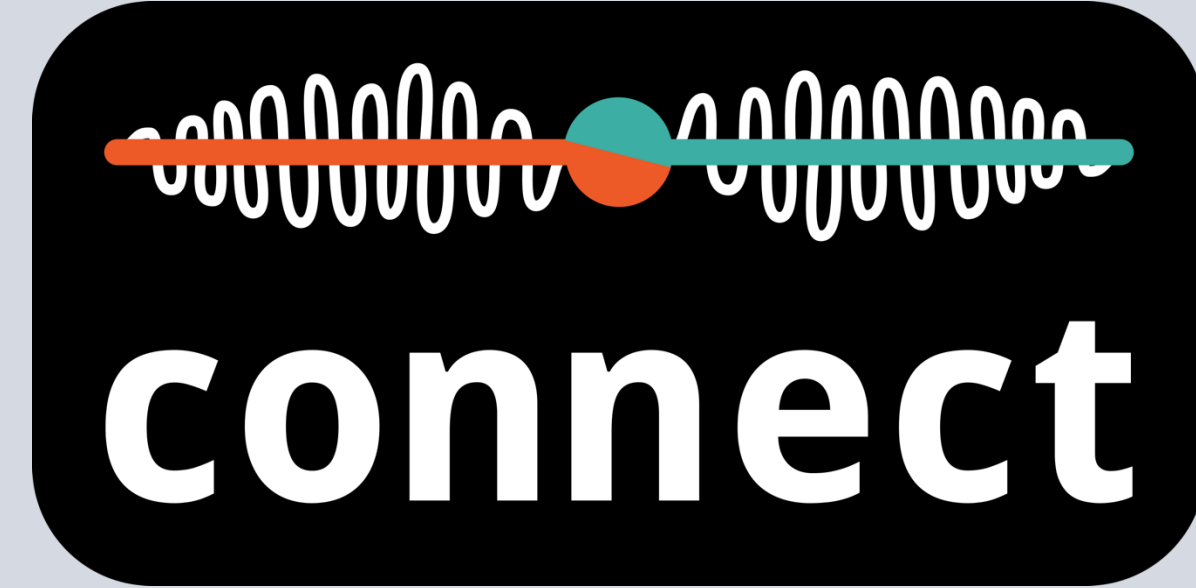


Comparing Direct and Parent-Report Measures of Expressive Language Abilities in Autistic and Neurotypical Teenagers



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Introduction

- Clinician-led and parent-reported assessments of expressive language (EL) abilities in autistic children are strongly correlated (e.g., Luyster et al., 2008).
- Parents, teachers, and clinicians differ in their assessment of autism characteristics (Mayes & Lockridge, 2018), suggesting that assessment modality influences the characterization of abilities.
- This study asks whether different assessment modalities capture distinct EL abilities in autism.

Objectives

- 1) Do autistic and non-autistic teenagers differ on assessments?
- 2) How are group differences in EL shaped by assessment modality?

Methods

Participants

- 104 verbally fluent autistic (37 female) teenagers
- 112 non-autistic (50 female) teenagers
- Recruited from SPARK and university registries
- Ages 12 - 15;11 (M = 13;11).
- Diagnostic status: confirmed using the Social Communication Questionnaire (SCQ, Rutter et al., 2003)

Expressive Language (EL) Measures

Clinician-administered direct assessment

- Clinical Evaluation of Language Fundamentals (CELF-5, Wigg et al., 2013) Core Language Score, standard scores (SS)

Parental report

- Vineland Adaptive Behavior Scales (VABS-3) Communication domain SS (Sparrow et al., 2006)
- Children's Communication Checklist, Second Edition (CCC-2, Bishop, 2003), General Communication Composite (GCC)

Statistical Analysis

Linear Mixed Effects Model (LMEM) with score (SS or GCC) as outcome, group and assessment as fixed effects, and random intercept for participant. Compared models with and without interactions to test whether interaction improved model fit with post-hoc pairwise comparisons (Bonferroni adjusted)

Baseline model: Scores ~ Group (AUT or NT) + Assessment (CELF-5, VABS-3, or CCC-2) + (1| Participant)

Interaction model: Scores ~ Group (AUT or NT) × Assessment (CELF-5, VABS-3, or CCC-2) + (1| Participant)

Descriptive Statistics

AUT group: lower scores across 3 EL assessments, p 's < 0.005.

