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# **Bilingual Children with Specific Language Impairment and Standardized Assessments: Preliminary Findings from a Study of Children in Language Units\***

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## **Abstract**

This paper focuses on a group of bilingual children within a large cohort of children with specific language impairment (SLI) attending language units attached to mainstream primary schools across England. Comparison of the bilingual children with their monolingual peers revealed differential performance on standardized speech and language assessment measures. Further analysis suggested that children with semantic and/or pragmatic difficulties perform differently to those without such difficulties, and that the relationships between bilinguals' and monolinguals' scores are substantially different for these two groups. Bilingual children were found to have less of a variety of combinations of language difficulties than their monolingual peers, although this was not found to have a direct influence on their test scores. However, accounting for severity of difficulties went some way towards explaining the difference on test scores for one group of bilingual children. This paper seeks to set these preliminary results in the context of current knowledge about the assessment and treatment of bilingual pupils in special educational needs provision within mainstream schools, and to inform further research in this somewhat neglected area.

## **Key Words**

*bilingual children*

*specific language impairment*

*standardized assessments*

## **Introduction**

Does anything distinguish bilingual children in language units from their monolingual peers? There is no reason to think that specific language impairment (SLI), or any other kind of special educational need, should be more or less prevalent among children in minority communities than in the majority community. Duncan (1989) reminds us that bilingualism "does not mean that the children developing two languages are innately different, or... will become different" to monolingual children. Thus "we can expect a proportionate and representative spread of bilingual pupils to be at each SEN [special educational needs] stage at any given time" (Hall, 1995).

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Following this, we might have the following expectations about bilingual children in language units. We would expect that bilingual children would enter and leave the unit in similar ways to monolingual children—specifically, that they would be identified at similar ages, have the same kind of experiences coming into language unit provision and move on in a similar way to comparable educational placements. We would further expect the proportions of children from minority communities in this kind of special provision to reflect the ratio of the minority population to the majority population for that area. We would expect them to show the same range of language difficulties as monolingual children, in terms of combinations of different types of difficulty and severity of the difficulties. Finally, we might expect bilingual and monolingual children to make similar progress throughout their time in the unit, and to perform similarly on standardized tests.

These expectations depend on some kind of interaction with other people, in particular professionals from the majority community. This brings in another variable: the perception and treatment of bilingual children. For all the above expectations to be realized, bilingual children have to be treated in a comparable way to monolingual children.

Historically, this has not been the case. The underachievement of certain ethnic minority groups in the majority educational system has been well documented (see, for e.g., Cummins, 1984; Gillborn & Gipps, 1996). With regard to special educational needs (SEN) provision, the belief that these children's under-performance on inappropriate assessments was evidence of learning difficulties first contributed to their being over-represented in this kind of provision. More recently, increased awareness of the defects of assessment methods using monolingual, monocultural materials standardized on nonequivalent populations, and professionals' anxiety not to over-identify minority children as having SEN, may also have led to their under-representation (proportional to the majority population) within this provision (Peters-Johnson & Taylor, 1986). Even now, sparse and imprecise legislation in the U.K. allows provision for the needs of minority groups to vary widely from one local education authority (LEA) to another (see e.g., Bourne, 1989).

While a substantial body of literature exists on the language development of “normal” bilingual children (see, for example, Romaine, 1989; Hoffman, 1991) and monolingual language-disordered children have also been thoroughly investigated from many perspectives (see e.g., Yule & Rutter, 1987; Miller, 1991), bilingual children with SLI have not previously been the subject of a great deal of research attention. A number of studies have been carried out into aspects of speech and language therapy with children from minority groups (e.g., Duncan, 1989; Miller, 1984; Law & Wallfish, 1991), and research has been carried out into bilingual children with special educational needs (e.g., Cummins, 1984; Widerstrom, Miller, & Marzano, 1986; Cline, 1993, 1996). However, there is a dearth of literature tying these strands together, with the result that research tends to be carried out in relative isolation.

As part of a large, Nuffield Foundation-funded research project looking at educational transitions of 242 children in language units across England, data were collected on members of the cohort who were exposed to a language (or languages) other than English at home. We shall refer to these children as “bilingual” for want of a better shorthand term: this does not imply any particular level of receptive or expressive competence in any of their languages. These children are, with one exception, the children of “circumstantial bilinguals,” “individuals who as a group must become bilingual in order to participate in the society that surrounds them” (see Valdés & Figueroa, 1994, for a discussion). They were exposed to 16 different languages and dialects

between them. No data was collected on age and nature of exposure to the languages in question: we hope to collect this information during the next stage of the project.

Thus the bilingual children are a heterogeneous group. However, although there are many differences between individuals, we would like to argue that there are still justifications for treating them as a group. Issues of referral and assessment affect them all, in that their language background should be taken into account (and, anecdotally, many professionals expressed concern to us that their needs are not being met at present). Moreover, heterogeneity is the norm rather than the exception among bilingual children in language units in England. Although some areas have significant populations from a common background, the experience of most professionals is of a small number of children from diverse backgrounds. This was confirmed in a study by Winter (1997) who found that, although the majority of speech and language therapists in England who work with children see at least one bilingual child, a large proportion of these see only one to five bilingual children. Thus we would argue that, while the heterogeneity of the sample may make generalization difficult, it is representative of the situation in England at present.

Comparison of the bilingual children with their monolingual language unit peers was intended to show up any differences in their performance on the kind of standardized tests widely used in language assessment procedures in the U.K. A previous paper has set out the nature of bilingual children's language difficulties (Crutchley, Botting, & Conti-Ramsden, 1997), and we will refer to and expand on this in the present report. Examination of the kind of intervention bilingual children receive and its effect was beyond the scope of this project, and investigation of types of educational placement is the subject of further research to be conducted in the coming year. Therefore this study focuses on the last two of the four "expectations" outlined above.

