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Profiles of language ability

Individual differences in speech and language ability profiles in areas of high deprivation

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Abstract

Speech and language ability is not a unitary concept; rather, it is made up of multiple abilities such as grammar, articulation, and vocabulary. Young children from socio-economically deprived areas are more likely to experience language difficulties than those living in more affluent areas. However, less is known about individual differences in language difficulties amongst young children from socio-economically deprived backgrounds. The present research examined 172 four-year old children from socio-economically deprived areas on standardised measures of core language, receptive vocabulary, articulation, information conveyed, and grammar. Of the total sample, 26% had difficulty in at least one area of language. While most children with speech and language difficulty had generally low performance in all areas, around one in ten displayed more uneven language abilities. For example, some children had generally good speech and language ability, but had specific difficulty with grammar. In such cases their difficulty is masked somewhat by good overall performance on language tests but they could still benefit from intervention in a specific area. The analysis also identified a number of typically achieving children who were identified as having borderline speech and language difficulty and should be closely monitored.

Key words: Speech and language difficulty; children, socio-economic deprivation; individual differences

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It has been estimated that between 2 and 10 percent of children have speech, language and communication difficulties (Department of Education and Science, 2005). This range is based on a review of studies, and the variation in prevalence rates can be explained in part by the range of definitions of speech, language and communication difficulty adopted by different studies. Worryingly, in areas of socio-economic deprivation, around half of children start school with delayed language ability (Locke et al., 2002). In addition, in 1997, a needs assessment carried out in a socio-economically deprived area of Northern Ireland estimated that 42% of preschool/nursery children had speech, language and communication delay (Coulter, 2001). These language difficulties have detrimental effects on a child's performance across the whole curriculum (Basic Skills Agency, 2002). Consequently, appropriate support is vital in the early years to prevent persistent language delays which have negative effects on general academic achievement (Leyden, 2007). Indeed, a government review of Speech and Language Therapy Services for children and young people in England (Bercow, 2008) highlighted the need to identify those with speech and language difficulty and to intervene as early as possible in order to prevent social and economic problems from occurring later on in life. In areas of disadvantage, there are programmes which aim to help with the educational development of preschool children from disadvantaged areas. For example the Sure Start programme which was introduced in the UK in the late 1990s, provides services such as speech and language therapy, good quality play, and parenting courses on nutrition and nurturing. However, an evaluation comparing children in socio-economically deprived areas who were participating in Surestart to those who were not on the programme found no differences on cognitive or social development measures (Department for Education, 2010). In contrast, other initiatives such as 'Stoke Speaks Out' highlight how positive changes can be made in speech, language and communication skills at a population level through collaborative working and capacity

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building with the early years workforce. Similarly, evidence suggests that nursery or school based interventions where speech and language therapists and teachers work together have good outcomes for children's language skills (Law et al., 2006, Gascoigne, 2006).

Studies of children with specific language impairment (SLI) provide insight into the causes of language difficulties which occur in the absence of hearing problems or low non-verbal intelligence. For example, SLI has been consistently associated with poor auditory short term memory (Haynes and Naidoo, 1992); however, there is debate over whether this is a cause or consequence of SLI (Gathercole & Baddeley, 1993; Van der Lely & Howard, 1993). Evidence from twin studies indicate that while genetic influences explain a considerable amount of variation in language ability, environmental influences are also very influential (Spinath et al., 2004, Oliver et al., 2004). Children from backgrounds of lower socio economic status (SES) are more likely to have language difficulties relative to those from less socio-economically deprived backgrounds prior to and upon starting school (Ginsborg, 2006; Hart & Risley, 1995; Ramey & Ramey, 2004; Nelson et al., 2011). Furthermore, Fernald et al. (2013) found that, from as early as 18 months, children from socio-economically deprived backgrounds are outperformed by those from less socio-economically deprived backgrounds on language tests; in developmental terms this equated to a six month gap between the two groups. A number of factors have been identified which are likely to mediate the relationship between socio-economic status and language ability. One influential factor is levels of child directed speech, which is used more frequently in high SES families, and higher levels are positively associated with language ability (Hart & Risley, 1995). In fact, during the first 36 months of life, Hart and Risley (1995) estimated that children from high SES backgrounds will have had 30 million more words directed at them than children from low SES backgrounds. Other factors associated with poverty such

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as access to resources and nutrition may also influence language ability (Bradley & Corwyn, 2002).

