Language Dominance, Preference and Awareness: A Case Study of Two Multilingual Children in a Bilingual Community

Melissa Cokely
Universitat de Barcelona
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Supervisor: Dr. Carmen Muñoz

Abstract

This case study of two multilingual boys (aged 6-7) has two aims. Firstly, it explores how the participants view their language proficiency, language dominance and language preference and investigates how their statements show evidence of metalinguistic awareness. Naturalistic data, semi-structured interviews and background questionnaires were used to collect comprehensive data. The second aim is to compare participants' statements about their own language proficiency and dominance with data from an oral narrative task in order to investigate whether they accurately predicted their dominant language. The participants performed the task in three languages (English, Spanish and Catalan) and their fluency and lexical richness was analyzed. Overall, fluency measures matched with their perceptions. However, lexical richness results (as measured by Guiraud's Index and lexical density) were inconclusive. In summation, the participants demonstrate that young multilingual children are capable of providing accurate information on their language proficiency from very early on. The dissertation ends with directions for future research.

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This case study is of two boys living in a bilingual (Spanish-Catalan) community who speak English, Spanish and Catalan and study Chinese. The primary case study is of Colby, the son of the researcher, which is contrasted with a secondary case study of Jack, a child with a very similar linguistic background to Colby's. The first aim of the study is to explore how the participants view and talk about language proficiency, language dominance and language preference and to investigate how their statements show evidence of metalinguistic awareness. To achieve this aim the participants were interviewed about these topics and asked questions from several prominent bilingual dominance questionnaires originally designed for adults that were adapted for use with young children. The second aim is to compare the participants' statements about their language proficiency and dominance with data from an oral narrative task to investigate whether they accurately predicted their dominant patterns. The participants performed the task in each of their three family and community languages and transcripts were analyzed for fluency and lexical richness. Results show that fluency rates matched closely with their own perceptions of language dominance and proficiency, however lexical richness results were inconclusive. The participants demonstrate that multilingual children, even of a young age, may be capable of providing accurate and detailed information on their language use and proficiency, although further research is necessary with a larger sample size to generalize this assertion. Additionally, the fluency measures created specifically for this study (CADS- Cross-language Adjusted Density per Second, and CARP- Cross-language Adjusted Rate Percentage) have the potential to be used as valid tools for the calculation and comparison of fluency across languages although more detailed research is required for further refining and assessment.

Aims and Research Questions

The first aim of this study is to provide a detailed description of how the participants describe their language use and that of others. Concretely, the research questions for the first aim are as follows:

- How do the participants describe their multilingualism and the way they use languages in daily life?
- How do the participants show language awareness by explicitly talking about their

language use and the language use of others?

- What are their perceptions of their own language dominance and proficiency in their school and family languages (English-Spanish-Catalan) and foreign language (Chinese)?
- How do the two participants' language use, perceptions, and dominance compare?

The second aim is to investigate the level of precision and accuracy of the participants' language awareness when assessing their own language dominance and language use. The main research questions to accomplish this aim are as follows:

- Are interviews / questionnaires with the participants a reliable and/or valid way to obtain information on their language dominance? Specifically, are their perceptions of their own dominance and proficiency consistent with lexical richness and fluency measures on an oral narrative task?
- To what degree are the measures used to analyze oral narrative data appropriate for comparing language skills of different aged children?

Participant Description

Colby is a multilingual 7-year old boy (7:8 at the time of thesis submission) living in Barcelona, Spain. He speaks English, Spanish and Catalan with native-like proficiency and has been learning Chinese as a foreign language since age three. Colby is being raised in a multilingual environment by two accounts: his mother, the researcher, is a native speaker of English from the United States, and Barcelona is a bilingual (Spanish-Catalan) community. For the first year of his life Colby's language exposure was almost exclusively in English and Spanish as he spent the majority of his time with his mother and maternal grandparents (monolingual speakers of English) while his father and his father's side of the family spoke to him in Spanish. Colby's early exposure to Catalan was very limited. A caregiver spent one or two afternoons a week with him from ages 1-2.5 and spoke in Catalan but extensive exposure to Catalan did not begin until he started attending a Catalan preschool at the age of almost three. At this time he also started Chinese lessons for one hour a week at home with a native Mandarin-speaking university student.

At present Colby spends Monday through Friday at a Catalan school speaking almost exclusively in Catalan except for two hours a week where he has some exposure to English during English class, and several hours a week in Spanish class. He continues to do private Chinese classes at a local language academy for one hour a week. He spends two

afternoons during the week and every other weekend with his father speaking Spanish and the rest of his time with his maternal grandparents and his mother with whom he speaks in English.

When classified chronologically, Colby's languages would be L1 English, L2 Spanish, L3 Catalan and L4 Chinese, or more accurately, Lx/Ly→L3→L4 (Lx=English, Ly= Spanish, L3=Catalan, L4=Chinese), since while early exposure to English was somewhat more intense in his first year, he acquired it simultaneously with Spanish (model: Aronin & Singleton 2012). However, as will be discussed later, conversations with Colby reveal that according to his own explicitly stated preference and self-reported dominance, he currently classifies his languages in order of most to least dominant as Catalan, Spanish, English and, lastly, Chinese.

Jack's linguistic background is remarkably similar to Colby's. Jack is a 6 year-old boy (6:7 at the time of this study) who is also trilingual (English-Spanish-Catalan) who lives in the same neighborhood as Colby with his parents and 4-year-old sister. He attends the same school as Colby so his language exposure during school days (mainly Catalan with limited English and Spanish) is very similar, although Jack is one year behind Colby. He also takes Chinese classes at the same language academy as Colby, however Jack attends Chinese class with his 4-year-old sister twice a week for one hour and has only been studying Chinese for one year.

Jack, like Colby, acquired Spanish and English from birth through his parents. His mother is from Peru and speaks to the children in Spanish, while his father is from England and speaks to them in English. Both his mother and father rate their own Catalan proficiency as low (3/10 and 2/10 respectively) and do not use Catalan at home. The children speak mainly English to one another depending on the context, which will be discussed later. Like Colby, Jack's languages, classified chronoligically, are Lx/Ly→L3→L4 (Lx=English, Ly= Spanish, L3=Catalan, L4=Chinese).

Interestingly, unlike Colby, Jack's self-reported dominant language is English, followed by Spanish, and lastly, Catalan. Due to the discrepancy in the participants' self-classifications of their linguistic repertoires I will avoid using the terms L1, L2, etc. when referring to Colby and Jack's languages as these labels mean different things to the two of them and will instead refer explicitly to each language by name.

Literature Review

Bilingualism and Multilingualism

King & Mackey, in their guide for parents wishing to raise their children with several languages, states "...acquiring three or more languages is not significantly different from acquiring either one language or two languages." (2007: 224). They do, however, specify that the context and input a child receives during the multilingual acquisition process are important factors and that attention must be paid to the environment and family language policy. Nonetheless, recent literature has focused on the differences between bilingualism and multilingualism.

Multilingual practices can be categorized as societal, institutional, individual and discursive (Franceschini 2011). These parameters represent the manifestation of multilingualism from a broad, global perspective progressively down to a micro level and provide a useful framework for discussing how multiple languages are managed and conceptualized on various levels. This paper is concerned with two individual children and their personal multilingual perceptions, usage and proficiency. It is, nonetheless, paramount to take into account both the societal and individual factors of multilingualism to get as complete a picture as possible of these two unique cases.