If no differences were found between bilingual and monolingual language unit children, it might be safe to assume that identification and assessment were proceeding for all children in comparable ways. However, any differences would have to be interpreted very carefully in the light of the issues outlined above.

## **Subjects**

The group of "bilingual" children was identified from within the cohort of a two-year Nuffield Foundation-funded project (Botting, Conti-Ramsden, & Crutchley, in press; Conti-Ramsden, Crutchley, & Botting, in press; Crutchley, Botting, & Conti-Ramsden, 1997). This project aimed to investigate educational placements of children currently spending the greater part of the school week in language units (see below) attached to mainstream primary schools. For the large-scale project, contact was made with every language unit in England. It was established that across England approximately 500 Year 2 children (6 years 6 months to 8 years 0 months) were spending 50% or more of the school week in 118 language units. Time and resources did not permit us to visit and test all these children. Therefore, all the language units with children who fit the above criteria were visited, and roughly half the eligible children in each unit were sampled, giving us a randomized study cohort of 242 subjects. The 27 bilingual children thus formed 11.2% of the cohort.

In order to be placed in a language unit attached to a mainstream school, children generally have to fulfill a number of criteria. Most units require children to have a statement of

special educational needs (or be undergoing assessment for one), which details their difficulties and the professional input they require, including intensive speech and language therapy. Language unit criteria generally include that the child must fall within the normal range on nonverbal cognitive measures; that, while associated physical, emotional, or behavioral difficulties may be present, the speech and language disorder must be the child's primary problem; that the child would find it difficult to cope in mainstream even with support and needs a full-time placement in a structured small group setting; that the child is expected to make enough progress over a given period of time to be returned to mainstream; and that children for whom English is a second language should demonstrate the same language difficulties in any other language(s) they speak.

The bilingual children were identified within the cohort post hoc, during the teacher interview. They came from a range of family backgrounds and were exposed to a range of languages, as noted above. The cohort of bilinguals was made up of 4 girls and 23 boys; at the time of the first visit they had spent between 4 months and 2 years 10 months in language units. Comparisons were made between the bilingual subgroup and the cohort as a whole, as well as between the bilingual subgroup and subgroups of monolingual children drawn from the larger cohort and "matched" to the bilingual children on different variables. Children in the monolingual "match" groups had spent between 4 months and 2 years 11 months in language units at the time of the first visit.

### *Procedures*

Each of the test cohort children was visited twice, with approximately a year separating the visits. On both occasions, the following tests were administered by one researcher to each child individually (where possible in a separate room):

1. Test for Reception of Grammar (TROG) (Bishop, 1982): This oral comprehension test presents children with four pictures whilst the examiner reads a sentence. The child is asked to pick the picture which illustrates the sentence. These items begin very simply with four distinct objects and one word read out, and progress to more complex grammatical structures such as "the cat the cow chases is black."
2. Three subtests of the British Ability Scales (BAS) (Elliot, 1983):
  - i. Number Skills:* Children are presented with picture cues and asked to perform calculations. These vary in complexity and include counting, finding similarities, simple addition, subtraction, multiplication, division, matching figures to groups of objects, and tests of concepts.
  - ii. Naming Vocabulary:* Children are asked to name a series of pictures of everyday objects.
  - iii. Word Reading:* Children are presented with a list of single words and asked to read them out loud. This assessment measures only single-word sight reading and is not designed to assess reading comprehension or fluency.
3. Goldman-Fristoe Articulation Test (Goldman & Fristoe, 1986): Children are asked to name pictures of everyday items.
4. The 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. Children are scored separately on the amount of correct information given, mean sentence length and number of subordinate clauses.

5. Raven's Matrices (sets A, Ab, and B) (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 select (from six alternative "pieces" printed below the pattern) the one and only piece that can complete the pattern.
6. Grammatical Closure subtest from the Illinois Test of Psycholinguistic Ability (Kirk, McCarthy, & Kirk, 1968). This test requires the child to look at a picture and orally to complete a sentence begun by the examiner about the picture, for example, "Here's a dress, and here are two (dresses)."

It should be noted that these tests, which are of a type widely used in speech and language assessments in the U.K., were chosen to give an impression of the language abilities of each child for the purposes of the larger project, and were not intended to be exhaustive. Time constraints prevented us from collecting spontaneous language data or performing more in-depth assessment.

In addition to the tests, semi-structured interviews were conducted during the first visit. (Throughout this article this interview will be referred to as the *teacher interview*.) A professional who worked regularly and frequently with the child (usually the teacher or a speech-language pathologist) was asked to describe the child's difficulties by stating whether or not the child had each of the following types of difficulty: *articulation; phonology; syntax and/or morphology; semantics and/or pragmatics*.

A child who has problems with pronunciation which appear to have a physical basis—for example, poor muscle control as determined by an oral-facial examination—is said to have articulation difficulties. "Phonology difficulties" describes difficulties with pronunciation which do not appear to have a physical basis: children with these difficulties usually use immature phonological processes such as simplification and fronting. Children with syntax difficulties have trouble putting words together to form multiword utterances or understanding complex sentences. Difficulties with morphology involve problems using inflections and derivational morphemes. (As morphology difficulties are often thought to be associated with syntactic difficulties, these were treated as a single category.) Difficulties with word meaning are termed "semantic," and pragmatic difficulties involve the use of language in social contexts. "Semantic" and "pragmatic" difficulties were presented to the professionals in the interviews as "and/or" options, to allow them to describe a child using a single term or refer to her as "semantic-pragmatic disordered" (a term currently in use in England to refer to children with conversational disabilities: for a discussion see McTear & Conti-Ramsden, 1992). As all these types of difficulty can co-exist, teachers could describe children as having combinations of these difficulties. They were also asked to say whether the child's difficulties were *mainly expressive, mainly receptive, or expressive and receptive*.

