Narrative Macrostructure: A Comparison Between Autistic and Typically Developing Adolescents

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Background

- Individuals diagnosed with Autism Spectrum Disorder (ASD) have been documented to have challenges with producing spoken narratives.[1-3]
  - Autistic adults had significantly lower **personal narrative scores** when analyzed using High Point Analysis (HPA), a measure of macrostructure and event sequencing.[2]
  - Autistic adolescents included significantly fewer integral story plot points when retelling a **storybook** narrative.[3]

Objectives

To **compare storybook and personal narrative macrostructure** between autistic and typically developing (TD) adolescents via two methods: 1) HPA and 2) identification of story plot points (e.g., characters, actions, etc.).

Methods

Table 1. Demographics of sample

| Measure (max possible score)	TD M(SD)	ASD M(SD)	t	p-value
N	23	15		
Age in years	15.26 (3.05)	16.60 (3.20)	-1.279	.104
CELF[4] (239)	206.17 (19.71)	171.00 (29.45)	3.651	<.001***
DAS[5] (100)	66.57 (13.92)	53.47 (15.83)	2.686	.005***
ADOS[7] (30, ASD cutoff: 7)	2.65 (3.05)	10.73(5.54)	-5.802	<.001***

- Sample was taken from the Longitudinal Study of Early Language.[8]
- *Tuesday* storybook:[9] Elicited narrative was analyzed using measures of number of integral story plot points[3] and HPA (see below).
- Personal narratives: 4 prompts (jabbed by needle, lost keys, proud moment, sporting event)
  - Each narrative was analyzed via HPA, yielding 'best' narrative score, average narrative score.

HPA Coding

|	Orientation (information about setting)	Complicating Action(s) (build-up to climax)	High Point (HP) (climax, main point)	Resolving Action(s) (what immediately follows and addresses the HP)
Examples from *Tuesday* Storybook	Anything about the setting	Frogs flying around the neighborhood	HP_A: getting stuck in the laundry HP_B: confrontation with the dog HP_C: losing powers/falling	Police coming and investigating
Points (Maximum: 6 points)	1 pt	1 pt	1 pt for each HP	1 pt
Examples from Personal Narratives	"In fifth grade I was holding a mechanical pencil when I went to get out of my chair"	"I jabbed it on the back, and it poked me"	"My finger started bleeding"	"I got a tissue and cleaned it up"
Points (Maximum: 4.5 points) **In correct order** (Orientation > Complicating Action > High Point > Resolving Action):	All elements: • 4.5 pts	Missing either Action: • 3.5 pts	Missing 2 elements: • 2.5 pts	Missing 2+ elements: • 1 pt
In incorrect order:	All elements: • 4 pts	Missing either Action: • 3 pts	Missing 2 elements: • 2 pts	Missing 2+ elements: • 1 pts

