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A survey of speech and language therapists' opinions of bilingualism and the advice they give to bilingual families of children with speech, language and communication needs – a comparative study between the UK and Singapore

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ABSTRACT

There is emerging evidence that bilingualism is advantageous to children with speech, language and communication needs (SLCN), reflected in recommendations to promote maintenance of the home language. However, little is known about Speech and Language Therapists (SLTs)' opinions on bilingualism and practices with bilingual families. To survey the opinions and practices of SLTs on this topic, a questionnaire was developed and delivered as an anonymous web-based survey. We recruited SLTs from Singapore, where bilingualism is the norm amongst the general population and enshrined in government policies, and the UK, where bilingualism is less prevalent and not embedded in government policy. Questions probed SLTs' opinions, advice given to parents/carers, personal and professional experience of bilingualism, and knowledge of and opinions on official guidelines from the Royal College of Speech and Language Therapy (RCSLT). The survey revealed variability in opinions and practices of SLTs working with bilingual families. Amongst the UK-based respondents, the RCSLT bilingualism guidance was generally perceived positively, however, many were unfamiliar with its content, or found barriers to its implementation. Most SLTs reported recommending bilingualism to families of children with SLCN and suggesting that parents/carers speak in all languages they are proficient in, but a minority reported views and practice based on outdated assumptions: practitioners who believed bilingualism can cause or contribute to SLCN were less likely to recommend that parents/carers speak languages they are proficient in. These findings can help identify areas to target within training and continuing professional development to increase evidence-based advice given to bilingual families.

Introduction

Bilingualism in the United Kingdom and Singapore

Bilingualism[1] is more common than monolingualism worldwide (Grosjean, 2010). It is defined by the Royal College of Speech and Language Therapists (RCSLT) as the ability to

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[1]For the purpose of this study, we do not differentiate between bilingualism and multilingualism, in line with Grosjean (2010) and RCSLT (2018d). The data collected in this study are likely to be applicable to both bi- and multilingual families.

understand and/or use two or more languages, regardless of an individual's proficiency in either/any of the languages (RCSLT, 2018d, see also Grosjean, 2010). A bilingual family is defined here as one in which there are home languages (HL) (i.e. the language(s) understood/used by the parents/carers) instead of, or in addition to, English.[2]

In the United Kingdom (UK), where English is the main official language (British Council, 2020), there were 1.62 million pupils with English as an Additional Language (EAL) in 2021 (Strand & Lindorff, 2021). This is about 19.5% of all pupils aged 5–16, though the figures vary in different parts of the country: in one quarter of all schools, the number of EAL pupils was less than 1%, while in some schools this was over 50%. According to the latest UK Census, even within the urban areas which have a greater proportion of non-English speakers, the number of households whose adult members speak a language other than English varies widely: from 27.7% in the London Borough of Camden, to 33.3% in the London Borough of Westminster, and 41.5% in the London Borough of Brent (Office for National Statistics [ONS], 2021).

In the multi-ethnic and multilingual island state of Singapore, there are four official languages: English, Mandarin, Malay and Tamil (Cheryl, 2016). While bilingualism is the cornerstone of the educational policy, with an emphasis on proficiency in both English and HL(s)[3] encouraged and implemented in education, English is the working language and the language associated with prestigious academic status (see Cavallaro & Chin, 2014, for a review of Singapore language policies and their effects of languages spoken). English is also the most frequently spoken HL, likely due to minority languages being perceived as obstacles to social mobility and progress (Ng, 2014). According to the 2020 Census, 48.3% of Singaporeans aged 5 and above spoke English at home most frequently, compared to 32.3% in 2010 (Singapore Department of Statistics, 2020). This figure is even greater for children aged 5–14: in 2010, 48% of children spoke English at home, while in 2020 this number rose to 74.5%. Many of these children likely speak Singapore Colloquial English (also referred to Singapore English, or Singlish), the colloquial variant used by Singaporeans on a daily basis (Bolton & Ng, 2014), despite the official policy of using only Standard English in teaching and learning. Although of lower prestige, and fought against via official language policies,[4] calls have been made to at least discuss the linguistic features of Singlish in the curriculum (Seilhamer & Kwek, 2021). This is particularly important in view of concerns that dialectal differences between Singlish and Standard English (e.g. omission of plural '–s') make it difficult to establish the presence of language difficulties in children exposed to both variants (e.g. Pua et al., 2017).

While English is the dominant language in both the UK and Singapore, different historical and linguistic contexts have likely resulted in different attitudes to bilingualism,

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[2]Studies commonly distinguish between simultaneous and sequential bilingualism. Simultaneous bilinguals are exposed to their languages at birth, or before the age three, speaking both their languages at home or one language at home and the societal language in the daycare setting while sequential bilinguals are exposed to the societal language after the age of three, typically speaking their first language at home, and their second language in the educational setting (Paradis, 2007). The findings in this study are applicable to both simultaneous and sequential bilingualism.

[3]Note that in Singapore, the term 'mother tongue' is more appropriate than 'home language': there are three designated mother tongues implemented in schools, Mandarin, Malay and Tamil, whereas home languages may include many other languages/dialects. We will use the term 'home language' for both UK and Singapore, for simplicity reasons, but our questionnaire designed for Singapore included the more appropriate phrase 'mother tongue' (see our Methods section).

[4]Singapore governments have consistently promoted the use of Standard English, at the expense of Singapore English, as observed in the most recent 'Speak Good English Movement', resulting in heated public debates over whether this policy is elitist (see e.g. Lee, 2016).

which may result in differences in SLT practice concerning bilingual families. In the next section, we discuss the issues of bilingualism in children with SLCN, and provide the motivation for comparing the SLT practice in the two countries that is the focus of our study.

Bilingualism and SLCN

Many parents/carers consider bilingualism to be important for their children with speech, language and communication needs (SLCN).[5] Maintaining the HL when this is different to the majority language of the country has been shown to have social (Lim et al., 2018), cultural (Yu, 2013), developmental (Hampton et al., 2017), and educational (Bailey & Marsden, 2017) benefits. Parents/carers value their children's bilingualism in that it enables them to communicate with grandparents and extended family members who may not be proficient in the societal language, to become immersed in the culture different to the societal culture and understand its values and traditions, which may positively affect both the children's and parents' well-being (Müller et al., 2020).

Furthermore, in the typical population, there is a large body of literature arguing that bilingualism is associated with cognitive advantages, in domains ranging from executive functions and metalinguistic awareness, to Theory of Mind (e.g. Bialystok et al., 2012; Kovács, 2009 though see recent reviews that question the existence of bilingual advantage, especially in executive functions, e.g. Paap, 2019). Purported cognitive advantages of bilingualism may be particularly relevant for developmental disorders with known difficulties in cognitive and language domains – for example, if bilingualism can enhance Theory of Mind, exposure to more than one language could potentially benefit individuals with developmental disorders known to experience difficulties in this domain, i.e. autism (Fombonne et al., 1994), Down syndrome (Neitzel & Penke, 2021) or Williams syndrome (Tager-Flusberg & Sullivan, 2000). However, historically there have been concerns from both parents/carers and clinicians that exposing children with SLCN to more than one language may have a negative impact (Yu, 2013). The myth that bilingualism causes 'confusion' in children persists across cultures and languages (Guiberson, 2013): the concern is that bilingualism may place too great a burden on the child's learning and language resources, thus children already finding language and communication difficult may have lower skills in their two languages than children who are monolingual (Lim et al., 2018). However, research has long suggested that more than one language is not an additional 'load' on the child's linguistic system (Malakoff & Hakuta, 1991). Indeed, while current evidence on the effects of bilingualism on the cognitive and communicative development of children with SLCN is limited, literature suggests that bilingualism at least is not detrimental, and may be beneficial (Cheatham et al., 2012; Drysdale et al., 2015; Kay-Raining Bird et al., 2016; Uljarević et al., 2016). Nevertheless, parents/carers have received conflicting advice from healthcare professionals, including SLTs, leading some to abandon their HL in favour of English with the aim of assisting their child's language development (Kay-Raining Bird et al., 2012; Lim et al., 2018; Yu, 2013). These studies were carried out in the USA and Canada rather than the UK or Singapore, but they provide evidence that the advice

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[5]Under SLCN, we include Developmental Language Disorder (DLD), communication disorders, hearing loss/deafness, stuttering, speech sound disorders, autism, and intellectual disability, e.g. Down syndrome.

given to parents/carers about bilingualism has implications for their choices. It is important, therefore, that consistent advice is given to parents/carers that bilingualism is valuable and not detrimental.

SLT practice and official guidelines

Whether to expose a child with SLCN to more than one language is not an easy decision for a parent, thus advice from a professional is crucial (Wright et al., 2022). In line with current research evidence, the UK-based RCSLT has published guidance for SLTs practicing with bilingual families (RCSLT, 2018a). This advocates for the maintenance and development of the HL within the family, and for all aspects of care to be provided in the HL (RCSLT, 2018c). However, SLTs do not always practice according to the evidence base (McCurtin & Roddam, 2012). Specifically, a UK study on SLT practice dating from more than a decade ago found that only one of three SLTs were confident they were working within the RCSLT bilingualism guidelines (Mennen & Stansfield, 2006). There has not been a more recent study of SLT adherence to or opinions on the guidance since it was updated in 2018. To our knowledge, there is no official guidance on bilingualism that practitioners give to parents in Singapore.

The current study

Since studies worldwide have shown that parents may be receiving conflicting advice on whether to encourage bilingualism in their children with SLCN, it is important to ascertain whether SLTs currently working with bilingual families in the UK and Singapore are aware of evidence base and whether the advice they give is in line with it. This is especially important considering the increasing evidence that bilingualism is not detrimental to children with SLCN but rather has important benefits. The two countries were chosen for their different language environments and official policies. In the UK, English is the main language, though hundreds of languages other than English are spoken in large cities, which are generally not supported in education and work settings. In Singapore, English is only one of the official languages, but is associated with prestigious academic status and thus strongly encouraged in education and workplace, sometimes at the expense of HLs.

