

Linguistic and Cognitive Factors Differentiating Arabic-speaking Children with and without (SLI)

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Introduction

- Children with SLI struggle to learn their native language and face many language-related problems, although little is known about typical and atypical language development in Arabic-speaking children (Lewis, 2009).
- Arabic is a semitic language with a nonconcatenative morphology; it is a root and pattern language with complex interaction between syntax morphology and phonology.

Study purpose

- To provide normative data related to language and cognitive development in a large epidemiological sample of 6-9 year old monolingual Arabic children.
- To examine those linguistic and cognitive characteristics that may differentiate Arabic-speaking children with and without SLI.

Methods

Participants

- Recruited from 10 elementary schools in Saudi Arabia



Age	TD (n)	SLI (n)	Total (N)
6 yrs	96	10	106
7 yrs	96	8	104
8 yrs	95	11	106
9 yrs	96	9	105
Total	383	38	421

- SLI Criteria:
 - $z < -1$ SD on 2 subtests from Arabic Language Test (Shalan, 2010)
 - Sentence Comprehension Test (SC)
 - Expressive Language Test (EL)
 - Sentence Repetition Test (SR)
 - The Arabic Vocabulary Test (APVT)
 - $z > -1$ SD on The Test of Non-verbal Intelligence (TONI-3) (Brown et al., 1997)

Procedure

Linguistic measures:

- Arabic Language Screening Test (ALST; El-Halees and Wiig, 1999)
- Arabic Receptive- Expressive Vocabulary Test (AREVT; El-Halees and Wiig, 1999)
- Arabic Sight Word Reading Task (ASWR; Oweini and Hazoury, 2010)

Cognitive measures:

- Arabic Nonword Repetition Task (ANWR; Shalan, 2010)
- The Automated Working Memory Assessment (AWMA; Alloway, 2007)

Other measure:

- The Intelligibility in Context Scale (ICS) (McLeod et al., 2012)

