



BACKGROUND INFORMATION ABOUT THE COST ACTION IS1406 PRACTITIONER SURVEY

Prepublication version published in:-

Law, J., McKean, C., Murphy, C-A. & Thordardottir, E. (2019) Managing Children with Developmental Language Disorder: Theory and Practice Across Europe and Beyond London: Routledge.

<https://data.ncl.ac.uk/account/home#/projects/67772>

FOR THOSE WISHING TO USE THE COST ACTION IS1406 PRACTITIONER SURVEY DATA.

It is important that this Practitioner Survey was developed by members of the Cost Action and respondents came from 60 countries across the world. The aim of the survey was to inform the development of services for all children with Developmental Language Disorder and we would ask those downloading and using these data to both pay attention to relevant ethical procedures and be respectful of this intention regarding the children concerned. The study received approval from the ethics committee at Newcastle University in the UK on 18 January 2017 (Ref: 11532/2016) and again we would expect that users of the data would acknowledge this in any publications.

The findings of the survey are summarised in:-

Law, J., McKean, C., Murphy, C-A. & Thordardottir, E. (2019) *Managing Children with Developmental Language Disorder: Theory and Practice Across Europe and Beyond* London: Routledge.

We would be grateful if you could acknowledge this work and other relevant publications as they become available.

The Cost Action drew to a close in 2019 but the membership has reorganised as the new ECHO group <https://research.ncl.ac.uk/echo/> and will continue to share information about interventions for children with Developmental Language Disorders. We encourage people who have used the data from the practitioner survey to share their conclusions with others by writing about them for the website (contact: Nikki.Hawley@newcastle.ac.uk)

We would also like those using the data to acknowledge the source of the data as follows in all peer reviewed and other publications.

"These data were derived from a Practitioner Survey developed by country representative from the 36 countries that made up Cost Action IS1406 entitled *Enhancing children's oral language skills across Europe and beyond: A Collaboration focusing on intervention for children learning their first language*. We would like to acknowledge their contribution and those of colleagues in their countries who helped develop and translate the materials together with the contribution of the over five thousand survey respondents."

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CHAPTER 2

THE DEVELOPMENT OF THE PRACTITIONER SURVEY

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INTRODUCTION

In the last chapter we looked at the concept of evidence based practice and how this translates into the field of intervention for children with developmental language disorders (DLD). One of the key features of evidence based practice is, as we have seen, the practitioner perspective. Although it is commonly assumed that the professional's view is one of the three "pillars" of evidence based practice (external evidence, the informed patient, clinical judgement) capturing that perspective on anything more than an individual level can be a challenge (Sackett et al 1996; Law et al. 2015). As we have seen, this model has been expanded by a number of authors to include a fourth pillar but what this is varies. For some, it is implementation in different contexts (Rowe, 2013), for others the regulation of health care (Jacobson 2001) and for others the theoretical understanding of the processes involved in the interventions being delivered (Michie et al. 2005). This chapter takes this further, introducing the development of the practitioner survey which is the main feature of this book. It covers the setting up of the questionnaire, including issues associated with translation and back translation, return rates by country and by population and a detailed description of the respondents, their qualifications, languages spoken etc. Thus by explaining the process in detail we encourage the reader to engage with the process by which we developed and distributed the survey. Key to both implementation and regulation is their sensitivity to the source of funding for such activities; whether this is: the public purse, third party payers or the parents themselves. Similarly the context in which services are delivered is likely to affect prevalence rates and when and where children are given intervention. Interpreting the importance of these factors requires comparison between systems.

National surveys of practice are relatively common, in the UK for example about speech and language therapists' attitudes towards working with parents (Watts Pappas et al. 2008); parents and children's attitudes to services (Roulstone & Lindsay, 2012); or relate to specific aspects of service delivery such as Sure Start in the UK (Fuller 2010) pre-schoolers (Morgan et al. 2016), or the management of bilingual children in three cities in the UK (Mennen, & Stanfield 2006). Additionally, there have been national surveys of speech and language therapists working with adult patients, such as people with Parkinson's Disease (Miller et al. 2011) or post stroke dysarthria in the UK (Miller & Bloch 2017). International comparisons have also proved instructive for example of Speech and language therapists working with adult and paediatric palliative care populations in the Republic of Ireland, United Kingdom, United States, Canada, Australia and New Zealand (O'Reilly & Walshe, 2015). Yet one area which has attracted relatively little of this type of attention is developmental language disorder.

Cost Action

The research network which was the basis for the practitioner survey was a COST Action. The European Cooperation in Science and Technology (COST) [http://www.cost.eu/about_cost] funds pan-European, bottom-up networks of scientists and researchers across all science and technology fields. These networks, called 'COST Actions', promote international coordination of nationally-funded research. COST is an EU-funded programme that enables researchers to set up their interdisciplinary research networks in Europe and beyond. It provides funds for organising conferences, meetings, training schools, short scientific exchanges or other networking activities in a wide range of scientific topics. COST Aims to build capacity by connecting high-quality scientific communities in Europe and worldwide, providing networking opportunities for Early Stage Researchers (ESR). The Actions aim to increase research impact on policy makers, regulatory bodies and national decision makers as well as on the private sector. COST Actions are also open to international cooperation, by allowing the participation of researchers from what are known as Near Neighbour Countries and International Partner Countries on the basis of mutual benefit. COST countries are the 28 EU countries but it also includes a wider set of closely associated countries such as Turkey, Iceland and Israel. Members of these countries can be on the Management Committee of the Action and are funded to attend all meetings. Near neighbour countries are those which are in close proximity to the 28 EU countries but are not technically in the EU such as Lebanon, Albania etc. They can be funded to attend meetings. International partners are essentially the rest of the world and while their linkage is recommended, members from these countries are not funded to attend meetings. Cost Actions cover many topic areas but a number have taken as their focus the elicitation of a Europe wide response to a given topic, for example in one example a questionnaire was sent to the five biggest cities of 17 participating countries to establish patterns of current tree establishment practice in European towns and cities (Pauleit et al. 2002), and, in a more directly relevant and more recent example, a second reporting the surveying of 1680 parents views of services for children with autism of which the most common service was speech and language therapy (Salomone et al. 2015).