Bates et al. (1995) emphasised the importance of studying variation within and across key components of speech and language, and that such variations are of particular interest and relevance to practitioners who deliver interventions. A range of studies have examined the componential nature of children's speech and language abilities; these studies did not explicitly focus on children in areas of greatest need (i.e. socio-economically deprived areas). For example, Van der Lely (1997, 1998) has documented cases of children whose syntactic skills were disproportionately weaker than other language abilities. Similarly, cases of good comprehension despite poor language production are also well documented (e.g. Oviatt, 1980; Snyder et al., 1981; Mills et al., 1993). Studies adopting an individual differences approach to the study of speech and language difficulty have provided insights which would have been overlooked by focusing solely on group means. For example, different patterns of speech and language difficulty amongst English speaking five year old children from Canada were identified by Beitchman et al. (1989) by assessing their overall language ability as well as articulation, auditory comprehension, vocabulary and auditory memory. Using cluster analysis, they identified four different subtypes: 1) good overall language ability, 2) poor overall language ability, 3) articulation that was disproportionately worse than other language skills, and 4) comprehension difficulty in the absence of difficulties in other areas of language. Of course, it is possible that if different language tasks were used, different patterns may be found and it is not known how well these findings would generalise to the UK, where the curriculum and educational policies are different.

In summary, there is now a strong evidence base showing a link between socio economic status and speech and language difficulty, and the Bercow report (2008) has emphasised the importance of early intervention to strengthen the language abilities of

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children. From a practice based perspective, an up to date estimate of the level of children with speech and language difficulty is needed for early intervention planning, particularly in socio-economically deprived areas where the level of need is likely to be high. Locke et al. (2002) previously found, based on the results of two language tests, that over half of children from a socio-economically deprived area in Sheffield have delayed language skills compared to their non-verbal IQ. I CAN, a UK based children's communication charity, draw a distinction between speech, language, and communication needs (SLCN), and specific language impairment (SLI); the former being the more inclusive category where the child may have additional difficulties and the latter excluding children of below average intelligence and any other difficulties. The study by Locke et al. (2002) adopted a definition more in keeping with that of SLI, and therefore provides a useful indication of how many children are have language ability that is below expectations based on intelligence. However, speech and language therapists work with a range of children including those with and without learning difficulties. Therefore from a practice based perspective, it is also important to measure the level of speech and language difficulty in socio-economically deprived areas amongst children with speech and language difficulty regardless of their level of non-verbal intelligence. Coulter (2001) estimated the level of need for speech and language services for those with SLCN to be 42%; however, there is a clear need for more up to date figures to indicate the demand for intervention programmes, and to potentially serve as a baseline against which the effectiveness of intervention, policy, and strategy can be assessed. Updated figures are particularly important when you consider that the Department for Education (2010) have called into question the effectiveness of current preschool provision.

Therefore, the present study will estimate the prevalence of speech and language difficulty amongst four-year-olds in socio-economically deprived areas within a region of the UK. Additionally, in order to shed new light on the speech and language difficulties

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experienced by children in socio-economically deprived areas of the UK an individual differences approach will be adopted. Specifically, the present study will assess children living in socio-economically deprived areas on a range of speech and language tasks selected to cover key language skills and give a proxy for overall language ability using the following language measures: core language ability, receptive vocabulary, articulation, information conveyed and grammar. This approach will highlight which aspects of speech and language ability are most frequently impaired, and if there are different profiles of speech and language difficulty across language measures.

Method

Participants and classification procedure

A total of 172 four-year old children from English speaking schools located in three areas of relatively high socio-economic deprivation in Northern Ireland were invited to take part in the study. Children were invited to participate in the study irrespective of whether they attended speech and language therapy or had additional needs. Bilingual children and those for whom English is an additional language were excluded, as it would have been difficult to obtain an accurate assessment of their speech and language ability. None of the children in the sample had been officially diagnosed with another condition (such as autism). From a naturally gender balanced sampling frame of 685 year one children, 25% were randomly selected (N=172). Parental permission was obtained for the 172 children selected to take part in the language prevalence study.

Demographic information for the screened sample is presented in Table 1. On the basis of their performance across five tests administered in the present study (Core language;

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information conveyed; grammar; receptive vocabulary, and articulation) children were either classified as having speech and language difficulty (SLD) or typical achievement (TA) in speech and language. These tests were selected by speech and language professionals to cover a range of key speech and language skills. All tests were administered on an individual basis by a qualified speech and language therapists in a quiet room in the child's school. The children were assessed over two 30 minute sessions. The research was carried out in accordance with health and social care trust strict protocols for working ethically with children.