Results

Group comparisons on linguistic measures

Figure 1: Nonword repetition

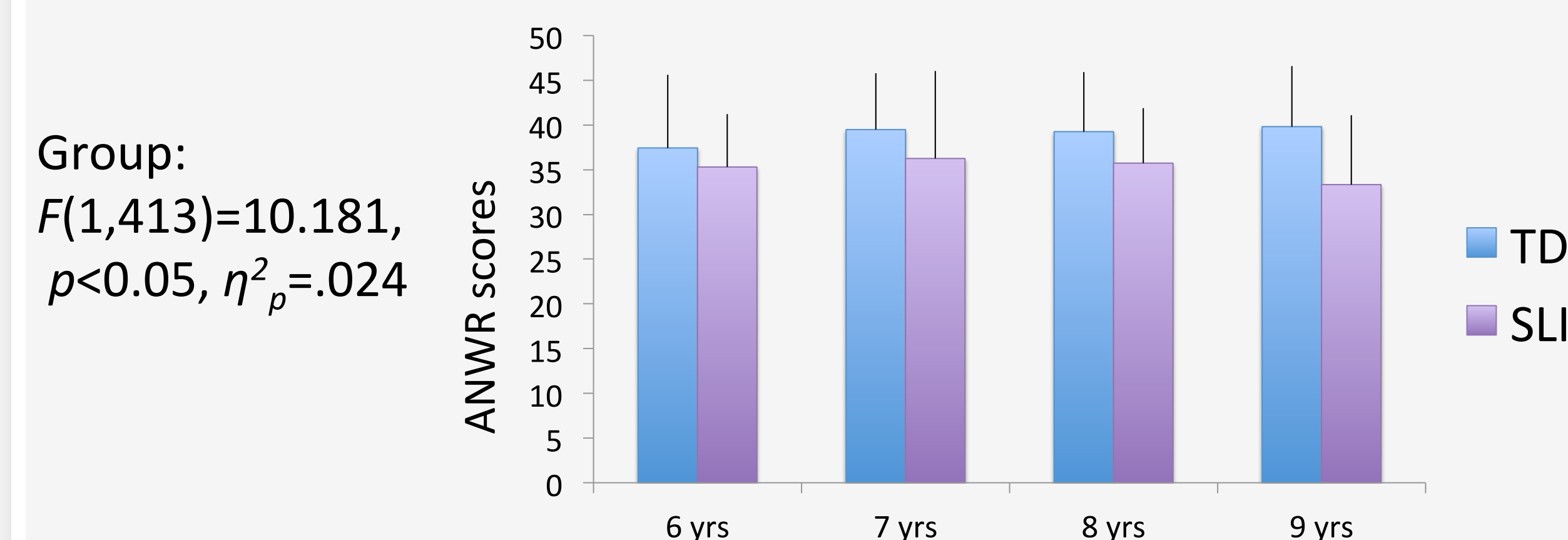


Figure 2: Expressive/Receptive vocabulary

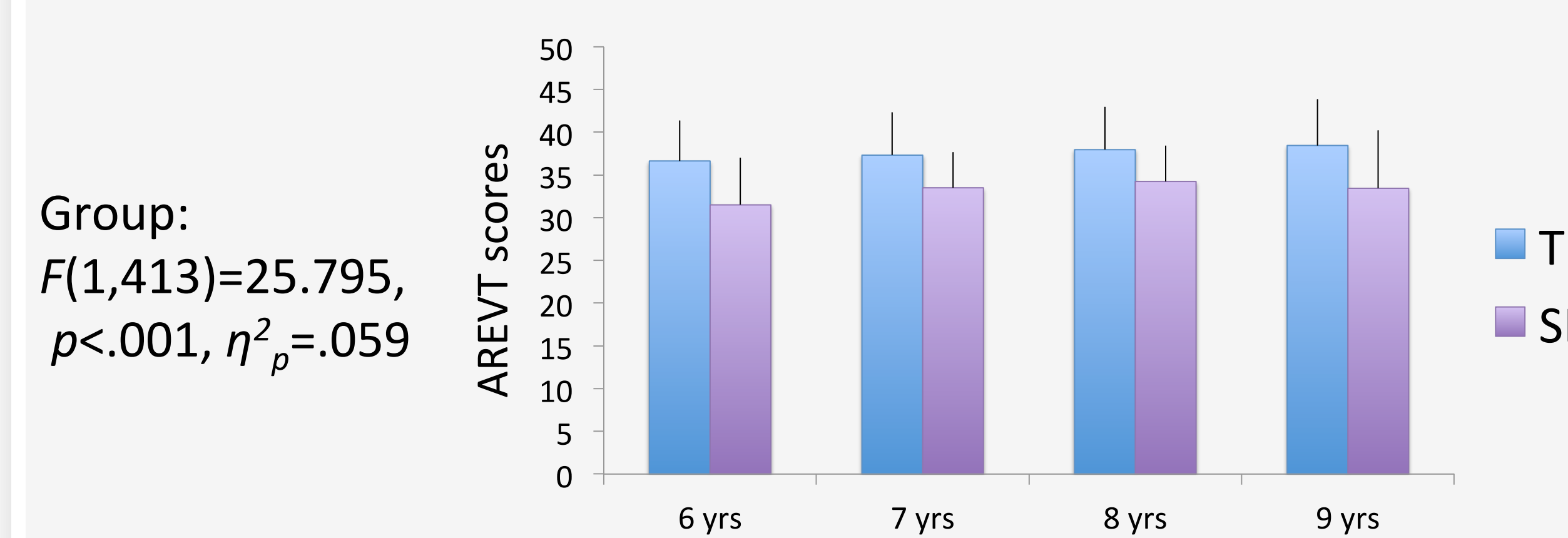