Under the parameters listed by Franceschini, Catalonia is certainly considered multilingual in that there are two official languages that operate on both a societal and institutional level with the vast majority of native Catalans being bilingual in Spanish and Catalan. The bilingualism in Catalonia may be further classified as "recursive bilingualism" (Aronin, 2012). which is typified by the suppression of a language (Catalan) and its subsequent linguistic reconstitution in the form of bilingualism at the end of a dictatorship which discriminated against languages other than Spanish and promoted monolingualism. Currently, public schools conduct the majority of classes in Catalan with instruction in English as a foreign language and Spanish being limited to several hours a week, although in actuality, the language of instruction in secondary school often varies according to the individual teacher and may be in either Spanish, Catalan, or, less frequently, in the case of some schools participating in CLIL programs, English or another foreign language (Muñoz 2005).

Multilingual individuals may be classified according to the chronological order of

language acquisition (mother tongues and subsequent languages acquired), types of acquisition such as formal or naturalistic, and the number of languages spoken, the status and typology of each language, and the relationship of each language to the language user (Aronin, 2005 and 2012). There is also the added element of language proficiency and dominance. Unlike bilinguals, multilinguals do not appear to have equal proficiency in all their languages, but rather have one dominant language and subsequent weaker languages (Quay 2011).

Interaction & Competence

Cook (2010) proposed the term multilingual competence, or multi-competence, to express the idea that a multilingual person embodies a dynamic set of language skills and uses that is not comparable with a monolingual. A person with multilingual competence is not only proficient in three or more languages, but is also capable of managing his or her multilingualism to assess interactions and utilize the appropriate linguistic variety for the occasion (Franceschini 2011). Thus, the concept of multilingual competence goes beyond the number of languages spoken and the levels of proficiency in each language. Rather, it is embedded in the context of the society and daily life of the multilingual individual. Therefore, it can be concluded that multilinguals have a wider range of abilities in order to participate in diverse language situation and are adept at adapting to the environmental and psychological requisites for each context (Aronin 2005).

There are few studies looking at language acquisition in trilingual children using naturalistic data (Quay 2011), but some research into this area points to interesting insights into the differences between bilingual and multilingual settings, including multilingual children's tendency to be dominant in the societal language rather than the home languages (Quay 2011), and having a high degree of metalinguistic awareness in all languages, specifically in phonology (Montanari, 2011 as cited by Quay 2011).

Family Language Contexts

OPOL (One Parent One Language), also known as the rule of Grammant (Ranjat 1913), is perhaps the best-known system of raising bilingual children. Proponents of OPOL recommend that each parent speaks only one language with the child, and that there

should be strict separation between the two languages in order to minimize the mixing of the two linguistic systems (Dopke 2004). Nonetheless, the strict language separation proposed by some authors may not always be practical or necessary. Jackson (2007) did a study of a bilingual family where there was loosely applied OPOL but where there was some flexibility in language use between parents and children depending on the context, with successful results.

Grosjean points out how the adherence to one-person-one-language can extend beyond the family. He writes about the Person-Language Bond (2011) which can be particularly strong in young children raised in houses practicing OPOL. Adult and child bilinguals and multilinguals often associate other individuals with one particular language. This language is normally the language of first communication. It can be very challenging for people to switch languages from the language they are accustomed to speaking with a particular person. This is especially true of bilingual children who often times refuse to speak the "other" language with different people.

> Psycholinguists have asked themselves why the person-language bond is so strong in very young bilinguals. Some have proposed that it helps them differentiate their languages. In order to do so, young bilingual children rely on different factors: the phonetic and prosodic cues (e.g. the rhythm) of each language, other structural aspects, the context the language is used in, and, very importantly, the language spoken by a given person. (Grosjean, 2011)

Codemixing

Multilingual speakers often codemix, particularly when speaking to other bilinguals or multilinguals. Grosjean (1989) refers to a bilingual's speech mode as a continuum. Bilinguals can be in either monolingual mode on one extreme, which involves the inhibition of one language, the other extreme, bilingual mode, with other bilingual speakers and involves an intermixing of the two languages according to the situation.

Some experts assert that codemixing and cross linguistic influence are perhaps best seen not as linguistic anomalies to be corrected but evidence of a richer and more complex linguistic communication system, particularly considering that virtually all children codemix (Nicoladis & Genesee 1998) Barnes (2006), for example finds evidence of communicative competence and pragmatic awareness in trilingual children. She states that trilingual children, for example, are often more or less polite in the use of one language or

another depending on the pragmatic norms of that particular language (2006: 27). This points to the fact that different language modes may entail not only an awareness and control of various language systems, but that this awareness and control permeates communication in the form of heightened levels of pragmatic appropriacy.

Language proficiency, dominance and preference in multilinguals

Operationalizing and measuring components of language use in multilinguals such as language proficiency, language dominance and language preference is a complex task and can lead to overlapping, exclusion.

Language proficiency is perhaps the most straightforward concept to define for multilinguals. Proficiency is understood to encompass reading, writing, speaking and listening ability, often in formal language learning settings (Caldas & Caron-Caldas 2000), and was defined by Bedore et al as "how well children speak the language of interest as defined by their parents and teachers (2011; 493). In short, proficiency may be understood as the measurable level of performance exhibited by language users.

Language dominance is often mentioned in studies concerning bilingual or multilingual individuals but there is no one all-encompassing instrument or procedure to quantify the measurement of dominant languages. It is generally tied to both proficiency and preference. Language dominance can be defined as "the relationship between the competencies in the two languages of the bilingual (Treffers-Daller 2011;148), and more simply by Bedore et al. as a measurement of relative language use, or which language a child uses or hears more frequently (2011). Language dominance is relevant "in cases in which greater proficiency in one or other of the languages is evident, this is typically signaled by the use of the notion of dominance in respect of the stronger language. " (Aronin 2012:120) Bilingual, and even more so multilingual, language use is a multi-faceted, complex area and researchers have not reached a consensus for how best to operationalize and measure language dominance. Recent research has focused on developing appropriate tools and quantitative as well as qualitative methods for measuring aspects of language use in the form of dominance and preference.

The most important component of language ability in bilinguals is, according to Treffers-Daller (2011), lexical knowledge and, more specifically, the variation within an

individual's lexical knowledge. She argues that the position of prioritizing lexical knowledge is relevant because, citing Bates and Goodman (1997) L1 grammar acquisition largely depends on vocabulary development. Treffers-Daller found, in her study of Belgian Dutch-French bilinguals and French-English bilinguals from France using the narration of a picture book as a controlled oral production task, that measures of lexical richness, calculated by two measures- Index of Guiraud and D, was a promising way to operationalize language dominance in bilinguals.

Daller et al. (2011) argue that measures of oral fluency can also be utilized to determine bilingual dominance. They used the total number of words and number of words per second in an oral task adjusted for language differences to obtain a picture of the language dominance patterns in bilingual Turkish-German speakers and concluded that the relation between the length of the texts as well as the words per second in both languages could be used as indicators of the relative language dominance of the participants.

