**Readme Guide to Manchester Language Study**

**Funding and other acknowledgements: The collection of these data was funded by the Nuffield Foundation grant DIR/28 (and original cohort identification supported by Nuffield Foundation grant AT251[OD]). In addition, a grant from the Wellcome Trust (grant 060774) to Gina Conti-Ramsden and an Economic and Social Research Council postdoctoral fellowship grant to Nicola Botting (RES-000-270-003) supported the research of the MLS supported analysis and publications of these data. The curation of these data was also supported by the NIHR Manchester Biomedical Research Centre.**

**Index**

1. **Title and authors**
2. **Aims of the project**
3. **Background and what the donation includes**
4. **Participants and assessments used to determine the nature of children’s abilities and difficulties**

**4.1 Participant recruitment and description**

**4.2 Assessments of verbal abilities**

**4.3 Assessment of cognitive abilities**

**4.4 Assessment of literacy abilities**

**4.5 References for participant assessments**

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

**5.1 Strengths and Difficulties Questionnaire**

**5.2 “My Life In School” Questionnaire**

**5.3 Peer Competence Subscale: Harter Perceived Competence Scale**

**5.4 Rutter Behavioural Questionnaire**

**5.5 Questionnaire for teacher**

**5.6 References for instruments**

**6. Ethical Approval and Consent**

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

**8. Appendix. Consent form**

**1. Title and authors: The Manchester Language Study: 11-year-old data for children with developmental language disorders attending language units in England**

Gina Conti-Ramsden, The University of Manchester; Nicola Botting, City University of London; Kevin Durkin, University of Strathclyde; Umar Toseeb, University of York

**2. Aims of the project:**

The project aimed to follow up participants of the Manchester Language Study (MLS) when they were in their final year of primary education (Year 6). Participants were on average 11 years of age and had originally been recruited as part of the MLS when they were 7 years of age (Year 2) and were attending language units in England. The project aims included: The project aims included: a) determining sensitive markers for developmental language disorders (DLD), b) examining literacy abilities of children with DLD, c) investigating social difficulties and victimization and d) documenting changes in educational placements, National Curriculum assessment outcomes and the long‐term educational needs of children with DLD.

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

The Manchester Language Study (MLS) began in 1995 when participants were on average 7 years of age. This donation includes data related to the MLS cohort which was gathered during their final year of primary education (prior to the transition to secondary education).

This donation includes:

1. A variable list detailing all the variables in their entirety and a description of each
2. One anonymized pdf paper data exemplar sheet for a participant with manual notes
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 initial cohort of children participating in the Manchester Language Study was a random 50% sample of all Year 2 children attending mainstream language units in England. For the original cohort those with known current hearing loss or major physical disability were excluded, as were those with definite diagnoses of autism or of moderate learning difficulties. For further information on the original cohort and access to MLS 7 year old data via ReShare see <http://reshare.ukdataservice.ac.uk/853746/>

A group of 242 children identified and recruited at 7 years was contacted again when the children were in their final year of primary school (Year 6). The recruitment involved researchers contacting Local Authority Education Departments, Special Educational Needs Coordinators and language unit teachers directly in order to invite MLS participants to this phase of the study. In total, 200 of the original 242 (83%) participated, 50 (25%) of whom were girls. Twenty-four children (12%) had exposure to languages other than English at home.

Following informed written consent from families, children were visited at school and given self-report questionnaires, individually, in a quiet room or area. A battery of psycholinguistic tests was also completed as part of this phase of the study. Teachers were sent questionnaires approximately 2 weeks before the child’s assessment and asked to complete and return them to the researcher during the visit. It was stated clearly that the researcher would be able to answer queries about the questionnaires at that time.

**Figure 1** Flow diagram to show participation of individuals in the longitudinal Manchester Language Study

All language units in England in 1995 with Year 2 children spending >50% of the school week contacted.