## Results

Fig. 1. TD > ASD only in Average Personal Narrative Score

*p = .011
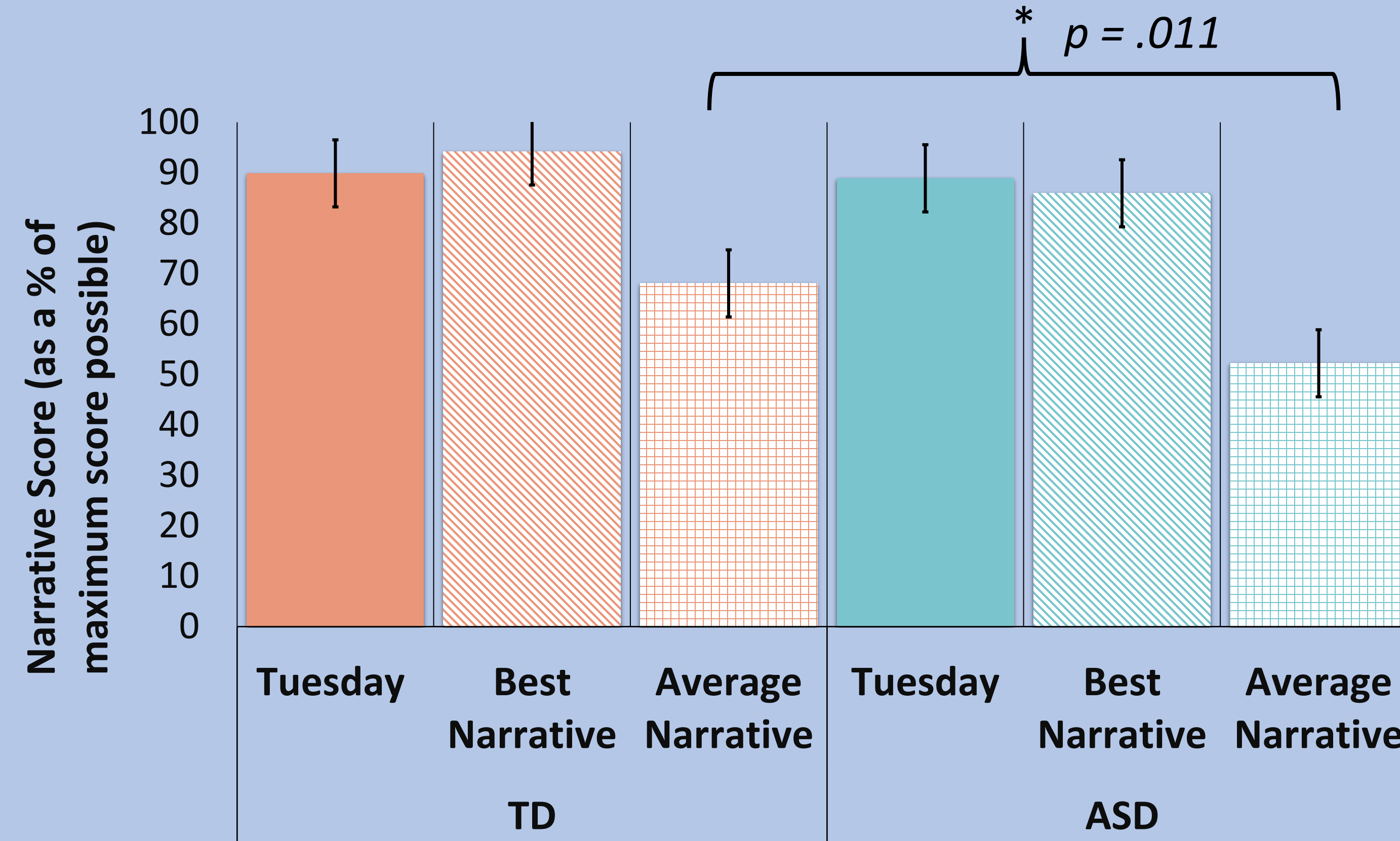
Fig. 2. TD > ASD only for Jab and Proud Narratives