COST Action IS1406: Enhancing children's oral language skills across Europe and beyond - a collaboration focusing on interventions for children with difficulties learning their first language.

The Action was set up to enhance the science in the field, improve the effectiveness of services for children with developmental language disorders (DLD) and develop a sustainable network of researchers well placed to answer the key questions in this area. Note that the Action was started before consensus on the term language disorder was reached. The Action has three Working Groups comprising established and Early Stage Researchers and practitioners each focussing on a specific area of enquiry:

1. The linguistic and psychological underpinnings of interventions for DLD;
2. The delivery of interventions for DLD;
3. The social and cultural context of intervention for children with DLD.

This Action has been built on two earlier Actions considering children with (S)LI (and shares some members), but is very different in emphasising intervention and service development. Action A33 (ended in 2010) resulted in the identification of robust diagnostic markers for Specific Language Impairment (SLI) of linguistic development across languages. Action IS0804, completed in 2013, focused on the assessment and diagnosis of DLD in bilingual

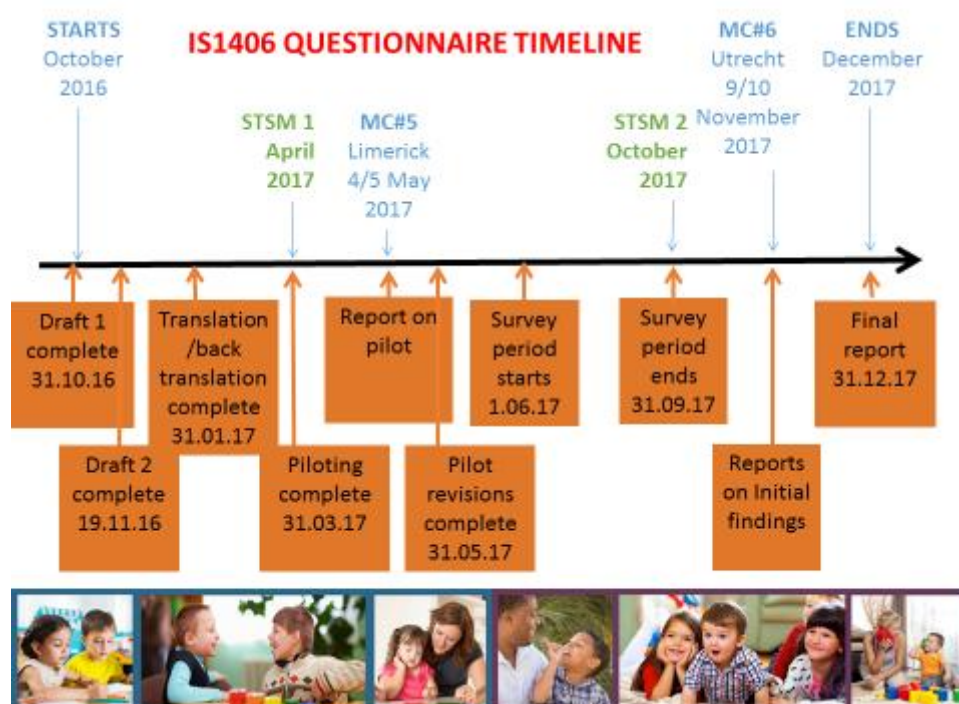
children but not on intervention. As part of the work of COST Action IS1406 the 36 member countries agreed to carry out a survey of issues related to practice and the theory underpinning that practice and this is the focus of the present chapter.

WHAT WE DID

Questionnaire development and validity

The timetable

The timetable for the practitioner survey is provided in Figure 1 below. In fact this is the initial timetable set up at the start of the project at a Management Committee in Limassol in Cyprus although with minor variations we stuck to the timetable and the very early findings from the survey were first reported in Utrecht in the autumn of 2017.



The sequence of development was as follows. The practitioner survey was developed over a period of six months. The initial questions were generated by members of each of the three working groups in the Cost Action. These were refined and condensed through group discussion. The final set of questions was agreed in December 2016 by a group of representatives from each country who were members of the Action (the national team). A list of the national team for each country is provided in the Acknowledgements at the end of this paper

The final survey had four sections including an introductory letter indicating what was required from respondents and a cover sheet to the survey which included two definitions developed by the members of the Action, the one including a definition of “language impairment” (the term used prior to the adoption of the term developmental language disorder) and a second describing what we understood by the term “intervention”. The four sections were as follows:

- **SECTION 1. *Some information about you:*** This section focused on the basic information about the practitioner and their qualifications and work setting.
- **SECTION 2: *Issues regarding intervention delivery:*** This section focused on how services were delivered. Practitioners completed this section thinking in the context of one typical child with LI from their usual caseload and who they have provided intervention (either direct or indirect) for in the last 2-3 months.
- **SECTION 3: *Theoretical considerations:*** This section focused on the way practitioners make decisions when planning and carrying out intervention, and the theories that underpin those decisions. This was also in relation to thinking of the identified child in the previous section.
- **SECTION 4: *The social and cultural context of intervention for children with language impairment:*** This section focused on practitioners' general practice, specifically in relation to the country that they work in.