These categories were chosen on the basis of clinical usage in England (and were thus familiar to the professionals concerned), and because they are well-used terms throughout the SLI literature (e.g., Bishop & Edmundson, 1987). Testing was carried out with the full consent and support of parents. The tests and interviews took place in the child's school in the second or third term of the school year.

## Analysis

The bilingual children's test results were compared to those of their monolingual peers. Given the skewness of the data, nonparametric analysis was carried out using the SPSS for Windows version 6.0 statistical package (SPSS, 1993). Mann-Whitney U comparisons were made between the groups described above, and Chi-square analysis was carried out on the descriptions of language difficulties taken from teacher interviews. Results with  $p$  values of .05 and under are described in the body of this article as *significant*; results in the range  $p = .05$  to  $p = .09$  (inclusive) are described as *tendencies*.

There were four clear stages to the analysis. As the results of each analysis form part of the rationale for the design of the next stage, we propose to report the results of each stage together with some discussion and interpretation before moving on to the results of the next stage. Finally, we shall attempt to draw together results and interpretations from all four stages and discuss the wider implications of the study findings.

Initially, all the bilingual children were compared to all the monolingual children (stage 1). Subsequently, the bilinguals were divided into two groups (with and without semantic and/or pragmatic difficulties). Stage 2 consists of "whole group" comparisons between the bilinguals so divided and the monolinguals, also so divided. Stage 3 looks in more detail at bilinguals with no semantic and/or pragmatic difficulties, comparing them to monolinguals drawn from the cohort and matched for type of language difficulties, and also to further groups of monolinguals matched on initial test scores on some tests. Stage 3 procedures were repeated for the bilinguals with semantic and/or pragmatic difficulties, and form stage 4 of the analysis.

### Stage 1 analysis: "Whole group" comparisons:

The performance of all the bilinguals ( $n = 19-27$ , depending on amount of missing data) was first compared to that of the rest of the cohort ( $n = 188-215$ , ditto) on all the tests in both years. Statistically significant differences ( $p < .05$ ) or tendencies ( $p < .1$ ) between the two groups were found on five tests: the results are detailed below (Table 1). (For tests which are not in the table below, there were no significant differences or tendencies between the two groups.)

As can be seen in the table, in 1995 there were clear differences between the bilingual and monolingual children on these five tests. In 1996 the bilinguals continued to score below the monolinguals on these five tests, and the pattern of medians and interquartile ranges was similar (though the differences between the groups were, on the whole, less marked).

Could type and nature of language difficulties explain these differences? Statistical analysis of the first year's data for the cohort as a whole revealed that children with "higher-level" difficulties (difficulties with semantics and/or pragmatics (SPD), receptive language difficulties) formed a statistically robust subgroup of the cohort and performed differently on tests to other language unit children (Conti-Ramsden, Crutchley, and Botting, in press). The feeling that children with SPD are "different" from other language unit children is also reported anecdotally by many professionals. Currently, much research interest and debate surrounds these children and their classification—some researchers even argue that they belong in the autistic spectrum, and should not be regarded as a subtype of children with SLI. (See, for example, Brook & Bowler, 1992; Boucher, in press, for discussions.) It is important for researchers to be aware of the heterogeneous nature of SLI in general, and in particular to be alert to the distinctive characteristics of this particular subgroup of children.

**Table 1**  
 "Whole group" comparisons of 1995 and 1996 test scores

Test	1995 results		1996 results	
	<i>p</i> value	Medians & interquartile ranges for both groups	<i>p</i> value	Medians & interquartile ranges for both groups
BAS Number Skills	.01	<i>bis</i> <sup>1</sup> : 4 (1 to 9) <i>monos</i> <sup>2</sup> : 9 (3 to 20)	.08	<i>bis</i> : 3 (1 to 9) <i>monos</i> : 6 (1 to 17)
BAS Naming Vocabulary	.008	<i>bis</i> : 9 (2 to 42) <i>monos</i> : 27 (11 to 54)	.01	<i>bis</i> : 13 (7 to 48) <i>monos</i> : 48 (23.25 to 73)
Bus story information	.08	<i>bis</i> : 5 (5 to 17.5) <i>monos</i> : 10 (5 to 37.5)	.08	<i>bis</i> : 5 (5 to 17.5) <i>monos</i> : 7.5 (5 to 37.5)
Grammatical closure*	.001	<i>bis</i> : -12.5 (-19 to -10) <i>monos</i> : -7 (-13 to -2)	.09	<i>bis</i> : -11 (-19 to 0) <i>monos</i> : -7 (-12 to +1)
TROG	.005	<i>bis</i> : 5 (1 to 17.5) <i>monos</i> : 17.5 (5 to 37.5)	.07	<i>bis</i> : 10 (3 to 37) <i>monos</i> : 17.5 (5 to 37)

<sup>1</sup>"bis" = bilingual children; <sup>2</sup>"monos" = monolingual children

All test scores are percentiles except for: \*Standard score minus mean for age

Stage 2 analysis: Children without SPD and children with SPD:

In order to investigate possible effects on test performance of this difference in group composition, and in the light of the research mentioned above, the cohort was split into two subgroups: children who (according to their 1995 language unit teacher) had semantic and/or pragmatic difficulties (SPD), and those who did *not* have such difficulties. It was hoped that this split would allow more detailed investigation of the nature of the differences between bilinguals and monolinguals (both on pattern of test scores and on progress over time), while still leaving groups large enough to make statistical analysis meaningful.