p = .013 *

p = .017 *
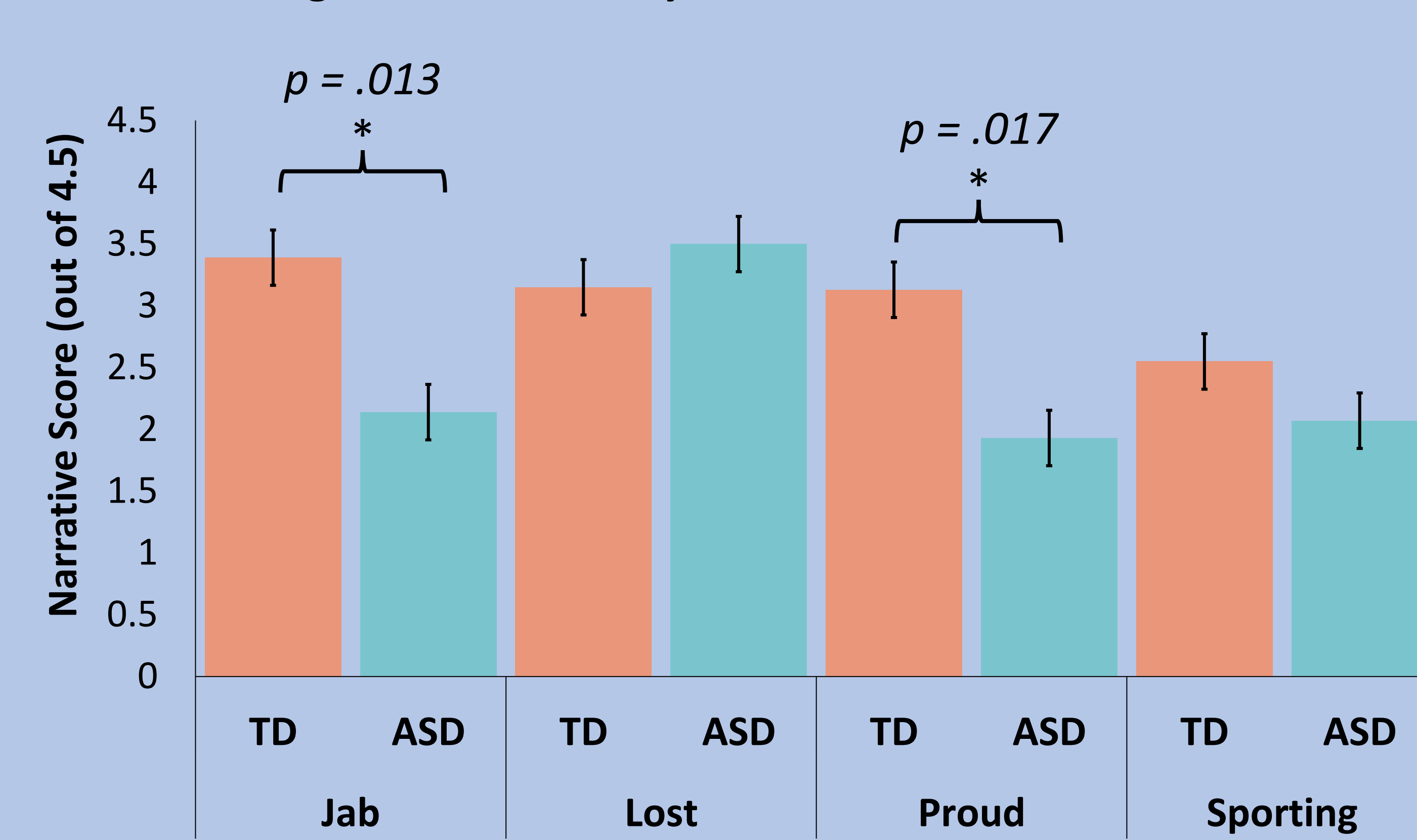
Fig. 3. Autistic adolescents w/ higher CELF & DAS scores included more plot points in their *Tuesday* narratives