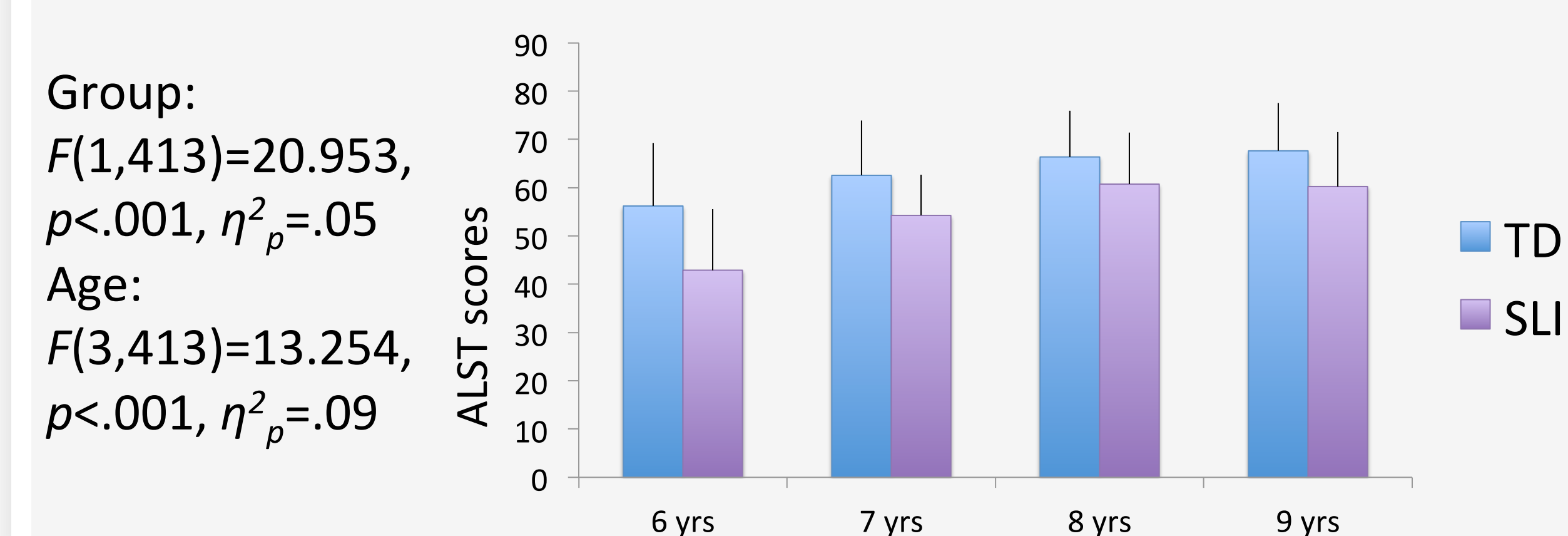
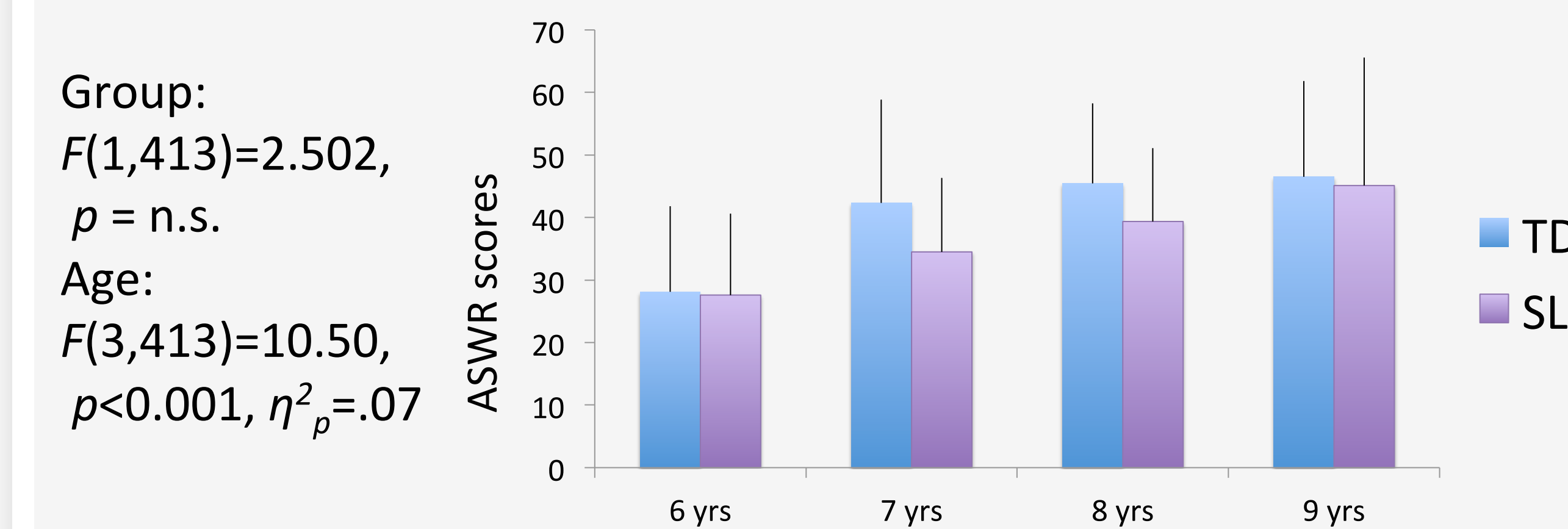