The bilinguals with no SPD (*n* = 16) were compared to the monolinguals with no SPD (*n* = 154) on performances in all tests from 1995 and 1996. Similarly, bilinguals *with* SPD (*n* = 11) were compared to monolinguals *with* SPD (*n* = 61). Significant results are reported in the following tables.

As can be seen in Table 2, the pattern of significant differences for the groups with no SPD largely replicates the "whole group" comparisons found in stage 1 (above). As before, bilinguals scored lower than monolinguals on Number Skills, Naming Vocabulary, Bus Story Information, Grammatical Closure, and TROG. In addition, they scored lower on Word Reading, Bus Story Mean Sentence Length, and Bus Story Subordinate Clauses measures. No significant differences were found for Articulation or Raven's Matrices scores.

Comparison of the two groups *with* SPD showed there to be *no* significant differences (*p* < .05) or tendencies (*p* < .1) between the two groups on all tests except for the articulation test (1995 and 1996) and the Bus Story subordinate clauses score (1996 only). On these two measures, the bilinguals with SPD do *better* than the "whole group" of monolinguals with SPD.

This distinct difference between children with and without SPD in patterns of test scores

**Table 2**

"Whole-group" comparison: bilinguals and monolinguals with no SPD

Test	1995 tests		1996 tests	
	<i>p</i> value	Medians & interquartile ranges for both groups	<i>p</i> value	Medians & interquartile ranges for both groups
Number skills	.06	<i>bis:</i> 4 (1.25 to 10.5) <i>monos:</i> 9 (3 to 23.5)	.02	<i>bis:</i> 1 (1 to 9) <i>monos:</i> 7 (2 to 17.25)
Naming vocabulary	.0005	<i>bis:</i> 4.5 (1 to 22) <i>monos:</i> 23 (11 to 54)	.002	<i>bis:</i> 8 (2.25 to 42.25) <i>monos:</i> 48 (24 to 54)
Word reading	.02	<i>bis:</i> 5 (0 to 11.25) <i>monos:</i> 10 (4 to 23)	.04	<i>bis:</i> 5 (1.25 to 8.75) <i>monos:</i> 8 (5 to 20.75)
Bus story information	.009*	<i>bis:</i> 5 (5 to 5) <i>monos:</i> 10 (5 to 37.5)	.01*	<i>bis:</i> 5 (5 to 5) <i>monos:</i> 10 (5 to 37.5)
Bus story mean sentence length	n/s*	<i>bis:</i> -3 (-4 to -0.25) <i>monos:</i> -3 (-5 to -1.25)	.005*	<i>bis:</i> -6 (-7.75 to -3.1) <i>monos:</i> -3 (-5 to -1)
Bus story subordinate clauses	.05*	<i>bis:</i> -4 (-4 to -4) <i>monos:</i> -4 (-4 to -3)	.02*	<i>bis:</i> -5 (-6 to -4) <i>monos:</i> -4 (-5 to -2)
Grammatical closure <sup>1</sup>	.002*	<i>bis:</i> -12 (-20 to -10) <i>monos:</i> -7 (-13 to -2)	.036*	<i>bis:</i> -12.5 (-24.3 to -5.3) <i>monos:</i> -7 (-12 to +2)
TROG	.005	<i>bis:</i> 5 (1 to 10) <i>monos:</i> 17.5 (5 to 37.5)	.006	<i>bis:</i> 7.5 (0.7 to 15.7) <i>monos:</i> 17.5 (5 to 37.5)

\*Some missing data <sup>1</sup>Standard score minus mean for age**Table 3**

"Whole-group" comparison of bilinguals and monolinguals with SPD

Test	<i>p</i> value	Bilinguals: median & interquartile range	Monolinguals: median & interquartile range
1995: Articulation	tend. <i>p</i> = .08	99 (51 to 99)	54 (32 to 93)
1996: Articulation	sig. <i>p</i> = .04	99 (66.75 to 99)	53.5 (21.25 to 99)
1996: Bus story subordinate clauses	tend. <i>p</i> = .06	-3 (-4 to -1)	-5 (-5 to -2)

seems to support the decision to treat these two subgroups of children separately. This, then, is how the subsequent analysis was carried out.

Stage 3 analysis: Children without semantic/pragmatic difficulties:

Why might the bilingual children be scoring poorly on particular tests? Even within the smaller groups split for presence or absence of SPD, it seems that bilinguals and monolinguals still differ in terms of language difficulties. The range of combinations of language difficulties

observed in the monolingual group does not seem to be present in the bilingual group. Analysis of data from teacher interviews indicated that bilinguals were significantly more likely than their monolingual peers to have syntax and morphology difficulties, and to have these as their only difficulties. They were significantly less likely than monolinguals to have articulation and/or phonology difficulties. In addition, their difficulties were found to be less likely to be “mainly expressive” (see Appendix, Table 4; see also Crutchley, Botting, & Conti-Ramsden, in press). Relationships were found for the cohort as a whole between having syntax and morphology difficulties and performing poorly on certain tests; similar relationships were also found between having “expressive and receptive” language difficulties and poor performance on certain tests (see Appendix, Tables 5 and 6; see also Botting, Conti-Ramsden, & Crutchley, in press).

This, then, might account for the differences in performance on some tests between bilingual and monolingual children. The bilingual children’s combinations of language difficulties could be pushing their scores down on certain tests. This stage of the analysis attempts to investigate this possibility by matching the bilingual children with monolinguals with similar “profiles” of language difficulties, as defined by their teachers during the interview. If the bilinguals and language-matched monolinguals performed similarly, this would support the argument that the bilinguals’ poor test performance is due to their language “profile.”