Section 2 reflected the focus of working group 2 (The delivery of interventions for LI), Section 3 reflected the focus of working group 1 (The linguistic and psychological underpinnings of interventions for LI) and section 4 reflected the focus of working group 3 (The social and cultural context of intervention for children with LI).

Theoretical frameworks

To truly understand evidence based practice it is critical to see evidence within a theoretical framework allowing the practitioner to predict the impact of their interventions. While theories underlying practice have attracted attention in recent years (Stringer et al. 2017) linguistic and developmental theories have long underpinned disorders and interventions at least as far as the published literature is concerned. Far less is known about both the extent to which theory actively informs practice and how confident practitioners are in its application. Similarly does the adoption of underpinning theoretical rationales for a given intervention more common in certain groups of practitioners – for example those that are degree trained. Again, understanding the role that theory plays in evidence based practice is key to taking the field forward.

Translation and back translation

The questions were then sent out for translation, back translation and piloting in the first quarter of 2017. The final version of the survey was translated into 32 different languages (with one version for German in Germany, Austria and Switzerland) and three versions for French (France, Belgium and Lebanon). The translations were carried out by members of the national team and the survey was piloted with five practitioners from each of the countries involved. During this period an ethical opinion was sought to underpin the work from the Newcastle University Ethics Committee (see below). The national surveys were then back translated as discussed below. Some minor modifications were then made to the questionnaire. These final versions were entered into Survey Monkey™ (<https://www.surveymonkey.com/>) in June/July 2017 by staff at Newcastle University and then sent back to checking by the national teams and again minor modifications were made where requested. A web-based survey format was chosen for ease of dissemination and data collection. When this stage was completed, they were released as a series of web links in July 2017, and had a closure date of October 13th 2017. Two surveys (Lebanese Arabic and Hebrew) were not able to be placed onto Survey Monkey due to text-formatting issues. However, these were still used as accompanying guidance for practitioners when answering

another language version of the survey (French and English respectively). Once all the translated questionnaires were “signed off” a page with the links to each of the survey was circulated to all members of the Action who had been closely involved in developing the questionnaire.

The Survey Monkey link to the questionnaire was then sent out by the national team with a request to cascade the survey across their country. The rubric to the questionnaire was clear that respondents should have responsibility for the management of the child with language disorder. The most appropriate method for contacting the network of practitioners with each country was determined by the national team. Target number of respondents were not specified because although national and in most cases child population data were available information about the number of practitioners with the target role (and thus the denominator) were not. While this may have been technically true for speech and language therapists, the proportion of time spent working with children with language disorder would be difficult to specify and of course those carrying out this work have a number of different job titles and are not necessarily speech and language therapists. National teams were asked to obtain as many responses as possible. In many cases a number of different methods were used including email, twitter etc. Respondents were able to complete the survey on their personal computers, tablets, mobile phones etc. One national team asked if they could circulate paper copies and it was agreed that the national team would submit an excel spreadsheet for inclusion. CPLOL was also contacted and notification of the questionnaire was sent out to all professional bodies with a responsibility for the target children across Europe.

Full details of the translations and the coding manual are provided in supplementary materials available with the on-line publication of this article. These include the final English version of the questionnaire (Document 1), a complete list of the thirty translations (Document 2) and the coding manual for the survey questionnaire (Document 3). One feature of the survey was that, for the second and third sections, respondents were asked to respond to the questions in relation to a specific child (the same child for both section). Respondents then provided the details of the child in terms of age, focus of difficulty and severity of difficulty at the start of the section 2. The details of the respondents are included in the overall reporting of *Section 1 – Some information about you*, and are provided below in response the first research question.

Ethical considerations

An ethical opinion was sought from the University of Newcastle Research Ethics Committee. The approval was granted on 18 January 2017 (Ref: 11532/2016). A copy of the ethical opinion was circulated to all those involved in preparing the survey and they were asked to communicate this with local bodies as necessary. The full data set was to be made available to designated researchers in the initial stages but the dataset was anonymised. We also agreed to share country specific data with national teams but indicated that, again, this was anonymised

Figure 1. Language versions of the practitioner survey

Back translation

As part of the process of checking the translations national teams were asked to translate and then back translate the survey. Although in some cases (such as Finnish and Swedish) no differences were reported, in others a number of issues were raised. In some cases this led to the addition of free text boxes so that respondents could add in their own terms but an additional set of definitions was also added to the final questionnaire. More detailed description of challenges identified through the back translation are as follows.

Professional titles

The only problem in Spanish was the translation of the “title of the job” because the translation of speech and language therapist is “terapeuta del lenguaje” but in Spanish “logopeda” is a more usual term. In addition, there are two other professions not included in the original English version that correspond to two professionals who work with children with LI: Maestro de audición y lenguaje (Hearing and Language Teacher) and psicopedagogo (psychopedagogue). In Norway, the key issue was also the terms used to describe the professionals involved. Pedagogos and Special Pedagogos are frequently used, and can mean several things: teachers (with teacher college education/four years) often refer to themselves as pedagogos. The same with people who have studied pedagogy at university, either to a BA or a MA. In addition, regular teachers (4 years in teacher college) can also add to this one or two years of special pedagogy/remedial teaching, and will frequently call themselves “special pedagog” or “special teacher”. In Greek, the major concerns were related to the names of service providers that are different in the two countries (Cyprus and Greece), and the types of schools’ settings that are also different. The resultant Greek version of the questionnaire that was sent to the potential participants was suitable both for Cypriot and Greek participants, and this was confirmed by all MC members of the two countries.