The question of comparing fluency across languages is problematic because languages vary widely in terms of the average number of syllables per second and the average number of syllables required to convey a certain amount of information, or information density. Pellegrino et al. (2011) analyzed the speed and density of eight different languages, including English and Spanish by recording native speakers reading transcripts containing the same semantic content translated into several different languages. The data set for each language was comprised of 6-10 speakers of each language recording the 20 short texts. The data resulting from this study has the potential to improve the issue of standardizing fluency measures across languages as will be explored in the analysis of the narrative data for this dissertation.

There have been several recent contributions to research on language dominance in the form of self-assessment questionnaires for multilinguals (see appendix for examples). The questionnaires tend to combine queries about language experience, preference and proficiency. The Language Experience and Proficiency Questionnaire (LEAP-Q) was specifically developed to include components other than proficiency in the measurement of language competence (Marian et. al 2007). This self-assessment questionnaire measures three components of competence separately: language proficiency, language dominance and language preference. The LEAP-Q questions require respondents to estimate their

percentage of language exposure (both currently and on average, and ask respondents to evaluate their language preferences using percentages, for example:

> When choosing a language to speak with a person who is equally fluent in all your languages, what percentage of time would you choose to speak each language? Please report percent of total time. (Your percentages should add up to 100%) (Marian et al 2007; 962)

This question uses the concept of preference (which language the respondent would prefer to use) to gain insight into dominance. Responses to the LEAP-Q yield a wealth of data in each of the three components of competence listed above, however there is no formal scoring procedure or resulting scale of bilingual dominance.

Other assessment tools aim to provide a time-efficient and quantifiable measure for looking at language dominance in bilinguals. The Bilingual Dominance Scale (BDS) (Dunn & Fox Tree 2009) focuses on oral fluency and consists of 12 closed questions which are scored with different weights according to relevance. Maximum points towards one language or another are given for questions such as age of acquisition and predominant language use at home, points are subtracted from a language if respondents report some attrition, and finally, as a way to "tip the scale" (p. 279) in favor of dominance in one language or another, respondents are asked "If you had to choose which language to use for the rest of your life, which language would it be?" (p. 287). The resulting score gives respondents a number which represents their degree of dominance between two languages, with 0 representing a perfectly balanced bilingual. The survey was validated with participants' scores from a translation task which supported its reliability.

Finally, one of the most recent tools developed to assess bilingual dominance is the Bilingual Language Profile (BLP) (Gertken et al 2011). The BLP is a multiple-choice assessment tool which results in a scalar response for bilingual dominance. The factors assessed in the BLP include language history, language use, self-assessed language proficiency, and language attitude. All four factors are equally weighed. The BLP ratings were correlated with participants' scores on the Oxford Placement Test.

All of these tests were developed for adults to rate their own language use, although previous research suggests that "similar questions about proficiency and language history can be successfully used to capture language profiles in bilingual children by means of parent reports (Chincotta & Underwood, 1998; Fledge et al., 2002; Vaid &

Menon, 200)." (Marian et al 2007; 944). Bedore et al (2011) also found that parent reports on bilingual children's proficiency were significantly correlated to Spanish-English bilingual children's test scores on language ability.

While questionnaires and quantitative data are useful for the analysis of multilingual language use and dominance, language preference plays a significant role in making the distinction among a multilingual's languages. Some researchers assert that preference is, in fact, more relevant than proficiency. Caldas & Caron-Caldas (2000) stress the importance of language preference which is often overshadowed by language dominance and state "However, it is not so much that a bilingual is dominant in a given language (e.g., one of a bilingual's two languages always lords it over the other in some sense), but that he or she has a decided preference for a given language, which is context-sensitive." (Caldas & Caron-Caldas 2000; 366). Few studies have attempted to approach bilingual language preference from a quantitative perspective. One exception has been the creation and use of the Bilingual Preference Ratio (BPR) (Caldas & Caron-Caldas 2000). Using transcripts from dinnertime conversations, the researchers calculated the total number of words in French and English used by their bilingual children to show the fluctuations in language preference they exhibited over a 36 month period which correlated with their changing rates of input as formal instruction in immersion French schools.

There is, naturally, a strong tie between dominance and preference. Dewaele (2007b) found that multilinguals prefer to use their L1 for mental calculations, which is an indicator of language preference. Incidentally, in his study it was shown that the L1 was also normally the language of formal instruction and the dominant language. However, despite some evidence which points to a pervasive language preference for L1 in most areas (Dewaele 2007b), it may be erroneous to see language preference as a fixed constant. Language preference has been shown to be fluid and changeable over time depending on context (Caldas and Caron-Caldas 2000) and amount and quality of input (Juan-Garau & Perez-Vidal 2000). Dewaele (2011) in his reflection on the qualitative analysis of his participants' statements regarding preference, claimed that there are “slow shifts in linguistic practices linked to the perception and adoption of different cultural values.” (2011:48).

Despite the wealth of work being carried out on adult language dominance there

appears to be a lack of research which uses children's own direct statements (rather than parent or teacher reports) as tools for evaluating their language dominance, experience and preference. Given the fluidity of language dominance and preference, looking at how children experience their multilingualism and investigating their professed language preferences could help provide insights into the process of development, both linguistic and in terms of identity, of bilingual and multilingual adults.

Metalinguistic Awareness

The distinction between the constructs to which the terms metalinguistic task, metalinguistic awareness, language awareness and metalinguistic ability refer can be confusing as the terms themselves are somewhat overlapping. One perspective is to consider that metalinguistic awareness is simply "having an insight into how language, in general, is organized." (Dillon 2009:186) Olivera & Ança claim that language awareness is composed of "language use, the explicit cognizance of the language itself, and the process of using and learning" (2009:405). Jessner (2006) makes a more clear distinction between language awareness and metalinguistic awareness. He employs the definitions of Masny (1991) which separates the two terms. Language awareness, related to theories of applied linguistics and pedagogy, is aligned with the use of metalanguage for explaining elements of a language code in the language classroom, whereas metalinguistic awareness, related to psycholinguistic and cognitive theories and learning, is an indicator of what is known about language via reflection on language or manipulation of language. As this paper is principally concerned with language from the point of view of the user/learner, the broad definition of metalinguistic awareness as outlined by Jessner will be employed.

Research has shown that metalinguistic awareness develops in children at a young age and that they are also able to express this awareness (Ammar et al. 2010: 129). Kemper & Vernooy (1993) cite Van Kleek (1982) who claims that metalinguistic strategies reflect a child's general cognitive reasoning abilities at each stage of development. Before age 6 language is used for communication and awareness is focused on conveying meaning. At the second stage between ages 7-11, children can "decentrate and reverse" (Kemper & Vernooy 1993: 44), meaning that children are able to negotiate shifts in perspective and time and judge the grammaticality of language without being

overly distracted by semantics.

Metalinguistic awareness is manifested in a variety of different contexts. Dillon (2009), when researching bilingual and monolingual Irish primary schools found that more balanced bilinguals display a higher level of general proficiency and are more likely to independently display higher levels of metalinguistic awareness and evidence of cross-linguistic transfer. They were also more likely than monolingual English speakers to make associations between their L1s and the foreign languages they were being instructed in at school. Ammar et al. (2010) found that there was a correlation between foreign language students' proficiency as measured by a grammar judgment test and their ability to explicitly explain the differences in question formation in English and French.

