

Bilingualism and Language Delays: How Parental Concerns Are Associated with Spanish and
English Language Exposure

by

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THESIS ABSTRACT

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Master of Science in Communication Disorders and Sciences

Title: Bilingualism and Language Delays: How Parental Concerns Are Associated with Spanish and English Language Exposure

This thesis includes previously published co-authored material. This study explores whether parental concerns about communication delays are associated with differences in bilingual language exposure among Spanish-English bilingual children aged 24–30 months. Utilizing data from 115 mother-child dyads, this research compares language input and child utterances between families with and without concerns about their child’s communication. Measures included the Language Exposure Assessment Tool (LEAT), caregiver surveys, and mother-child language samples analyzed using SALT software. Results showed no statistically significant differences in overall Spanish or English exposure based on parental concern. However, children whose parents expressed concern produced significantly fewer Spanish-only utterances, suggesting early shifts in language use. These findings indicate that parental concerns potentially shaped by pervasive myths generated by linguicism around bilingualism may influence bilingual practices even in the absence of formal diagnoses. The study highlights a potential bidirectional relationship between child language delay and reduced heritage language exposure, underscoring the need for culturally responsive, bilingual-affirming practices in early intervention.

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I am especially grateful to my family, particularly my mother, for their unconditional love, sacrifices, and constant encouragement throughout my academic journey. Their support is the foundation of my resilience and purpose. I also wish to acknowledge my community, both at home and in the field, whose lived experiences and cultural wisdom have shaped my passion for equitable and bilingual-centered care.

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DEDICATION

To my mother, whose quiet strength has shaped the foundation of my life. Your resilience, tenderness, and persistent belief in me are woven into every page of this work. You gave me the gift of language and of holding space for others with compassion. This thesis is an extension of the values you taught me: perseverance, humility, and the power of love in action. I carry your lessons with me into every room I enter, and I dedicate this accomplishment to you with deep gratitude and love.

To Spanish-speaking communities who have long carried wisdom across generations despite being misunderstood or undervalued. This work honors your stories, your strength, and your voice. It is a small offering toward a future where bilingual children are celebrated, not questioned, and where heritage languages are protected, not erased. May this serve as a reminder that your language is powerful, your culture is indispensable, and your presence is important in shaping a more inclusive and just world.

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CHAPTER I

INTRODUCTION

In the United States, Spanish is the most reported home language after English for children in public schools, highlighting the role of bilingual experience in the linguistic landscape of many families (National Center for Education Statistics, 2023). However, research on bilingual children, especially those with language delays or disorders, is limited compared to studies on monolingual children. Specifically, it is important to understand how parent concerns of child language delay may cause parents to alter the bilingual environments for children. Research shows that bilingualism confers protective benefits, such that bilinguals develop stronger cognitive control to manage language interference and reduce cognitive decline, a skill not required in monolingual contexts (e.g., Bartolotti & Marian, 2012). Nevertheless, there are long-standing myths surrounding bilingualism, particularly in the U.S., that influence parental beliefs and practices in exposing their child to two languages (Ronderos et al., 2021). The purpose of this study is to understand how bilingual language environments differ when parents do and do not have concerns about their child's communication abilities related to language delays.

One of the most pervasive myths is the idea that learning two languages can cause confusion or delay in a child's language development (Hoff & Core, 2016). This misconception has led many parents and even some professionals to advise against raising children bilingually, fearing that it might hinder their cognitive and linguistic abilities. These myths often suggest that multilingualism can cause language delays or disorders, or worsen those that exist, despite evidence to the contrary. Unfortunately, many parents of children with language delays and

disorders, including those advised by professionals, continue to receive such misguided advice (Kay-Raining Bird et al., 2005; Yu, 2018). However, extensive research has consistently debunked this myth, demonstrating that bilingualism does not cause confusion or language delays (Hoff & Core, 2016). Instead, bilingual children often have cognitive advantages over their monolingual peers, such as enhanced executive function and problem-solving skills (Bialystok, 2015). The persistence of myths can have detrimental effects on the child's overall linguistic development and cultural identity. Studies have shown that maintaining the heritage language is crucial for family cohesion, cultural identity, and overall well-being (Oh, 2010; Thorsos, 2019).