Service related terminology

One of the issues for the Dutch translation was the term ‘service delivery’. Members reported that they did not have a proper equivalent for this concept, and so decided to use the term “treatment”. Furthermore, service delivery and health care in the Netherlands differ substantially from the UK, making it difficult to translate all the survey options. For example, “private practice” and “the role of the charitable sector” are not applicable to the Dutch context. Options regarding education levels, such as university or grade levels were also hard to translate. For instance, in the Netherlands there are regular universities and universities of applied sciences, with different grade levels. In the survey we distinguished between those who had graduated with a Non-University Diploma, a Non-University: Other University: Undergraduate/Bachelor degree; University: Masters; University: Dr (PhD) and University: Other (e.g. Diploma).

Theoretical terminology

Another area of concern was that of the underpinning theories identified in the survey were thought not to be familiar to practitioners. The text contained several words such as *scaffolding* and *milieu teaching* that were difficult to translate into Dutch. The solution was to stick to the English terms and give an explanation of these concepts in Dutch. Similarly, the Romanian team reported “We could not translate the words scaffolding, motherese, cueing, milieu and drilling, because we did not find the equivalents in Romanian and left them in English (this was also signalled during the filling of the practitioner’s survey).” In Spanish there were specific concerns over the term “educational environment approaches” (in Spanish, Enfoques de enseñanza del entorno) instead of “milieu teaching approaches” and the use of “repetitive practice” (in Spanish, práctica repetida) instead of “drilling”. In response a set of supplementary notes were added explaining specific terms (In English) which members of the research team were asked to translate.

In some cases, particular attention was paid to dialectical differences. For example, Bosnian/Serbian/Croatian dialects of Serbian. In this example there was considerable difficulties with specific terms such as

- cueing hierarchies
- scaffolding

- milieu teaching
- ecological approaches
- whole language

and their team reported “While we could understand what these terms mean, we could not easily find the terms that will surely be understandable by practitioners at the first reading, and it required a lot of thinking, forward and back translating in order to ensure their understanding”. The Croatian team had similar problems but solved them by translating the problematic terms into the Croatian language, but also keeping the original English term in brackets.

For the Bulgarian team the issues were rather different “In last two decades because of dynamic process of trials in unification of speech therapy terminology in Bulgaria more matches with modern terms dominating in leading European countries are found. Many Bulgarian speech therapists started using original English terms. Often terms were only explained by defining a specific communication disorder and then related to the terms previously used by leading Bulgarian scientific schools in Speech Therapy.”

The Turkish team had relatively few problems in the translation but did report “We had to consult each other with respect to certain theoretical terminology such as the names and descriptions of particular models, theories and techniques. Sometimes we decided to provide synonyms or explanatory details to describe certain techniques/models. For instance, we translated “explicit teaching” with Turkish words (açıklayıcı/açımlayıcı öğretme) roughly corresponding to “teaching by explanation/demonstration”, as the term “explicit” is used with these two words interchangeably in Turkish literature and professional training.” The Slovakian went for complete translation but struggled with one or two concepts when they discussed them with their practitioner peers. There were no serious problems in translating the questionnaire except of the terminology concerning intervention approaches, specifically:

- “relationship-based approach” (it was back translated as “relation-based was not well understood
- cueing hierarchies (back-translated as “controlling“ intervention)
- milieu teaching approaches (back-translated as teaching based on the environment)
- scaffolding interventions (back-translated as “supporting“ intervention)

For the Lebanese team difficulties in translation only occurred the 3rd section, about the theories and methods for intervention, we slightly modified some words because they don’t have equivalent in Arabic, in order to make them more accessible for Lebanese SLTs (knowing that Lebanese SLTs are French or English speaking or multilingual). The definitions helped us to stick on what was given without paraphrasing.

Cultural issues

In some countries cultural variability was not recognised. For example, the Croatian team reported “Moreover, *SECTION 4 – The social and cultural context of intervention for children with language impairment* was somewhat problematic; not in the sense of translation per se, rather due to the lack of experience in dealing with the situations described in the Survey, such as the cultural influence on the quality and quantity of the therapy. To be precise, we still do not have that many cultural diversity as other parts of Europe, nor that many bilingual SLTs or interpreters.”

It is important to note that as a result of this careful process of translation and back translation all matters were successfully resolved at a local level.

Working with the Data

Data Preparation, Entry and Coding

All raw data from each survey was downloaded and placed together into one dataset. Participants were then checked and excluded if they had not answered any question past section 1 (i.e. had not answered sections 2 or 3 or 4). Each participant was given an 8-digit code relating to the country they worked in, the language of the survey they responded to, and a unique identifier which ran from 0001- 5024. Country and Language codes differed due to more participating countries than languages.