There is substantial evidence to support the assertion that bilingual and multilingual children in particular have heightened metalinguistic awareness. According to Bialystok (1991), bilingual children are by communicative necessity, aware of the form of spoken language in order to choose which language to use in any given context. This necessitates an increased level of control. Bilingual children with one dominant language (i.e., not perfectly balanced bilinguals) will face challenges in this sense in that their level of control for the less dominant language will be pushed so that they may successfully interact in this language. Due to the fact they must give attention to the differences in each language system, the increase on demands of the processing component could likely increase their abilities in language control.

Metalinguistic awareness in bilingual and multilingual children affects a number of areas such as linguistic development, metacognitive and information processing abilities, and literacy skills (Jessner, 2006). Due, perhaps, to their heightened metalinguistic awareness, multilingual children often have both an ability and inclination to discuss language topics that can lead to important insights into the process of growing up multilingually and the brain's organization and use of multiple language systems. In Dewaele's account of his trilingual daughter (2000) he reported that she showed evidence of very early metalinguistic awareness through correcting (and complaining about) her father's pronunciation when he spoke his non-native languages and showing explicit understanding that switching languages was required depending on the person to whom she was speaking. Another example is seen in Beth Martin's (2012) study of metalinguistic

awareness and perceptions of language dominance in first and fourth graders in which participants were given an innovative coloring task to represent their different linguistic abilities. In contrast, Kemper & Vernooy's study (1993) on metalinguistic awareness in first graders found that (presumably) monolingual children from a small Midwestern city in the United States at this age focus more on the pragmatics and social context were the main influencing factors in their analysis of others' and their own language use. In contrast, when asked about language use, the participants in the present study, who are approximately the same age as those in Kemper & Vernooy's study, speak at length about lexical knowledge and pronunciation when evaluating both their own and others' language ability.

Language Use & Perceptions

Methodology and Context

During the initial exploratory phase of the research data collection consisted of naturalistic conversations with the researcher which were recorded and transcribed. As the themes of dominance, preference and metalinguistic awareness emerged from these conversations, a more focused approach was adopted and subsequent research included semi-structured interviews in order to develop these themes. The planned questions for the semi-structured interviews were based on questions from various bilingual dominance questionnaires (Birdsong et. al. 2012, Marian et. al 2007, Dunn & Fox Tree 2009) which I adapted to be more easily understood by Colby or a child of his age. An additional semi-structured interview was done on multilingual awareness using the questions from the Language Learning and Language Awareness Questionnaire (LLLA) currently being used to research language awareness in school age children (Muñoz 2012). These interviews were also recorded, transcribed, and coded according to the relevant themes of the study. In addition to firsthand data I also gathered data from the participant's English teacher at school and his Chinese teacher at the local language academy and obtained a report from his Chinese teacher on Colby's level of proficiency in Chinese. Additionally, a journal to record any other relevant interactions throughout the research period which were not recorded was kept.

Regarding Jack, the second participant, I gathered qualitative data from Jack in person on two separate occasions through semi-structured interviews. I also collected data through a questionnaire and informal conversations and emails with his parents.

Jack's parents gave consent for his participation in this study both verbally and in writing. Regarding Colby, as both the parent and researcher in this instance, I did attempt to explain the general aims of the project to Colby with the goal of his understanding, if only on a basic, age-appropriate level, what it would entail and how he would participate. However, in our first structured interview for the project he was visibly uncomfortable and reluctant to speak freely. After this first interview I made the decision to, when possible, record some interactions without his knowledge and without making explicit the subject matter I was interested in discussing with him in the interest of obtaining more relevant and naturalistic data. There are also some cases, as during the semi-structured interview on

metalinguistic awareness, where Colby has been made aware that I am interviewing him specifically to obtain data and information for academic research and it becomes obvious that the dynamic in the conversation is altered by his self-consciousness. Nonetheless, at the conclusion of the data gathering I explained the details of the project to Colby and he was enthusiastic about the project and proud of having been a participant.

On the two occasions that Jack was interviewed he was aware that the interviews and tasks formed part of a research project on languages and he was enthusiastic and cooperative. Jack reported to his parents that he had enjoyed the first interview and was very happy at being asked to come in a second time for another "chat." He answered all of my questions with no hesitation or apparent discomfort.

Language Use and Perceptions Data

Family languages

Both participants are being raised using the One Language One Parent (OPOL) method, where each parent speaks their native language to the child, although the interpretations of OPOL diverge in terms of its execution in each family. In Colby's case, he speaks to his mother in English and his father in Spanish. This was a conscious and much-discussed decision after having done some research on raising bilingual children. Colby's parents make an effort not to codemix when speaking with him and tried to make an effort to codemix as little as possible when speaking to each other. Conversely, Jack's parents approach OPOL less rigidly and are more flexible in their adherence to their native language for communication, similar to the Japanese family described in Jackson's 2007 study. While each parent communicates predominantly in his or her L1, they occasionally will switch from English to Spanish or viceversa with the children if they feel it is contextually appropriate.

Colby's parents use a combination of strategies to correct his language use, normally repeating a borrowed word back to him in the appropriate language, which he normally then repeats correctly. During the exploratory phase of the research I tried several other strategies for correction with Colby, including expressed lack of understanding (Lanza 2004).

COLBY: ... does a copa <SP> can can you trade a copa <SP> for money.

INT: I don't know what a copa <SP> is
COLBY: like a trophy <EN>
...
COLBY: ...mommy is Rafa Nadal primero en la liga <SP>?
INT: I don't understand.
COLBY: is Rafa Nadal first in the league?

In many instances, as those transcribed above, Colby did actually know the words and expressions in English but used Spanish, perhaps because he found it easier. As Jack's father stated, "...they do know, I just think sometimes it's quicker in another language/pops into their head quicker." However, Jacks father pointed out that while using Spanish and Catalan words in English sentences was quite common for Sophie, Jack's younger sister, Jack "rarely" does this and often stops the conversation to ask for a translation if he's not sure of the word in the target language.

Both households do tolerate a certain number of Spanish or Catalan words used in English-speaking context due to convenience or contextual appropriacy. In both families the smocks the children wear to school every day are referred to as "batas" <CA>, the remote control in Jack's house is the "mando" <SP>, and Colby's pencil case is his "estoig" <CA>. To determine whether Colby knew the appropriate words for the items we often refer to in Spanish and Catalan I coded the transcripts of conversations and made a list of words. I gave him a short quiz one day and he did, in fact, know how to say nearly all of the terms in English, which supports the idea that these words simply come to him first in Spanish or Catalan. However, one notable deficiency in his vocabulary was the days of the week.

...
COLBY: Like, dimarts <CA> (Tuesday).
INT: What day is that in English?
COLBY: Dimarts, dilluns and dimarts <CA>.(Tuesday, Monday and Tuesday). Second day of the week.
INT: Which is called?
COLBY: I don't know!
INT: Tuesday.
COLBY: I don't know those things.

Colby was fairly distressed at the gap in his English vocabulary and expressly requested that I speak to his English teacher at school so that she could teach him the days

of the week and months of the year in English. When I offered to teach him myself he was skeptical as I am not a "profe de segon" <CA> (second grade teacher) . He appears to associate learning the days of the week with the explicit language lessons taught in school and thought that this was a more appropriate context for acquiring specific vocabulary. Eventually, he was persuaded to have a lesson with me provided that their would be an actual test to assess his performance.