Another common myth is that children need to master one language before they can learn another effectively. This belief often results in parents prioritizing English over their heritage language, especially in the context of Hispanic/Latino families in the United States, where Spanish is the second-most spoken language (U.S. Census Bureau, 2020). The pressure to assimilate and ensure academic success in an English-dominant society can lead parents to reduce the amount of Spanish spoken at home, fearing that it might interfere with their child's English acquisition (Ronderos et al., 2021). These myths are further perpetuated by a lack of adequate training and awareness among educators and healthcare professionals. Many speech-language pathologists, teachers, and pediatricians perpetuate these myths by advising parents to focus solely on English, especially if a child shows signs of delays or disorders in language or communication (Kay-Raining Bird et al., 2005; Kohnert & Medina, 2009; Paradis et al., 2011; Yu, 2018). The persistence of these myths reflects broader societal attitudes towards bilingualism and multiculturalism in the United States which favor monolingualism and Standardized American English (Hyter & Salas-Provence, 2023). Despite the growing body of evidence

supporting the benefits of bilingualism, there remains a significant gap between research findings, public perceptions, and parent beliefs and practices.

This study focuses on Spanish-English bilingual children and their Latinx mothers, specifically those mothers with and without concerns about their child's communication and potential language delays. Understanding the bilingual environment for children who are at likelihood of language delays and disorders is important because this population is understudied and often subject to myths about bilingualism, which may influence parental practices around bilingual exposure (Ronderos et al., 2021). This study seeks to explore the degree to which parents reduce bilingual language exposure when they are concerned about their child's communication development. In this way, this study will show whether myths about bilingualism among children with language delays extend to parent bilingual practices.

Prior Research

Previous research has shown that parents of children with language or learning disabilities often receive mixed messages about bilingualism, which may lead to restricted bilingual language exposure (Kay-Raining Bird et al., 2005; Kohnert & Medina, 2009; Paradis et al., 2011; Yu, 2016). However, the direct link between parent beliefs and language exposure has not been evaluated. Theoretically, parents who have concerns about their child's language development may be especially vulnerable to limiting bilingual exposure for their children (Cioè-Peña, 2020). As discussed in detail below, two recent studies (Ronderos et al. 2021; Blanc et al. 2022) reveal that parents of children with language or learning disabilities may have greater internalized beliefs about bilingual myths, unlike parents of typically developing children. However, it remains unclear if parental beliefs lead to real and observed differences in children's bilingual exposure, particularly early in development.

Prior research has shown that bilingual parents often receive conflicting advice about their child's ability to learn multiple languages. In one study of parents raising bilinguals, Ronderos et al. (2021) provided a framework linking parental beliefs, practices, and outcomes, focusing on Spanish-English bilingual children aged 4-11 years. The study found that parental beliefs about bilingualism were associated with child language outcomes. In addition, language practices mediated the relationship between parental beliefs and child language outcomes. Specifically, Spanish practices at home had a substantial positive impact on Spanish language outcomes, while English practices at home and in the community positively influence English language outcomes. This establishes a theoretical model in which parental beliefs impact children's language skills through the language practices parents implement (see panels B, C, and D in Figure 1.1). While Ronderos et al. (2021) focused on Panels B–D, in the current study, we explicitly examine Panel A (see Figure 1.1), which captures **parental concerns** and we evaluate its association with Panel C, specifically bilingual language exposure practices during early childhood at 24–30 months of age.

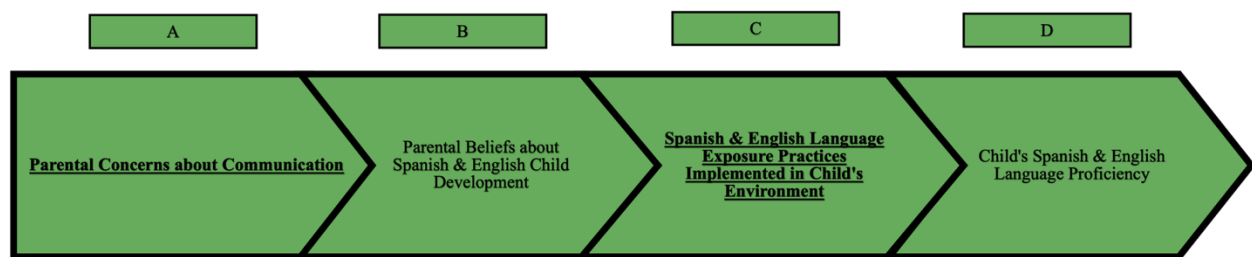


Figure 1.1. Conceptual framework of parental concerns, parental beliefs, language practices, and language outcomes in Spanish-English bilingual children. Bold and underlined text denotes the constructs of focus in this study.