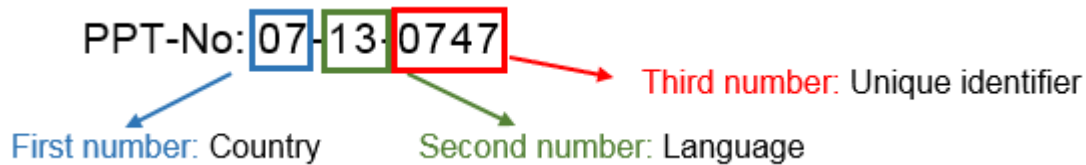


Figure 1. Example of how participant codes were created.

English translations of the open-ended responses were also requested from the national teams, with an emphasis that teams needed to provide as-close-to-exact translations as possible. Acquiring these from all teams took around two months from the initial request. Received translations were then inserted next to their native counterpart within the dataset for ease of reference.

Two research assistants working at Newcastle University and the Chair of the Action agreed on how responses would be coded within the dataset. Due to the different question formats (e.g. open responses, multiple responses to one question, drop down scales), the layout of the data and coding within the dataset also differed per question. Therefore, a plan of how the data was going to be laid out was agreed in advance of inputting codes. The order of all questions were identical across languages so coding one question across all languages at the same time would be easier to manage and compare. All coding compositions are provided in the coding manual. Afterwards, the raw data was then split to be coded over a period of two weeks by the RAs according to the guidelines in the coding manual.

Data Errors and Cleaning

Due to the number and volume of the data, it is inevitable that some errors occurred within the dataset. As such the RAs worked together to develop systematic checking procedures and problem solved any 'unique' issues. Data errors were checked for and cleaned during the set-up of the dataset and throughout the coding process. Each RA then also checked the others' coding to search for and correct any errors. The most common errors related to coding (e.g. a 2 was put rather than a 3, unintentionally missed coding) as the raw data was automatically generated by the survey software. It was also found out that there had been a translation error for the Slovakian survey where the option "Always" had been translated as "I don't know" for question 10 in section 4. Therefore, answers for this question in the Slovakian responses were coded as missing values.

One 'unique' dataset error occurred when some countries data was misaligned to their intended question column. As such, the RAs diagnosed the problem (e.g. there was an additional blank column in the English responses created by the survey software, there was

an additional response in one of the questions for the French survey, excel bugs). To resolve this, the ‘misaligned’ countries in the dataset were re-inputted with the errors removed (i.e. deleting the ‘extra’ columns). A second sweep for errors was then completed by the RAs for any similar errors. After coding had been completed, this was checked for further errors or unintentionally missing data. At a later date, a member of the Action noticed some of the open-ended responses were misaligned to their intended questions (e.g. the answer responded to the next open question). One of the RA’s looked through the dataset and dealt with any that they came across.

Decision Making for Software Limitations and Deviant Responses

The limitations of the survey software (i.e. how questions could be set up) and deviant responses meant that decisions about how to interpret, code and analyse data needed to be made (mostly *a posteriori* once the data had been collected). Prevalent examples were:

- **Questions asking about country of work and graduation in section 1.** These questions were open response because the survey software could not include every possible country as an option within a single question. Furthermore, re-translating each of these countries in over 30+ languages would have cost a lot of time. However, their open-ended nature meant some responses were ‘deviant’ (e.g. mistyped), contextual to the country/language (e.g. ‘BRD’ for German speakers), obscure (e.g. New Caledonia) or politically sensitive (e.g. Catalonia) and not within the ‘typical’ set of countries expected. As such, decisions were made to categorise these answers as accurately and effectively as possible. For example, the country worked in/graduated was determined for mistyped/deviant responses by deducing from other information (e.g. what they answered for the country worked in/graduated, language responded in). The other types of issues highlighted above were decided by researching and discussing answers between the RAs and Action Chair.
- **Respondents incorrectly formatting the age of the child they are considering.** Some responders would put formats such as ‘5-7’, ‘6;02’, ‘68’ as answers when the child’s age in years; months was asked for (i.e. 6;11). The RAs and Chair inductively determined the most probable age the responder meant. For example, age 7;0 was taken to be the age of the ‘5-7’ response because this is likely the age of the child the practitioner is working with now (even if they started treating them at 5 years). Some practitioners of the Spanish survey also responded with their age because the phrase of the question ‘¿Qué edad tiene?’ can be interpreted as asking the age of the child or the respondent. Any of these responses were coded as missing because it would be impossible to derive the age of their chosen child from this or other information. To be able to run analyses, the age of the child was changed from the N;N format into months.
- **Analysing responses relating to direct and indirect intervention from section 2.** As practitioners could select that they provide both direct and indirect interventions, we could not create survey logic which allowed them to only answer their relevant questions. This meant that some practitioners accidentally answered questions irrelevant to their previous response (i.e. they have not selected indirect intervention but have answered some questions about indirect intervention). Therefore, it is recommended for analysis (and was how we analysed the data in Law et al., in press) that groups are first ‘split’ into those who are coded as ‘yes’ and ‘no’ for

direct/indirect intervention, and then only the results of the ‘yes’ group are examined for the relevant questions.