The definition of the SLD and TA groups are as follows.

SLD group (n=45): Children were classed as having speech and language difficulty (SLD) if they had a score at or below a standard score of 85 on at least one of the 5 language tests. Children's standardised scores on each of the standardised tests were classified as average to above average (86+), mild difficulty (78-85), moderate difficulty (71-77) and severe difficulty (0-70). Selection of cut-off point in research is always somewhat arbitrary but is necessary to make the research transparent; in this study the cut-off point of 85 (standardised score) was carefully selected by a team of professional and experienced speech and language therapists as being a meaningful cut-off point.

TA group (n=127) those scoring at or a standard score of 86 on all of the language tests were classed as typically achieving (TA).

At the time of testing, the participants were in their first year of primary school and were aged on average 4 years and 10 months. Males (50%) and females (50%) were evenly represented in the sample. Median socio-economic deprivation statistics (Northern Ireland Multiple Deprivation Measure; Northern Ireland Statistics and Research Agency, 2010) at

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output level are also presented in Table 1. Scores on this measure can range from 1 (most socio-economically deprived) through to 5022 (least socio-economically deprived). The median for the speech and language difficulty (SLD) group lies within the top 13% of socio-economically deprived output areas in Northern Ireland, and the typically achieving (TA) group median lies within the top 31% of socio-economically deprived areas.

[insert Table 1 about here]

Measures

Standardised attainment tests which were used to assess a range of speech and language skills, and to serve as a proxy for their speech and language ability. In addition a measure of socio economic status was obtained.

Core Language Skills. Clinical Evaluation of Language Fundamentals 2 UK Edition (CELF Preschool 2; Wiig et al., 2006) provided a measure of core language, and is suitable for children aged 3:0 – 6:11 years. The Core Language Skills (CLS) test of the CELF preschool 2 comprises three subtests: sentence structure, word structure and expressive vocabulary. Factor analytic studies have shown that the theoretical structure of the CELF Preschool 2 fits the data adequately. For 4 year olds, this test has excellent test-retest reliability ($r=.89$), and internal consistency (Cronbach's $\alpha=.93$).

Information conveyed and grammar. This was assessed using the Renfrew Action Picture Test (RAPT; Renfrew, 1997) which is suitable for children aged 3:6 years plus. This test measures expressive language; vocabulary and use of grammatical structures. It provides

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age equivalent scores. The Grammar scale of this test has been shown to correlate strongly with a similar measure; namely, the Carrow Elicited Language Inventory (Brown, 1988). The RAPT was the only language test used in this analysis that did not provide standardised scores in the manual. Therefore for the purposes of this analysis, rather than using age equivalent scores, the raw scores were converted to standardised scores using the means and standard deviations in the RAPT manual. While this procedure was necessary to allow for standardised comparisons to be made in the present research; we acknowledge that this limits the ecological validity of the research as clinicians working in the field rely on age equivalent scores.

Receptive vocabulary. A measure of this ability was provided by the BPVS III–British Picture Vocabulary Scales (Dunn et al., 2009) which is suitable for children age 3-16 years.

Phonology & Articulation. The GFTA-2 – Goldman Fristoe Test of Articulation (Goldman & Fristoe 2000) assesses a person’s speech sound system and articulation skills at single word level and can be used at sentence level also. Standard scores can be calculated if required. Test-retest reliability as measured by percent of agreement for presence of error for sounds in words is excellent (median 98%) and at age 4 years Cronbach’s alpha for females is .96 and for males it is .94.

Socio-economic deprivation. The Northern Ireland Multiple deprivation measure (NIMDM; Northern Ireland Statistics and Research Agency, 2010) provides a composite measure of 7 types of deprivation; namely, income; employment; health and disability; education skills and training; proximity to services, living environment; crime and disorder. The Multiple Deprivation Ranks were then assigned to each participant using the child’s postcode.