In this study, online questionnaires were chosen for their efficiency in gathering opinions and attitudes from a variety of respondents. Whilst it has been argued that surveys are not always valid measures of whether clinicians actually follow official guidance in their practice (Adams et al., 1999; Boynton & Greenhalgh, 2004), this survey was anonymous, and questions were phrased both positively and negatively to avoid bias. Additionally, surveys have been used effectively to find out the opinions of clinicians on official guidance (Thomas et al., 1997), and there is a precedent for health professionals not following guidance they disagree with (National Institute for Health and Care Excellence, 2014). Our survey therefore focuses on clinicians' personal and professional attitudes which are then likely to influence their practice (Bunning, 2004). By investigating clinicians' attitudes and opinions, our study will provide insight into what may prevent SLTs from following the evidence-base. To better understand the opinions and practices of SLTs working in the UK and Singapore, we formulate our research questions as follows:

(For UK-working SLTs only)

(1) Do SLTs know about the RCSLT guidance on bilingualism, and what are their opinions of it? (See Section D of the Questionnaire, provided in the Appendix).

(For both UK and Singapore-working SLTs)

(1) What are SLTs' opinions on bilingualism in children with SLCN – e.g. whether it contributes to SLCN? (See Section A of the Questionnaire, provided in the Appendix).
(2) What bilingualism advice do SLTs give to parents/carers in bilingual families, e.g. what language choice is recommended? (See Section B of the Questionnaire, provided in the Appendix).
(3) What factors are associated with SLTs opinions of bilingualism and the advice they give to bilingual parents/carers of children with SLCN, e.g. professional experience such as pre- and post-qualification training, length of SLT practice, characteristics of the caseload? (See Sections C, D, E, F of the Questionnaire, provided in the Appendix).

Methods

This study employed a cross-sectional design using a web-based survey aimed at SLTs working with children in bilingual families in the UK and Singapore. It conforms to the Consensus-Based Checklist for Reporting of Survey Studies (CROSS) (Sharma et al., 2021). Ethical approval was granted by the Ethics Chairs at the Language and Cognition Department, UCL Division of Psychology and Language Sciences, Project ID LCD-2021-01.

Participants

Participants were recruited by distributing an advert and link to the questionnaire via the email lists and social media pages of Clinical Excellence Networks (CENs), the RCSLT, and Speech and Language Therapy Singapore (the professional association for Singapore-working SLTs). Those who received the advert were asked to forward the invitation to relevant colleagues or add the advert to their own social media profiles. The sample was thus a voluntary response sample.

The inclusion criteria were SLTs practicing in the UK/Singapore, registered with The Health and Care Professions Council (HCPC) (UK) or the Allied Health Professions Council (AHPC) (Singapore), who were currently working with a paediatric caseload that included bilingual families.

Questionnaire

An online questionnaire was designed and piloted specifically for this study. The questions were developed by two student SLTs working with an advisory group of three bilingualism-specialist paediatric SLTs. The UK and Singapore questionnaires were then piloted on a further group of six UK-working and six Singapore-working paediatric SLTs and revised in an iterative manner following feedback.

The final UK questionnaire (see Appendix) comprised 34 questions in six sections: bilingualism opinions, bilingualism advice, bilingualism experience, RCSLT guidance, professional information, and caseload information. The final Singapore questionnaire (see Appendix) comprised 29 questions in five sections, as in the UK questionnaire, but without the RCSLT guidance section. Questions were a mixture of closed and open questions, multiple choice questions, and Likert-type scales. The summary statements from the RCSLT guidance were used in Likert-type scales near the beginning of the questionnaire to ascertain, in as unbiased a way as possible, whether respondents agreed with the guidance. Automatic filtering was applied, and mandatory responses used where appropriate to maximise information gained whilst minimising the difficulty and time taken to complete the questionnaire.

Some questions were phrased differently in the UK and Singapore questionnaires to ensure appropriateness to the different cultures and contexts, e.g. using 'mother tongue' instead of 'home language' in the Singaporean study. In the analysis and figures, 'home language' has always been used for clarity. Questions probed the SLTs' views on bilingualism, their current practices regarding giving language/bilingualism advice to families, and their reasons for doing so. The SLTs' professional and caseload information was gathered to assess whether these had an impact on their opinions and practices. The UK questionnaire also included questions probing the SLTs' knowledge and opinions of the RCSLT bilingualism guidance.

The questionnaire was administered via an online survey tool, Jisc Online Surveys (www. onlinesurveys.ac.uk). The respondents could save their answers and complete later for ease and efficiency of access. Participation was encouraged by explaining the purpose of the research, ensuring anonymity, providing contact details for queries, and offering a prize draw to win a shopping voucher for those completing the questionnaire. The questionnaires remained open for 3 months from 1 March to 1 June 2021.

Data storage

Consent was gained using check boxes on the first page of the questionnaire immediately following the information sheet. If consent was not gained, the respondents could not continue with the questionnaire. All answers were anonymous. Email addresses collected for the prize draw were stored separately to the questionnaire responses.

Data analysis

Questionnaire responses were downloaded from Jisc Online Surveys to Excel and IBM® SPSS® Statistics data files. Both quantitative and qualitative data were gained. A number of questionnaire responses were categorical in nature, so Pearson's Chi-square tests were used to analyse associations. Exact tests were used when assumptions of expected frequencies were not met, and loglinear analysis was used for larger models. Summary statistics were calculated.

Qualitative responses were gained to open questions such as SLTs' opinions on the RCSLT bilingualism guidance and their opinions about bilingualism.[6] In this study, opinions of the RCSLT guidance were examined within an essentialist framework using reflexive thematic analysis in an inductive, iterative process following Braun and Clarke's stages for thematic analysis (Braun & Clarke, 2006, 2019).[7] The six stages were all carried out by the first author, who is a white woman, and was a UK-based student SLT at the time of analysis. The data familiarisation occurred by typing each response into a word document and reading through it several times. Each response was then coded, using both semantic and latent codes. The codes generated were typed into a separate document and grouped into potential themes. The potential themes were then reapplied to the original data and reviewed to confirm whether all the data was represented by the themes we developed. This was conducted in an iterative process, with some codes then being split into multiple codes, and some combined into one code. After review and iteration, when the themes could be applied to all the data, the generated themes were then defined and named, and the report written.

Results

Respondents

The final analysis included 131 UK-working SLTs and 30 Singapore-working SLTs. Questionnaire responses were excluded when there were recognisable duplicate responses (e.g. 'I think it's good' answered to all free-text questions on multiple questionnaire responses), incongruous responses (e.g. stating employer is NHS whilst working in Washington DC), unanalysable responses (e.g. single letter answers given to all free-text questions) or unintended working location (e.g. USA), leading to 196 responses being excluded. Only the respondents who completed the full questionnaire were included in the final sample.

With regards to the UK-based respondents, the majority were based in London (42%), with the next largest number from the West Midlands (17.6%) and the South East (14.5%), followed by the East of England (6.9%) and North West (5.3%), with small numbers from other parts of the UK. The majority of the respondents worked in urban (69.5%) rather than rural settings (30.5%), and almost all were members of the RCSLT (95.4%)

The demographics of all the included survey respondents are summarised in Table 1, comparing UK and Singapore data where appropriate. Except for the level of undergraduate or postgraduate training, and the proportion of bilingual clients on their caseload, the background characteristics of our UK-based and Singapore-based clinicians were similar. Most UK respondents had SLT qualifications up to bachelor's level (55%), whereas most Singapore respondents were educated to master's level (53%). UK and Singapore respondents had spent a similar length of time practicing: just over a quarter of respondents practiced between 1–4 years (27% in the UK, 30% in

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[6]Not all the data collected are presented in the paper: only the qualitative responses from the SLTs comments relevant to RCSLT guidance are analysed here.

[7]See Braun and Clarke (2019) for clarification of their method, which they now prefer to call *reflexive* thematic analysis. While we followed the procedure outlined in the original 2006 version, the process of our theme developing was informed by their later works, including information on their website (https://www.thematicanalysis.net/). It therefore fits better with the more recent characterisation of themes being 'generated', rather than 'emerging, waiting to be uncovered'.

Table 1. Characteristics of UK and Singapore survey respondents.

	UK (%)	SP (%)
Highest level of SLT qualification		
Bachelor's degree (BSc/BMedSci)	55	37
Postgraduate diploma (PgDip)	10	10
Postgraduate degree (MSc/MA/MMedSci)	30	53
Postgraduate degree (PhD)	2	0

Years practicing	UK (%)	SP (%)	**Years working with children/young people**	UK (%)	SP (%)
Less than 1 year	11	10	Less than 1 year	12	10
1–4 years	27	30	1–4 years	25	46
5–9 years	26	30	5–9 years	25	26
10–19 years	25	27	10–19 years	28	13
20+ years	12	3	20+ years	10	3

UK	(%)	SP	(%)
Age of clients worked with			
Infants/toddlers	54	0–2 years	57
Early years	82	3–6 years	87
Primary school	79	7–12 years	57
Secondary school	53	13–18 years	37
Sixth form/young adults	33	18+ years	20
Other (adults)	2	Other (<25, adults)	7

UK	(%)	SP	(%)
Employer			
NHS	78	Public hospital	37
Local authority/council	6	Public CBO	30
Charity	5	Public charity	10
Private SLT company	5	Private hospital	0
Other private organisation	3	Private CBO	10
Self-employed	15	Private charity	7
Other (government)	1	Private SLT clinic	23
		Private freelance service	10
		Other	0

	UK (%)	SP (%)
Client populations worked with		
Autism (verbal)	84	77
Autism (non-verbal)	66	80
Cleft lip/palate	24	17
Complex needs	47	57
Deafness	23	37
Developmental Language Disorder	82	80
Dysfluency	55	20
Dysphagia	12	20
Feeding difficulties (Singapore only)	n/a	43
Learning Disability	62	47
Selective Mutism	53	33
Social, Emotional and Mental Health	46	30
Speech sound disorder	76	77
Voice	16	10
Other	6[a]	3[b]

CBO = community-based organisation.
[a]Paediatric acquired brain injury, Youth justice, Language delay, Physical impairments, Early intervention pre-diagnosis, AAC.
[b]Social communication disorder, Language delay.

Singapore); between 5–9 years (26% in the UK; 30% in Singapore); and between 10–19 years (25% in the UK, 27% in Singapore), with remaining respondents less than a year and 20+ years. A greater proportion of Singapore respondents had only worked with

children/young people for 1–4 years (UK: 26%, Singapore, 46%), but this was not statistically significant. In both the UK and Singapore, most respondents worked for public organisations; UK: NHS (78%), Singapore: public hospital (37%), public community-based organisation (30%). More UK-working SLTs worked with dysfluency than Singapore-working SLTs ($\chi^2(1) = 11.946$, $p = 0.015$[Bonferroni adjusted], Cramer's V = .272, adjusted residual = 3.5) but there were no other significant differences in diagnoses amongst the caseloads.

