**Readme Guide to Manchester Language Study**

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**1. Title and authors: The Manchester Language Study initial cohort: 7 year old data for children with developmental language disorders attending language units in England**

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**2. Aims of the project:**

The project aimed to a) determine the psycholinguistic profiles of children attending language units in England, b) investigate their social-emotional wellbeing and c) gather teacher opinion regarding the nature of the children’s difficulties and their educational placement.

**3. Background and what the donation includes:**

The Manchester Language Study (MLS) began in 1995. This donation includes data related to the first cohort recruited for this longitudinal study.

This donation includes:

1. A variable list detailing all the variables in their entirety and a description of each
2. An anonymized pdf paper data sheet for a participant as an example of the data collected
3. SPSS database
4. Stata database

**4. Participants and assessments used to determine the nature of children’s abilities and difficulties**

**4.1 Participant recruitment and description**

The first cohort of the MLS consisted of 242 children that were recruited from 118 language units across England and represented a random sample of 50% of all 7-year olds attending language units for at least half of the school week. Language units at that time were specialized classes for children who had been identified with developmental language disorders (DLD), i.e., language difficulties are the main concern for these children. Language unit placements were offered to children who, even with support, would find it difficult to cope in mainstream education. These children are deemed to need a structured small group setting with intensive language input that usually involves both teachers and speech and language therapists.

Local Authority Education departments, Special Educational Needs Coordinators and language unit teachers were contacted directly by the researchers.In this study, 186 boys and 56 girls (girls thus formed 23.1% of the cohort) participated.

Figure 1 below illustrates the recruitment of the initial cohort.

![A screenshot of a cell phone

Description automatically generated]()

**4.2 Assessments of verbal abilities**

All psycholinguistic tests were administered in a singular sitting by one researcher and each child was tested individually (where possible in a separate room). The tests used were:

**Goldman-Fristoe Test of Articulation (Goldman and Fristoe, 1986)**

Children are asked to name a series of pictures of everyday items. Children may be given clues to the name of the object, but not to pronunciation. Responses are scored as correctly or incorrectly pronounced. The number of errors is totalled and a percentile score for age and gender recorded.

Important information: The original Goldman-Fristoe test is no longer accessible and has been replaced by two newer versions, Goldman-Fristoe 2 Test of Articulation (2000) and GFTA-3: Goldman-Fristoe Test of Articulation 3 (2015). The second edition is available to purchase here: <https://www.pearsonclinical.co.uk/AlliedHealth/PaediatricAssessments/PhonologyandArticulation/Goldman-FristoeTestofArticulationSecondEdition/Goldman-FristoeTestofArticulationSecondEdition.aspx>

**Illinois Test of Psycholinguistic Ability (ITPA) (Kirk, McCarthy & Kirk, 1968)**

Subtest*:* Grammatical Closure

This test comprises a series of pictures with accompanying sentences. The child is shown each picture while the assessor reads a sentence which has a missing word or phrase. For example, the child is shown a picture of a mouse followed by a picture of two mice and is read the sentence “here is a mouse, and here are two...” The child is told to fill in the gaps and the examiner uses rising intonation to suggest that the sentence is unfinished. Items cover a range of grammatical knowledge. Responses are scored as correctly or incorrectly completed. The number of correct completions is summed and transformed into age-adjusted standardised scores.

Important information: The 1961 and 1968 books are available to view in some libraries – check your University library to see if a copy is stored. There is also one newer edition; the ITPA-3. It should be noted that the newer addition may contain different subtests.

The latest edition of the ITPA (ITPA3) is available to purchase here:

<http://www.academictherapy.com/detailATP.tpl?eqskudatarq=DDD-711>

**Renfrew Bus Story Expressive Language Test (Renfrew, 1991)**

In this assessment, the examiner tells the child a short story about a bus while the child looks through a book of pictures illustrating the story. The child must then retell the story as accurately as possible using only the pictures as cues. Stories are audiotaped, transcribed and scored for the amount of correct information given. Two points are given for information central to the story and one point for peripheral details. The total “information score” is then compared to age-relevant population norms and a centile range is assigned. Ranges were transformed into midpoint percentiles.

Important information: The 1991 test has been followed up by several newer editions, with the original unavailable to view online. The newer additions were produced in the year 1996, 2001 and 2010. The latest edition is available to purchase here: <https://www.winslowresources.com/bus-story-test.html>

**Test of Reception of Grammar (TROG) (Bishop, 1982)**

Children are presented with four pictures while the examiner reads a sentence. The child is asked to pick the picture that illustrates the sentence. These items begin very simply with four distinct objects and with one word read out and progresses to complex grammar structures.