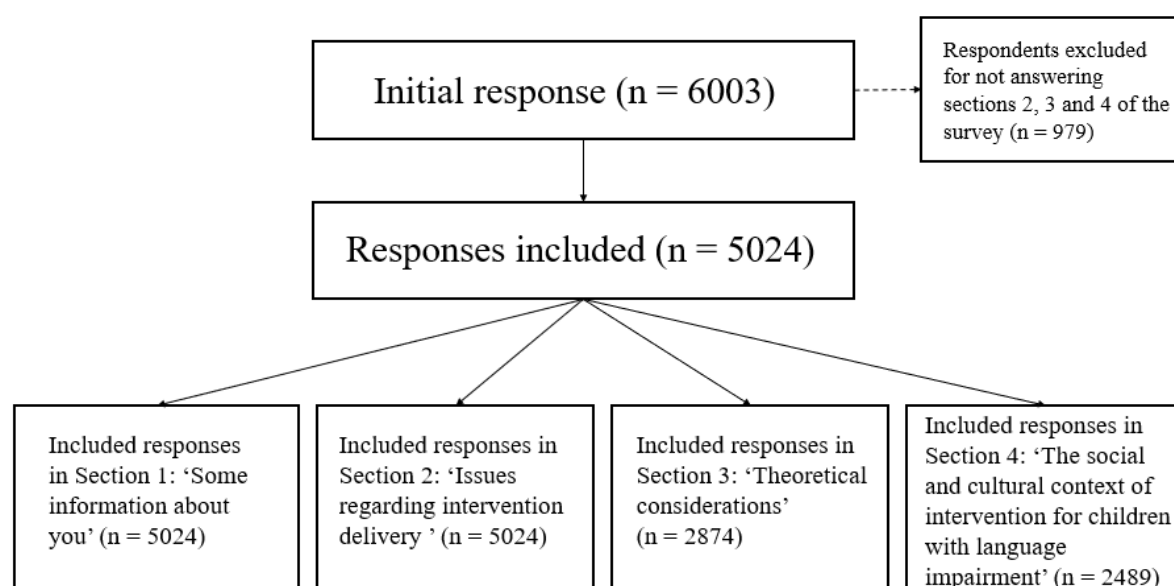
If anything could not be determined it was coded as missing data. More information about the decision processes made for deviant data can be found in the coding manual.

WHO RESPONDED TO THE SURVEY?

The initial response was 6003, but there were a number of questionnaires (n=979) from which it was not possible to obtain more than participant details and which were therefore excluded. The final number of questionnaires which fed into the subsequent analyses was 5024. The flow diagram for the inclusion etc is provided in Figure 1.

Figure 2 about here

Figure 2: Flow diagram providing the identification of the sample







The country and language specific response rates are provided in Table 1 and 2 below

Country demographics

The responses came from 59 countries, a number much larger than the 36 countries involved in Cost Action IS1406. This is clear a function of the electronic method of dissemination. Only one country asked to have paper copies of the survey. The map below gives a sense of the dispersion of the responses but to be fair the largest countries often provided the fewer responses simply because they had not been specifically targeted in the recruitment process. The majority were in Europe or amongst our “near neighbour” countries. The outlier here is South Africa whose members have been active contributors to the Cost Action.

Table 1: Practitioner responses by country

COST-Country	Total Population (2017)		COST-Country	Total Frequency of responses																								
Iceland	338349	<h1>How many people responded (by country)</h1> <div><h3>Correlation Population*Frequency of responses</h3><table><tr><th colspan="2"></th><th>Population</th><th>Frequency of responses</th></tr><tr><td rowspan="3">Population</td><td>Pearson Correlation</td><td>1</td><td>.476**</td></tr><tr><td>Sig. (2-tailed)</td><td></td><td>.002</td></tr><tr><td>N</td><td>39</td><td>39</td></tr><tr><td rowspan="3">Frequency of responses</td><td>Pearson Correlation</td><td>.476**</td><td>1</td></tr><tr><td>Sig. (2-tailed)</td><td>.002</td><td></td></tr><tr><td>N</td><td>39</td><td>39</td></tr></table><p>** . Correlation is significant at the 0.01 level (2-tailed).</p></div>			Population	Frequency of responses	Population	Pearson Correlation	1	.476**	Sig. (2-tailed)		.002	N	39	39	Frequency of responses	Pearson Correlation	.476**	1	Sig. (2-tailed)	.002		N	39	39	Luxembourg	2
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Cyprus	854802		Macedonia	17																								
Estonia	1315635		Bosnia and Herzegovina	20																								
Latvia	1950116		Israel	33																								
Slovenia	2065895		Iceland	38																								
Macedonia	2073702		Estonia	39																								
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Albania	2886026		Serbia	47																								
Bosnia and Herzegovina	3509728		Slovenia	50																								
Croatia	4154213		Turkey	55																								
Ireland	4774833		Slovakia	64																								
Norway	5258317	Denmark	67																									
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Israel	8321570	Ireland	88																									
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France	67024459	Switzerland	372																									
Turkey	79814871	Spain	396																									
Germany	82800000	Italy	606																									



We then asked the question how representative are these responses. Unfortunately, it is not possible to know the denominator for potential respondents. While it may be possible to go to professional bodies to ascertain how many speech and language pathologists there are on a register in a given country there are two potential problems with this. The first is that it is unlikely that they would be able to give precise figures for those working with developmental language disorders. They might be able to give figures for those working with children but this would involve a much wider range of children but it is often the case that speech and language therapists work across different groups of clients and are likely to work with for example with both children with speech and language difficulties and adults with aphasia. The second limitation for such an approach is that we were seeking to access professionals who had management responsibility for the child with DLD. Of course this may be speech and language therapist and in many cases as our respondents show us this is true, but twenty percent of our respondents came from a range of other professional groups, all of which have different professional and practice groups which function differently in each country. Judging this to be an overly complex task we decided instead to match our response numbers against the size of the population in the countries concerned and to give some sense of whether the proportion of responses are comparable. In Table 1 above we see the association between response and population (.476, $p < .01$) and then we banded the countries into population quartiles by population and looked to see whether we received the same proportion in our responses. Where countries have a higher proportion of responses than their country population this marked in green (i.e. they are going up) and where countries responded less well than predicted this is marked in red in the right hand table below. As we can see Austria, Belgium and Switzerland moved up, Bosnia and Herzegovina, Israel and Serbia went down.