Knowledge and opinions of the RCSLT bilingualism guidance

Awareness of the guidance

Most UK-working SLTs who were members of the RCSLT were aware the RCSLT guidance existed (89%); however, less than half had read even just part of it (42.7%). Note that six UK-working SLTs (4.6% of UK respondents) were not members of the RCSLT so are excluded from further analysis in this section.

Opinions on the guidance

Quantitative analysis

SLTs' opinions of the guidance were generally positive, with the highest proportion agreeing or strongly agreeing that the guidance was relevant (73%), evidence-based (65%), easy to understand (66%), and easy to implement (46%). However, some SLTs were either unaware of the guidance or had not read it, and so were unable to give an opinion on these factors (average proportion of 'I don't know' responses = 31%). There was a greater proportion of respondents who disagreed that the guidance was easy to implement (19%), compared to those that believed it was relevant (3%), easy to understand (3%) and evidence-based (1%).

A loglinear analysis removing 'I don't know' and collapsing the levels into agree/disagree retained one 3-way interaction (relevant × understandable × evidence-based) and one 2-way interaction (implementable × evidence-based). The likelihood ratio found that this model was a good fit for the data ($\chi^2(6) = 5.545$, $p = 0.476$). Although the questions related to relevance, understandability and evidence-base were highly associated (z > 1.3), the question about implementability was not (z = 0.339). This suggests that respondents were in agreement that the guidance was an ideal to aim for, however was not realistic.

Thematic analysis

In order to further probe the opinions of the SLTs with regards to their RCSLT guidance, we carried out thematic analysis on their comments on the guidance (please see Section D of the Appendix). Three themes were generated: resource limitation, lacking support, and incompleteness.

Resource limitation

The theme of resource limitations referred to time and financial constraints that affect the implementation of guidance. SLTs felt that following the RCSLT guidance was out of their control because external factors limited them too much. The pressures of time and large

caseloads was one factor, with one SLT commenting 'the guidance to spend 2× as long assessing and supporting bilingual pupils just isn't possible most of the time due to time pressures and the size of [their] caseload[s]'. One particular area of difficulty was in the use of interpreters. One SLT said that they 'have enormous difficulty accessing/funding interpreters, even though [they] know this should be provided'. These resource limitations left SLTs feeling frustrated, disheartened and powerless, by knowing what best practice required of them, but being restricted in their ability to do this. This influenced their sense of wellbeing at work, by feeling they are letting down their bilingual clients and families but are not able to do anything about it. 'Limited funding within Trusts' is a particular problem, with 'lots of work need[ing] to be done to convince commissioners of the need for bilingualism services'.

Lacking support

As well as SLTs feeling they lacked time and financial resources, many also felt that support from colleagues and managers was not provided. A need for either bilingual co-workers, or a bilingualism specialist role within SLT teams was also identified.

Some SLTs felt that co-workers they relied on were not able or willing to play their part. Some felt the blame lay with 'Local Authorities where there are less [*sic*] multi-lingual populations [who] provide less access to interpreters. [Local authorities] don't feel the need to follow RCSLT guidelines in this respect which puts pressure on SLTs'.

'Independent SLT[s] commissioned by schools [who are] reliant on the schools to fund the use of interpreters' felt 'it can be difficult to persuade schools to do this as often as [they] may need it'.

Some SLTs were confident themselves in the guidance, indeed having 'no doubt that the guidance is correct', and felt it was 'quite basic and easily accessible'. They were therefore frustrated that other SLTs did not understand and were 'surprised that SLT colleagues often understand little about bilingualism'. There was a particular frustration regarding lack of support from managers, with SLTs again feeling powerless to make a change. One said 'we've a long way to go before the guidance in [*sic*] fully implemented – managers are not interested in the guidance'.

SLTs felt that they would benefit from the support of specialist team members, but this was lacking. They 'long[ed] for a Bilingual specialist role for the team and also bilingual co-workers'. SLTs needed more than just help with translating, since 'translators are great, but they are linguists whereas bilingual co-workers may have had training in child development etc'. SLTs suggested 'having a specialist SLT in a trust where a certain percentage of the children are bilingual in the caseload' and 'having a key worker/SLT assistant bilingual worker'.

Incompleteness

SLTs felt that the guidance did not cover all areas of relevance. They felt it provided guidance on generally how to work with bilingual families, but did not cover the specific demands of certain populations, and also did not cover all areas of working life. Particular caseload groups are also not covered, with SLTs thinking the guidance needs to be expanded:

> These guidelines need to be extended to be relevant to the field of AAC specifically. We have huge problems in the field with what is available to us 'on the market' and I know many

clinicians feel under confident to raise the issue of home languages other than English knowing that there is often NO resources [sic] available in the individuals home language.

One challenge was specifically relevant to the parts of the country where bilingual families are the norm, but services are not set up to cope with the demands of this. Some SLTs have 'the majority of children on [their] caseload [being] bilingual', and said 'the guidance doesn't really cover service-level planning for areas like ours'.

Others felt certain areas of working life were not covered, in particular in producing written resource and materials. They did not 'think there is guidance on translation' or 'working with translators', but they had to 'produce lots of written information for clients'.

Attitudes towards bilingualism

Asked whether they thought there were advantages of bilingualism for children with SLCN (see Appendix, section A 'Bilingualism Opinions'), most UK-working (90%) and Singapore-working (93%) replied positively. However, to the separate question of whether there were disadvantages to bilingualism in children with SLCN, around half responded that there were disadvantages (UK, 52%. Singapore, 50%).

SLTs were also asked whether they agreed or disagreed with three summary statements taken from the RCSLT guidance, altered so not all were phrased positively (see Appendix, section A, also given in Figure 1). These questions were asked at the beginning of the questionnaire before RCSLT guidance was mentioned to minimise bias. As seen in Figure 1,
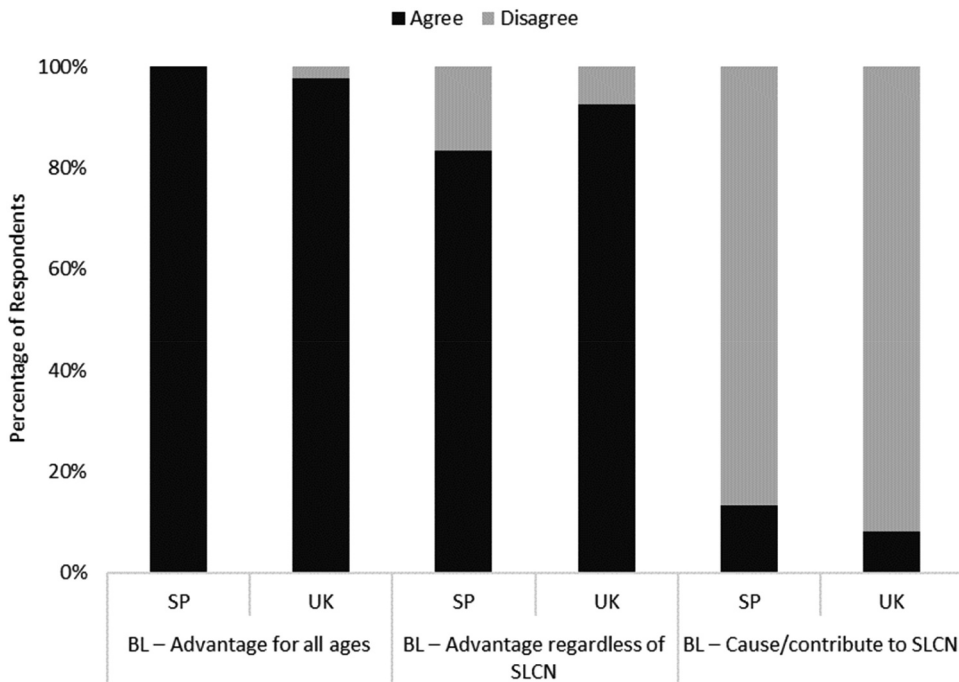

Figure 1. SLTs' opinions of bilingualism and SLCN collapsed into agree/disagree. BL = Bilingualism; SP = Singapore; UK = United Kingdom; SLCN: Speech Language and Communication Needs.

most respondents working in the UK and Singapore agreed that bilingualism is an advantage at any age, as well as for individuals with SLCN/feeding and swallowing difficulties, and disagreed that bilingualism could cause or contribute to SLCN. However, proportionally more Singapore-working SLTs disagreed (17%) that bilingualism was an advantage regardless of the presence of SLCN or a feeding/swallowing difficulty compared to UK-working SLTs (7%), and agreed that bilingualism could cause or contribute to SLCN (Singapore 13%, UK 8%)

Advice given to families

SLTs were asked what advice they had given to parents/carers regarding bilingualism from a set of predetermined options (see Appendix, Section B, for all options provided, also given in Figure 2). The most common advice was the evidence-based 'speak the language(s) you are proficient/confident in' (Figure 2), given by 85% UK-based SLTs compared to 63% SLTs in Singapore.