Results

Proportion of children with speech and language difficulty

In total, 26% (n=45; 95% confidence interval 19.6% - 32.7%) of children in the sample had speech and language difficulty, meaning that they experienced difficulty in at least one of the five language areas. The remaining 74% (n=127) did were classed as TA under the classification procedure used in the present study. Table 2 shows that the median socio-economic deprivation scores for each catchment area in the sample. The highest speech and language difficulty prevalence (41%) was in the most socio-economically deprived area; namely, the Colin Glen area. In the second most socio-economically deprived area in the sample, 28% of children had speech and language difficulty. Lower levels of socio-economic deprivation in the Lisburn sample are likely to explain the lower estimation of speech and language difficulty prevalence (18%) in that area.

[Insert table 2 about here]

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Figure 1 shows the proportion of children who had difficulty on each of the language tests: core language (12%), receptive vocabulary (6%), articulation (11%), information conveyed (7%) or grammar (5%). Most difficulties were mild in nature (i.e. in the 78-85 standardised score range) as opposed to moderate or severe.

[insert Figure 1 about here]

Relationship between area based socio-economic deprivation ranks and language tasks

The standardised scores on the language tests were correlated with the rank based NIMDM (2010). One tailed Spearman's rho highlighted significant positive relationships between higher levels of area based socio-economic deprivation and core language ($\rho = .26; p < .001$); vocabulary ($\rho = .24; p = .001$); information conveyed ($\rho = .26; p < .001$); and grammar ($\rho = .19; p = .005$). No relationship was found between area based socio-economic deprivation and articulation.

[insert Table 3 about here]

Relationships between the language tasks

Pearson product-moment correlations were used to examine the relationships between the five language tasks (Table 3). Significant correlations were found between all

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combinations of the language tasks, most of which were medium/large in size ($r = .432 - .693$). The correlations between articulation and the other four measures were more modest ($r = .194 - .272$).

[insert Table 4 about here]

Language profile analysis of the SLD and TA groups

Table 4 presents the means and standard deviations of the TA and SLD groups on each of the five language tasks. A profile analysis was used to compare the performance of the SLD and TA groups on the five language measures; namely, core language, receptive vocabulary, articulation, information conveyed, and grammar. This profile analysis was conducted in accordance with the guidelines developed by Tabachnick and Fidell (2013), and effect sizes were adjusted for uneven sample size. Essentially profile analysis is a form of multivariate analysis of variance used when there are several dependent variables which are measured on the same scale. The language profiles of the SLD and TA groups are shown in Figure 1. The levels test revealed that when the language scores were averaged over all tests, unsurprisingly, the TA group outperformed the SLD group ($F(1,170)=131.63, p < .001$, partial $\eta^2 = .44$). When the speech and language subtest scores were averaged over groups, Wilks' Lambda indicated a significant deviation from flatness ($F(4,167)=22.90, p < .001$, partial $\eta^2 = .35$). Wilks' Lambda indicated that the profiles of the SLD and TA groups deviated significantly from parallelism ($F(4,167)=8.64, p < .001$, partial $\eta^2 = .17$). Taken together the flatness and parallelism findings show that the SLD and the TA groups did not have identical shapes of profile across the five language tasks (see Figure 2)

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[insert Figure 2 about here]

One-way repeated measures ANOVAs were used to further explore the interaction between group and language (i.e. deviation from parallelism). These revealed significant simple effects of language for both the TA $F(4,504)=28.54, p < .001, \text{partial } n^2 = .19$) and SLD groups $F(4,176)=5.20, p = .001, \text{partial } n^2 = .11$). This suggested that both TA and SLD groups had uneven profiles across the speech and language tasks. Post hoc analysis for the TA group, showed that their language ability profile was characterised by worse performance on core language and receptive vocabulary relative to information conveyed ($p < .001$), articulation ($p = .001$), and grammar ($p < .001$). By contrast, only core language deviated from the ability profile of the SLDgroup; core language scores were significantly lower than for the receptive vocabulary, information conveyed and grammar ($p < .001; p = .012; p < .001$). To explore the interaction from the other angle, independent t tests were carried out to see which tasks TA and LD differed on. These revealed significantly better performance by the TA group compared to the SLDgroup on core language ($t = 8.05, df = 64.27, p < .001, d = 1.40$), receptive vocabulary ($t = 5.12, df = 63.97, p < .001, d = 0.89$), articulation ($t = 6.03, df=49.31, p < .001, d = 1.05$), information conveyed ($t = 5.85, df = 57.75, p < .001, d = 1.01$) and grammar. ($t = 4.43, df = 63.63, p < .001, d = 0.77$).

