

# Documenting bilingual experiences in the early years: Using the CECER-DLL Child and Family and Teacher Questionnaires

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## Research Note

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## Abstract

The diversity of experiences among bilingual children is reflected in the variability of abilities in each of their languages. This paper describes the CECER-DLL Child and Family, and Teacher Questionnaires and discusses the utility of these tools. These questionnaires were created to address the need for valid and reliable tools to document contextual characteristics and language experiences of young bilingual children in developmental and educational research. A multi-site validity study using the CECER-DLL Questionnaires demonstrates how children's language skills are influenced by language exposure at home and at school, mothers' and teachers' skills in each language, mother's generational status, and languages used during language and literacy activities at home.

## Introduction

In recent years, the United States has experienced a demographic transformation that is evident in the increased linguistic, racial, ethnic and cultural diversity among children and families served in early care and education (ECE) programs. There are increasing numbers of bilingual children growing up under diverse circumstances, with highly variable characteristics. Thus, research on bilingual children needs to consistently document those characteristics to ensure the validity of findings and to allow for comparisons across studies. The Center for Early Care and Education Research – Dual Language Learners (CECER-DLL) Child and Family, and Teacher Questionnaires were developed to address these needs (Hammer, Ccyk, Scarpino, Jury & Sawyer, 2019). In this paper we describe the development of these tools and report findings from a validation study.

The need for the CECER-DLL questionnaires stemmed from research reviews and secondary data analyses that identified major challenges to conducting scientifically sound research with young bilingual children (Castro, 2014). Those challenges include inconsistencies across studies on how bilingual language experiences are described; inadequate documentation of language experiences; and failure to consider contextual factors frequently associated with children's bilingualism. Findings from critical reviews of the literature indicated that the great variability among bilingual families in language experiences, and in contextual factors such as immigration and generational status, acculturation, type of community, and socio-economic status must be considered when investigating the development of bilingual children (Hammer, Hoff, Uchikoshi, Gillanders, Castro & Sandilos, 2014; Peisner-Feinberg, Buysse, Fuligni, Halle, Espinosa, Burchinal & Castro, 2014; Winsler, Burchinal, Tien, Peisner-Feinberg, Espinosa, Castro, LaForett, Kim & De Feyter, 2014). Similarly, the variability that exists in children's language experiences in early childhood education (ECE) classrooms needs to be captured given the various types of language of instruction programs provided (Castro & Prishker, 2019). The CECER-DLL Questionnaires were created to address these challenges by providing researchers with a valid and reliable tool to document the language experiences and contextual characteristics of young bilingual children in developmental and educational research.

## Describing children's bilingual experience

The diversity of language experiences among children who grow up in bilingual or multilingual contexts is reflected in the variability of skills in each of their languages, which is documented in the research literature (Hoff, Core, Place, Rumiche, Senior & Parra, 2012). In spite of this evidence, little information is provided in studies about how children's bilingual status was determined. Furthermore, the means for determining bilingual status across studies differs,

making it difficult to draw conclusions that could be generalized among bilingual children. For instance, some studies use children's first or home language, or their ethnicity (e.g., Spanish-speaking children; Hispanic/Latino), and sometimes children's or their families' immigration status, as the only characteristic that defines bilingual study participants. Generally, studies do not provide information about the age at which children were exposed to each of their languages or the amount of their exposure to and use of these languages. This information is important because language exposure and use may explain the variability in children's abilities in each language (Byers-Heinlein, Esposito, Winsler, Marian, Castro & Luk, 2019). The notion that bilingual children come from monolingual non-English speaking homes is a common misconception, which may lead to misleading interpretations of study findings.

### Documenting language experiences

Regarding sources of information, most studies rely on parent or teacher responses to a single question such as "What is the primary language at home?" or "Does the child speak a language other than English at home?" to identify and describe whether children are bilingual. Few studies use home language surveys or questionnaires to determine children's degree of bilingualism. Even fewer studies assess children's language abilities in both of their languages and use that information to determine their bilingual status. As a consequence, research methods may lead to inaccurate representations of bilingual children's characteristics, which in turn, can affect the validity of research findings.

Children who are bilingual learn through their two languages at home and elsewhere. Therefore, research intended to increase understanding of these children's development and learning requires documenting children's exposure to and use of their two languages, including age of exposure to each language. Obtaining information on the amount of exposure and usage children have when talking to family members – other than just their mothers or just a global amount from the household – and learning about the languages various activities are conducted in, as well as the amount of exposure and usage of the two languages in school, will allow for a more accurate and deeper understanding of children's bilingualism and how it relates to the various domains of development.

