

# IDENTIFYING DEMOGRAPHIC & LANGUAGE PROFILES OF CHILDREN WITH A PRIMARY DIAGNOSIS OF AD(HD)



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## INTRODUCTION

Children with attention deficit (hyperactivity) disorder (AD(HD)) have been found to present with oral language problems and pragmatic language deficits (e.g. Mathers, 2006; Im-Bolter & Cohen, 2007).

Additionally, speech, language and communication profiles have been investigated, to discriminate profiles of children with SLI, ASD and AD(HD) from those with typical development (e.g. Mc Grath et al., 2008; Geurts & Embrechts, 2008; Redmond Thompson, & Goldstein, 2011)

Language testing has been an integral part of these investigations.

However, because of the variability and complexity of language profiles in AD (HD), there has been a call to revisit the prevalence of co-occurring language impairments in this population (Redmond et al., 2011:114).

Detailed language assessment is necessary to elucidate, at least in part, the nature of language impairment in AD(HD) and possibly as associated with AD(HD) subtypes.

## AIMS

1. To explore the language profiles of 36 school age children (9-12 yrs) with AD(HD) attending CAMHS as assessed on a battery of standardised tests.
2. To explore relationships between and across language areas (e.g. receptive and expressive language, vocabulary and reading skills)
3. To discern whether children's language performance on testing bears any relationship to their subtype of AD(HD)

## METHOD

Setting: Child and Adolescent Mental Health Service (CAMHS)  
 Study Context: Part of a larger ongoing research project

### Participants

- 36 children aged between 9 and 12 years (mean age 10yrs 10m)
- all had a primary diagnosis of AD(HD); many had secondary diagnoses
- SLT assessment over 3 x 1 hour assessment sessions
- each child seen individually
- SLT student(s) and SLT supervisor present
- Note: Children were deemed to have a Language Impairment on testing as per the authors' guidelines re CELF 3 and CELF 4 i.e. Standard Score of 85 or below on testing)

LANGUAGE AREA ASSESSED	TEST USED
Receptive & Expressive Language	Clinical Evaluation of Language Fundamentals: CELF 3 (Semel, Wiig & Secord, 1993 and CELF 4 UK (Semel, Wiig & Secord, 2006) (CELF 3 =14 children) & CELF 4 (=22 children)
Receptive Vocabulary	British Picture Vocabulary Scale (Dunn, Dunn, Whetton, 1982, 1997)
Reading comprehension & accuracy	Neale Analysis of Reading Ability-III (Neale, 1989, 1997).
*Communication	Children's Communication Checklist (Bishop, 2003)
*Other e.g. Discourse	Discourse Analysis

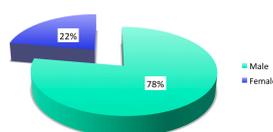
\* Findings reported elsewhere e.g. Walsh et al., (2010/ 2011)

**References**  
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 Walsh, I.P., Burns, S., Scullion, M., Brosnan, G. & MacEvilly, D. (2011). 'Social not solo': Narrative telling among children with AD(HD). *Paper presented at the Annual Convention of the American Speech & Hearing Association*, San Diego, CA, USA. (November, 2011)

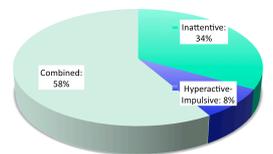
## FINDINGS

### A. Group demographics

#### 1. Gender



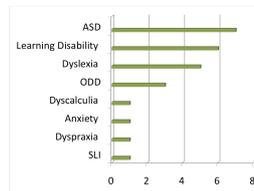
#### 2. AD(HD) Subtypes



#### 3. Cognitive Functioning

69% (25) of the children had a cognitive assessment and 6 of these (24%) were found to be functioning at the borderline level or below.

#### 4. Secondary Diagnoses (%)



#### 5. Medication

##### On medication for AD(HD)

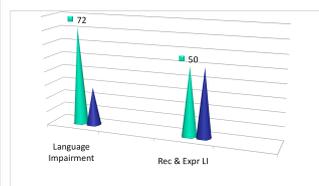


##### On medication on day of testing



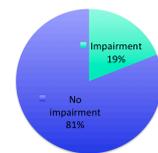
### B. Findings from Language Testing

#### 6. What percentage (%) have LI on CELF?

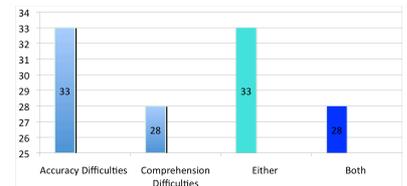


## FINDINGS (CONTD)

### 7. What percentage showed receptive vocabulary impairment in the BPVS?



### 8. What percentage showed reading difficulties on the NARA?



### 9. What percentage showing receptive language impairment (RLI) on the CELF also showed impairment on (a) the BPVS and (b) on the NARA?

#### (a) RLI and impairment on BPVS?

26%

#### (b) RLI and impairment on the NARA?

39%

6

## SUMMARY

1. Over two thirds of the study cohort were male.
2. AD(HD)- Combined was the predominant subtype represented.
3. Almost a quarter of the children who had a cognitive assessment, presented with intellectual functioning in the borderline (or below) range of ability
4. The majority of the children (69%) presented with a secondary diagnosis, with autistic spectrum disorder (ASD) being the most common co-morbid presentation
5. The majority of children (69%) were on medication for AD(HD), with over half of them being on medication at time of testing.
6. Almost two thirds of the children demonstrated LI as assessed on the CELF, with half demonstrating impairment on both receptive and expressive measures.
7. Just over a fifth of children (19%) showed receptive vocabulary difficulties as measured on the BPVS.
8. A third of the children demonstrated either reading accuracy or comprehension difficulties, while just over a quarter demonstrated difficulties in both areas.
9. There is a relationship between receptive language impairment and receptive vocabulary difficulties in over a quarter (26%) of the cohort and an even greater percentage of children (39%) showed reading comprehension difficulties, coupled with LI on the CELF.

## CONCLUSIONS

1. It was not possible to identify distinctive language profiles of children with AD(HD), nor subtype specific profiles at this preliminary stage of analysis
2. However, receptive/ expressive language and reading difficulties warrant careful assessment and further analysis in terms of mutual co-occurring effects.
3. Both effects of co-morbidity and medication levels need to be taken into account when interpreting language profiles and test performance, respectively.
4. More in-depth analysis of language test results may reveal more informative and unequivocal findings in discerning and predicting language performance among this complex clinical population.