Figure 3: Language screening test



Results

Figure 4: Sight word reading



Group comparisons on remaining measures

Figure 5: Intelligibility in context

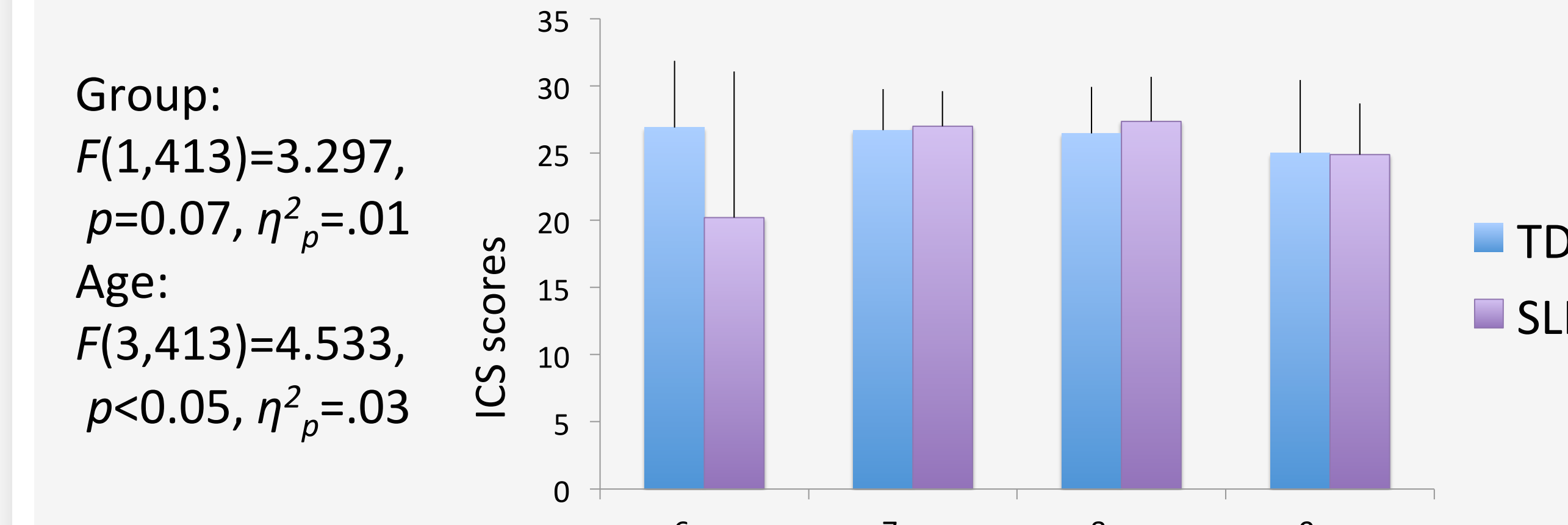
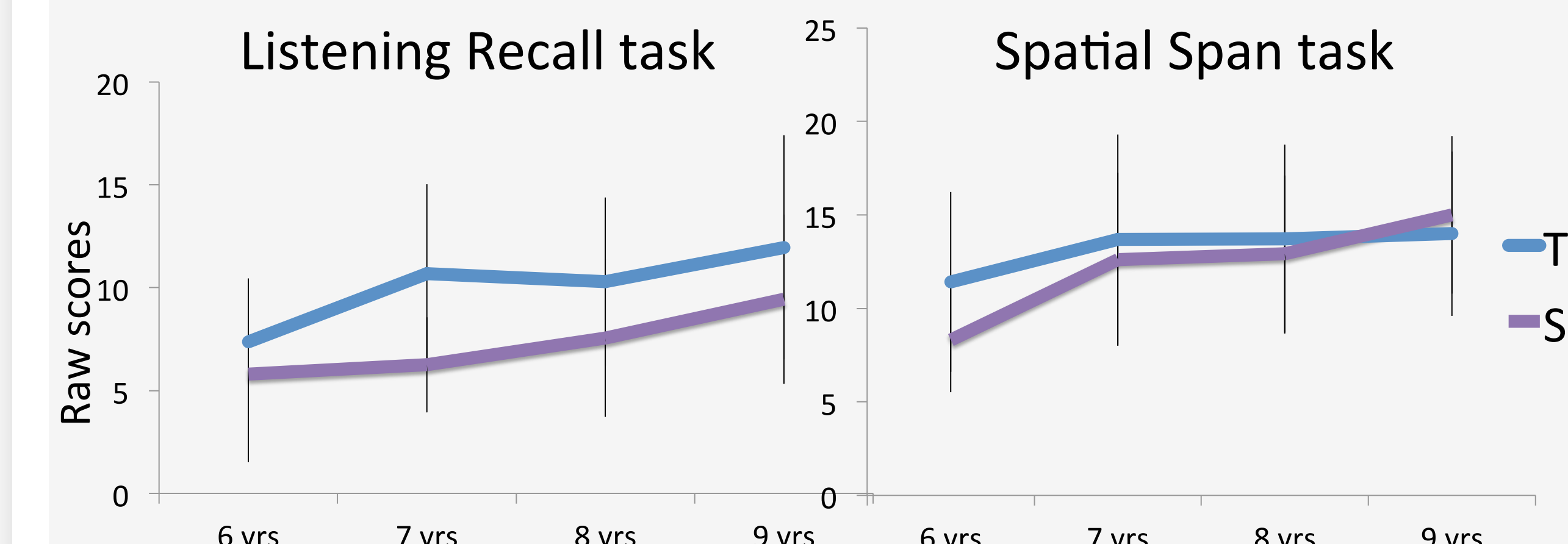


Figure 6: Working memory



Group: LR, $F(1,413)=14.741$, $p<.001$, $\eta^2_p=.034$; SS, $F=1.387$, $p = n.s.$
Age: $F(3,413)>5.4$, $p<.001$, $\eta^2_p=.038$, both cases

Conclusion

- As reported for several languages, Arabic-speaking children with SLI have a significantly lower score than TD children on many linguistic tasks including vocabulary and nonword repetition, but not sight word reading.
- Low performance on verbal but not visuospatial working memory by children with SLI compared to their TD peers is consistent with (Archibald and Gathercole, 2006).
- The non-significant difference between children with SLI and TD children on parent report measure of intelligibility (The Intelligibility in Context Scale) may reflect culture differences in willingness to report concerns about a child's development.
- The Language Screening Test (ALST) differentiate children with SLI and from typically developing children.

References

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