### Understanding contexts of development

The contexts in which bilingual children participate are integral to understanding their development considering that their experiences at home and in schools can be different from those of their monolingual counterparts. Generally, studies pay little attention to the heterogeneity of experiences within the bilingual population and how those relate to the various ways in which children become bilingual (Hammer et al., 2014). In most studies, very limited information is provided about demographic characteristics of bilingual children and their families. For instance, some studies report on maternal education, but information on other characteristics such as family composition and generational status is rarely reported and used when analyzing data on these children's development. Also, few studies offer a description of young bilingual children's developmental trajectories across developmental domains in conjunction with descriptions of their sociocultural contexts (Castro, Gillanders, LaForett, Prishker, Espinosa, Garcia, Genesee, Hammer & Peisner-Feinberg, 2020).

There is still more to learn about practices in bilingual households and in schools that support children's development and learning.

In summary, there is a pressing need for standard protocols that capture young bilingual children's language experiences at home and in ECE contexts, documenting the diversity among bilingual children and their families. Such protocols would ensure consistency of how samples are described across studies and would facilitate comparisons across studies.

This paper has two main aims: (1) to describe the CECER-DLL Child and Family and Teacher Questionnaires, and (2) to discuss the utility of the CECER-DLL Child and Family and Teacher Questionnaires to document young bilingual children's experiences at home and in early education settings. Specifically, we conducted a validity study using the CECER-DLL Child and Family Questionnaire to describe the diversity of family characteristics and children's language experiences at home as well as the magnitude of the association among language experiences, family factors and children's language abilities. In addition, we examined the CECER-DLL Teacher Questionnaire's utility by relating bilingual language exposure and use in ECE settings as reported by teachers. These rich descriptive analyses should guide future research and ensure attention to the many factors influencing children's bilingual development.

### The CECER-DLL Child and Family and Teacher Questionnaires

The CECER DLL Child and Family Questionnaire and CECER DLL Teacher Questionnaire (Hammer et al., 2019), which are available in Spanish and English, were developed through a two-year iterative process. The process began with an extensive review of the literature and of existing questionnaires to establish the content and initial versions of the questionnaires. The initial versions were, then, reviewed by researchers with expertise in bilingualism and/or questionnaire development. Based on the feedback, revisions were made to the questionnaires. Next, two rounds of cognitive interviews were conducted with Latina mothers and teachers of Spanish-English bilingual preschoolers to identify and minimize any breakdowns between the respondents' interpretation of the questions and the intended meaning of the questions (Willis, 2004).

When conducting the cognitive interviews, a bilingual interviewer read each question of the child and family questionnaire or teacher questionnaire to participating mothers or teachers. The interviewer documented the participants' responses and then asked participants targeted probes that were designed to gain an understanding of the participants' thoughts as they answered the questions. The participants' responses were coded, and the findings from each round of cognitive interviews were used to revise the questionnaires. The two rounds of cognitive interviews served as a pilot of the questionnaires, and also strengthened the validity of the questionnaires by identifying and addressing any disconnect between the participants' perceptions of the questions and their intended meaning. The versions that resulted from this process were used in this study to assess their validity.

The CECER-DLL Child and Family Questionnaire consists of 98 questions that address: (a) child demographics; (b) child Spanish and English language exposure and usage; (c) demographic information about the child's mother and father (or mother's husband/partner), such as generational status, length

of residency in the United States, and languages spoken (including those other than Spanish and English); (d) household characteristics; (e) child care experiences; and (f) the language and literacy environment at home. The CECER-DLL Teacher Questionnaire consists of 45 questions that address: (a) teacher demographics; (b) teacher training; (c) languages spoken by the lead teacher and classroom assistant; (d) classroom demographics and language usage; and (e) teaching practices and beliefs related to bilingual and culturally diverse children. See Tables 1 and 2 for information about the topics addressed in the two questionnaires.

### Using the CECER-DLL Child and Family and Teacher Questionnaires: The Validity Study

The purpose of this validity study was to examine the utility of the CECER-DLL Questionnaires to describe bilingual children's experiences with their two languages (Spanish and English) at home and in the early childhood classroom and the characteristics of their families and early education setting. We also examined the association between language exposure and use of each language with children's language abilities in English and Spanish.

#### Participants

Participants were recruited from center-based preschool programs in three states (California, Florida, and Pennsylvania). In total, 81 classroom teachers were recruited. Thirty-two percent of the teachers were U.S. born; 82% had at least a bachelor's degree. Table S2 (Supplementary Materials) shows teacher participants demographic characteristics. Three to five Spanish-English bilingual preschoolers were recruited per classroom, for a total of 183 children and their mothers. Only 17% of the mothers were born on the U.S. mainland, with the majority (49%) being born in Mexico. Nearly all children (96%) were born on the U.S. mainland. Half of the children were girls. Fifty percent of the families received food stamps, and about 50% of the children received free/reduced lunch. Table S1 (Supplementary Materials) presents demographic characteristics of the mothers and their children.