*n* units = 118

*n* children = ˜500

*n*

A random sample of approximately half the eligible Year 2 children consented (7 years)

*n* units = 118

*n* children = 242

Losses to follow-up (*n* =10)

Unable to trace *n* =3

Parental consent not given *n* =7

Numbers participating at 8 years follow-up

(*n* =232)

Losses to follow-up (*n* =42)

Unable to trace *n* =12

Parental consent not given *n* =30

Numbers participating at 11 years follow-up

(*n* =200)

**4.2 Assessment of verbal abilities**

All psycholinguistic tests for each child were administered by the same researcher and each child was tested individually (where possible in a separate room). In nearly all cases, testing was completed in 1 day at the child’s pace and with normal school breaks. The tests used were:

**British Picture Vocabulary Scale (BPVS–II) (Dunn et al. 1998)**

This is a standardized test of vocabulary comprehension. Children are shown four line drawings and asked to choose the one which best illustrates a word spoken by the assessor. The vocabulary is given in blocks of 12, which become progressively more difficult, and children must score > 4 to continue to the next block. Scores are transformed into centile scores for age.

Important information: The BPVS-II is no longer accessible and has been replaced by the BPVS3 (2009). The third edition is available to purchase here: <https://www.gl-assessment.co.uk/products/british-picture-vocabulary-scale-bpvs3/>

**Children’s Test of Non-word Repetition (CNRep) (Gathercole and Baddeley, 1996)**

This is a test of verbal/phonological short-term memory consisting of 40 non-words. For this task children listen to a non-word said while the tester covers their mouth, so that no clues from lip movement can be given, they then have to exactly repeat the non-word. No repetitions are allowed. Two practice items are given prior to the test and all responses are audio taped and then transcribed.

**Clinical Evaluation of Language Fundamentals Revised—Word Associations & Recalling sentences (CELF-4) (Semel et al.1987).**

The participants completed two subtests from the CELF-4, word associations and recalling sentences. For the former children are given 1 minute to name as many items in a given categories they can think of. The first group is ‘animals’, followed by ‘ways to travel’ and finally ‘jobs/occupations’. For the latter subtest children are given a sentence and asked to repeat it verbatim. Sentences become increasingly longer and more complex. Responses are scored in relation to the number of errors made in each sentence.

Important information: The 1987 test has been followed up by several newer editions, with the original unavailable to view online. The newer additions were produced in the year 2003 and the CELF-4 has now been superseded by the CELF-5. This latest edition is available to purchase here: <https://www.pearsonclinical.co.uk/Psychology/ChildCognitionNeuropsychologyandLanguage/ChildLanguage/celf-5/clinical-evaluation-of-language-fundamentals-fifth-edition-celf-5.aspx?gclid=EAIaIQobChMIzq_W9OXs5AIVCUTTCh3xZwE3EAAYASAAEgKmevD_BwE>

**Children’s Communication Checklist (CCC) (**[**Bishop, 1998**](https://pubs.asha.org/doi/full/10.1044/1092-4388(2004/013)?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed#bib6)**)**

This teacher checklist has been shown to differentiate between children with pragmatic language impairment and those with more typical DLD. It also has good reliability between raters (.8). The checklist consists of nine subscales of communication and interactive behavior: Speech, Syntax, Inappropriate Initiation, Coherence, Stereotyped Conversation, Context, Rapport, Social Behavior, and Interests. A composite “pragmatic impairment score” can be derived from the middle five scales (Inappropriate Initiation, Coherence, Stereotyped Conversation, Context, and Rapport), and a score of less than 132 is used as a cut-off for pragmatic language impairment.

Important information: The 1998 checklist is no longer available and has been followed up with a new edition published in 2003. This latest edition is available to purchase here: <https://www.pearsonclinical.co.uk/Psychology/ChildCognitionNeuropsychologyandLanguage/ChildLanguage/ChildrensCommunicationChecklist(CCC-2)/ChildrensCommunicationChecklist(CCC-2).aspx>

**Expressive Vocabulary Test (EVT) (Williams, 1997)**

This is a 190-item, norm-referenced assessment of expressive-vocabulary and word retrieval ability. It is individually administered to children and adults between the ages of 2.5 and 90 years and takes about 15 minutes to administer. Two pairs of example items are used to familiarise the test taker with the two kinds of tasks comprising the total test – labelling (items 1-38) and synonyms (items 39-190). For the first 38 items, the test giver shows a picture and asks the test taker to name the item or label the action shown. For the latter 152 items, the test taker shows a picture and presents a stimulus word within a carrier phrase that asks the respondent to give a synonym. The test taker provides a one-word response for each item, from which a single test score is determined.