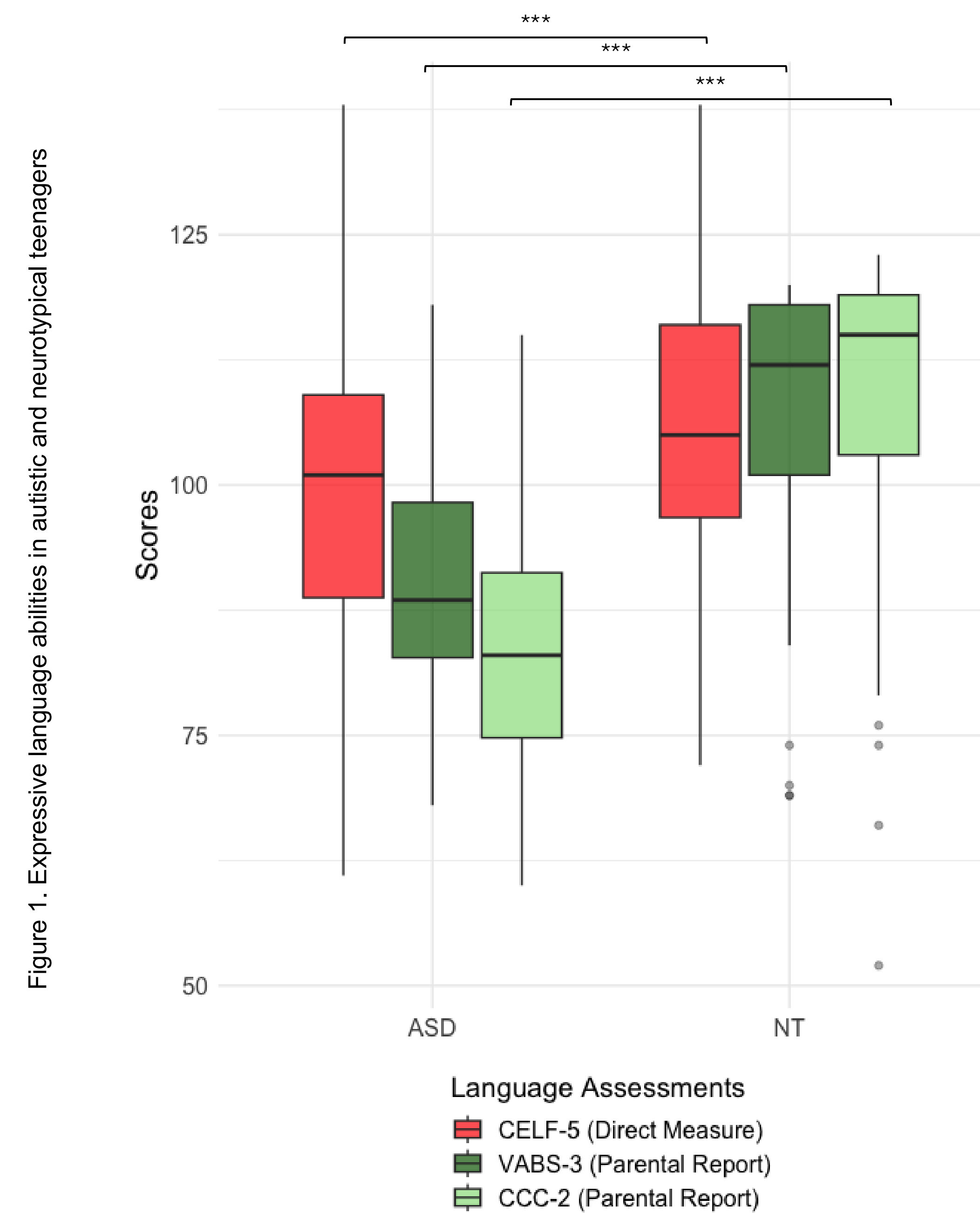


Figure 1. Expressive language abilities in autistic and neurotypical teenagers

Results

LMEM: The interaction model provided a significantly better fit than the baseline model: $\chi^2(2) = 102.75, p < 0.001$.

Group differences varied across 3 assessments (AUT - NT):

Smallest difference: CELF-5 (Diff = -5.78, SE = 1.78, $p = 0.0013$)

Medium difference: VABS-3 (Diff = -17.53, SE = 1.78, $p < 0.0001$)

Largest difference: CCC-2 (Diff = -25.64, SE = 1.78, $p < 0.0001$).