*Comparison of bilinguals and language-matched monolinguals without SPD.* A comparison group of monolingual children was selected from the cohort to “match” the bilinguals’ individual language profiles as closely as possible. In the following analysis, the comparison groups consisted of the 16 children identified as “bilingual” and without semantic/pragmatic difficulties, and 16 monolingual children, also without semantic/pragmatic difficulties, matched on combination of language difficulties (articulation, phonology, syntax/morphology), and whether these difficulties were mainly expressive, mainly receptive, or expressive and receptive. As before, the two groups’ performances on all tests in both years were compared.

*The effects of matching for language difficulties.* The pattern of significant differences between test scores for these “language-matched” groups (see Appendix, Table 7) largely replicated the pattern found for bilingual children with no SPD and the “whole group” of monolinguals with no SPD (see above, Stage 2, Table 2). As before, bilinguals scored lower than monolinguals on Naming Vocabulary, Word Reading, Bus Story Information, Bus Story Mean Sentence Length (1996 only), Grammatical Closure, and TROG. In addition, they scored poorly on Articulation (1996 only). However, they no longer scored poorly on Number Skills or Bus Story Subordinate Clauses. While these are both tests on which children with syntax and morphology difficulties (and those with expressive-and-receptive difficulties) score poorly—the explanation which the language-matched groups were designed to investigate—the differences between bilinguals and monolinguals are still present for other tests for which the relationships were found between language difficulties and poor performance. In addition, the bilinguals score relatively poorly on some tests which show no such relationship with language profile (Articulation, Bus Story Mean Sentence Length).

It is probably safe to say that language difficulties have a relationship with test scores (see Botting, Conti-Ramsden, & Crutchley, in press). However, even close matching for language profile cannot lead us to firm conclusions about the reasons for the poor performance of bilinguals without SPD.

What other reasons might there be? Why might bilingual children be performing differently to monolinguals? Note that, although teachers were asked whether children had particular types of difficulty with language, they were not asked about the *severity* of these difficulties. Severity of difficulties might account, not only for the relative homogeneity of the bilingual group, but also for their relatively poor performance on the tests detailed above.

*Taking severity into account: new “control” groups.* In an attempt to take severity into account, a new “control” group was set up for each test for which a significant difference or tendency was found between bilinguals and monolinguals without SPD. Bilinguals were matched with monolinguals on 1995 percentile score for the test in question. Mann-Whitney U comparisons were then run on 1996 test scores for each new control group.

If differences between monolinguals’ and bilinguals’ scores were due to the severity of bilinguals’ difficulties, we could hypothesize that groups would progress at a similar rate over the year, leading to no significant differences between groups on 1996 test scores. However, if there were a qualitative difference between bilinguals’ and monolinguals’ difficulties, there might be differences between the two groups on 1996 test scores.

The bilinguals were found to perform similarly to the monolinguals when matched for severity, with the exception of the Bus Story Mean Sentence Length and Subordinate Clauses subtests, where bilinguals still scored significantly below monolinguals in 1996. This seems to indicate that their poor performance by comparison with the monolingual groups on many tests may not be due to some intrinsic effect of being bilingual—that this somehow makes their SLI different to that of monolinguals—but simply because their difficulties are more severe.

Some caution may be necessary in interpreting these results. In terms of combination of language difficulties, the groups matched on 1995 test scores are very different from the bilingual group. For example, in the matched groups for both Grammatical Closure and for TROG, only three out of 16 monolinguals matched the bilinguals on combination of language difficulties. Thus, in attempting to “control” for the “severity” variable, we are reintroducing variation of a different kind. However, as discussed above, language-matching does not seem substantially to alter the nature of the differences between bilinguals’ and monolinguals’ test scores once the presence or absence of SPD is taken into account. Thus, matching for severity may still give meaningful results.

#### Stage 4 analysis: Children with semantic/pragmatic difficulties

Recall that, in Stage 2 analysis above, the bilinguals with SPD did *better* than the “whole group” of monolinguals with SPD on the Articulation test (1995 and 1996) and on the Bus Story Subordinate Clauses subtest (1996 only). However the interquartile ranges overlap quite broadly, the main difference being that the monolinguals’ interquartile ranges tend to be wider. The statistically significant difference could be due to the effect of group size, as one might expect more variation in a larger sample. Alternatively, it could come from the composition of the groups. As suggested above, there seems to be less of a variety of linguistic “profiles” among the bilinguals in language units than among the monolinguals, and this seems also to be true of the children judged to have semantic/pragmatic difficulties. If children with SPD are generally likely to perform well on standardized tests (as discussed above), could the bilinguals’ relative lack of “other” difficulties (i.e. other than SPD) be an explanation for their better performance?

*Comparison of bilinguals with SPD and language-matched monolinguals.* The bilinguals with SPD were matched with a comparison group ( $n = 11$ ) of monolinguals with SPD, on combination of language difficulties (articulation, phonology, syntax/morphology) and whether these difficulties were mainly expressive, mainly receptive or expressive and receptive (as previously done for the bilinguals without SPD). Mann-Whitney U comparisons were then run on 1995 and 1996 test results for the two resulting groups. No significant differences or tendencies were found between the two groups on all tests in 1995, and none in 1996 except for on Bus Story Subordinate Clauses and Bus Story Information. The bilinguals scored significantly better than the monolinguals on both these subtests.

Bearing in mind that, in Stage 2 analysis, bilinguals with SPD did better than the “whole group” of monolinguals with SPD on Articulation and Bus Story Subordinate Clauses, it is interesting to see that the bilinguals with SPD do not seem to perform differently on the Articulation test from monolinguals *once matched for type of language difficulties*. This finding supports the view that the “whole group” of monolinguals with SPD is more heterogeneous than the “whole group” of bilinguals with SPD, and that this heterogeneity was responsible for the difference in scores on this test.