Foreign Language

Colby started Chinese lessons at the same time that he started preschool, just shy of his third birthday. His parents signed him up for Chinese because they reasoned that his peers would begin learning English at this age and for Colby to have a similar foreign language experience of explicitly learning a new language he would need classes outside of school. Chinese was chosen because it is a popular foreign language and typologically very different to Spanish or English. Colby initially had private classes until several years ago when a Chinese language school opened near their home. A questionnaire and report form was designed based on the Common European Framework of Reference for Languages (CEFR) for Colby's current Chinese teacher to fill out. Based on this report his level is approximately A2 (see Appendix for original report) and his teacher reports that he has a particularly good accent. Colby himself sees Chinese class as something of a chore and often remarks that it is boring and that he would prefer to go to the park. Nonetheless, he is extremely motivated by tests and is enthusiastic about the prizes the children in the language school receive for scoring high on the exams.

While Colby's motivation regarding learning Chinese is almost purely instrumental, Jack gives the impression of having a real love of language learning. The decision to have Jack and Sophie learn Chinese was a spontaneous one. Jack's father reports that the children had commented in a shop one day that the owner, from Pakistan, was speaking a different language. This sparked a family discussion on all of the different languages people speak, which the children found fascinating. Several days later, Jack's mother and Jack and Sophie were walking by the Chinese school which is directly in front of the children's school, wandered in out of curiosity, and left having signed the children up for lessons. Jack is very enthusiastic about Chinese. In fact, when asked what his favorite

language was out of the four languages he speaks, Jack replied that Chinese was his favorite because he likes saying Chinese words. When asked in what language he talked to himself Jack replied, "In bed I say, like I sing songs in Chinese because in Youtube my mummy looks for Chinese music for my telly so I've got Youtube." The director of the Chinese school reports that Jack is making exceptionally fast progress in Chinese.

Person-Language Bond

Perhaps as a result of having been raised in a more rigidly-interpreted OPOL context, Colby has quite fixed ideas about which language to speak with each person and he becomes visibly uncomfortable when a language is spoken in what for him is an inappropriate situation. He becomes frustrated when his maternal grandparents speak to him in Spanish, a language they are in the process of learning, and when his doctor, a native Spanish speaker, tried to chat with Colby in English during an appointment he blushed and replied "Háblame en castellano por favor." (Speak to me in Spanish, please.) His English teacher at school, a native Catalan, also reported that Colby was reluctant to have informal conversations with her in English. During one of our recorded conversations Colby found it nearly impossible to speak to me in Catalan:

INT: ...Should we speak in Catalan?
COLBY: Umm, not forever.
INT: No, I mean right now.
COLBY: Oh, okay.
INT: okay, doncs, si pudieses es como era elegir, if you could choose..
COLBY: mommy no! (<u>laughs</u>)
INT: Si foran dues idiomes i no
COLBY: DOS idiomes
INT: Dos idiomes i no un cual com es diu "escoger"
COLBY: Mommy, don't talk!

In contrast, Jack is very flexible about which language belongs with which person. While each of his parents normally speaks their native language to him, he says he speaks English "with my daddy and sometimes my mummy," Spanish "with daddy and mummy," and Catalan "with my friends." With his sister he says he speaks all three languages. As mentioned above, switching back and forth between languages is fairly normal in Jack's family and he is not strict about applying the One Person-One Language rule to others. He sometimes talks to his native Catalan English teacher at school in English and when asked

if someone from Barcelona he didn't know wanted to talk to him in English, what he would do, he simply shrugged and said "Umm, talk in English too." Jack's father corroborated what Jack said and seemed surprised that switching between languages was a cause for discomfort.

Language proficiency, dominance and preference

Colby and Jack give the impression of having similar proficiencies in English, Spanish and Catalan. They both speak Spanish and Catalan fluently with regional, but not particularly pronounced accents. Colby, like his mother, speaks fluent English with a pronounced American accent and Jack, like his father, speaks fluent English with a pronounced English accent.

Colby has a very concrete notion of language proficiency assessments and relates it to his own percentage system. When discussing the levels of language proficiency in Spanish of his maternal grandparents he spontaneously remarked "...does nonni talk maybe twenty or thirty or forty [percent]?" To get an idea of his method for assessing proficiency I asked him to rate the other members of the family. He said that I spoke 80% of Spanish and "fifty or lower" percent Catalan, his father spoke 80% English and 85% Catalan (due to the pronunciation issues mentioned above). He rated his own Chinese at 35%, clarifying "...but not to people wouldn't really understand me. I would just could I would have enough to eat. *Waio ping gua* <CH> (I want an apple)" Interestingly, he rated his own Chinese approximately the same as his grandmother's Spanish (between 20%-40%), and I would estimate that her level of Spanish is indeed at approximately A2, which corresponds with Colby's level of Chinese according to his teacher's report.

Several days later I asked Colby what languages he speaks at 100%:

COLBY: Like almost all, right?
INT: Like what?
C I don't know, English ninety-something, right?
INT: Okay and Spanish?
…
COLBY: a hundred, no?
INT: and Catalan?
COLBY: ninety something
INT: So Spanish is the highest one you think?

COLBY: mmm
INT: How come?
COLBY: Well, well, yeah maybe yeah Catalan a hundred too because English I don't really you know when we what what what word do we use that is not doesn't exist? Now I don't remember.
INT: What word do we use that doesn't exist?
COLBY: agobiating (*from "agobiar" <SP>, meaning to annoy or make nervous*)

This interaction demonstrates Colby's self-awareness when assessing his own language skills and the fact that he is cognizant of the gaps in his knowledge which are compensated for by using foreignized words that "don't exist."

Jack also considers his own proficiency when talking about his preferred language. When asked "If you could only speak one language for the rest of your life, what would it be?" he replied ""in English because I'm really good at English. I've got like a few of words that I don't know of English but I've got I know how to talk a little bit Spanish but not a lot."

Colby firmly asserts that his dominant languages are Catalan and Spanish, respectively. When asked, "Is there one of the three languages when you feel more like yourself?" he promptly replied "Catalan...because I use, the language that I more speak is Catalan because with all the kids I speak Catalan and then that's why." In an earlier session when asked what language he would choose if he could only speak one he answered

COLBY: Catalan because we...But can I just speak two?
INT: What?
COLBY: Can I just speak two because and then what would happen is that umm... I would have to speak in Catalan with daddy and he says *casa /ka:sa:* / <SP> (house), he doesn't say *casa* /kɑ: zɑ: / <CA>, he says *casa /ka:sa:* / <SP>.

In the above interaction, Colby found his initial inclination to choose Catalan as a single language problematic because his father, a native Spanish-Catalan bilingual, doesn't distinguish between the "s" (unvoiced) and "z" voiced sounds in the word house, which makes sense in light of his strong person-language bond inclination.

At a later date, when asked whether he preferred reading and writing in Spanish or Catalan Colby said that it was "more fun" to write in Catalan "because of the letters." When asked to clarify he elaborated by explaining that "Spanish is too easy, you just write

what you say."

Other questions designed to determine bilingual language preference and dominance yielded interesting results. When asked what language he spoke in when talking to himself, he insisted that it depended on the context. "...if I'm with you I do it in English, if I'm with daddy I do it in Spanish, and if I'm at school in Catalan...I'm just do it like how it is...but if I'm at Chinese, Catalan." Colby's statement seems unlikely but I was able to confirm that he does in fact talk to himself in English when he is with me during our aforementioned lesson on the days of the week. I recorded the lesson and had to step out of the room for a moment while he was putting strips of paper with the days of the week written on them in order. When I listened to the recording later I could, in fact, hear Colby mumbling to himself in English about the task he was doing "this is...wait, no..that was Tuesday..."