Discriminant function analysis

A discriminant function analysis was performed to see how well the language ability measures differentiated between the language ability groups. The discriminant function significantly differentiated the language ability groups (Wilks' Lambda = .48, $\chi^2(5) = 121.92$, $p < .001$). The language outcome variables loaded moderately or highly onto the discriminant function: core language ($r = .67$), information conveyed ($r = .64$), articulation ($r = .53$), receptive vocabulary ($r = .43$), grammar ($r = .37$).

Classification statistics were then inspected to check for any cases that did not fit neatly into their original grouping. Out of the TA group, 9% were actually classified as better fitting the SLD group by the discriminant function analysis. Closer inspection of these cases showed that they had overall performance that was comparable to that of the SLD group. While these cases did not have a language standardised score below 85 on any of the tests, they all had at least one score in the borderline difficulty range (86-92%). Similarly a proportion of the SLD group, 11%, were classified as being more similar to the TA group. These participants had an overall profile similar to the TA group, but had been assigned to the SLD group because of one, or occasionally two, relatively low scores. Essentially, the cases which were not classified by the discriminant function analysis under their original classification, were the ones with uneven profiles. The five SLD children who were misclassified by the analysis, were a diverse group with good overall language, but had difficulty in at least one area (standardised score at or below 85). One had particular difficulty with core language, one with vocabulary, one with information conveyed, and a further two had difficulty with grammar.

Discussion

Speech and language difficulty in deprived areas

The present investigation found that in socio-economically deprived areas of Northern Ireland, 26% of 4-year-olds had speech and language difficulty. In the general population, the prevalence of speech and language difficulty ranges from 2 and 10 percent (DES, 2005; pp 14), depending on the exact definition used. In areas of social disadvantage as many as fifty percent of children have language that is relatively weaker than non-verbal ability (Locke et al., 2002). However, from a practitioner's point of view, a discrepancy based definition will miss those children with language needs alongside other difficulties, an important group of children who also avail to speech and language services. In contrast to Locke et al. (2002), the present investigation sought to identify the proportion of children in a socio-economically deprived area who have speech and language needs, regardless of ability level. Adopting this definition, the present study identified that in socio-economically deprived areas of Northern Ireland over a quarter of children have speech and language needs, many of whom would benefit from intervention services. Although, it is worth emphasizing that most difficulties in the present investigation were mild in nature (i.e. in the 78-85 standardised score range), meaning that the children would not necessarily require speech and language therapy.

Interestingly, despite adopting a much broader definition than Locke et al. (2002) the rate of speech and language difficulty was lower, and this may reflect regional differences in policy. This rate is also somewhat lower than that found by Coulter (2001) in 1997, however, the present investigation had a wider catchment area, and when the level of need was computed based on the same geographical area, a comparable level of need was found (41%). Despite all three catchment areas in the sample being relatively socio-economically deprived,

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when the three catchments areas of the sample were ranked in terms of socio-economic deprivation, the most socio-economically deprived area had the highest prevalence of speech and language difficulty (41%). In contrast, in the least socio-economically deprived area speech and language difficulty was less common (18%). In addition, Correlational analyses highlighted that living in a socio-economically deprived area is associated with a higher risk of experiencing early language difficulties. This indicates that while there is variation in need between socio-economically deprived areas, the level of need still exceeds that found in the general population (Department for Education, 2010). Despite concerns being raised by Bercow (2008) and the introduction of various policies and initiatives, the level of need appears to have been relatively stable over the last decade.

Uneven profiles of speech and language ability

Children were assigned to either the SLD group if they had a standardised score at or below 85 on one or more language tests, rather than on the basis of their overall language ability. Nevertheless, the SLD group had significantly weaker performance on all five language tests, although they tended to have particular difficulty with core language. Bates et al. (1995) have emphasised the importance of also studying individual differences, as using purely group analysis can be misleading and miss vital information. For example, cases have been documented of children with very uneven language abilities based on different language tasks (e.g. Van der Lely; 1997, 1998), and Beitchman et al (1989) identified and quantified different profiles of speech and language difficulty in Canadian children. Since this research, numerous policy initiatives have been introduced and it is not clear if similar findings to Beitchman et al.'s (1989) would be present in children in the UK. Therefore the present study provides an up to date analysis of variability in young children's language ability in the UK. Consistent with Beitchman et al. (1989) we found evidence of different profiles of