r=.742, p=.002
r=.797, p<.001
r=.801, p<.001
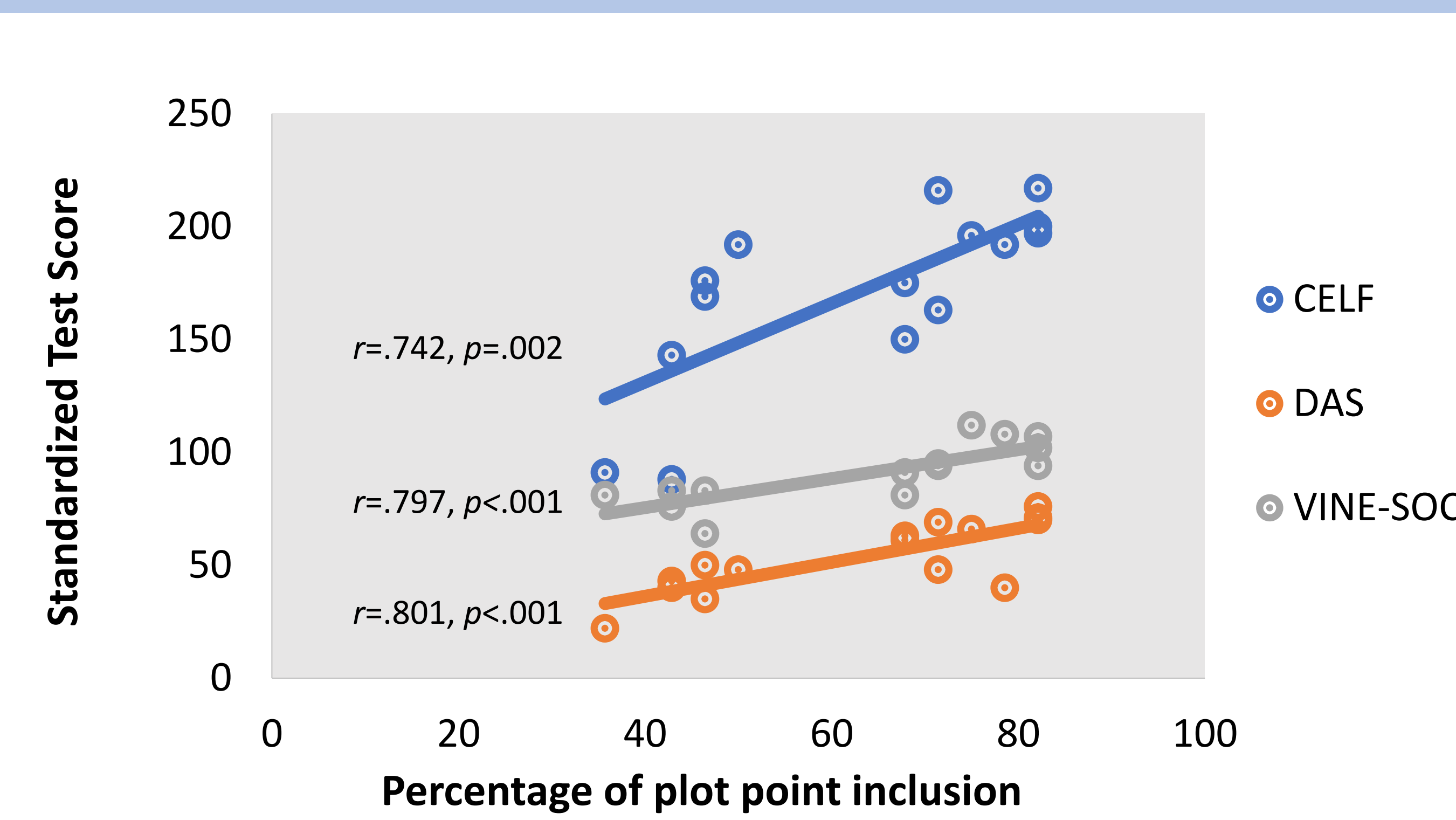
Fig. 4. No significant relationships between Personal Narrative score and standardized tests for autistic adolescents