Colby also claimed that what language he counted in depended on who he was with. When pressed he said that he was most likely to count in Spanish if he was by himself because, referring to his father who has a large collection of loose change, "I usually count money with daddy because I like to count his money." I was also able to observe Colby counting in English when we were on the metro traveling to the end of the line and he wanted to know how many stops were left. I pointed towards the map that showed where we were and said, "A lot." He then went closer to the map and under his breath counted the 17 metro stops in English.

Metalinguistic Awareness

The previous accounts of the participants' comments on language use, dominance and preference display their ability to speak clearly and perceptively about various aspects of language such as vocabulary, level of proficiency and foreign accent and language learning. Following are several more examples of their observations specifically related to metalinguistic awareness.

When asked what differences he noticed between English, Catalan and Spanish, Colby replied, "Well, Catalan is more tricky to write because there's if it's more than one thing it goes with "E", "EN or "OS"...in Spanish it's not so tricky because it's just "S". He also pointed out that in English "E" says "eh" in Catalan but is more difficult in English

because the sound changes according to the word. He added that English was also more difficult "...because the "L", two "L"'s are supposed to do "Y" and it's "L". This shows that he is aware of the different phonetic systems of the languages and is also possible evidence of some cross-linguistic interference as the fact that "LL" makes a different sound in Spanish and in English is a source of difficulty for him.

As evidenced above in his comments about his father's Catalan, Colby is very aware of pronunciation. When asked about the difference between the sounds of Chinese and English he provided an example based on his own observations rather than something he was taught:

COLBY: Well, English and Chinese, they're not really like the same like in Chinese there's not "R"s.
INT: At all?
COLBY: Like /rrr/ /rrr/ but it's not really R's. The teacher says "palaguas" (SP = paraguas, EN= umbrella)
INT: When she's speaking in Spanish?
COLBY: (nods) palaguas
INT: Why do you think she does that?
COLBY: Well because Chinese are not used to doing paraguas.

From his observation of the difficulty that his Chinese teacher has pronouncing a certain morpheme (/r/) Colby was able to deduce that this was due to the fact that this particular morpheme didn't exist in her native language.

Both Colby and Jack are aware of their own codemixing, and they concur that it is at times due to a lack of vocabulary, as Colby when Colby gave the example of the invented word "agobiating." Jack says he talks in "Catalinglish, Catalan and English, Spanilinguish, umm, and Cataspanish." When asked why he replied, "...because I don't know the words...I just get the other ones in and then I say how do you say, to daddy, umm, something." In the same session shortly after this statement when Jack was talking about his favorite music band he said, "I think they're of your *pais* <SP> (country). Of your...see? Now I'm mixing up. I don't know how do you say "*pais*"?

Oral Narrative Tasks

Methodology

The narrative data was collected in a similar way for both Colby and Jack. They each did an oral narrative task using the picture books *A Boy, a Dog and a Frog*, followed by *A Boy, a Dog, a Frog and a Friend*, and finally, *Frog Goes to Dinner*, all by Mercer and Marianna Mayer. Each participant did the task three times: with the first book in English with the researcher, the second in Spanish, and the third book in Catalan. Due to time constraints, Jack did the Spanish and Catalan tasks with the same interlocutor who was bilingual in Spanish and Catalan in the same session but with a 15 minute break between tasks, and Colby did the Spanish and Catalan tasks with a break of several hours in between stories and with two different interlocutors, both Spanish-Catalan bilinguals.

Measures

All six tasks were recorded and transcribed (see Appendix: Oral Narrative Transcriptions), and for each task, Guiraud's Index and lexical density were calculated as measures of lexical complexity, and syllables per second were calculated as a measure of fluency.

For calculations related to lexical richness (total word count, TTR, Guiraud's Index and lexical density), non-existent words, words in languages other than the target language, asides not related to the task, and repetitions - both stylistic and disfluent- were excluded. For fluency calculations, stylistic repetitions and non-existent words which were interpreted as consistent with the target language (ex: "comed" in English or "trompanista" in Catalan) were included.

As seen above, cross-language comparisons are not straightforward and need to take into account the nuanced differences in rate and content of each language being compared. As one of the goals of this analysis was to determine the dominant language of each participant, the raw fluency data (syllables per second) was adjusted to allow for cross-language comparison in two ways. Firstly, following Pelegrino et al. (2011) information density data, which reflects the amount of information conveyed per syllable in a given language, was used to calculate how much information per second the

participants were conveying. Spanish has a syllabic density of 0.63 and English, a much denser language, has a syllabic density of 0.91, so it was decided to multiply the syllable per second rate by the corresponding language density and in doing so, calculate an adjusted density per second rate. This calculation, adapted specifically for this study, is referred to here as the Cross-language Adjusted Density per Second (CADS).

Secondly, as Spanish is generally spoken more quickly than English, with average speech rates of 7.82 syllables per second and 6.19 syllables per second respectively, the raw fluency data needed to be adjusted to reflect this for cross-language comparison. It was determined that by dividing the participants' syllables per second rate by the average speech rate of the corresponding language, a percentage is obtains which represents the proportion of their speech rate to the norm. The average syllable per second rate used from Pellegrino et al.'s study was gathered from adult speakers reading transcripts of naturalistic speech, but although the context is different from that of the present study it provides a useful baseline that allows for the comparison of fluency across languages which adjusts for the different rates of speaking which are characteristic of each language. This percentage should not be taken as a reflection of the overall performance of the participants because rather than reading or speaking naturally they were doing a cognitively challenging oral task which required extensive thought and online planning, and as stated previously, they are young children, so for these reasons their speech rate is expected to be lower than the norms presented in Pellegrino et al. (2011). Nonetheless, this percentage, referred to in this study as the Cross-language Adjusted Rate Percentage (CARP), enables the cross-language comparison of each participants' performance in each language in order to help determine which language is spoken more fluently.

As the data for lexical richness and the raw data for fluency (syllables per second) are not adjusted to allow for language differences, these elements will be used only to compare the participants' performances in each language rather than to compare performance across languages.

Results

The oral narrative data is summarized in table 1. The results for lexical richness show that both participants performed similarly in terms of lexical density in English and

Table 1: Summary of Oral Narrative Results

	English Colby	**English** Jack	**Spanish** Colby	**Spanish** Jack	**Catalan** Colby	**Catalan** Jack
Length	284 words	476 words	503 words	323 words	332 words	315 words
	332 syl.	581 syl.	853 syl.	505 syl.	525 syl.	499 syl.
Lexical Richness						
Guiraud's Index	5,87	5,68	6,11	5,79	6,86	6,59
Lexical Density	0,38	0,38	0,37	0,38	0,35	0,4
Fluency						
SPS	1,6	2,06	3,06	1,96	2,61	1,83
CADS	1,46	1,87	1,93	1,23	n/a	n/a
CARP	25.8%	33.3%	39.1%	24.9%	n/a	n/a

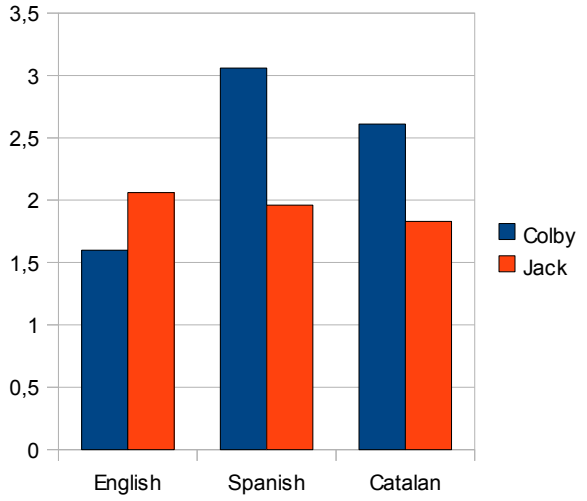
Spanish. The only significant difference in lexical density was in Catalan, where Jack scored 0.40 and Colby 0.35. Colby's results on Guiraud's Index were consistently higher than Jack's in all three languages.