Regarding clinical populations, parent beliefs are differentially associated with their child's language development and delay status. In one recent study, Blanc et al. (2022) examined the experiences of parents with and without children receiving speech-language pathology services. All parents had to have a Spanish–English bilingual child between 8 and 14 years of age to participate in the study. Results showed that many parents received messages endorsing myths about bilingualism, including from practitioners. Parents of children with language delays or disorders reported taking misinformed practitioner advice and reduced bilingual exposure, implementing English-only education. Yet parents of typically developing bilingual children ignored advice and maintained bilingual exposure and education. Similarly, Yu (2018) explored the challenges faced by bilingual, immigrant mothers of autistic children between the ages of 3 and 8 years (many of whom also experience early communication and language delays), emphasizing how deeply ingrained myths about bilingualism influenced parental language practices. These mothers reported being advised to use English exclusively, often by professionals who believed bilingualism exacerbated developmental challenges. Importantly, Yu (2018) highlighted how these mothers' bilingual environments shaped their interactions with their children, with language practices constrained by the perceived necessity of supporting English acquisition over maintaining their heritage language. Together the emerging body of evidence suggests that parental beliefs are influenced by long-standing bilingual myths (in some cases endorsed by practitioners), which in turn affect their language exposure practices with children particularly when there are concerns for a language delay or disorder.

Although prior research suggests that parent beliefs about bilinguals are associated with bilingual practices, gaps remain in understanding how these beliefs translate into real and observed differences in bilingual exposure for children with and without likelihood of language

delays and disorders. Moreover, it is unclear whether differences would emerge in children as young as 24-30 months (about 2 and a half years), well before most diagnoses are established but during a critical period of early language development that sets the stage for later learning (Conboy & Thal, 2006; Kuhl, 2004; Paradis et al., 2011; Werker & Hensch, 2015). Although the studies reviewed previously show how parent beliefs and practices are associated with child bilingual language outcomes, they are focused on preschool and school-aged children (i.e., 4 years old and above). It is unknown whether similar patterns would be observed in children's bilingual environments prior to their fourth birthday.

This study aims to fill this gap by describing the bilingual language environments and evaluating whether parental language concerns about language development impact children's bilingual exposure. Our research question is: Are there differences in the bilingual experience of children with and without parental concerns for communication and language delays? Specifically, the study evaluates various parameters of bilingual exposure to understand how parent practices differ when there are child communication concerns. We hypothesized that children whose parents have concerns about their language development will experience reduced overall Spanish exposure, with parents providing less Spanish input and more English input compared to parents without concerns, and that native Spanish input from parents and other family members will also be reduced.

This thesis includes co-authored material developed using data collected by the Early Dual Language Development Lab, co-directed by Dr. Stephanie De Anda and Dr. Lauren M. Cychk. Dr. De Anda served as my thesis advisor and contributed to the study design, data analysis, and manuscript feedback. I was responsible for conducting the literature review, interpreting findings, and writing the thesis.

CHAPTER II

METHOD

This chapter contains co-authored material based on data collected by the Early Dual Language Development Lab at the University of Oregon, co-directed by Dr. Stephanie De Anda and Dr. Lauren M. Cychk. I contributed the literature review, primary writing, and interpretation of findings, while Dr. Stephanie De Anda guided the study design, data analysis, and provided manuscript feedback.

Participants

This study utilized a convenience sample totaling 115 dyads (children and their mothers) from a larger study focusing on Spanish-English bilingual children aged 24-30 months. Participants were recruited through community organizations, clinics, and early childhood programs serving Latinx families and children with early communication or language delays and disorders. To be included in the study, children had to be aged between 22 and 32 months (about 2 and a half years). The inclusion criteria for mothers required that they (1) identified as Latina/x/e or Hispanic, (2) were over 18 years of age, (3) had children exposed to any amount of Spanish at home, and (4) reported their child had typically developing language or a language delay in the absence of other documented developmental cognitive or socio-emotional conditions (e.g., Autism Spectrum Disorder). Participants were allowed to self-identify as “Hispanic, Latino, Latina, Latinx, Latine, Indigenous, None of the Above, or Other (Specify)” during the recruitment process. Only one child participant had an adoptive mother. Children with primary delays or disabilities beyond communication or language, such as Autism Spectrum Disorder or other significant developmental disorders were excluded.