Important information: The 1997 is no longer accessible and has been replaced by the EVT2 (2007). This second edition is available to purchase here: <https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Academic-Learning/Brief/Expressive-Vocabulary-Test-%7C-Second-Edition/p/100000416.html>

**Past Tense task (PTT) (Marchman et al.1999)**

This is a test designed to assess correct grammatical usage of verbs in past tense form. It consists of 52-line drawings shown to the child one at a time. With each picture, the assessor reads out a sentence related to the picture, which the child must complete. The sentences all follow the format: ``This boy is walking. He walks every day. Yesterday he (walked).'' The items are balanced and randomized for frequency of verbs and for regular vs. irregular forms.

**Third Person Singular task (TPS) (Conti-Ramsden, 2001)**.

This task was compiled by the researchers based on work by Leonard and colleagues (1997) and Rice, Wexler, and Cleave (1995). Fifteen colour photo-cards of people at work are shown to the children one at a time. As with the past tense task, a sentence is read by the assessor, which must be finished by the child. The sentences all follow the format; “Sailors sail. This man is a sailor, so every day he (sails)” Raw scores and percentage correct scores are included.

**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 Assessment of cognitive abilities**

**Wechsler Intelligence Scale for Children (WISC-III) (Wechsler 1992)**

Children were also tested using a ‘short form’ of the WISC, which consisted of the subtests: Block Design, Picture Completion, Vocabulary, Verbal Comprehension and Digit Span. The first two of these are combined to form an estimated performance or non-verbal IQ, while the last three form an estimated verbal IQ. The performance short form in correlates well with a full IQ battery and has been used in other studies of cognitive ability and language (Sattler 1974, Hohnen and Stevenson 1999).

Important information: The test has undergone several updates and the current version of test is the fifth edition WISC-V which was released in 2014 and is available to purchase here: <https://www.pearsonclinical.co.uk/Psychology/ChildCognitionNeuropsychologyandLanguage/ChildGeneralAbilities/wisc-v/wechsler-intelligence-scale-for-children-fifth-uk-edtion-wisc-v-uk.aspx>

**4.4 Assessment of Literacy Abilities**

**Wechsler Objective Reading Dimensions (WORD) (Wechsler 1993)**

Each child also completed the Basic Reading and Reading Comprehension sections of the Wechsler Objective Reading Dimensions. The first test requires children to read out loud single, unrelated words of increasing complexity. For the second, children read a passage either out loud or in silence and are then asked a question relating to the prose. Again, the items given increase in complexity. Children are not scored on reading accuracy for this part, only on response to the comprehension question. Scores are given as standard or centile scores.

Important information: The Wechsler Individual Achievement Test Scored UK Edition (Wiat-11 UK) is a revised version of the WIAT and brings together all the previous Wechsler Achievement Tests (i.e. the Wechsler Objective Reading Dimension  WORD, the Wechsler Objective Numerical Dimensions  WOND and the Wechsler Objective Language Dimension  WOLD) in one test battery. It was released in 2005 and is available to purchase here: <https://www.pearsonclinical.co.uk/Psychology/ChildCognitionNeuropsychologyandLanguage/ChildAchievementMeasures/WechslerIndividualAchievementTest-SecondUKEdition(WIAT-IIUK)/WechslerIndividualAchievementTest-SecondUKEdition(WIAT-IIUK).aspx>

**4.5 References for participant assessments**

Bishop, D. V. M. (1982). *Test for Reception of Grammar*.Manchester, U.K.: University of Manchester.

Bishop, D. V. M. (1998). Development of the Children’s Communication Checklist (CCC): A method for assessing qualitative aspects of communicative impairment in

children. *Journal of Child Psychology and Psychiatry*, *39*, 879–893.

Dunn, L., Dunn, L., Whetton, C., & Burley, J. (1998). *British Picture Vocabulary Scale II.* Windsor, U.K.: NFERNelson.

Elliott, C. D. (1983). *British Ability Scales*. Windsor, U.K.:NFER-Nelson.

Gathercole, S.E., & Baddeley, A, D. (1996) The Children’s test of nonword repetition. Psychological Corporation; UK

Goldman, R., & Fristoe, M. (1986). *Goldman–Fristoe Test of Articulation.* Circle Pines, MN: American Guidance Service.