The fluency measures showed more marked differences between the candidates. In terms of syllables per second, in English Jack spoke at a rate of 2.06 SPS while Colby spoke at 1.60 SPS. Colby spoke more quickly than Jack in Spanish (3.06 SPS vs. 1.96 SPS) and Catalan (2.61 SPS vs. 1.83 SPS).

In terms of language dominance, while Jack spoke at an almost identical rate in English and Spanish (2.06 SPS and 1.96 SPS respectively), the CADS and CARP results show that he actually performed significantly better in English. In English he conveyed an average of 1.87 CADS while his CADS in Spanish was 1.23. Similarly his CARP in English was 33.3% while in Spanish it was 27.3%. Colby's SPS in Spanish was 3.06 and in English, 1.60, his CADS was 1.93 in Spanish and 1.46 in English, and his CARP was 39.1% in Spanish and 25.8% in English marking Spanish as clearly more dominant than English. Graphs 1-3 illustrate the fluency measures for each participant.

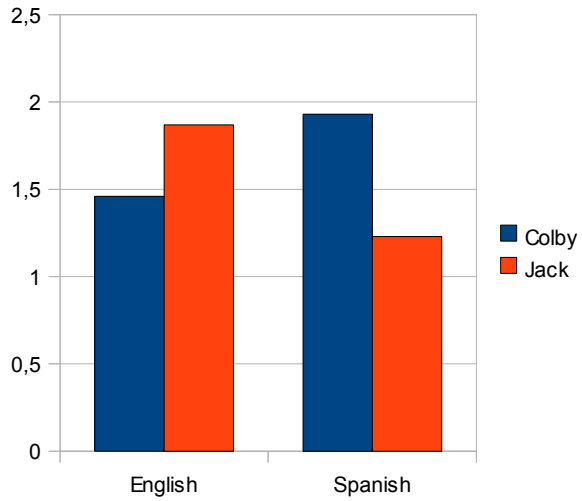
Graph 1 :

Syllables per Second



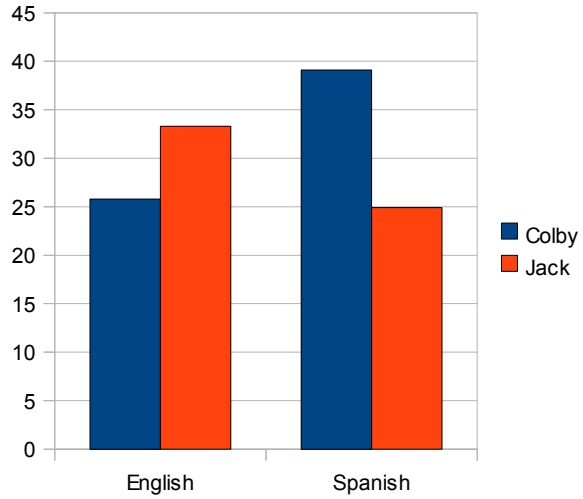
Graph 2:

Cross-language Adjusted Density per Second



Graph 3:

Cross-language Adjusted Rate Percentage



Discussion & Conclusions

This study collected data from two multilingual children using both qualitative and quantitative methods. The participants were interviewed about language use, language awareness, and language dominance and proficiency. In the interview settings, and, in the case of naturalistic conversations with Colby, both participants spoke freely and articulately about their language use and perceptions. The information they provided in the interviews was confirmed and expanded on, in Jack's case by information provided by both a questionnaire and several follow-up conversations with the parents and in Colby's case, by information provided by his Chinese teacher and by observations of how he uses language, particularly English, in every day situations. The participants also performed an oral narrative task in three languages which was analyzed for fluency and lexical richness.

The data on language use and perceptions shows that while Colby and Jack have extremely similar backgrounds and situations, they are quite different. Colby feels more himself when speaking Catalan, the language he uses at school and with friends, followed by Spanish, and claims to be least proficient in English, his mother's native language. This is logical as Colby receives input from his mother and grandparents in English, however the majority of his day at school is spent interacting in Catalan and Spanish. As Quay (2011) mentions, it is typical for multilingual children to become dominant in the community language. Conversely, Jack claims dominance in English, his father's native language and a foreign language here in Barcelona. This is more unusual, particularly given that Jack's father is quite fluent in Spanish and that the family does not have strict language rules for using one language more than another, similar to the flexible approach outlined in Jackson (2007). Jack receives input in English mainly from his father and occasionally from his mother, but his other English-speaking relatives visit infrequently. He does watch television almost exclusively in English and speaks English with his sister, perhaps due to the fact that when she was a baby he was told that she only understood English. The differences in the language dominance of the two participants may be largely a reflection of individual differences which could change over time given their young ages, although there are other possible explanations. The flexibility in language use in Jack's family may be related to the fact that for Jack language is less immutably tied to individuals than it is for Colby, which means that for him, English is not assigned such

narrow usage. Jack also displays an affinity for learning languages as evidenced by his enthusiasm for learning Chinese, so this may play a role as well.

The results for the oral narrative task show that in terms of fluency, both participants performed better in what they asserted was their strongest language. Jack, who claims to be dominant in English, had the highest rate of speaking in English in terms of SPS, CADS and CARP, followed by Spanish, and lastly, in terms of SPS, Catalan. Colby, whose preferred languages are Catalan and Spanish, performed best in Spanish with significantly higher SPS, CADS, and CARP scores than in English, and his SPS in Catalan was higher than in English. Because CADS and CARP data is based on the language data about information density and syllables per second gathered by Pellegrino et al. (2011) it was not possible to include these calculations in Catalan as the source data is not presently available.

The fact that the fluency results from the oral narrative task support the participants' own statements about their language dominance suggests that even young multilingual children may have the capability to assess their own language skills and dominance. However, as stated above, further research with a wider population is necessary before generalizing the results from this study. In any case, it should be noted that both participants, despite their young ages, showed no hesitation or confusion in replying to questions about their language use and dominance, as shown from the interview extracts. In fact, they were both remarkably articulate when discussing both their own and others' language use and were able to give lengthy explanations and examples for their answers to many questions. While most assessment of multilingual children relies heavily on parent and teacher reports and observation, little is reported on the children's perceptions. The idea of using children's direct statements as a measure to determine their language dominance, therefore, may be promising both in terms of validity and efficiency compared with lengthy assessments and questionnaires.