UK-working and Singapore-working SLTs diverged on the next-most-common advice: UK-working SLTs recommended 'use all languages you know' (24%) whereas Singapore-working SLTs recommended 'separate the languages over time/people/place' (23%). 'One
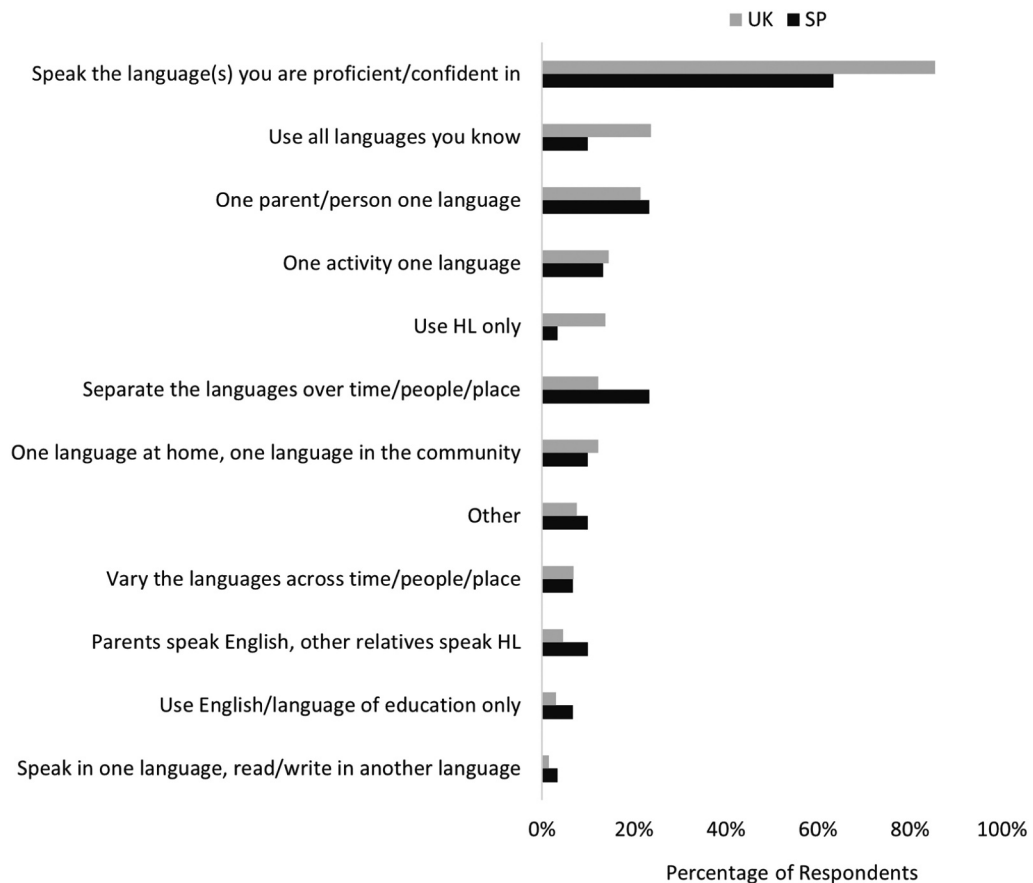
Figure 2. Language advice given to parents/carers by country. HL = home language. SP = Singapore.

parent/person one language (OPOL)' was the third most common piece of advice for UK-working SLTs (21%) and Singapore-working (23%) SLTs.

Amongst those recommending using a single language only, more UK-working SLTs recommended using only the HL (UK: 14%, Singapore: 3%) whereas more Singapore-working SLTs recommended using English/language of education only (UK: 3%, Singapore: 7%).

Factors associated with SLTs' opinions and advice

The sample size was too small and some counts too low to do an exploratory loglinear analysis, so a hypothesis testing approach was taken. The advice further investigated was whether SLTs recommend using English or HL only (single-language-only advice), and whether they recommend speaking the language(s) the parents/carers are proficient/confident in (proficiency advice).

Working situation

Country of work

The hypothesis that country of work would be associated with advice given was tested. Pearson's chi-square tests for association with a Bonferroni correction for multiple analyses revealed that the association between country and giving proficiency advice approached significance ($p = 0.055$ [Bonferroni adjusted]). However, the Bonferroni correction with 11 tests is likely to produce a type II error. Combining advice into categories (single language, multiple languages, separate languages, mixed languages, proficient languages) revealed a small but significant association between country and giving proficiency advice ($\chi^2(1) = 7.908$, $p = 0.03$ [Bonferroni adjusted], Cramer's V = .222). Post-hoc analysis revealed that this association stemmed from more than expected UK-working SLTs giving proficiency advice ('Speak the language(s) you are proficient/confident in') (adjusted residual = 2.8), and fewer than expected Singapore-working SLTs giving this advice (adjusted residual = −2.8). Odds ratios revealed that UK-working SLTs were 3.41 times more likely to give proficiency advice than Singapore-working SLTs. For this reason, 'country' was included as a factor in subsequent analyses. No other statistically significant associations were found between country and advice given.

Working location

The hypothesis that location of work would be associated with advice given was tested using Pearson's chi-square tests for association. Amongst UK-working SLTs, there were no significant associations between the advice respondents gave and whether respondents worked rurally or in an urban area, or whether respondents worked in London or not (all $p > 0.19$).

Proportion of bilingual children/families on the caseload

A 4-way loglinear analysis was performed including country, bilingual caseload, proficiency advice, and single-language-only advice to test the hypothesis that bilingual caseload proportion would be associated with advice given. The final model retained three 2-way interactions:
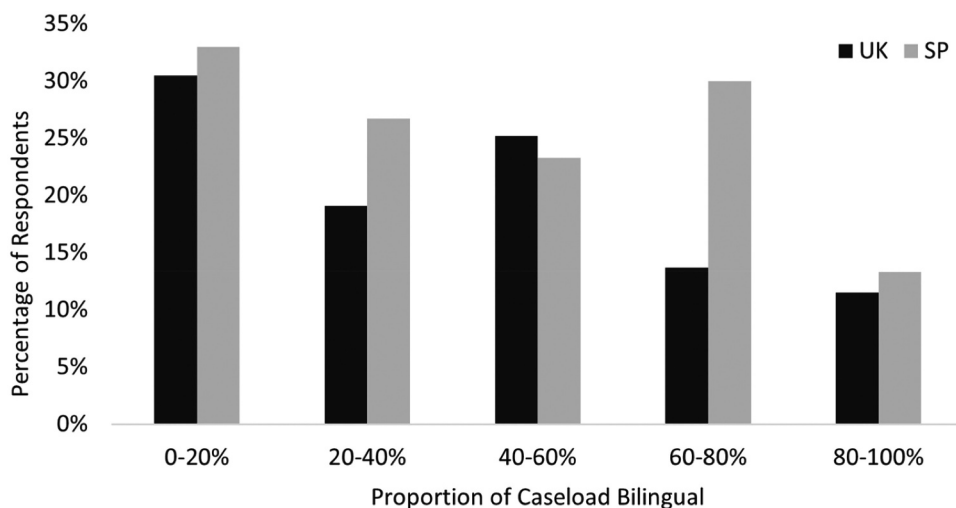
Figure 3. The proportion of bilingual children/families on SLTs' caseloads (by country).

- country × proficiency advice (partial $\chi^2(1) = 5.873$, $p = 0.015$)
- country × bilingual caseload (partial $\chi^2(4) = 13.942$, $p = 0.007$)
- bilingual caseload × proficiency advice (partial $\chi^2(4) = 9.508$, $p = 0.05$)

Goodness of fit tests showed this model was likely ($\chi^2(23) = 16.360$, $p = 0.839$). The most significant interaction was country × proficiency advice ($z = 1.947$) followed by country × bilingual caseload ($z = 1.936$). Post-hoc analysis revealed that the association between bilingual caseload and country was mainly due to proportionally more than expected UK-working SLTs having a 0–20% bilingual caseload (adjusted residuals: UK = 3.0, Singapore = −3.0) and fewer than expected UK-working SLTs having a 60–80% bilingual caseload (adjusted residuals: UK = −2.3, Singapore = 2.3) (see Figure 3). The association between bilingual caseload and proficiency advice was due to more than expected SLTs giving proficiency advice who had an 80–100% bilingual caseload (adjusted residual = 2.2). Odds ratios could not be calculated as 0 SLTs working with an 80–100% bilingual caseload did not give proficiency advice. There was no significant association between the proportion of bilingual children on the caseload and whether UK- or Singapore-working SLTs gave single-language-only advice.

Age of clients worked with

As each respondent was able to select more than one option for the age of clients they worked with and thus answers were not mutually exclusive, a loglinear analysis could not be conducted. Instead, multiple Pearson's Chi-square tests for association were conducted with a Bonferroni correction to test the hypothesis that age of clients would be associated with advice given. Singapore and UK data were separated as different age categories were used in the questionnaire to ensure appropriateness to the context.

Amongst Singapore-working SLTs, there was an association between giving proficiency advice and working with 0–2-year-olds (Fisher's exact test = 0.001 [Bonferroni corrected],

Cramer's V = 0.731). Those who worked with this age group were 53.3 times more likely to give proficiency advice than those who did not (adjusted residual = 4.0).

A similar association was found amongst UK-working SLTs (Fisher's exact test = 0.002 [Bonferroni corrected], Cramer's V = .365): clinicians who worked with Early Years were 7.8 times more likely to give proficiency advice than those who did not (adjusted residual = 4.2).

There were no associations between giving proficiency advice and working with any other age groups, or between giving single-language-only advice and working with any age group amongst either UK-based or Singapore-based SLTs.

Training

Pre-registration training (BSc, MSc degree)

Most respondents received 'a little' teaching relevant to bilingualism during their pre-registration training (the undergraduate or master's degree leading to their SLT qualification): 68% of the UK-based respondents compared to 53% Singapore-based respondents, with some commenting that it was an optional module. More Singapore-working SLTs (30%) had 'a lot' of training than UK-working SLTs (17%), while the proportion of those who received no training was similar: Singapore: 17%, UK: 15%.

A log linear analysis was conducted to determine whether country, pre-registration training, and time since qualifying were associated. The final model retained one 2-way interaction, with the likelihood ratio indicating a good fit for the data ($\chi^2(13) = 13.915$, $p = 0.456$). Partial associations revealed that the 2-way interaction time × pre-registration training was significant (partial $\chi^2(8) = 17.325$, $p = 0.027$, z = 1.965). Country was not significantly associated with time since qualifying or pre-registration training, so post-hoc analysis was conducted combining the Singapore and UK data. The Fisher-Freeman -Halton Exact Test was used as some expected frequencies fell below 5. This revealed a significant association between the amount of pre-registration bilingualism training
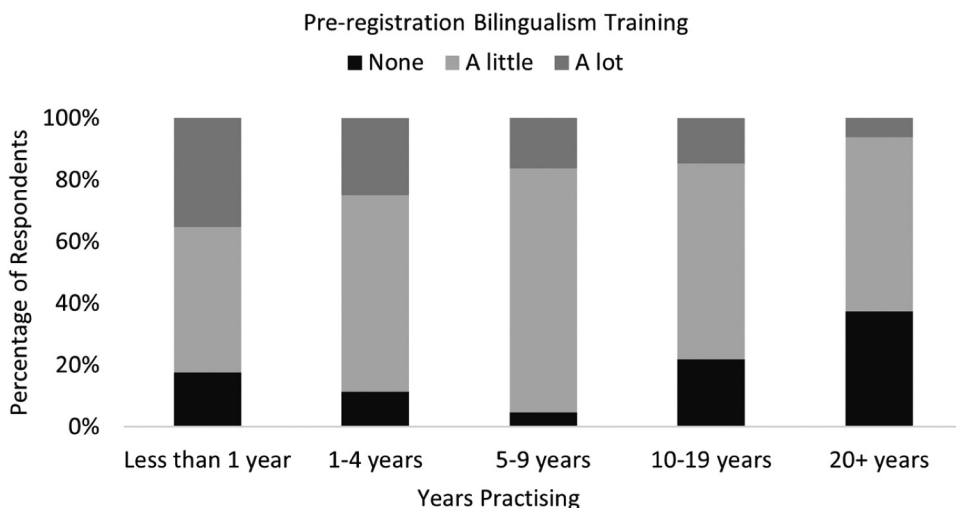