Lithuania was the only country to go up two quartiles. Turkey, Israel and South Africa were the only three countries to drop two quartiles. Broadly speaking although there was some movement countries with larger populations had higher response rates.

In Table 2 we see responses by the thirty different translations of the survey. Respondents could complete the survey in any of the languages irrespective of where they were working. Of course for mostly this is straightforward because they will complete the survey in their national language. In some cases, for example Malta, there was no separate translation because it was assumed that respondents would be completely fluent in English. In others such as Lebanon so such assumption was made and respondents could complete in French, Arabic or English. On the one hand this may seem like a detail but it is important to acknowledge as can be seen from Table 3 that many of our respondents did not qualify in the countries that they were employed.

Table 2: Response by Survey language

	Frequency	Percent
Albanian	5	0.1
Belgian French	394	7.8
Bulgarian	100	2.0
Croatian	71	1.4
Czech	134	2.7
Danish	68	1.4
Dutch	105	2.1
English	356	7.1
Estonian	39	0.8
Finnish	134	2.7
French	185	3.7
German	755	15.0
Greek	124	2.5
Hungarian	186	3.7
Icelandic	38	0.8
Italian	606	12.1
Latvian	69	1.4
Lebanese French	63	1.3
Lithuanian	97	1.9
Macedonian	17	0.3
Norwegian	88	1.8
Polish	226	4.5
Portuguese	75	1.5
Romanian	291	5.8
Serbian	44	0.9
Serbian/Croatian/Bosnian (BHG)	36	0.7
Slovakian	64	1.3
Slovenian	50	1.0
South African	31	0.6
Spanish	408	8.1
Swedish	110	2.2
Turkish	55	1.1
Total	5024	100.0

Table 3: Response by country of graduation and employment

	Country of graduation		Country of employment	
	Frequency	Percent	Frequency	Percent
Albania	5	0.1	5	0.1
Austria	214	4.3	204	4.1
Belgium	336	6.7	289	5.7
Bosnia and Herzegovina	8	0.2	20	0.4
Bulgaria	117	2.3	99	2.0
Croatia	85	1.7	84	1.7
Cyprus	8	0.2	46	0.9
Czech Republic	133	2.6	134	2.7
Denmark	80	1.6	67	1.3
Estonia	29	0.6	39	0.8
Finland	143	2.8	144	2.9
France	170	3.4	197	3.9
Germany	256	5.0	258	5.1
Greece	71	1.4	82	1.7
Hungary	186	3.7	185	3.7
Iceland	20	0.4	38	0.8
Ireland	75	1.5	88	1.8
Israel	33	0.7	33	0.7
Italy	609	12.1	606	12.1
Latvia	70	1.4	69	1.4
Lebanon	75	1.5	75	1.5
Lithuania	95	1.9	95	1.9
Luxemburg	/	/	2	0.0
Macedonia	13	0.3	17	0.3
Malta	7	0.1	9	0.2
Netherlands	116	2.3	108	2.1
Norway	92	1.8	93	1.9
Poland	226	4.5	223	4.4
Portugal	75	1.5	75	1.5
Romania	286	5.7	288	5.7
Serbia	60	1.2	47	0.9
Slovakia	62	1.2	64	1.3
Slovenia	50	1.0	50	1.0
South Africa	85	1.7	82	1.6
Spain	397	7.9	396	7.9
Sweden	102	2.0	101	2.0
Switzerland	344	6.8	372	7.4
Turkey	52	1.0	55	1.1

United Kingdom	172	3.4	144	2.9
Argentina	15	0.3	9	0.2
Australia	8	0.2	5	0.1
Canada	1	0.0	1	0.0
Chile	1	0.0	3	0.1
Dubai	/	/	2	0.0
Kenya	1	0.0	2	0.0
Namibia	/	/	1	0.0
Oman	/	/	1	0.0
Senegal	1	0.0	1	0.0
UAE	/	/	2	0.0
Uganda	3	0.1	2	0.0
USA	21	0.4	1	0.0
Zimbabwe	/	/	1	0.0
Tanzania	/	/	1	0.0
New Caledonia	/	/	5	0.1
Moldova	5	0.1	3	0.1
Belarus	1	0.0	1	0.0
Russia	5	0.1	/	/
New Zealand	1	0.0	/	/
Yugoslavia	4	0.1	/	/
Total	5024	100.0	5024	100.0

We then turn, in Table 4, to the characteristics of the respondents in terms of their age and experience etc. The gender balance probably reflects practice but it is important to note the wide age range of the respondents and their different professional backgrounds. Although most are speech and language therapists twenty percent came from a wide range of different professional groups. As a sample the respondents while from a range of educational backgrounds is on balance rather more highly educated than might be expected with over forty percent qualified to Masters Degree and above. We return to the question of the language used by the respondents in Chapter 5 below. Twenty percent of respondents used more than one language and the figure is a little higher in terms of the language actually used in practice in the clinic. The range of experience cited is considerable from newly qualified practitioners to those with 40 years experience.