In terms of the oral narrative data, the lexical results were inconclusive. Colby outperformed Jack in all languages in terms of Guiraud's index scores. It is important to bear in mind that Colby is just over one year older than Jack, and that an age difference of one year is quite significant at ages 6 and 7. Clearly both participants are still developing and acquiring vocabulary at a rapid rate as is normal for children their age, so the age

factor is a plausible explanation for these results. Additionally, the lexical density scores for both participants in English and Spanish were nearly identical, however Jack scored significantly higher than Colby in Catalan, which does not support the participants' statements. By their own assessment, Catalan was Colby's strongest language and Jack's weakest. Further research would be necessary with both participants using different tasks to determine if Jack's vocabulary in Catalan is superior to Colby's, but it seems likely, given the inconclusive results of Guiraud's Index, that lexical measures may not be ideal for assessing children of this age using this particular task.

Another factor which may have affected the participants' performance on the oral narrative task was the interlocutors. Due to time constraints, Jack performed the Spanish and Catalan tasks with the same interlocutor and in a shorter time span than Colby. Ideally, both participants should have performed the task with three different and unknown interlocutors on separate days, but unfortunately this was not possible given the time constraints of this project and the schedule of Jack and his family. Regardless, the lexical results were inconclusive so further research to find a more appropriate task for assessing multilingual children's lexical abilities in their languages is likely necessary. Additionally, information on the relative lexical richness of various languages, similar to the fluency and information rates provided in the 2011 study by Pellegrino et al., would make cross-comparison of lexical richness possible.

The methodological contributions of this study are twofold. Firstly, as evidenced by the participants' comments and the wealth of information they offered on their language use, the adaptations of questionnaires designed for adults to self-assess their language dominance for use with young multilingual children appears to have been successful. Based on their reactions and responses both participants seemed to have a good grasp of what was being asked of them and provided thoughtful and relevant answers. The question "If you could only speak one language for the rest of your life which would it be?" was particularly revealing and may be the question most directly tied to the participants' language dominance as evidenced by both other responses to interview questions and the data from the oral narrative tasks.

Secondly, the development of the Cross-language Adjusted Density per Second (CADS) and Cross-language Adjusted Rate Percentage (CARP) are two new methods for

calculating oral fluency in a manner which allows for the comparison of fluency across languages while controlling for language-specific characteristics. As stated previously, more extensive and detailed research is necessary to investigate the extent of the applications of these calculations.

In summation, this study has shown that multilingual children as young as 6 are capable of speaking articulately about language use and their own proficiency and dominance. The results from an oral narrative task show that their self-assessments in terms of fluency are overall quite accurate.

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REFERENCES

Ammar, A. Lightbown, P.M. And Spada, N. (2010). Awareness of L1/L2 differences: Does it matter?. *Language Awareness*, 19 (2), 129-146.

Aronin, L. (2005). Theoretical Perspectives of trilingual education. *International Journal of the Society of Language*, 171, 7-22.

Aronin, L. & Singleton, D. (2012). *Multilingualism, IMPACT Studies in Languge and Society Vol. 30.* Amsterdam/Philadelphia: John Benjamins Publishing Company.

Barnes, J. (2006). *Early Trilingualism: A focus on questions*. Clevedon, UK: Multilingual Matters.

Birdsong, D., Gertken, LM., & Amengual, M. (2012). *Bilingual Language Profile: An Easy-to-Use Instrument to Assess Bilingualism.* COERLL, University of Texas at Austin. Retrieved March 2012, from <https://sites.la.utexas.edu/bilingual/>

Caldas, S. J. & Caron-Caldas, S. (2002). A Sociolinguistic Analysis of the Language Preferences of Adolescent Bilinguals: Shifting Allegiances and Developing Identities. *Applied Linguistics*, *23,* 490-514.

Cook, Vivian, (2010) *Mulit-competence.* Retrieved in May 2012 from http://homepage.ntlworld.com/vivian.c/Writings/Papers/MCentry.htm.

Daller, M., Yildiz, C., de Jong, H., Kan, S., & Basbagi. (2011). Language dominance in Turkish-German bilinguals: methodological aspects of measurements in structurally different languages. *International Journal of Bilingualism, 15*, 215-236.

De Hower, A. (2007). Parental language input patterns and children's bilingual use. *Applied Psycholinguistics, 28,* 411-424.

Dewaele, Jean-Marc (2000), Trilingual first language acquisition: exploration of a linguistic miracle. *La Chouette* 31, 77-86.

Dewaele, M. *(2011).* Self-reported use and perception of the L1 and L2 among maximally proficient bi- and multilinguals: a quantitative and qualitative Investigation. *International Journal of the Sociology of Language. 208, 25–51*

Döpke, S. (1992) *One parent–one language: an interactional approach*. Amsterdam: Benjamins.

Dunn, A. L. & Fox Tree, J. E. (2009) A quick, gradient Bilingual Dominance Scale. *Bilingualism: Language and Cognition, 12*, 273–289.

Grosjean, F. (1989). Neurolinguists, beware! The bilingual is not two monolinguals in one

person. *Brain and Language, 36,* 3-15.

Grosjean, F. (2011) The Person-Language Bond. Retrieved in April 2012 from http://www.psychologytoday.com/blog/life-bilingual/201102/the-person-language-bond

Jessner, U. (2006). *Linguistic awareness in multilinguals: English as a third language.* Edinburgh: Edinburgh University Press.

Juan-Garau, M. and Pérez-Vidal, C. (2001). Mixing and pragmatic parental strategies in early bilingual acquisition. *Journal of Child Language*, 28 , 59-86.

King, K., & Mackey, A. (2007). The bilingual edge: Why, when, and how to teach your child a second language. New York: Collins.

Lanza, E. (2004). Language Mixing in Infant Bilinguals. A Sociolinguistic Perspective. Oxford: Oxford University Press.

Mackey, A. & Gass, S. (2005). *Second Language Research, Methodology and Design* Mahwah, N.J.: Lawrence Erlbaum.

Marian, V., Blumenfeld, H., & Kaushanskaya, M. (2007). The Language Experience and Proficiency Questionnaire (LEAP-Q): Assessing language profiles in bilinguals and multilinguals. *Journal of Speech, Language, and Hearing Research, 50*, 940-967.

Martin, B. (2012). *Coloured Language: identity perception of children in bilingual programmes.* Language Awareness, 21: 1-2, 33-56.

Masny, D. (1991) ´Language learning and linguistic awarenees: the relationship between proficiency and acceptability judgements in L2 ´, in C. James and P. Garrett (eds) , Language Awareness in the Classroom. London: Longman pp. 290-304.

Muñoz, C. (2005) Trilingualism in the Catalan Educational System. *International Journal of the Sociology of Language*, 171, 75–93

Muñoz, C. (2012), *Young Learners' Language Learning and Language Awareness*. Unpublished manuscript. Universitat de Barcelona

Nicoladis, E. & Genesee F. (1998) Parental Discourse and Codemixing in Bilingual Children *International Journal of Bilingualism,* 2, 85-99.

Pellegrino, F., Coupé, C., & Marsico, E. (2011) A cross-language perspective on speech information rate. *Language*, 87, 539-558.

Quay, S. 2011, Introduction: data-driven insights from trilingual children in the making, *International Journal of Multilingualism*, 8:1, 1-4.

Treffers-Daller, J. (2011). Operationalizing and measuring language dominance. *International*

Journal of Bilingualism, 15, 1-17.