Figure 4. Pre-registration bilingualism training (BSc, MSc) by years of practice (Singapore and UK data combined).

and how long ago the SLTs trained (see Figure 4) (Fisher-Freeman-Halton Exact Test = 16.429, $p = 0.027$, Cramer's V = .232). Post-hoc analysis revealed this was mainly due to more SLTs than expected having received no training on bilingualism if they trained more than 20 years ago (adjusted residual = 2.6): as much as 37.5% of respondents who have been practising for more than 20 years received no pre-registration training. Additionally, amongst those who trained 5–9 years ago, more SLTs than expected received a little training (adjusted residual = 2.2) and fewer people than expected received no training (adjusted residual = −2.3).
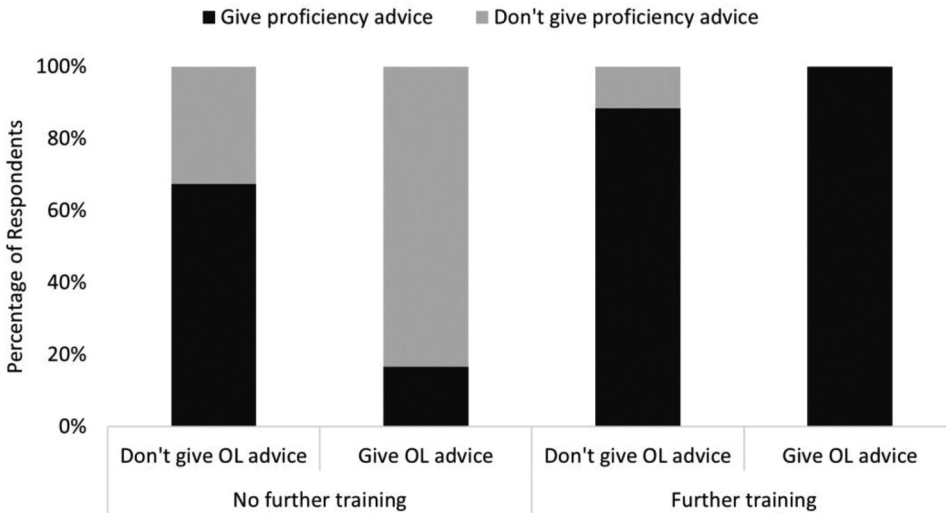
A loglinear analysis was conducted to test the hypothesis that country, pre-registration training, time since qualifying, proficiency advice, and single-language-only advice were associated. The final model retained three 2-way interactions, with the likelihood ratio indicating a good fit for the data ($\chi^2(99) = 77.368$, $p = 0.947$). The significant 2-way interactions were:

- country × proficiency advice (partial $\chi^2(1) = 7.458$, $p = 0.006$)
- pre-registration training × time since qualifying (partial $\chi^2(8) = 17.733$, $p = 0.023$)
- pre-registration training × proficiency advice (partial $\chi^2(2) = 8.698$, $p = 0.013$).

The most significant interaction was country × proficiency advice (z = −1.425), followed by pre-registration training × proficiency advice (z = 2.518). Post-hoc tests further examining the association between pre-registration training and proficiency advice found that the association was mainly due to fewer than expected SLTs who received a lot of pre-registration bilingualism training giving proficiency advice (adjusted residual −3.2). Odds ratios showed that respondents were 3.3 times or 8.9 times more likely to give proficiency advice if they had 'a little' or 'no' pre-registration training respectively (see Figure 5). No significant associations were found between these factors and single-language-only advice.
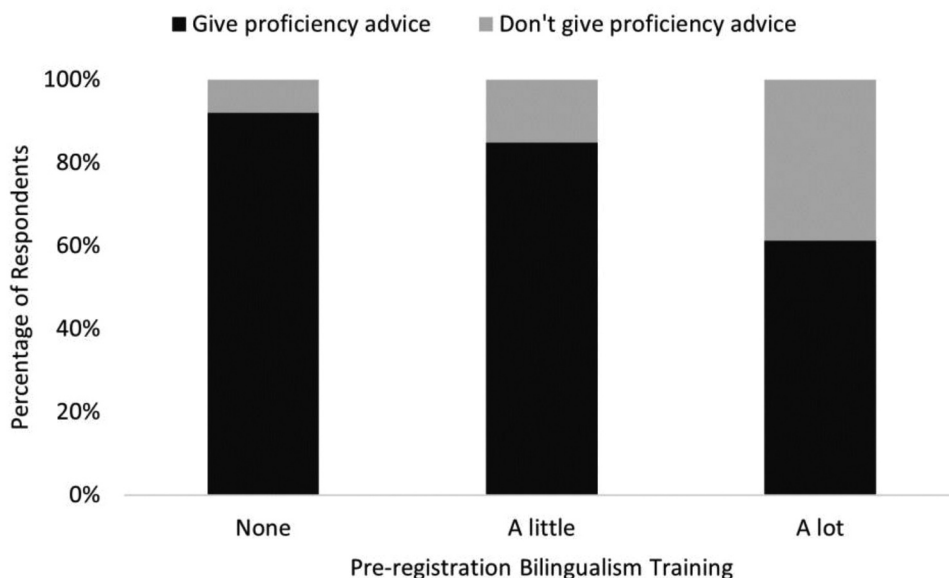
Figure 5. Proportion of SLTs giving proficiency advice by pre-registration training.

Figure 6. Proportion of SLTs giving proficiency advice by proportion giving single-language-only advice and post-registration training/reading. OL = One-language only (HL or English).

Post-registration training/reading

To test the hypothesis that SLTs' post-registration bilingualism training/reading would influence their advice, a loglinear analysis was conducted including country, proficiency advice, single-language-only advice, and post-registration training/reading. The final model produced included one 3-way interaction, with the likelihood ratio demonstrating it was a good fit for the data ($\chi^2(6) = 10.894$, $p = 0.092$). The significant 3-way interaction was post-registration training/reading × proficiency advice × single-language-only advice (partial $\chi^2(1) = 11.719$, $p = 0.001$, Figure 6). Odds ratios indicated that respondents were 5.8 times more likely to give proficiency advice having done post-registration training/reading than not having done any. The odds of not giving single-language-only advice were 6 times higher for those respondents who had done post-registration training/reading and gave proficiency advice than for those who did neither of these things. Interestingly, more UK-based respondents reported having taken post-registration training (75.60%) than Singapore-based respondents (43.30%): this significant 2-way interaction was included in the final model, country × post-registration training/reading (partial $\chi^2(1) = 6.440$, $p = 0.011$). The odds of having done post-registration training/reading were 3.41 times higher for UK-working SLTs than Singapore-working SLTs.

Opinions on bilingualism

The hypothesis that SLTs' opinions would influence the language advice they give was tested by an 8-way loglinear analysis including country, single-language-only advice, proficiency advice, and whether SLTs agreed or disagreed with the five questions probing their bilingualism opinions. A final model could not be produced after the maximum 99 backwards elimination steps. K-way effects and partial

Table 2. Significant 3-way interactions between opinions and advice given.

Interaction	Statistic
SLA × AdvSLCN × BiCauseSLCN	partial $\chi^2(1) = 5.455$, $p = 0.020$
SLA × BiAdvantages × BiCauseSLCN	partial $\chi^2(1) = 5.697$, $p = 0.017$
SLA × BiAdvantages × AdvSLCN	partial $\chi^2(1) = 6.428$, $p = 0.011$
PA × BiDisadvantages × CauseSLCN	partial $\chi^2(1) = 5.431$, $p = 0.020$
PA × Country × BiCauseSLCN	partial $\chi^2(1) = 4.206$, $p = 0.040$
Country × BiAdvantages × BiCauseSLCN	partial $\chi^2(1) = 5.089$, $p = 0.024$

AdvSLCN = bilingualism advantageous despite SLCN; BiAdvantages = advantages of bilingualism; BiCauseSLCN = bilingualism causing SLCN; BiDisadvantages = disadvantages of bilingualism; SLA = single language advice; PA = proficiency advice.
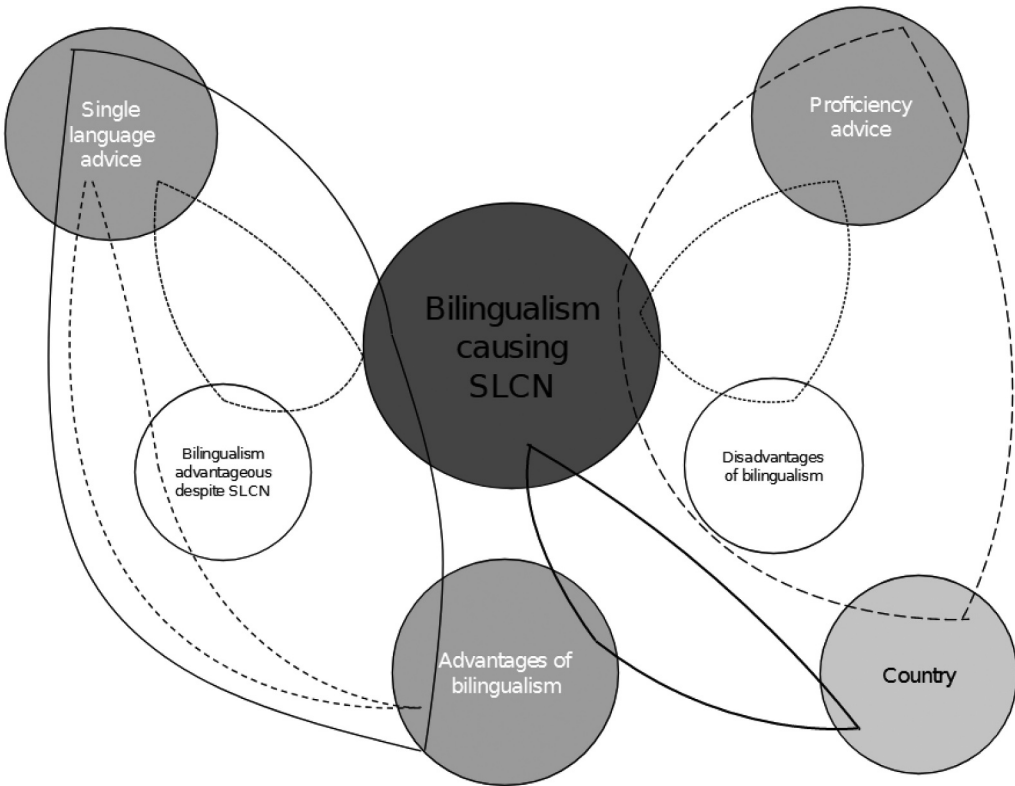
Figure 7. Pictorial representation of 3-way interactions between opinions and advice given. The larger the circle, the more interactions that item is involved in. Connecting arrows of the same style indicate one interaction.

associations were therefore investigated, revealing that some 3-way interactions ($\chi^2(56) = 150.992$, $p < 0.001$) and some 2-way interactions ($\chi^2(28) = 5846.303$, $p < 0.001$) were significant. The seven significant 3-way interactions are listed along with their partial association statistics in Table 2 and are presented visually in Figure 7.