#### Procedures

Trained bilingual assessors interviewed parents and teachers about children's language experiences, and family, teacher/classroom characteristics using the CECER DLL Child and Family or Teacher Questionnaires. Data were gathered through phone interviews and the respondents' answers were entered directly into a web-based format of the questionnaires. The phone interviews had range checks for each item, if relevant, and automatically implemented the skip patterns. The teachers and parents were compensated for their participation. Interviews were conducted in either English or Spanish based on the interviewee's preference. Trained bilingual data collectors conducted child language assessments in English and Spanish.

#### Measures

##### *Child Language Experiences and Context of Development*

The CECER DLL Child and Family Questionnaire and CECER DLL Teacher Questionnaire, described above, gather data on bilingual children's language experiences in Spanish and English, as well as the characteristics and activities at home and the ECE setting to support language and literacy development.

##### *Child language skills*

The *Clinical Evaluation of Language Fundamentals-Preschool -Second Edition: English and Spanish* (CELF Preschool-2: English and Spanish; Wiig, Secord & Semel, 2004) is an assessment of language abilities for children ages 3 to 6:11 years. The Sentence Structure subscale examines children's receptive language skills, and the Word Structure and Expressive Vocabulary subscales examine the children's expressive language and expressive vocabulary skills, respectively. The CELF-Preschool-2 has overall strong internal consistency with a Cronbach's coefficient alpha of .90 for the English version and .93 for the Spanish version (Wiig et al., 2004).

The *Expressive One-Word Picture Vocabulary Test -Bilingual Version* (EOWPVT; Brownell, 2012) assesses expressive vocabulary skills conceptually (i.e., taking into account what is known in Spanish and English). Internal consistency reliability for the normed sample ranged from 0.96–0.98 (Brownell, 2012).

#### Results

##### *Documenting language experiences in home and early childhood education contexts*

Mothers varied in their reported levels of ability in English and Spanish, with most reporting lower levels of ability in English and higher levels of ability in Spanish; however, language abilities were not uniform across participants. There was also variability in mothers' generational status, with approximately half arriving on the U.S. mainland after 18 years of age, about 18% were children of immigrants or had been on the U. S. mainland for 2–3 generations or more (see Table S3, Supplementary Materials). The teachers were also diverse, with over 60% with origins in Latin America and the Caribbean. Consequently, they reported high levels of Spanish abilities. The majority of lead teachers (82%) had a bachelor's degree or higher (see Table S2, Supplementary Materials).

Table S3 (Supplementary Materials) shows the results for children's exposure to and use of Spanish and English at home when talking with various family members, as reported by mothers. Table S4 (Supplementary Materials) presents the amount of English and Spanish used by family members during language and literacy activities with their children. Adults used more Spanish than English when talking with their children, with the children responding mostly in Spanish to them. However, interactions with other children in the household (older and younger) were more in English than Spanish. The language used by family members during specific activities was variable, with more English being spoken in academic activities such as reading or practicing the ABCs and more Spanish spoken when telling a made-up story or during household chores.

##### *Associations among children's language experiences and their language skills*

We determined the extent to which exposure to and use of Spanish and English at home and in the ECE classroom were related to child language skills, given family demographics and activities, and teacher/classroom characteristics. Factor analyses were conducted to create the language exposure and use variables as follows: the amount of Spanish and English the child speaks to adults at home (child language use across all adults in the home: mother, husband/partner, other adults), use of Spanish and English for activities at home (2 variables: academic activities;

**Table 1.** Content of CECER-DLL Child and Family Questionnaire

Content Area	Topics Addressed
Child Demographics	Age Gender Race/ethnicity Country of birth Time in country of origin
Child Language Exposure and Usage	Age of exposure to Spanish and English Amount of Spanish and English spoken to the child by various family members including mother, father, other adults in the home, older and younger children in the home, grandparents Amount of Spanish and English spoken by the child to various family members
Demographic Information about the Child's Mother and Father (or mother's partner)	Age Race/ethnicity Hispanic origin Country of birth Length of residence in the US mainland Generational status Educational history and country where obtained Employment information Languages spoken Maternal ratings of her availability to speak, understand, read and write in Spanish and English
Household Characteristics	Number of adults in the home Number of children the home Annual income Government assistance received Zip Code
Child Care Experiences	Age of entry into child care Age first exposed to English in childcare Name of current child care setting (including family care), Hours per week child receives child care Amount of Spanish/English used by child care providers with the child
Home Literacy Environment	Frequency with which family members engage the child in various language and literacy activities and languages conducted in Frequency of maternal literacy activities Number of child books available in Spanish and English Number of adult books available in Spanish and English