Marchman, V. A., Wulfeck, B. and Ellis Weismer, S. E. (1999). Morphological productivity in

children with normal language and SLI: a study of the English past tense. *Journal of Speech,*

*Language and Hearing Research*, 42, 206–219.

Semel, E., Wiig, E. and Secord, W. (1987). *Clinical Evaluation of Language Fundamentals Revised* (San Antonio: Psychological Corporation).

Wechsler, D. (1992). *Wechsler Intelligence Scale for Children* (3rd ed.). San Antonio, TX: The Psychological Corporation.

Wechsler, D. (1993). *Wechsler Objective Reading Dimensions.* San Antonio, TX: The Psychological Corporation.

Williams, K. (1997). *Expressive Vocabulary Test.* Twin Pines, MN: American Guidance Service.

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

**5.1 Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997)**

This is a 25-item questionnaire based on the Rutter behavioural questionnaire, but using positive and negative questions to assess behavioural status. As with the Rutter behavioural questionnaire, items are scored as “not true,” “somewhat true,” and “certainly true,” but scoring follows the positive/negative patterns so that a score of “0” represents the most favourable response and “2” the most problematic response. Thus, higher scores (out of a total of 50) relate to poorer outcome.

**5.2 “My Life In School” Questionnaire (MLIS;** [**Sharp, Arora, Smith, & Whitney, 1994**](https://pubs.asha.org/doi/full/10.1044/1092-4388(2004/013)?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed#bib49)**)**

The MLIS consists of 39 items about school experience. Each individual item is preceded by the statement, “During this week, another child in school…,” followed by a suggested incident. Approximately half of the potential occurrences suggested by the MLIS are of either a pleasant or neutral nature, e.g., “…smiled at me,” “…told me a joke,” and the other half describe unpleasant experiences, e.g., “…called me names,” “…tried to hurt me.” The child participant is required to respond to each item with one of three options that they consider to best reflect the frequency of each. The items can be responded to using the categories “not at all,” “once,” or “more than once.” Of the 39 items in the MLIS questionnaire, six key items are recognized as being most indicative of victimization experiences ([Smith & Sharp, 1994](https://pubs.asha.org/doi/full/10.1044/1092-4388(2004/013)?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed#bib51)). Thus, any child who responds to at least one of these items with the “more than once” option is at risk of experiencing victimization in school. The six key items mentioned above will be referred to as the MLIS victimization index. This measure was selected for its ease of use, both in terms of time and language level, because it was developed for British schoolchildren and has been used previously with special populations. A normative sample of age-matched peers also completed this measure. The MLIS uses simple language in short, noncomplex sentences, and the questionnaire was read out loud to all participants.

**5.3 Peer Competence Subscale: Harter Perceived Competence Scale (Harter & Pike, 1984)**

Teachers completed this scale which consists of three items that are scored from 1 to 4, where higher scores are more favourable. Items are summed and averaged to give a mean competence score. This was used alone as a guide to peer competence as rated by school teachers. Thus, no normative data exists but the scale was chosen because scores give a good qualitative idea of friendship difficulties from someone other than the child

**5.4 Rutter 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 never applies, “1” for applies somewhat, and “2” for certainly applies. Items are summed to give a total score. Scores of 9 or more are considered to represent “extreme” behaviour. The questionnaire is well used both clinically and in research.

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

Firstly, teachers were asked to give the type of school placement currently attended by the child. Since all children were also visited at their school, this data was also confirmed by a researcher. Secondly, National Curriculum Key Stage 2 test (SATs) results were gained from teachers for each child within three months of the results being available. These were obtained using questionnaire format and followed up by telephone interview where necessary. Tests were completed in the three core curriculum subjects: English, mathematics and science. A test achievement level or other code was then awarded. (A number of different codes were given by assessors which are fully described later.) The English test score reported is an aggregated score derived from separate reading and writing test scores. In exceptional circumstances, usually related to special educational needs, children can also be disapplied or excluded from taking the tests at the discretion of the teachers. These cases were also noted. Finally, teachers were asked, in questionnaire format, to give information about any special testing arrangements made for the child during the actual tests. Possibilities provided in the questionnaire included having, for example, a reader or scribe, extra time allowance, other different testing conditions and other arrangements

**5.6 References**

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. Journal of Child Psychology and Psychiatry, 38, 581–586

Harter, S., & Pike, R. (1984). The pictorial scale of perceived competence and social acceptance for young children. Child Development, 55, 1969–1982.

