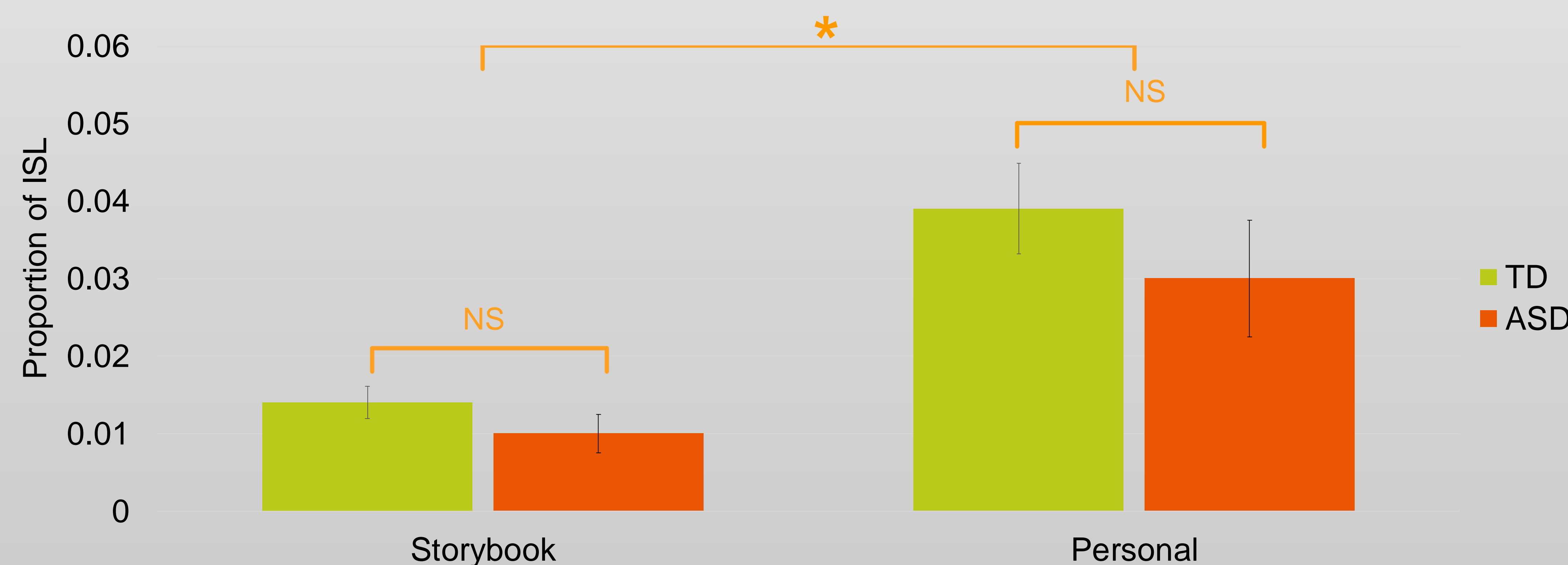
word tokens: Storybook > Personal both groups

	TD	ASD	p-value
Storybook M(SD)	261.3 (80.2)	195.2 (74.1)	0.042
Personal M(SD)	105.6 (75.1)	61.0 (31.8)	0.066
p-value	< 0.001	< 0.001	—

MLU: Storybook = Personal both groups

	TD	ASD	p-value
Storybook M(SD)	7.7 (4.2)	5.1 (1.8)	0.061
Personal M(SD)	6.5 (2.4)	4.4 (1.3)	0.014
p-value	0.080	0.197	—

No group differences in ISL tokens in either context; Both groups produced more ISL tokens in the personal narrative than storybook narrative context



- No significant group differences emerged for ISL ($ps > 0.05$)
- Analysis for covariance
 - While accounting for CELF, Word Classes, a mixed-design ANCOVA, with a between-factor of group and within-factor of narrative context, revealed a significant effect of narrative context on ISL tokens across groups, $F(1, 23) = 4.894$, $p = 0.037$, $\eta^2 = 0.175$
 - Post hoc analyses: Personal > Storybook, $p = 0.021$

Discussion

- These preliminary findings support the idea that language production varies by context
- Overall, teens from both groups produced fewer ISL terms in the context of storybook narratives than personal narratives
- While storybook narratives yielded more words and longer MLUs, personal narratives elicited more ISL from both groups even with overall lower language abilities in the ASD group
- Thus, when assessing ISL production, researchers should consider the ability of the narrative prompt to elicit these terms

References & Acknowledgements

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