The bilinguals' higher score than the language-matched monolinguals on the Bus Story Subordinate Clauses is less easy to interpret. This difference seems to have come about over the year. The differences between 1995 and 1996 scores on this test for bilinguals and language-matched monolinguals were compared using a Mann-Whitney U test, and a tendency ( $p = .06$ ) was found for monolinguals to “slip back” in relation to mean-for-age while bilinguals did not. Hence bilinguals with SPD tend to score better than language-matched monolinguals with SPD on Bus Story Subordinate Clauses in 1996. Severity of difficulties — that the bilinguals might be less severe than the monolinguals — also did not account for this difference. When bilinguals were matched with a different comparison group of monolinguals with SPD on their 1995 score on this measure, a significant difference ( $p = .03$ ) was still found for 1996 test scores.

The bilinguals with SPD also score better than the monolingual language-matched group on Bus Story Information. Here, however, the monolinguals show almost no range of performance. Bilinguals' and monolinguals' performances did not seem to differ on this test in 1995, suggesting that the bilingual group have “pulled away” from the monolinguals in the interim. There is no statistically significant difference between the groups on “change over time” scores on this test. A comparison group of monolinguals with SPD selected on 1995 test scores on this measure was compared with the bilinguals on “change over time,” also with a nonsignificant result.

It is difficult not to conclude from this that the bilinguals are indeed performing differently from the monolinguals on these subtests. Although controlling for severity may reintroduce other variation, there is less variation among children with SPD in terms of language “profiles” than among other groups. (On inspection, the monolingual children in the comparison groups matched on 1995 scores for Bus Story Information and Subordinate Clauses proved to have identical combinations of language difficulties to the bilinguals in 9 of 11 cases and 7 of 10 cases respectively.) The question remains, however, of *why* the bilinguals might be making more progress than the monolinguals on these measures.

Ultimately, the results of conventional standardized tests on children with SPD must be treated with some caution (see Botting, Conti-Ramsden, and Crutchley, in press, for a

discussion). These children's difficulties are to do with conversation and interaction. Thus, we found that they score within the normal range on standardized tests—indeed, their rote memory ability (attested to anecdotally by many professionals) may advantage them. This is in itself an interesting finding, and points to the need for the development of more relevant assessment procedures for these children. Work in this area is just beginning to develop (Bishop, manuscript submitted for publication). Of course, this means that differences in test scores between bilingual and monolingual children with SPD must also be interpreted warily.

### *Summary of preliminary findings*

The present study is small in scale and preliminary in nature. Nonetheless, there are a number of interesting results that need to be noted and can inform future research.

1. Evidence both from teacher interviews and from test performance indicates that bilingual children in language units show less of a range of combinations of language difficulties than their monolingual peers, and that their difficulties are towards the more complex end of the spectrum.
2. Bilinguals as a group perform poorly on certain standardized tests compared to monolinguals as a group.
3. Bilingual children *without* semantic and/or pragmatic difficulties perform poorly on these and other standardized tests as compared to monolinguals without semantic and/or pragmatic difficulties.
4. Bilingual children *with* semantic and/or pragmatic difficulties (SPD) perform well in comparison to monolinguals with semantic and/or pragmatic difficulties on certain standardized tests, and do not perform significantly more poorly than them on any test.
5. The differences between test scores for bilinguals and monolinguals with or without SPD cannot be wholly explained by the nature of bilinguals' language difficulties, as they still perform differently to monolingual children when matched for "language profile."
6. The performance of the bilingual children without SPD can largely be explained through accounting for severity of difficulties. This is less true for the children with SPD.

## **Discussion**

The preliminary conclusions above suggest that bilingual children in language units in England are different from their monolingual peers in a number of ways. Specifically, their language difficulties seem to be more complex and more severe than those of monolingual children, and they perform differently on standardized tests in ways which are not wholly to be explained either by the combination of language difficulties they have, or the severity of those difficulties (although both these factors seem to have an influence on their performance).

There seems to be evidence that the presence or absence of semantic and/or pragmatic difficulties (SPD) is as important in bilingual children as it is in monolingual children. The wide differences between test performances of bilingual children with and without SPD suggest that treating all bilingual children with SLI as a homogeneous group would obscure the nature of differences between monolingual and bilingual children, and this area would certainly merit more research.

The question remains, nevertheless, of what makes the bilingual children different. Of

course, it is possible that the difference is nothing to do with being bilingual. The effects of sample size or the problems with “matching” children in comparison groups, the non-linear nature of children’s progress and the difficulties inherent in testing children generally, may produce results that are less meaningful than they seem. However, the statistical significance of comparisons of relatively small groups demands a deeper interpretation.

One possibility is that bilingual children are inherently different to monolingual children. Perhaps bilingualism works as some kind of “compounding factor” in children’s language difficulties, making them more complex or more severe than they would be if the children were monolingual. Alternatively, bilingual children’s SLI could be quantitatively different from that of monolinguals. However, as Duncan (1989) and others have pointed out, there is “no hard evidence” to suggest this (Hall, 1995). Moreover, we run a serious risk of failing these children if we ascribe to them deficiencies which are in fact located outside the children, that is, in the systems or the people which deal with them (Cline, 1993; Cummins, 1984). Until more evidence is available about the nature of SLI in bilinguals, it is unsafe to assume that bilingualism per se is what makes the difference.

It is difficult to interpret the bilinguals’ test results with any certainty. However, we would like to discuss two possible interpretations. As the two subgroups of bilinguals (with or without semantic and/or pragmatic difficulties (SPD)) seem to perform very differently from one another, and evidence suggests that the difficulties of children with SPD do not show up on standardized speech and language assessments, we will concentrate on the performance of the children *without* SPD.