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language ability amongst the SLD group. The majority of the SLD group had relatively weak language ability on all tests, compared to the typically performing children. However, a proportion (11%) presented with a more variable pattern of achievement. What differentiated these children from the other SLD children was that they had relatively good language achievement on most measures, but had one standardised score at or below 85 on one or two language tasks. Further examination of these children, revealed that they were a very diverse group, meaning that the selective difficulties were found across a range of language areas. Previously, Beitchman et al. (1989) found that children with variable achievement either had comprehension difficulty or articulation difficulty only. By contrast, the present investigation found that children with variable achievement were more different than they were similar, and it would not have been possible to subtype the children. Although, with a larger sample size, groups characterised by difficulty in one area may have emerged. The present research was quantitative in nature and does not identify the specific differences between UK and Canada that could explain these different findings. Future research reviewing differences in educational systems with a focus on speech and language services would help to shed light on the reasons behind these differences. In addition, the present study does not reveal why children develop selective difficulties. Dissociation evidence suggests that sub components of speech and language ability (e.g. Ullman, Corkin, Coppola, Hickok, Growdon, Koroshetz, & Pinker, 1997) may rely on different areas of the brain and selective difficulties may occur due to developmental issues associated with a specific part of the brain. It is less clear if and how a child's early social experiences may selectively affect one aspect of language, and this is an area that warrants further investigation perhaps by using in-depth case studies to gather information about these interesting cases.

Interestingly, discriminant function analysis also highlighted a proportion of children who by definition are typically achieving, yet have distinct language ability profiles

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compared to the rest of the TA group. These children have similar overall language ability to the speech and language difficulty group, and tend to have at least one language score just above the cut-off point that was used to class children as having speech and language difficulty. As these children are on the borderline of classification of speech and language difficulty a more thorough examination of their language ability is needed to ascertain if they need help.

Limitations

There are a number of limitations that should be taken into account when interpreting the findings from the present study; the first of which relates to the potential influence of other co-occurring conditions. In Northern Ireland it is very unusual for a child to have an official diagnosis such as autism or Asperger's at age 4 years. For example, in 2012/13 only 104 children in the whole of Northern Ireland had an official diagnosis of autism according to Department of Education Northern Ireland (DENI, 2013). However, it is entirely possible that sample members may have had other undiagnosed conditions which could have led to a biased assessment. All assessments were made by a fully qualified speech and language therapist who was trained in working with individuals with other conditions, so it is expected that any biases were kept to a minimum. Secondly, bilingual children were excluded from the present study as it would have been difficult to obtain an accurate measure of their actual speech and language ability. This means that the results of the study can only be generalised to non-bilinguals. A further limitation of the study is that only one therapist assessed each child. Ideally a child would be assessed multiple times by different therapists to check for consistence across assessments. All therapists were highly trained and followed the standardised protocols of the tests in order to minimise any assessor bias. All speech and language tests were selected by experienced speech and language therapists. Finally, the

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range selected was designed to distinguish children with difficulty from those without difficulty in speech and language. The therapists felt, based on professional experience working in the field, that the core language measure provided information that the other four speech and language tests could not. Nevertheless, it could be argued that core language overlaps with the other four tests; however, from previous experience the therapists felt that the inclusion of a core language measure would help to differentiate children with SLD from TA (more reliably so than the three core language subscales would do on their own). Of course, it is possible that other therapists will have had different experiences and selection of tests to cover key components of speech and language will always be somewhat arbitrary.

Conclusions

In summary, the results suggest that the levels of need in the most socio-economically deprived areas of the UK have remained relatively stable, and there is still a need to inject a greater level of resources into socially disadvantaged areas compared to less disadvantaged areas. Particularly when you consider that these children are not just at risk of poor language outcomes, they are also at risk of poor academic performance (Snowling et al., 2001) social exclusion (Botting & Conti-Ramsden, 2000), unemployment (Bynner & Parsons, 1997), and more likely to offend (Bryan, 2004). While most speech and language difficulty children perform relatively poorly in all areas of language the study also identified a considerable number of children with variable language achievement who may benefit more from individually tailored intervention. Further research, using longitudinal assessment would be needed to determine if long-term outcomes of children with variable language ability differ compared to children with general language difficulties. The prognosis of the typically achieving children with borderline speech and language difficulty in one or more areas is also unclear, meaning that these children should be monitored closely to prevent them from

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developing difficulty or to make prompt referrals to speech and language services if appropriate.

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