Items are organised into blocks of four grammatically related sentences. The child must answer all four correctly in order to pass the block. After five consecutive blocks have been failed, the test is discontinued. The number of blocks passed is then noted and transformed into age-adjusted percentile ranges.

Important information: The original TROG is no longer available and has been replaced by the TROG-2. The original used to be obtained by contacting the researcher directly, while the newer version can be found online. Available to purchase here: <https://www.pearsonclinical.co.uk/Psychology/ChildCognitionNeuropsychologyandLanguage/ChildLanguage/TestforReceptionofGrammar(TROG2)/TestforReceptionofGrammar(TROG-2).aspxa>

**4.3 Other Participant Assessments**

We also assessed other ability areas as follows:

**British Ability Scales (BAS) (Elliott, 1983**)

Subtest: Number skills

Children are presented with picture cues and asked to perform calculations. These range in complexity and include counting, finding similarities, simple addition, subtraction, multiplication and division, matching figures to groups of objects, and tests of concepts.

Responses are scored as correct or incorrect, and the test is discontinued once the child has answered five questions incorrectly. The number of correct answers is summed and a percentile for age recorded.

Subtest: Naming Vocabulary

Children are asked to name a series of pictures of everyday objects. Responses are scored as correct or incorrect and testing is discontinued after the child has named five items incorrectly. The number of corrects answers is summed and a percentile for age recorded.

Subtest: Word Reading

Children are presented with a list of single words and asked to read them out loud. The assessment measures only single-word sight reading and is not designed to assess reading comprehension or fluency. Testing is discontinued after 10 incorrect attempts. The total number of correctly read words is summed and transformed into a percentile for age.

Important information: The 1983 British Ability Scales version can longer be accessed and has been replaced by 2 newer versions, BAS-ll (1996) (also no longer accessible) and BAS3 (2011). BAS3:

Available to purchase here: <https://www.gl-assessment.co.uk/products/british-ability-scales-bas3/>

**Raven’s Matrices (Raven, 1986)**

This nonverbal cognition test presents the child with a series of patterns from which a “piece” is “missing”. The child is instructed to look very hard at the pattern and select (from six alternative “pieces” printed below the pattern) the one and only piece that can complete the pattern. The test is split into three sets of 12 patterns each. Each set begins with more simple patterns and progresses to more complex patterns. The child’s responses are noted and afterwards scored as correct or incorrect. The total score is then compared to age-relevant population norms and a centile range is assigned. These ranges were again transformed into midpoint percentiles, as for the TROG assessment.

Important information: There are several different editions of the coloured matrices, with the first published in 1956. The 1986 edition has been followed by a 1998 and a 2001 edition. The latest edition of coloured matrices is available to purchase here <https://www.pearsonclinical.co.uk/Psychology/AdultCognitionNeuropsychologyandLanguage/AdultGeneralAbilities/Ravens-Progressive-Matrices/Ravens-Progressive-Matrices.aspx>

**4.4 References for participant assessments**

Bishop, D. V. M. (1982). *Test for Reception of Grammar.* Manchester, England

Bishop, D. (2003). *Test for reception of grammar: TROG-2: manual*. London: Pearson.

Elliott, C. D., Murray, D. J., & Pearson, L. S. (1983). *British Ability Scales-R.* Windsor, Berkshire: NFER-NELSON Publishing Company.

Elliott, C. D., Murray, D. J., & Pearson, L. S. (1983). *British Ability Scales-R.* Windsor, Berkshire: NFER-NELSON Publishing Company.

Elliott, C. D. (1996). *The British Ability Scales ll.* Windsor, Berkshire: NFER-NELSON Publishing Company (no longer accessible)

ldman, R., & Fristoe, M. (1986). *Goldman Fristoe test of articulation*. MN: American Guidance Service.

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Hammill, D. D., Mather, N., & Roberts, R. (2001). Examiner’s Manual. *Illinois Test of Psycholinguistic Abilities: Third Edition.* Austin, TX: PRO-ED.

Kirk, S. A., McCarthy, J. J., & Kirk, W. D. (1968). *Illinois Test of Psycholinguistic Abilities.* IL: University of Illinois.

Raven, J. C. (1986). *Coloured progressive matrices: sets A, AB, B*. London: Lewis.

Raven J., Raven, J. C., & Court, J. H. (1998). *Coloured progressive matrices*. Oxford: Oxford Psychologists. (no longer accessible)

Raven, J. C. (2001). *Coloured progressive matrices: Sets A, AB, B*. London: Lewis.

Renfrew, C. E. (1991). *The bus story: A test of continuous speech*. Oxford: C. Renfrew.

Renfrew, C. E. (1996). *Bus story test*. Bicester: Winslow.

Renfrew, C. E. (2001). *Bus story test*. Bicester: Winslow.