Rutter, M., & Mawhood, L. (1991). The long-term psychosocial sequelae of specific developmental disorders of speech and language. In M. Rutter & P. Caesar (Eds.), Biological risk factors for psychosocial disorders (pp. 233– 259). New York: Cambridge University Press.

Sharp, S., Arora, T., Smith, P. K., & Whitney, I. (1994). How to measure bullying in your school. In S. Sharp & P. Smith (Eds.), Tackling bullying in your school (7–22). London: Routledge.

**6. 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**

Botting, N F., Mccracken, W.[, & Conti-Ramsden, G.](https://www.research.manchester.ac.uk/portal/gina.conti-ramsden.html) (2002). [Standard assessment tasks and children with a history of SLI: Evidence of residual difficulties in relation to junior school placement](https://www.research.manchester.ac.uk/portal/en/publications/standard-assessment-tasks-and-children-with-a-history-of-sli-evidence-of-residual-difficulties-in-relation-to-junior-school-placement(e45bca1d-2f77-4d6b-a73f-1b7286563ead).html). *Educational and Child Psychology*, *19*.

[Conti-Ramsden G](https://www.research.manchester.ac.uk/portal/gina.conti-ramsden.html), Botting N, Simkin Z, Knox E. [Follow-up of children attending infant language units: Outcomes at 11 years of age](https://www.research.manchester.ac.uk/portal/en/publications/followup-of-children-attending-infant-language-units-outcomes-at-11-years-of-age(3b16ad21-6964-4281-8df1-c3ac4e7fa385).html). International Journal of Language and Communication Disorders. 2001;36(2):207-219

[Conti-Ramsden, G.](https://www.research.manchester.ac.uk/portal/gina.conti-ramsden.html), & Botting, N. (2004). [Social Difficulties and Victimization in Children with SLI at 11 Years of Age](https://www.research.manchester.ac.uk/portal/en/publications/social-difficulties-and-victimization-in-children-with-sli-at-11-years-of-age(11237989-8ac4-40aa-af8f-bc8d64056088).html). *Journal of Speech, Language, and Hearing Research*, *47*(1), 145-161.

[Conti-Ramsden, G.](https://www.research.manchester.ac.uk/portal/gina.conti-ramsden.html), Botting, N., Knox, E., & Simkin, Z. (2002). [Different school placements following language unit attendance: Which factors affect language outcome?](https://www.research.manchester.ac.uk/portal/en/publications/different-school-placements-following-language-unit-attendance-which-factors-affect-language-outcome(b733da4b-c4b6-4ff7-b05e-979b0e6086b0).html) *International Journal of Language and Communication Disorders*, *37*(2), 185-195.

Knox, E.[, & Conti-Ramsden, G.](https://www.research.manchester.ac.uk/portal/gina.conti-ramsden.html) (2003). [Bullying risks of 11-year-old children with specific language impairment (SLI): Does school placement matter?](https://www.research.manchester.ac.uk/portal/en/publications/bullying-risks-of-11yearold-children-with-specific-language-impairment-sli-does-school-placement-matter(40e10030-d087-4185-89d4-77ae7074cc88).html) *International Journal of Language and Communication Disorders*, *38*(1), 1-12. <https://doi.org/10.1080/13682820304817>

Simkin, Z., Knox, EL., Botting, N.[, & Conti-Ramsden, GM.](https://www.research.manchester.ac.uk/portal/gina.conti-ramsden.html) (2002). [Educational placements and National Curriculum Key Stage 2 test outcomes of children with a history of SLI](https://www.research.manchester.ac.uk/portal/en/publications/educational-placements-and-national-curriculum-key-stage-2-test-outcomes-of-children-with-a-history-of-sli(31f6f4d8-4ff5-4371-ba09-1d5d4b714a18).html). *British Journal of Special Education*, *29*.

**8 Appendix: Consent form**

