

Searching for language markers of age-related cognitive changes in adults with Down syndrome

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Background

- Increased risk for age-related cognitive changes and early onset Alzheimer's disease amongst adults with Down syndrome [1]
- Language is particularly vulnerable: selective difficulties in comprehension and production of morphosyntax [2]
- Studies of language abilities in adults suggest performance on language measures relates to cognitive changes [3] [4]
- Language assessment may be helpful in identifying early stages of cognitive changes [5]

Main research questions

- How are language skills affected by cognitive changes associated with age and Alzheimer's disease?
- Are specific aspects of language abilities differentially affected? How?
- Can we identify clinical markers of early dementia based on performance in specific language areas?
- Can we predict dementia status based on language performance?

Objectives

1. Characterise the language profile of adults with Down syndrome
2. Investigate the relationship between age, cognitive status and language skills
3. Assess the impact of demographic and individual factors on preservation of language skills

Research aims

Investigate the language profile of adults with Down syndrome and identify possible language markers of cognitive changes associated with ageing and Alzheimer's disease.

Caregiver report



Call with caregiver



Background questions

- Demographic details



Informant questionnaires

- Adaptive functioning
- Communication
- Memory & EF
- Dementia scale
- Mental health

Participant assessment



Remote assessment



Cognitive skills

- Areas vulnerable to cognitive changes



Language skills

- Comprehension and production
- Standardised and experimental tasks

Methods

- Cross-sectional design
 - Individuals with Down syndrome
 - Individuals with learning disability
 - Typically developing participants for comparison
- Age range: 16 years and over
- Matched on verbal mental age

Language measures

- Vocabulary comprehension
- Grammar comprehension & production
- Sentence repetition task
- Picture selection task
- Narrative elicitation

Pilot study

- Collect preliminary data
- Focus on younger age-range (20 ppts/group)
- Assess design feasibility and trial remote data collection

References

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