Combined factors

A loglinear analysis was conducted including factors revealed by hypothesis testing to be associated with advice given (i.e. country, proportion of bilingual caseload, pre-registration training, post-registration training/reading, and opinions on bilingualism), excluding age of clients as responses are not comparable between countries.

Despite the maximum iterations of backwards elimination, a final model was not yet produced. Analysis of K-way effects indicated that some 3-way interactions were significant ($\chi^2(110) = 262.568$, $p < 0.001$). Partial associations revealed these to be:

- country × post-registration training/reading × proficiency advice (partial $\chi^2(1) = 4.107$, $p = 0.043$) (Figure 8)
- bilingualism causing SLCN × post-registration training/reading × proficiency advice (partial $\chi^2(1) = 5.056$, $p = 0.025$) (Figure 9)
- bilingualism causing SLCN × post-registration training/reading × pre-registration training (partial $\chi^2(2) = 6.491$, $p = 0.039$) (Figure 10)

Figure 8 shows that the respondents with more post-registration training were more likely to give evidence-based advice (advice that follows RCSLT guidelines, for parents to use the language they are most proficient in). There was a difference between the UK and Singapore respondents however: more UK respondents who received post-registration training give this advice (91.9%) compared to Singapore-based respondents (76.9%). Note however, that even without the post-registration training, a significant
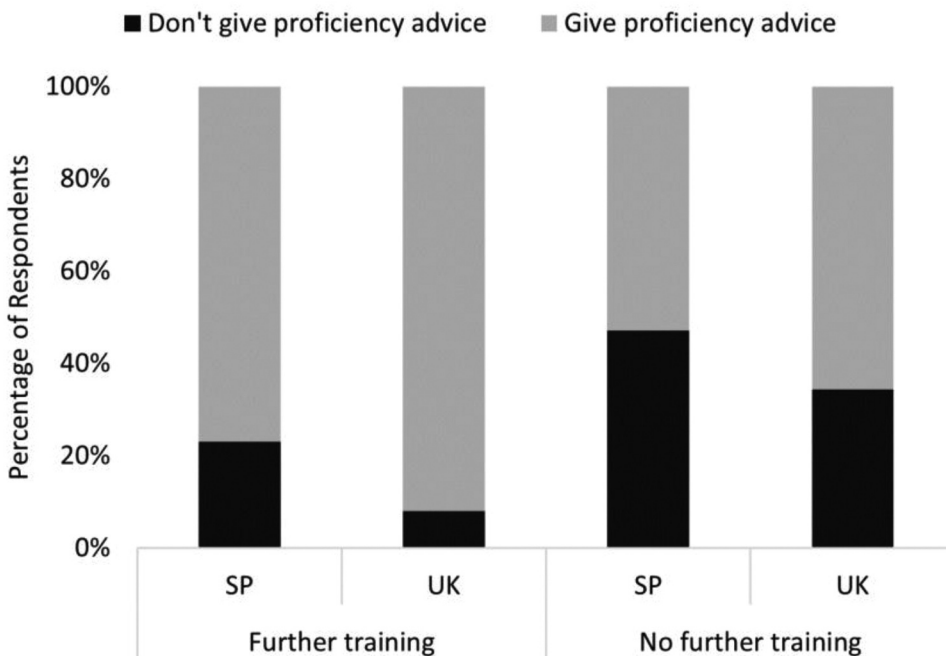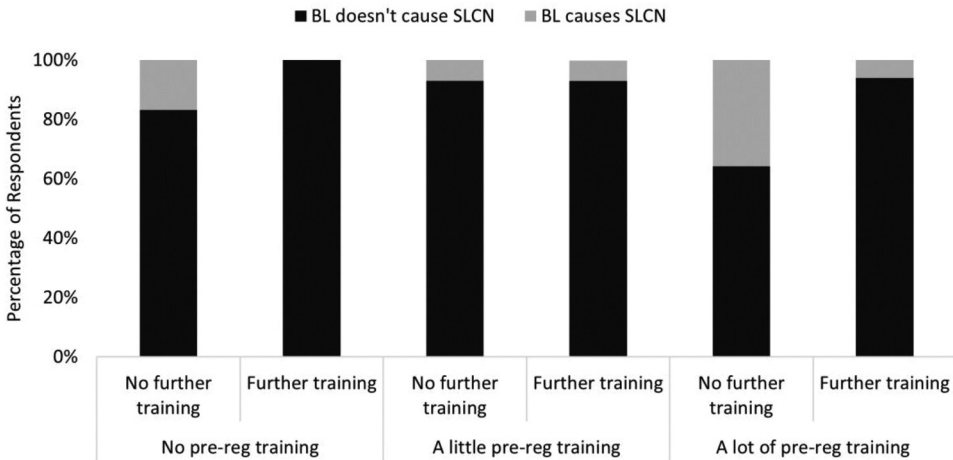
Figure 8. Post-registration bilingualism training/reading and proficiency advice by country.

Figure 9. Proportion of SLTs giving proficiency advice by bilingualism causing SLCN opinion and post-registration bilingualism training/reading (Singapore and UK data combined). BL = Bilingualism; SLCN = Speech Language and Communication Needs.

Figure 10. Pre-registration training, post-registration training/reading, and bilingualism causing SLCN opinion (Singapore and UK data combined).

number of respondents in both countries would still give evidence-based advice: 65.6% in the UK and 52.9% in Singapore.

Figure 9 shows that amongst the respondents who believed that bilingualism can cause or contribute to SLCN, and who did not have any post-registration training, only 37.5% gave evidence-based (proficiency) advice. Amongst those who reported to have post-registration training but also believed that bilingualism can cause or contribute to SLCN disorder, more

respondents gave evidence-based advice (83.3%) than other advice (16.7%). Amongst the respondents who disagreed with the statement that bilingualism can cause or contribute to SLCN, a large majority of those with post-registration training, 90.6%, gave evidence-based advice, compared to 65.9% respondents who gave this advice but did not take further post-registration training.

Figure 10 illustrates the complex 3-way interaction 'bilingualism causing SLCN × post-registration training/reading × pre-registration training'. Of the respondents who received no pre-registration training, and continued with no post-registration training, 16.7% believed that bilingualism can cause or contribute to SLCN, though a large majority, 83.3%, did not believe this claim. The belief that bilingualism contributes to SLCN disappeared with post-registration training: none of the respondents who took further training agreed with the claim that bilingualism contributes to SLCN.

Respondents who had 'a little' bilingualism training pre-registration continued to hold similar beliefs towards bilingualism, whether or not taking up further post-registration training: only 6.9% of respondents agreed with the outdated statement that bilingualism can cause or contribute to SLCN.

Amongst the respondents who received 'a lot' of pre-registration training, but took no post-registration training, 35.7% agreed with the statement that bilingualism can cause or contribute to SLCN. Amongst those who took further training post-registration, only 5.9% held this outdated belief.

Discussion

This study aimed to provide insight into UK-based and Singapore-based SLTs' opinions on bilingualism in families with children with SLCN, the advice they give to bilingual families, and factors specific to their professional background and experience that may affect their opinions and their advice. The question of whether to encourage bilingualism in families with children with SLCN is still debated in some parts of the world, despite no scientific evidence that bilingualism is detrimental for their language development (Guiberson, 2013; Uljarević et al., 2016, amongst others). To better understand how differences in bilingual environment and societal support for bilingualism may affect professionals' opinions and advice, clinicians were recruited in two countries, the predominantly multilingual Singapore where English is only one of the official languages, but supported by educational policies, and the predominantly monolingual UK, which has a growing population of multilingual residents speaking a wide range of minority languages at home, and are not supported by government policies.

Our results revealed that most UK- and Singapore-working SLTs display attitudes in line with the evidence-base: that bilingualism does not cause or contribute to SLCN. Most of them also conduct best practice regarding the advice they give to families, and give the advice to speak all languages you are proficient in. However, there is a minority of SLTs who give other advice and have views on bilingualism which are not in line with current research evidence, and this number was higher amongst the Singapore-based clinicians.

In the following sections, we discuss our results organised around the topics covered by our questionnaire: 1) the UK-based practitioners' awareness of evidence-based bilingualism guidance, provided by the Royal College of Speech and Language Therapists; 2) the

practitioners' attitudes to bilingualism; 3) advice on bilingualism they give to families on their caseload; 4) factors associated with the advice the practitioners give to families. We also point out any differences observed between the practitioners based in the UK compared to Singapore, and attempt to relate them to the official language policies related to bilingualism in the two countries, or differences in training, which may be reflected in the practice.

RCSLT guidance

The first research question, relevant to the UK-based clinicians only, probed RCSLT bilingualism guidance awareness and knowledge (RCSLT, 2018a). Although SLTs generally agreed with the RCSLT guidance and thought positively of it, many of them did not know what it said or that it existed. This may have wider implications for the dissemination of RCSLT guidance documents and suggests an investigation may be necessary into what influences SLTs' awareness of RCSLT guidance – guidance cannot be implemented if it is unknown.