Renfrew, C. E. (2010). *Bus story test: A test of narrative speech*. Milton Keynes: Speech Mark Publishing.

1. **Instruments used to assess social-emotional wellbeing and teacher opinion**

**5.1 Rutter Scale B (Children’s Behavioural Questionnaire) (Rutter, 1967)**

Teachers were asked to complete a Rutter behavioural questionnaire for each child. This is a tick-box measure where 26 items are scored as 0 for “doesn’t apply”, “1” for “applies somewhat” and “2” for “certainly applies”. Scores of 9 or more are considered to represent “extreme” behaviour.

Important information: The questionnaire is available to view online at this link: <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1469-7610.1967.tb02175.x>

**5.2 Teacher Interview Questionnaire (devised by researchers)**

Important information: This measure was devised by the researchers in order to obtain information about 3 main themes listed below. The interview took place with the teachers and speech therapists.

1. Child’s language difficulties

Professionals were asked to describe each child’s difficulties using four separate subtypes of language impairment. The subtypes were:

* Articulation
* Phonology
* Syntax and/or morphology
* Semantics and/or pragmatics

The professionals were asked to say whether or not each of the four difficulties applied to the child in question. These categories were chosen on the basis of clinical usage and because they are well used term through the DLD literature. In additions, teachers were asked to say whether the child could be described as having expressive language problems only, receptive problems only, or both types of impairment.

1. Child’s secondary difficulties

The professionals were also asked whether any of the following additional problems were present

* Learning disabilities
* Hearing impairments
* Emotional/behavioural problems
* Physical disabilities

1. Educational placements and language unit details

Teachers were also asked to suggest an “ideal” placement type for the child in the following school year in an attempt to obtain information on placement which would be based on suitability not availability. The responses were categorised by the researcher as one of the following:

1. Mainstream school with no support
2. Mainstream school with support
3. Same language unit
4. Different language unit (attached to a mainstream school)
5. Language unit attached to a special school
6. Unit for other special educational needs
7. Day special school
8. Residential special school
9. Other

The interview questionnaire also included the following areas:

* Demographic information about the child
  + Information about gender and age
* Whose decision it was to place the child in the unit
  + Speech therapist, parent, educational psychologist, school, LEA or other.
* What treatment has been recommended and carried out
  + Speech therapy, physiotherapy, child guidance/psychology, medical or other.
* Proportion of time spent in the unit
* Parent’s and teacher’s satisfaction with the placement
* Information about the unit
  + What type of disabilities the unit accepts, gender split and number of staff.

**5.3 References for instruments**

Rutter, M. (1967). A children's behaviour questionnaire for completion by teachers: Preliminary findings. *Journal of Child Psychology and Psychiatry, 8,*1, 1-11. Original publication.

1. **Ethical Approval and Consent**

The study received ethical approval from The University of Manchester. The parent/legal guardian provided written informed consent.

**7. Academic Publications detailing the key findings of the study**

**NOTE: Starred publications to be cited when using this database.**

Botting, N., Conti-Ramsden, G., & Crutchley, A. (1997). Concordance between teacher/therapist opinion and formal language assessment scores in children with language impairment. *European Journal of Disorders of Communication*,*32*(3), 317-327.

Botting, N., Crutchley, A., & Conti-Ramsden, G. (1998). Clinical Forum Educational transitions of 7-year-old children with SLI in language units: a longitudinal study. *International journal of language & communication disorders*, *33*(2), 177-197.

\*Conti-Ramsden, G., Crutchley, A., & Botting, N. (1997). The extent to which psychometric tests differentiate subgroups of children with SLI. *Journal of Speech, Language, and Hearing Research*, *40*(4), 765-777.

\*Conti-Ramsden, G., & Botting, N. (1999). Characteristics of children attending language units in England: A national study of 7-year-olds. *International Journal of Language & Communication Disorders*, *34*(4), 359-366.

Conti-Ramsden, G., & Botting, N. (1999). Classification of children with specific language impairment: Longitudinal considerations. *Journal of Speech, Language, and Hearing Research*, *42*(5),1195-1204.

Crutchley, A., Botting, N., & Conti-Ramsden, G. (1997). Bilingualism and specific language impairment in children attending language units. *European Journal of Disorders of Communication*, *32*(2), 267-276.

Crutchley, A., Conti-Ramsden, G., & Botting, N. (1997). Bilingual children with specific language impairment and standardized assessments: Preliminary findings from a study of children in language units. *International Journal of Bilingualism*, *1*(2), 117-134.

Crutchley, A., Conti-Ramsden, G., & Botting, N. (1998). Educational transitions of bilingual children attending language units.

**9 Appendix**

**Participation Information Sheet**