As a group, children in the study were exposed predominantly to Spanish since birth ($M = 73.12\%$, $SD = 24.9$) compared to English ($M = 26.88\%$, $SD = 24.4$) as reported on the Language Exposure Assessment Tool (LEAT, De Anda et al., 2016). Some children had exposure to a third language ($n = 6$; third language: French, Catalan, Mixtec, Japanese, Mayan, Swahili; total exposure to the third language: $M = 5.04\%$, $SD = 0$) and were included in the dataset.

Parents (mothers) were divided into two groups for comparison purposes: those with concerns about their child's communication or language ($n = 36$) and those who did not have concerns ($n = 79$). The overall sample ($N = 115$). Refer to Table 2.1 for further descriptive statistics. Parental concerns reflected the worries parents had about their child's current communication or language development and abilities. Importantly, parents could have concerns in the absence of a formal diagnosis. For the purposes of this study, we expected differences in the bilingual language environment for those children whose parents had concerns about the child's communication vs. those who did not. Table 2.1 provides descriptive information about key parent demographic variables.

Measures

Center for Early Care and Education Research Dual Language Learner

Questionnaire. To further understand parental concerns and demographic information, the study employs the Center for Early Care and Education Research Dual Language Learner questionnaire (CECER-DLL, Hammer et al., 2015). This questionnaire uses parent report to capture parental concerns about language and communication and also demographics (see Table 2.1). The question is formatted as follows: At any point have you been concerned about the

language development of your child? The CECER-DLL has demonstrated strong psychometric properties among bilingual and Latinx populations, including validity and reliability.

Language Exposure Assessment Tool. Children's bilingual environments were captured using the Language Exposure Assessment Tool (LEAT; De Anda et al., 2016). The LEAT gathers detailed aspects of a child's language exposure, including the amount, type, and context of language use in both Spanish and English via parent report. The LEAT is an interview-style assessment that guides researchers in asking key questions of parents about the people that regularly interact with the child at least once a week from birth to the child's current age. It gathers information about the amount of input they provide to the child, whether they are native speakers of the language, and in which language throughout a typical week. To explore potential differences in the bilingual environments of children with and without communication concerns, multiple variables were extracted from the LEAT. Table 2.2 provides definitions and descriptives for all extracted variables. The variables of interest are overall exposure to (a) Spanish and (b) English, language input from (c-d) parents and (e-h) other people in the child's environment, and native input from (i-j) people in the child's environment.

Mother-Child Language Samples. Language samples were also collected as part of the study protocol and provided an observed measure of maternal Spanish and English language input. These samples involved a parent-child free play session lasting approximately 15 minutes. The interactions were recorded and transcribed to define utterances using the Systematic Analysis of Language Transcripts (SALT) software and coding conventions (Miller & Iglesias, 2020). Each utterance was coded as Spanish only, English only, or code-switched (defined as the use of both Spanish and English within the same utterance). The number of utterances in Spanish, English, and code-switched utterances by both the parent and the child were analyzed to

provide insights into language use patterns. The observation was designed to simulate a natural play environment: A set of toys was used that encouraged both concrete and imaginative play following the Three Bags Task (Tamis-LeMonda et al., 2004) which uses three sets of toys. For this task, the mother was asked to access three sets with their child. The first toy set, focusing on literacy, included children's books in Spanish and English. The second set of toys, aimed at encouraging imaginary and pretend play, consisted of animal and people figurines. The third set of toys represented daily activities, with pretend foods and dishes and grocery items.

Mothers were instructed to interact with their child as they would typically do for about 15 minutes, using all three sets of toys. The mother was given the flexibility to choose the order of the toy sets, the duration for each toy, and the nature of the play or interaction. It was emphasized that the child should not be eating or using a pacifier during the session to ensure clear audio recording. The session concluded with the researcher informing the mother when the recording was complete and asking if there were any questions. This structured approach to collecting language samples aimed to create a natural yet controlled environment, allowing for the detailed analysis of language use patterns between parents and children.