r=.060, p=.832
r=.054, p=.848
r=.179, p=.540
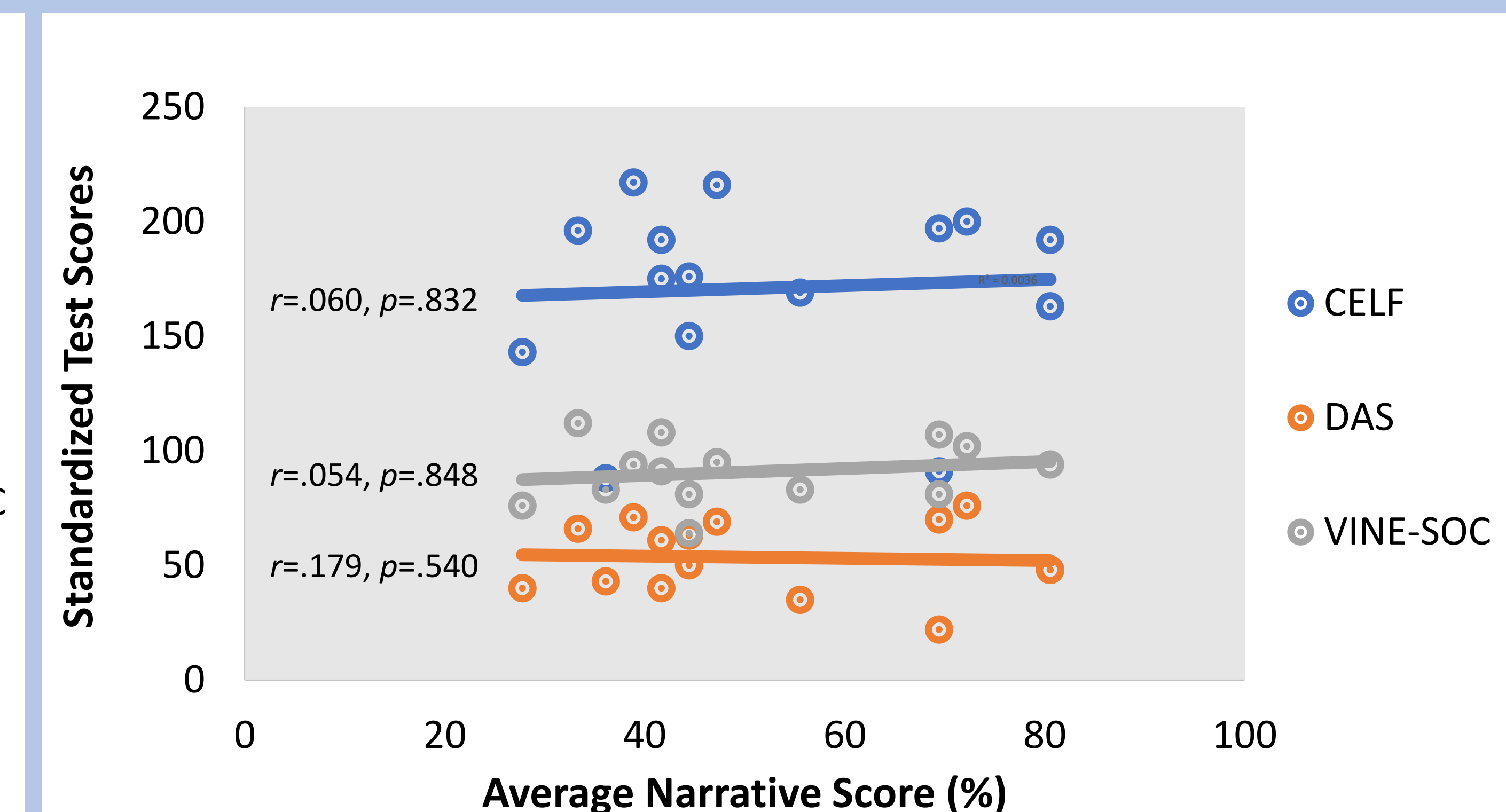
- There were no significant differences found between groups for the essential plot points inclusion measure ($t(36)$= 1.351, p = .185)
- No variables were found to be correlated for the TD group

Discussion

- Linguistic ability seems be a factor in inclusion of storybook plot points, but not for demonstrating HP macrostructure.
- Using a storybook as a guide for narrative telling allowed autistic teens to perform well in HPA, demonstrating cohesion and completeness
- One personal narrative prompt (Lost Keys) also elicited comparable HP macrostructure in NT and autistic teens
- **Takeaway**: Context, including type of prompt, has considerable impact on one's ability to tell a complete narrative, whether it be personal or a retelling

References

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