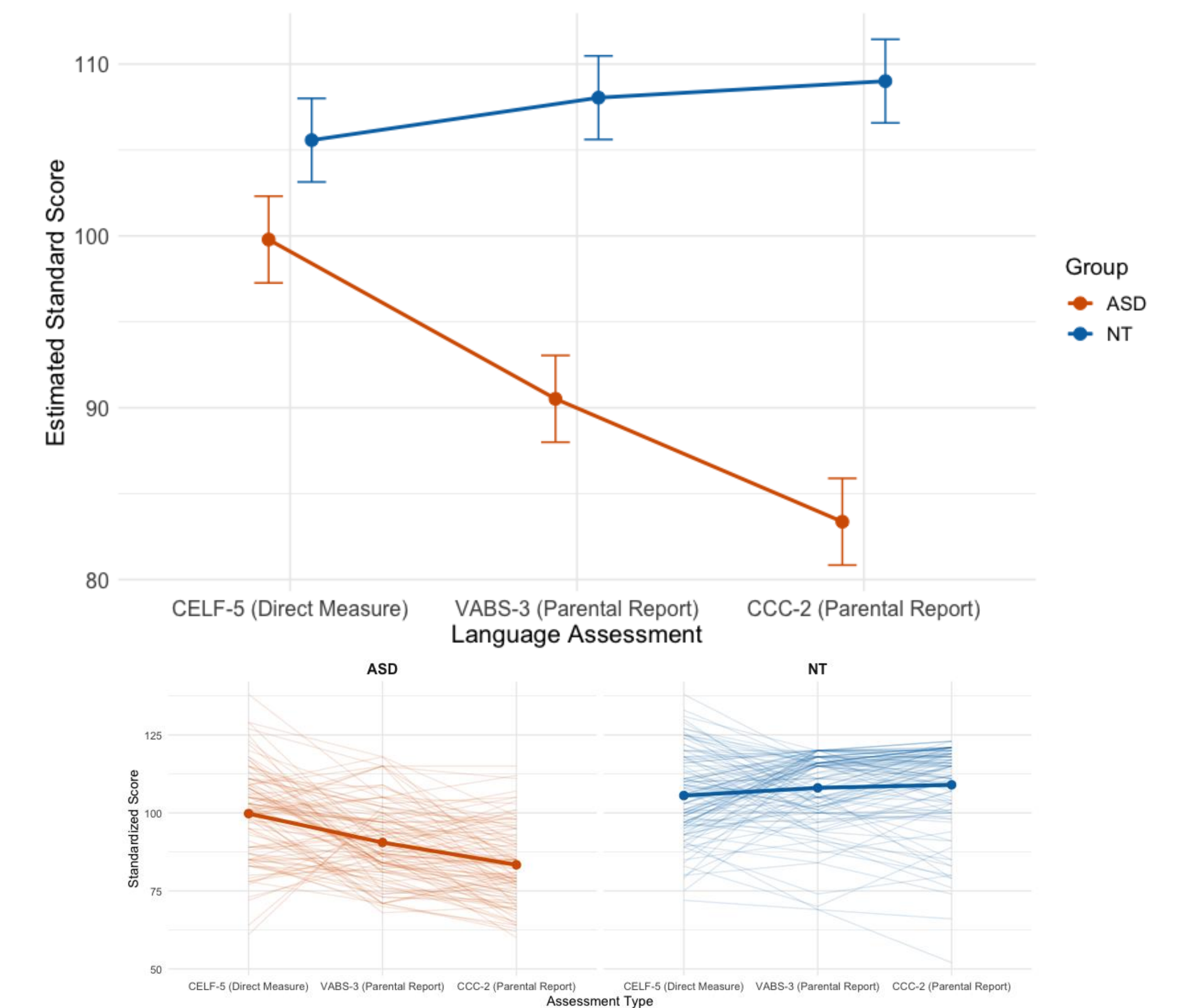


Figure 2. Language Assessment Profiles by Group

Take Aways

Verbally fluent autistic teenagers demonstrated significantly lower EL abilities than non-autistic peers, captured by both clinician-administered direct and parent-reported assessments. **Importantly, the magnitude of the group gaps significantly differs depending on specific modalities of EL assessments:** clinician-administered direct assessment yielded the best performance in the AUT group; the CCC yielded the lowest scores. Findings suggest:

- (1) Parents may notice features of language (primarily pragmatics) and social interaction not effectively captured by the CELF-5, which focuses more on structural and semantic processes.
- (2) The CELF-5 may over-estimate language abilities in autism due to its use of visual cues, an untimed and non-interactive structure, and administration by an expert in conversational repair.

Further research will examine whether clinician-administered or parent-reported measures are better predictors of conversational success. Results also suggest that clinicians consider potential limitations of different assessment modalities and solicit information from multiple sources when evaluating EL abilities in autistic teenagers.

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