One interpretation is that the difficulties of bilingual children with no SPD are in fact more severe than those of their monolingual peers. This is supported in part by the findings on bilingual children’s range of combinations of language difficulties — that they are statistically likely to have complex difficulties which are both expressive and receptive in nature. The interpretation that children whose difficulties are at the less complex end of the spectrum are simply not being identified could be extended to include those children whose difficulties (of whatever type) are not severe. In addition, the congruence of the scores of bilinguals with no SPD with those of monolinguals on tests in 1996 once matched for “baseline” score in 1995 — which suggests that the progress of these groups of bilinguals and monolinguals is comparable — would seem to support this interpretation.

However, it must be remembered that the differential scores of bilinguals with no SPD were only partly explained by the nature and the severity of their language difficulties. This brings us to the second interpretation: that the bilinguals’ difficulties are not necessarily more severe than the monolinguals’, but that the tests used do not adequately reflect their difficulties and abilities. Although the tests in our study are well-known and widely used, it is unlikely that they are “culturally fair” to all the different children on which they were used (see e.g., Cline, 1996). Moreover, the finding that close matching for combination of language difficulties did not “iron out” these differences between bilinguals and monolinguals could be interpreted as evidence for the bias of the tests. The differential performance of bilinguals with no SPD on Bus Story Mean Sentence Length and Subordinate Clauses subtests *even after matching for severity* could also add weight to this argument.

Nonetheless, it is important to remember that the bilinguals with SPD *did not* score more poorly than monolinguals with SPD on any test. It is thus difficult to argue that the tests simply “discriminate against” bilingual children. Of course, it is possible that the tests are so inaccurate

when used with bilingual children that no meaningful interpretation can be made. However, we would argue that the markedly different patterns of performance on tests for different groups of children suggest that the tests are picking up some aspects of the children's functioning. We would urge extreme caution in the interpretation of results of individual tests, as we do not wish to lend credence to the idea that tests standardized on monolingual children can be used with other groups with comparable results. Nevertheless, we feel that the results of this investigation point up the need for further research in this area, particularly given that insights into the language development of bilingual children with SLI could potentially contribute to theoretical advances in the understanding of both bilingual language acquisition and SLI.

If we accept that children from all communities or language backgrounds are as likely as each other to have SLI in all its manifestations, we must then ask ourselves why the bilingual language unit population is so seemingly homogeneous. How is it that only the children with the most complex and severe difficulties are finding their way into language units? Several answers to this question are possible, and it is likely that a combination of factors are at work. The issue of the assessment of bilingual children within a traditionally monolingual framework is the subject of much research (see, for example, Valdés & Figueroa, 1994). On an informal level, teachers and other professionals may simply "miss" bilingual children with less complex or severe SLI difficulties (such as those with articulation or phonology difficulties only, or expressive difficulties only, who tended to be missing from our cohort), because a lack of training or experience leads them to misinterpret the child's difficulties as arising from having English as a second language. Although a body of research is beginning to be established on the normal developmental sequence of the more widely-spoken minority languages in Britain (see, e.g., Madhani, 1989; Stokes, 1989), monolingual professionals often have little knowledge of the child's other language(s) on which to base an assessment of development. Anecdotal evidence suggests that some languages (e.g., Cantonese) tolerate a large amount of variation in children's speech in comparison to English. This could mean that parents (often the monolingual professional's only source of information on the child's progress in languages other than English) become aware of problems later than in equivalent monolingual children. Naturally, an added factor in this is the awareness of many professionals (as mentioned above) of the tendency in the past of over-referral of children from ethnic minorities to SEN provision, and the professionals' understandable desire to reverse this trend. In addition to these problems with informal initial identification of children who may need to be assessed, meaningful formal assessment of children from bilingual backgrounds is problematic at present. Gupta, Brebner, & Chandler Yeo (1996) refer to the approach taken by many speech and language professionals to the assessment of bilingual children in Singapore as "flying by the seat of their pants" — relying on professional experience and intuition, in the absence of suitable standardized assessment instruments. A similar lack of tools and dearth of bilingual speech and language professionals in England may mean that only the most "obvious" cases among bilingual children receive professional attention.

Other problems to do with the wider "system" may also have an influence. In many areas visited, language unit places were scarce and parents who were able to apply pressure, either to have their child assessed or to gain a unit place for him or her, seemed to have an advantage. It seems that knowledge of, and an ability to "work" the system may privilege some parents while disadvantaging others, including some ethnic minority families. Indeed, such families may be reluctant to use a service which they see as "created for, and controlled by, dominant culture

interests" (Miller, 1984). Moreover, the present statementing and review procedure in the U.K., which generally emphasizes written contributions from parents and communicates with them in writing, may also prove alienating to ethnic minority families. Different cultural views of disability may affect parents' willingness to seek or co-operate with intervention (Harry & Kalyanpur, 1994), and cultures which value self-reliance and solving problems within the community may also have an influence.

Plainly, there are many potential stumbling blocks in the process of identifying and assessing bilingual children with SLI. The evidence from this study suggests that there needs to be a more detailed investigation of the currently available system in England for identifying and placing bilingual pupils who would potentially benefit from language unit placements. Much scope remains for further research in this somewhat neglected area. In particular, research is much needed into the development and use of more appropriate assessment methods (see, for example, Cline, 1996; Peña, Quinn, & Iglesias, 1992) and into the roles of both bilingual and monolingual professionals (see e.g., Martin-Jones & Saxena, 1996; Leather & Wirz, 1996). Local, ground level research into the identification, placement and progress of bilingual language unit pupils is going on in various geographical areas around the U.K., although this is rarely intended for wider dissemination. "Macro" level research to bring these diverse strands together is essential.