Table 4: The key characteristics of the survey respondents (mode in bold)

	Frequency (n= 5024)	Percent
<i>Gender</i>		
male	223	4.4
female	4801	95.6
<i>Age</i>		
20-30	1339	26.6
31-40	1460	29.1
41-50	1160	23.1
51-60	885	17.6
60+	180	3.6
<i>Job title</i>		
Speech and Language therapist/pathologist	4020	80.0
Audiologist	18	0.4
Special Educator	129	2.6
Psychologist	105	2.1
Linguist	41	0.8
Teacher	64	1.3
Pedagogue	38	0.8
Medical Doctor	20	0.4
Combination	317	6.3
Other	272	5.4
<i>Level of professional qualification</i>		
Non-University: Diploma	432	8.6
Non-University: Other	72	1.4
University: Undergraduate/Bachelor degree	1919	38.2
University: Masters	2067	41.1
University: Dr (PhD)	138	2.7
University: Other (e.g. Diploma)	397	7.9
<i>Native Language</i>		
Principal language of the country	4662	92.8
Minority language(s)	126	2.5
Both	236	4.7
<i>Multilingualism</i>		
Monolingual	3977	79.1
Bilingual	763	15.2
Multilingual	284	5.7
<i>Languages in professional role</i>		
One	3831	76.3
Two	960	19.1

Three or more	233	4.6
<i>Age groups of children working with</i>		
0-3;11	3463	68.9
4-6;11	4341	86.4
7-11;11	3737	74.4
12-16;11	2504	49.8
17+	1223	24.3
<i>Work place</i>		
Hospital	476	9.5
Health clinic/centre	878	17.5
Nursery/kindergarten	1289	25.7
School (mainstream)	1605	31.9
School (special)	623	12.4
Private practice (self-funded)	1972	39.3
Private special education & rehabilitation centres	511	10.2
Other	834	16.6
<i>Sector of work</i>		
Public sector (education)	2040	40.6
Public sector (health)	1354	27.0
Charitable sector	119	2.4
Private sector	2210	44.0
Private sector funded by the government	467	9.3
Non-governmental organisation	126	2.5
Other	120	2.4
<i>Years of experience (n = 5006)</i>		
Mode	10 years	
Range	0-47 years	
Mean	12.75 years	
Standard deviation	9.79 years	

Ad finally we turn, in Table 5, to the characteristics of the child that the respondents identified in sections 2 and 3 of the questionnaire that they chose to use as the focus of their response. We see that a very broad range of children are identified in terms of age, profile and severity of disability allowing us to draw conclusions about different groups of children in the analyses reported below. As the results for the bilingualism of the practitioners would suggest 75% of children seen at monolingual. Interestingly most of these children (85%) appear to be in mainstream schools.

Table 5: Characteristics of reference child

<i>Age in months</i>	<i>N = 5003</i>	
Mode	60	
Range	5-228	
Mean	69.63	
SD	28.32	
	Frequency (n= 5024)	Percent
<i>Type of language impairment</i>		
Receptive only	82	1.6
Expressive only	1571	31.3
Mixed Receptive Expressive	3371	67.1
<i>Severity of language impairment</i>		
Mild	418	8.3
Moderate	2760	54.9
Severe	1846	36.7
<i>The child's language background</i>		
Monolingual	3830	76.2
Bilingual	1194	23.8
<i>(Pre)educational provision</i>		
None	262	5.2
Pre-school/kindergarten or mainstream school	3290	65.4
Pre-school/kindergarten or mainstream with additional specialist provision	1050	20.9
School for children with special educational needs	422	8.4

CONCLUSIONS

This is the biggest survey, in terms of the number of respondents, of its kind ever completed in relation to speech and language services in general and especially with regard to services for those with developmental language disorder. . Its great strengths are its range and coverage in terms of population and the range of questions asked about practice. This has never been attempted before. Its limitations are in some ways related to its strengths. The range of countries reported, together with the range of different professionals who responded to the survey is substantial but inevitably begs the questions how representative to sample, however large it is. The only way of establishing this would be to capture the characteristics of all the professional groups sampled together with information about, for example, their education and background. While this might be possible to do in some countries where speech and language therapists are registered and have a professional body this is not the case in many countries. There is no single body that holds this information across the countries sampled. But even if we did have this information we would need to know how many worked with children and young people and still further how many worked with DLD. But equally twenty percent of the respondents were not speech and language therapists, coming from a variety of different professional groups with a variety of different contextual factors that

would make the identification of a denominator against which to compare our population impossible to establish. Of course there is also the problem, common to all surveys that even if we did have these numbers, respondents to surveys are rarely a representative group by virtue of the fact that they chose to give their time to complete the survey questions.

In short, it is possible to see the survey as a snapshot of responses at a given point in time (2017) which allows us to make general statements about what we perceive to be happening in Europe early in the twenty first century. In our analyses below we have not at this stage encouraged members of the Action to make direct comparisons across countries. Without clear hypotheses as to why differences should occur such analyses are difficult to interpret because there are so many cultural and contextual factors that would inform such differences in the event that they were identified. Rather we have asked our member countries to provide vignettes of theory and service delivery for children with DLD and these are provided in Section 2. But in the next three chapters we summarise the main findings of the practitioner survey and each chapter represents one of the three working groups in the Action to which reference was made above - namely the linguistic and psychological underpinnings of interventions for DLD; the delivery of interventions for DLD; and the social and cultural context of intervention for children with DLD.

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