**Table 2.** Content of CECER-DLL Teacher Questionnaire

Content Area	Topics Addressed
Teacher Demographics	Race/ethnicity Languages spoken Ability to understand, speak, read and write Spanish and English
Teacher Training and Certification	Level of education obtained and country in which it was obtained Teacher certifications Preservice and inservice training on educating bilingual and culturally diverse children
Classroom Assistant	Languages spoken
Classroom Demographics and Language Usage	Number of children in the classroom and ages Number of children by race/ethnicity Languages spoken by the children's their families Amount of Spanish and English used by the teacher and the assistant during key times of the day Practices used when communicating with parents of bilingual children
Teaching Practices and Beliefs	Frequency with which teachers engaged in various teaching practices related to bilingual children and children from diverse cultures Reported beliefs about bilingual language development and about how to support children's development in their two languages

play and non-academic activities), and use of Spanish and English in the classroom (average of the use of Spanish and English by lead and assistant teacher).

Descriptive analyses revealed that scores on language measures were highly correlated within language, but negatively correlated across language indicating that children with higher levels of skills

in one language tended to have lower skills in the other. Children's language skills in English or Spanish were higher when children used more of that language to talk with parents or teachers, mothers and teachers reported higher skills in that language, and more activities in the home involved that language. English skills were higher when family income was greater and mothers reported more education. Spanish skills were higher when families had moved more recently to the U.S. mainland, and English skills were higher when families had been on the U.S. mainland for more generations. These are all significant correlations and comparisons (see Tables S5-S7, Supplementary Materials).

Regression analyses predicted language skills from children's exposure to and use of Spanish and English at home and classroom language use variables, with children nested within centers. Potential covariates were examined. Maternal education moderated the effect of languages used by children and adults at home, and proportion of bilinguals moderated language usage by teachers in the classroom. Multiple regressions were conducted to identify the strongest predictors of children's language skills in English and Spanish. Results indicated that English expressive vocabulary was higher and Spanish expressive vocabulary and word structure were lower when English was used more often by the child with adults at home and during language and literacy activities at home. English word structure was higher when teachers used more English in the classroom.

## Discussion

This study demonstrates the utility of the CECER-DLL Child and Family and Teacher Questionnaires, which were developed through a rigorous, iterative process that culminated with this investigation. Using the CECER-DLL Questionnaires in research can contribute to the field's understanding of the variability of bilingual children's language experiences and how that variation affects children's development of their two languages. It helps document the complexity of language experiences in bilingual/multilingual households where a child can be involved in linguistic interactions using one or more of their languages with various members of the family. This is a complexity that usually is not acknowledged in research with young bilingual children (Castro, 2014) and that is critical to our understanding of how bilingual children develop. Furthermore, it contributes to an understanding of contextual and demographic characteristics, which may be unique to bilingual children, and how the characteristics influence these children's development. For example, it documents the diversity among Spanish-English bilinguals by identifying their parents' country of origin or heritage, and indicators of acculturation such as their length of residency in the U.S., and generational status. The CECER-DLL Questionnaires also gather information about mothers' and teachers' self-reported abilities in both Spanish and English, among other characteristics, to document the language environment at home and school.

The findings of this study demonstrate how children's language skills are influenced by children's language experiences at home and at school, mothers' and teachers' skills in each language, the generational status of the mother, and the languages used during language and literacy activities at home. It also shows that maternal education plays a role in children's English language development, but not Spanish language development, consistent with other studies (i.e., Hammer, Komaroff, Rodríguez, López, Scarpino & Goldstein, 2012), and that the

proportion of bilingual children in the classrooms affects children's language skills in Spanish.

The CECER-DLL Questionnaires, which are available to the field through the following website: <https://www.tc.columbia.edu/dll-lab/cecer/> or by contacting the second author, provide researchers with well-developed instruments through which they can obtain information about the characteristics of the children, families, and teachers in their studies as well as data on children's language experiences in the home and classroom. Additionally, through the use of the questionnaires in research, researchers, policy makers and consumers of research will be able to understand to whom the findings of studies on Spanish-English speaking bilinguals apply, compare findings across investigations, as appropriate, and identify relevant areas of study that are needed about this population of children.

### Supplementary Material.

- Table S1. *Child and Maternal Characteristics*
- Table S2. *Teacher Characteristics*
- Table S3. *Children's Amount of Exposure to and Usage of Spanish and English at Home*
- Table S4. *Languages Used by Parents*
- Table S5. *Child Language Skills Standard Scores*
- Table S6. *Correlations between child language skills and home language experiences*
- Table S7. *Correlations between child language skills and early childhood classroom language experiences*

For supplementary material accompanying this paper, visit <https://doi.org/10.1017/S1366728920000401>.

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