In summary, then, investigating the differential performance of bilingual children on standardized tests seems to open a whole "can of worms." Research is needed in many areas before firmer conclusions can be drawn. We hope that this study will contribute to the design of future research, which is essential if we are to treat bilingual children with SLI in a comparable way to their monolingual peers.

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## Appendix

**Table 4**

Language difficulties on arrival in units — monolingual and bilingual children

Numbers presenting with the given difficulty:

Difficulty	Monolinguals (n = 215)	Bilinguals (n = 27)	p value (Chi-square)
Articulation	96	7	.06
Phonology	125	8	.005
Syntax/ morphology	145	21	n/s
No difficulties	6	0	n/s

### Combination of difficulties

Just articulation	6	0	n/s
Just phonology	16	1	n/s
Just syntax/ morphology	27	7	.06
Articulation and phonology only	26	0	.06
Articulation and syntax/ morphology only	5	1	n/s
Phonology and syntax/ morphology only	21	1	n/s
Articulation, phonology and syntax/ morphology	47	6	n/s

### Nature of language difficulties (Chi-square, standardized residuals in brackets)

	Mainly expressive	Mainly receptive	Expressive and receptive
Monolinguals	93 (0.6)	14 (-0.5)	107 (-0.4)
Bilinguals	5 (-1.8)	4 (1.4)	18 (1.1)

$p < .03$  Relationship between language difficulties and test scores (1995)

**Table 5**

Comparison of children with syntax/morphology difficulties (n = 166) and children without (n = 76)

Test	p value	Syntax/morphology difficulties?	
		Yes: median & interquartile range	No: median & interquartile range
Number Skills	.0002	6 (2 to 16)	13.5 (4 to 25)
Naming Vocabulary	.0001	20 (6 to 42)	34.5 (20 to 61.5)
Word Reading	.01	8.5 (2 to 25)	14 (5 to 34)
Bus Story Information	.0001	5 (5 to 17.5)	17.5 (5 to 37.5)
Bus Story Subordinate Clauses	.0016	-4 (-4 to -3)	-3 (-4 to -2)
Grammatical Closure	.0001	-10 (-15 to -5)	-4 (-11 to +2)
TROG	.0006	10 (3 to 25)	17.5 (5.6 to 50)

**Table 6**

Comparison of children with mainly expressive difficulties (n=98) and children with expressive and receptive difficulties (n=125)

Test	Mainly expressive difficulties (median and IQR)		Expressive and receptive difficulties (median and IQR)		p value (Mann-Whitney U test)
Number skills	11	(4 to 28)	5.5	(1 to 16.75)	.0001
Naming vocabulary	34	(18.75 to 59.3)	20	(6 to 46)	.003
Bus story information	13.75	(5 to 37.5)	5	(5 to 17.5)	.05
Bus story subordinate clauses	-3*	(-4 to -2)	-4	(-4 to -3)	.03
Articulation	15	(5 to 45)	40.5	(22.5 to 84.25)	.0000
Grammatical closure	31	(26 to 36)	25	(19 to 32)	.0000
TROG	17.5	(6.875 to 37.5)	10	(3 to 25)	.0008

\*difference between standard score and mean for age

**Table 7**

Test performances of bilinguals (n=16) and language-matched monolinguals (n=16) without SPD

Test	1995 tests			1996 tests		
	p value	Medians & interquartile ranges for both groups		p value	Medians & interquartile ranges for both groups	
Number skills	n/s	bis: 4 monos: 8	(1.25 to 10.5) (1.25 to 27.5)	n/s	bis: 1 monos: 6	(1 to 9) (1 to 23.5)
Naming vocabulary	sig. .01	bis: 4.5 monos: 21.5	(1 to 22) (7.75 to 52)	sig. .006	bis: 8 monos: 48	(2.25 to 42.25) (18.25 to 76)
Word reading	sig. .03	bis: 5 monos: 17	(0 to 11.25) (7.75 to 52)	sig. .02	bis: 5 monos: 10	(1.25 to 8.75) (5 to 43)
Bus story information	sig. .02*	bis: 5 monos: 17.5	(5 to 5) (5 to 40.6)	sig. .04*	bis: 5 monos: 10	(5 to 5) (5 to 37.5)
Bus story mean sentence length	n/s*	bis: -3 monos: -4	(-4 to -0.25) (-5 to -1)	sig. .02*	bis: -6 monos: -3	(-7.75 to -3.1) (-5 to -1)
Bus story subordinate clause	n/s*	bis: -4 monos: -4	(-4 to -4) (-4 to -2)	n/s*	bis: -5 monos: -4	(-6 to -4) (-6 to -3)
Grammatical closure <sup>1</sup>	sig. .002*	bis: -12 monos: -7	(-20 to -10) (-9 to +4)	sig. .03*	bis: -12.5 monos: -5	(-24.3 to -5.3) (-9 to -2)
Articulation	n/s*	bis: 24 monos: 47.5	(8.25 to 63.75) (31.75 to 62)	sig. .01*	bis: 28 monos: 62	(5 to 35) (28 to 83.5)
Raven's Matrices	tend. .05	bis: 56.25 monos: 82.5	(28.1 to 80.6) (53.1 to 94.4)	n/s	bis: 62.5 monos: 82.5	(28.1 to 84.4) (62.5 to 97.5)
TROG	tend. .07	bis: 5 monos: 13.75	(1 to 10) (5 to 25)	tend. .06	bis: 7.5 monos: 17.5	(0.7 to 15.7) (6.25 to 46.9)

\*some missing data

<sup>1</sup>Standard score minus mean for age