The SLTs who had read the guidance felt that, whilst the guidance was something to aspire to, it was unrealistic to implement without appropriate support, especially with regards to caseload and budget pressures. It was suggested that support from specialist team members would be beneficial, as well as extending the guidance to cover a wider range of domains, such as working with interpreters and provision of resources in relevant HL. If interpreted within COM-B model of behaviour change (Capability, Opportunity and Motivation, the model for behaviour change developed by Michie et al., 2011), our results suggest that SLTs have the motivation and capability to change, but not the opportunity, and thus environmental restructuring may be required to facilitate SLTs following the guidance. This has implications for SLT service commissioning, particularly regarding funding interpreters and additional therapist time for bilingual children/families. Service pressures and the difficulty of providing intervention in the HL may prevent SLTs from providing evidence-based bilingualism advice.

Attitudes towards bilingualism

The second research question sought to investigate SLTs' attitudes towards bilingualism. Encouragingly, in line with the evidence-base (Cheatham et al., 2012; Drysdale et al., 2015), the majority of UK-working and Singapore-working SLTs (90% and higher) felt bilingualism was an advantage for everyone, including individuals with SLCN. Most of them also disagreed that bilingualism could cause or contribute to SLCN. Only a minority of SLTs (8% in the UK and 13% in Singapore) believed that bilingualism could cause or contribute to SLCN, and approximately half of SLTs in both countries thought there were disadvantages of bilingualism for children with SLCN.As we will see later, these opinions were associated with what advice was given to parents/carers. Our results are in line with a recent study conducted in the USA (McDaniel et al., 2023), where only a minority of clinicians were reported to hold outdated beliefs with regards to bilingualism, though this study did not probe into whether such beliefs influenced clinical practice of respondents surveyed.

Advice given to families

The third research question examined what advice SLTs gave to bilingual families. Most SLTs in both countries gave the RCSLT-recommended advice, to speak languages that you are proficient/confident in, thus providing the best language models for the child (RCSLT, 2018a). However, these opinions and advice were not universal and differences emerged in the practice of clinicians in the two countries. Singapore-working SLTs were less likely to recommend that parents/carers speak the languages they are proficient in than UK-working SLTs. They also more frequently recommended separate-language advice, 'separate the languages over time/people/place', and 'parents speak one language, other relatives speak HL'. Recommending parents/carers to use the HL only may be the most appropriate advice when this is the only language spoken proficiently by the parents/carers, facilitating HL development as recommended by RCSLT guidance (RCSLT, 2018c). However, more UK-working SLTs recommend the use of HL language, compared to Singapore-working SLTs who more commonly recommended English only than HL only. This may be because English is more prestigious than other official languages in Singapore (for instance Tamil, see Kadakara, 2015) but it is also possible that Singapore-based SLTs assume that parents/carers will be competent in multiple languages due to bilingualism being enshrined in government policy, and thus encourage parents to speak English in order to support 'strategies' for successful bilingualism that may be more relevant for their children's educational outcomes.

Separate language approaches, such as OPOL, commonly recommended by both UK-based and Singapore-based clinicians, may be effective when both languages are high status and parents/carers are highly motivated (Cunningham-Andersson & Andersson, 1999). However, most children in the UK speak a lower-status language at home (RCSLT, 2018b). OPOL advice is usually given due to the misconceptions around negative impacts of code-switching and children becoming confused, neither of which are borne out by research evidence (RCSLT, 2018b).

Factors associated with advice

The final research question sought to identify which personal and professional factors were associated with SLTs' opinions and advice.

Factors that were independently associated with giving evidence-based advice were related to caseload and working situation (country, age of clients, proportion of caseload bilingual), training (pre-registration training and further training), and opinions on bilingualism. While Singapore-working SLTs were less likely to recommend that parents/carers speak the languages they are proficient in than UK-working SLTs, in both countries, working with the youngest clients (0–2 in Singapore and Early Years in the UK) and working with a high proportion of bilinguals in their caseload was associated with evidence-based advice. Since early ages are crucial for language development, it is likely that SLTs are more focussed on best practice for language learning at this age (i.e. giving good language models) and may be less likely to consider things such as the need for English for education purposes. SLTs with the highest bilingual caseloads may independently seek evidence-based information, or may be those who specialise in bilingualism, as even in ethnically and

culturally diverse UK areas it is rare for 80–100% of the population to be bilingual (ONS, 2021), and even in Singapore, most SLTs work with a 60–80% bilingual caseload.

Interestingly, different effects of pre- and post-registration training were observed. Having received 'a lot' of pre-registration training on bilingualism was negatively associated with evidence-based (proficiency) advice. Recall that more Singapore-working SLTs, and more SLTs who trained less than 1 year ago, reported having 'a lot' of pre-registration bilingualism training. Although associations found do not necessarily imply causation, these data at least suggest that pre-registration training should be examined (both in the UK and Singapore) and potentially improved to ensure teaching refers to the evidence-base.

In contrast, post-registration bilingualism training/reading played an important role: respondents with more post-registration training were more likely to hold opinions in line with evidence-base (i.e. bilingualism not causing or contributing to SLCN) and give evidence-based advice (i.e. use the languages you are most proficient/confident in). While post-registration training on the topic of bilingualism is likely not mandatory neither in the UK nor Singapore, it is possible that clinicians who choose to pursue it out of their own interest are more motivated to seek evidence based-opinions and practice. Post-registration training/reading remained an important part of the model, present in two of three interactions, even when all known factors were combined, suggesting it is particularly important. The finding that more UK respondents who received post-registration training give evidence-based advice (91.9%) than Singapore-based respondents (76.9%) could be due to the role of official guidance provided by the RCSLT: most SLT training in the UK will have been approved/organised by the RCSLT, and is thus likely to follow up to date research. Recall that most of our UK respondents were members of the RCSLT.

Another factor that was independently associated with evidence-based advice was opinions about bilingualism. This is unsurprising, given that SLTs' preconceptions and beliefs influence their practice (Bunning, 2004). One particular opinion included in the final combined-factors analysis was whether bilingualism could cause or contribute to SLCN – those who agreed were less likely to give proficiency advice. This emphasises the importance of informing clinicians that bilingualism does not cause or contribute to SLCN, in line with recent reviews of the evidence (Cheatham et al., 2012; Drysdale et al., 2015; Uljarević et al., 2016).

The differences observed in the results of our UK-based and Singapore-based respondents can be traced back to the differences in the linguistic milieus of the two countries. In the UK, a predominantly monolingual country, our findings confirm that there is a growing awareness of benefits of multilingualism in children with SLCN that seem to have found their way into professional practice, via SLT training, where the RCSLT plays an important role. However, this positive change is at least in part borne out as a reaction to negative beliefs about bilingualism that have been prevalent in the western world only a few decades ago (see Guiberson, 2013).

In Singapore, a multilingual and multicultural society where the majority of the population is at least bilingual, if not multilingual, the benefits of bilingualism are clear, but they seem to pertain to the competence in one language with the most privileged status – English. English is the lingua franca and the language of education and administration, consistently promoted by the government as a way to participate in the global economy. Its premier status is reflected in more families adopting English as their HL each year. It is thus not surprising that the privileged status of English is reflected in the attitudes of some Singapore SLTs, who may advise parents to choose English over the other HL(s), especially

as most parents will be competent, if not native speakers of English. While it is beyond the scope of this paper to discuss the linguistic and cultural complexities present in today's Singapore, there is a very interesting issue of the colloquial variants of English, spoken by many Singapore residents in addition to the standard variant, where the attitudes amongst the SLTs and other professionals may be even further divided. It is important to note that the outdated attitudes seemed to be held by SLTs who trained more than two decades ago: this is not surprising, considering that the Singaporean linguistic landscape is changing rapidly, and the field of Speech and Language Therapy in Singapore has had to develop to adapt to these changes.

Limitations and future directions

Given that one of our aims was to identify which factors were most highly associated with evidence-based opinions and advice, an exploratory loglinear analysis would have been the most robust way of analysing the data. However, the number of factors explored was too great compared to the sample size, making exploratory loglinear analysis greatly underpowered, with most expected frequencies less than one. Although this does not produce more false positive results, it only allowed identification of factors which were strongly associated. In addition, categories were combined to produce analysable results (for example, grouping language advice into categories). The Singapore dataset was much smaller than the UK dataset: only 30 Singapore-working SLTs took part, compared to 131 UK-working SLTs. While this reflects the much smaller population of Singapore (World Bank, 2021), the comparison between the UK and Singapore data was therefore likely underpowered. Larger sample sizes in both countries would be beneficial to enable rarer items to be distinguishable in the data.

There is no readily available data on the number of SLTs working with bilingual families, so it is not possible to calculate a response rate. However, with a sample size of 131 UK-working SLTs representing almost all UK geographical regions, and 30 Singapore-working SLTs, the number of respondents to this questionnaire is comparable to other surveys of UK SLT practice, with respondent numbers ranging between 105 and 129 (e.g. Volkmer et al., 2019). The UK respondents were mostly from London and other urban areas where rates of bilingualism are higher. While our analysis did not find an association between urban working and advice given, future studies may aim at recruiting participants from other parts of the UK to ensure a representative sample. Furthermore, the questions asked of our respondents based on definitions given, did not distinguish between bilingual vs. multilingual clients, nor between simultaneous and sequential bilingualism. Furthermore, in the Singapore version of the questionnaire, we did not include questions related to the practitioners' attitudes to the standard vs. colloquial variant of English. It is possible that SLTs would provide different advice considering the particular characteristics of the family language settings with regards to the bilingualism/multilingualism, simultaneous and sequential bilingualism and specific dialects children are exposed to – future studies may find it beneficial to make these distinctions more explicit when collecting data and investigate how dialectal differences are tackled by professionals in the field of Speech and Language Therapy as well as education.

Conclusions

The results of the current study contribute to our knowledge of the opinions and practices of SLTs working with children with SLCN in bilingual families in the UK and Singapore, two countries with differing language policies and attitudes towards bilingualism. Our findings have important implications for the policies of official bodies that oversee the training of SLTs. While it is reassuring to see that the majority of SLTs endorse evidence-based views of bilingualism in both the UK and Singapore, there is still a minority of clinicians who seem to hold outdated beliefs which may influence their clinical practice. If further training plays a role more important than even the wide-spread bilingualism in countries such as Singapore, where bilingualism is enshrined in government and educational policies, it is in the interest of RCSLT and similar bodies around the world to continue investing in training and development of clinicians after they receive their SLT qualification. In the UK, the results of our study suggest that an audit of SLT practices with bilingual clients may be warranted. Such an audit could investigate what advice SLTs are giving families, as well as whether the appropriate amount of time is being allocated for assessment and intervention, and whether interpreters are used.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Ethics approval statement

This study received full ethical approval from the Ethics Chairs at the Language and Cognition Department, UCL Division of Psychology and Language Sciences, Project ID LCD-2021-01.

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Appendix: Questionnaire

UK	Singapore

Exclusion Criteria

If you are unable to answer 'yes' to all these questions, you will not be able to continue as you don't fit our inclusion criteria. You are free to withdraw from this study by exiting the browser window. Thank you for your interest in the study.

- Are you registered with The Health and Care Professions Council (HCPC)?
  - ○ Yes
- Are you currently practising as an SLT?
  - ○ Yes
- Do you currently work with children/young people?
  - ○ Yes
- Do you have any bilingual children/families on your caseload?
  - ○ Yes

- Are you registered with the Allied Health Professions Council (AHPC)?
  - ○ Yes

A: Bilingualism Opinions

- How would you define bilingualism? *(OPEN QUESTION)*
- Do you think there are any advantages of bilingualism for individuals with Speech, Language and Communication Needs (SLCN)?
  - ○ Yes –> Please briefly describe what you consider to be the main advantages of bilingualism for individuals with SLCN.
  - ○ No
- Do you think there are any disadvantages of bilingualism for individuals with SLCN?
  - ○ Yes –> Please briefly describe what you consider to be the main disadvantages of bilingualism for individuals with SLCN.
  - ○ No
- To what extent do you agree/disagree with the following statements:
  - ○ Bilingualism is an advantage in a person of any age

    Strongly disagree   Disagree   Agree   Strongly agree

  - ○ Bilingualism is an advantage, regardless of the presence of a speech, language, or communication disorder, or feeding and swallowing difficulties

    Strongly disagree   Disagree   Agree   Strongly agree

  - ○ Bilingualism can cause, or contribute to a speech, language, or communication disorder

    Strongly disagree   Disagree   Agree   Strongly agree

B: Bilingualism Advice

The questions on this page will ask about the advice you give to parents/carers of children with SLCN who are in bilingual families. Please read the definitions below before continuing. These definitions will be used for the remainder of the questionnaire.

By 'bilingual' we mean the ability to understand and/or use two or more languages, regardless of level of proficiency. For example, a bilingual Turkish person might speak only Turkish at home, but use some English at work/school/in the community. By 'home language' we mean the language(s) the parents/carers speak fluently or are most confident in, where this isn't English.	By 'bilingual' we mean the ability to understand and/or use two or more languages, regardless of level of proficiency. For example, a bilingual Malay person may only speak Malay at home, but use English at work/school/in the community. By 'mother tongue' we mean the language(s) other than English that is learnt from one's parents, usually with cultural and ethnic associations.

(Continued)

(Continued).

- Do you always give the same home language(s)/bilingualism advice to parents/carers of children with SLCN?
  - Yes
  - No –> What factors change the advice you give?
- What do you think is generally good advice to give parents/carers about bilingualism or using different languages with their child(ren) with SLCN?
  - Use home language(s) only
  - Use English/language of education only
  - One parent/person one language
  - Parents speak English, other relatives speak own language(s)
  - One language at home, one language in the community
  - One activity one language
  - Speak in one language, read/write in another language
  - Separate the language(s) over time/people/place
  - Vary the language(s) across time/people/place
  - Use all languages you know
  - Speak the language(s) you are most proficient/confident in
  - Other –> Please specify
- What advice have you given to parents/carers?
  - Use English/language of education only
  - One parent/person one language
  - Parents speak English, other relatives speak own language(s)
  - One language at home, one language in the community
  - One activity one language
  - Speak in one language, read/write in another language
  - Separate the language(s) over time/people/place
  - Vary the language(s) across time/people/place
  - Use all languages you know
  - Speak the language(s) you are most proficient/confident in
  - None of the above –> Please state what advice you have given
  - Other –> Please state what advice you have given
- Why do you give this advice?

- What do you think is generally good advice to give parents/carers aboutbilingualism or using different languages with their child(ren) with SLCN?
  - Use mother tongue only
  - Use English/language of education only
  - One parent/person one language
  - Parents speak English, other relatives speak mother tongue
  - One language at home, one language in the community
  - One activity one language
  - Speak in one language, read/write in another language
  - Separate the languages over time/people/place
  - Vary the languages across time/people/place
  - Use all languages you know
  - Speak the language(s) you are most proficient/confident in
  - Other – Please specify
- Why do you think this is good advice?
- Do you give advice on bilingualism to parents/carers of children with SLCN?
  - Yes
  - No
- What advice have you given to parents/carers?
  - Use home language(s) only
  - Use English/language of education only
  - One parent/person one language
  - Parents speak English, other relatives speak own language(s)
  - One language at home, one language in the community
  - One activity one language
  - Speak in one language, read/write in another language
  - Separate the languages over time/people/place
  - Vary the languages across time/people/place
  - Use all languages you know
  - Speak the language(s) you are most proficient/confident in
  - None of the above –> 14a) Please state what advice you have given
  - Other –> 14a) Please state what advice you have given
- Why do you give this advice?
- Do you always give the same advice to parents/carers?
  - Yes
  - No
- What factors would change which piece of advice you would give?

C: Bilingualism Experience

In this section, we would like to find out about your personal and professional experience of bilingualism.

Personal experience.

- What language(s) do you understand and/or speak?
- Do you have personal experience of bilingualism?

(Continued).

○ Yes, I consider myself bilingual	○ Yes, I have bilingual colleagues
○ Yes, my close relatives are bilingual	○ Yes, other –> 17a. Please specify
○ Yes, my distant relatives are bilingual	○ No

Professional experience.	● What language(s) do you practice in?

- Were you taught about bilingualism as part of your initial training?
  - ○ Yes, a lot
  - ○ Yes, a little
  - ○ No
  - ○ Space for further details if required
- Have you done any further training or reading about bilingualism since you qualified? (Please include any further study, from certified courses to personal reading.)
  - ○ Yes –> Please state
  - ○ No

D: RCSLT membership (UK ONLY)

- Are you a member of the RCSLT?
  - ○ Yes –> route to RCSLT guidance
  - ○ No –> route to professional information

RCSLT guidance (UK ONLY)

- Are you aware of the RCSLT guidance on bilingualism?

I didn't know the RCSLT had published guidance on bilingualism	I have heard that there is guidance, but I don't what it says	I know it exists and I think I know what it says	I know it exists and I've read part of it	I know it exists and I've read it thoroughly

- How do you feel about the RCSLT guidance on bilingualism?

  ○ The guidance is relevant to my practice

Strongly disagree	Disagree	Agree	Strongly agree	I don't know

  ○ The guidance is easy to understand

Strongly disagree	Disagree	Agree	Strongly agree	I don't know

  ○ The guidance is easy to implement

Strongly disagree	Disagree	Agree	Strongly agree	I don't know

  ○ The guidance is evidence-based

Strongly disagree	Disagree	Agree	Strongly agree	I don't know

- Please use this space to include any further opinions about the guidance not covered by the table above.
- What do you understand the main points of the guidance to be?

E: Professional Information

- What is your highest level of qualification in Speech and Language Therapy?
  - ○ Bachelor's degree (BSc/BMedSci)
  - ○ Postgraduate diploma (PgDip)
  - ○ Postgraduate degree (MSc/MA/MMedSci)
  - ○ Postgraduate degree (PhD)

(*Continued*)

(Continued).

• Who is your current employer?	• Who is your current employer?
○ NHS	○ Public hospital
○ Local authority/council	○ Public community-based organisation
○ Charity	○ Public charity
○ Private SLT company	○ Private hospital
○ Other private organisation (e.g. school)	○ Private community-based organisation
○ Self-employed/sole trader	○ Private charity
○ Other – Please specify	○ Private SLT clinic
○ Space for further details if required	○ Private freelance service
	○ Other – Please specify
	○ Space for further details if required

• How many years have you been practicing as an SLT?

  ○ Less than 1 year   ○ 1–4 years   ○ 5–9 years

  ○ 10–19 years   ○ 20+ years

• Of your time practicing as an SLT, how many years have you been working with children/young people?

  ○ Less than 1 year   ○ 1–4 years   ○ 5–9 years

  ○ 10–19 years   ○ 20+ years

• In which city did you complete your professional qualifying course?	• Where did you complete your professional qualifying course?
• Where do you currently work? (Please give the city or region, but not your precise workplace)	• If you have worked elsewhere than Singapore, where else have you worked in the last 10 years?
• How long have you worked here?	
• If you have moved in the last 10 years, where else have you worked?	

F: Caseload information.	*Caseload information*
• What client populations do you work with?	• What client populations do you work with?
○ Autism (verbal)	○ Autism (verbal)
○ Autism (non-verbal)	○ Autism (non-verbal
○ Cleft lip/palate	○ Cleft lip/palate
○ Complex needs	○ Complex communication needs
○ Deafness	○ Deafness /Hard of Hearing
○ Developmental Language Disorder	○ Developmental Language Disorder
○ Dysfluency	○ Dysfluency
○ Dysphagia	○ Feeding disorders (fussy/picky eaters)
○ Learning disability	○ Learning disability
○ Selective Mutism	○ Selective Mutism
○ Social, Emotional and Mental Health	○ Social, Emotional and Mental Health
○ Speech sound disorder	○ Speech sound disorder
○ Voice	○ Swallowing disorders
○ Other – Please specify	○ Voice
• What age clients do you work with?	○ Other – Please specify
○ Infants/toddlers	• What age clients do you work with?
○ Early years	○ 0–2 years
○ Primary school	○ 3–6 years
○ Secondary school	○ 7–12 years
○ Sixth form/young adults	○ 13–18 years
○ Other – Please specify	○ 18+ years
	○ Other – Please specify

• Roughly how many clients are on your caseload?

• And roughly what proportion of your caseload is bilingual or from a bilingual family?

  ○ 0–20%   ○ 20–40%   ○ 40–60%   ○ 60–80%   ○ 80–100%

Other comments

If necessary, please use this space to provide any further comments or information. Please do not include any identifying information to ensure your responses remain anonymous.