Procedures

Data collection procedures varied slightly before and after the onset of the COVID-19 pandemic. Prior to the pandemic, eligible families were contacted over the phone to gather information using the LEAT. This tool was used to assess various aspects of the child's language exposure, including the amount, type, and context of language use in both Spanish and English. The LEAT was administered through a structured interview with the parent, ensuring detailed and accurate responses. Families were then invited to visit the research lab at the University of Oregon, where they completed the CECER-DLL survey using paper and pen following consent.

Upon arrival, parents provided informed consent, ensuring they understood the study's purpose and procedures. After completing the survey, children and their mothers were escorted to an observation room to collect a mother-child language sample observation.

After the pandemic onset, the LEAT data continued to be collected over the phone, but surveys were administered through an online Qualtrics link. This remote administration ensured the safety of both participants and researchers while maintaining the consistency of data collection procedures. Parents received a digital link to the survey. This online approach ensured that the data collection process remained accessible and adaptable to public health guidelines. Language samples were collected via video calls (Zoom), ensuring the continuity of data collection while adhering to safety protocols. Families were provided with detailed instructions on setting up the play environment and recording equipment. During the Zoom sessions, researchers observed and recorded the home mother-child interactions. These recordings were then transcribed and analyzed using the same SALT software and coding procedures as the pre-pandemic data. This hybrid approach allowed the study to maintain robust data collection procedures despite the challenges posed by the pandemic. The data collection process for this study was designed to capture a detailed picture of the bilingual language environment of Spanish-English bilingual children. By combining structured interviews, surveys, and naturalistic observations, the study ensured robust and reliable data collection. Moreover, it is reasonable to combine the data given that prior studies show that parent and child language are similar in an unfamiliar lab vs. home setting including when collected via video chat (Manning et al., 2020; Bornstein et al., 2000; Stevenson et al., 1986).

Analysis Plan. Data analysis for this study was conducted using R-Studio, an integrated development environment for R, a statistical programming language widely used in data analysis

and visualization (RStudio Team, 2023). The first step in analysis was to provide descriptive statistics for all variables extracted from the LEAT to describe bilingual environments in the participant group. The second step in the analysis was to evaluate the hypothesis that children with communication delays would have less bilingual exposure. To answer this question, t-tests were conducted for all variables extracted from the LEAT to test for significant differences.

Table 2.1. Descriptive statistics for parent and child.

Variables	N(%)	M(SD)
Language Concerns		
Yes	36 (31.3%)	
No	79 (68.69%)	
History of Early Intervention		
Yes	8 (6.95%)	
No	102 (88.69%)	
Prefer Not to Answer	5 (4.34%)	
Ethnicity		
Mexican	93 (80.86%)	
Puerto Rican	1 (.86%)	
Guatemalan	5 (4.34%)	
Multi-Ethnic	4 (3.47%)	
Colombian	1 (.86%)	
Salvadorian	1 (.86%)	
Venezuelan	1 (.86%)	
Peruvian	2 (1.73%)	
Cuban	1 (.86%)	
Chilean	2 (1.73%)	
Nicaraguan	1 (.86%)	
Argentinian	1 (.86%)	
Spanish	1 (.86%)	
Prefer Not to Answer	1 (.86%)	
Income		
\$10,000 or less	8 (6.95%)	
\$10,001 to \$20,000	11 (9.56%)	
\$20,001 to \$30,000	16 (13.91%)	
\$30,001 to \$40,000	10 (8.69%)	
\$40,001 to \$50,000	3 (2.6%)	

Table 2.1 (continued).

Variables	N(%)	M(SD)
Income		
\$50,001 to \$60,000	13 (11.3%)	
\$60,001 to \$70,000	5 (4.34%)	
\$70,001 to \$80,000	9 (7.82%)	
More than \$80,000	12 (10.43%)	
Don't Know/Prefer Not to Answer	28 (24.34%)	
Parent Schooling		
No Schooling	2 (1.73%)	
Some Schooling, but No High School Diploma	24 (20.86%)	
High School Diploma, GED, or Equivalent	31 (26.95%)	
Vocational Training or Some College, But No Degree	14 (12.17%)	
Associate's Degree	6 (5.21%)	
Bachelor's Degree	24 (20.86%)	
Some Graduate School but No Degree	2 (1.73%)	
Master's, Doctoral, Medical, Law or Other Professional Degree	11 (9.56%)	
Prefer Not to Answer	1 (.86%)	
Parent Born in U.S.		
Yes	36 (31.3%)	
No	79 (68.69%)	
Child Sex/Gender		
Boy	55 (47.82%)	
Girl	60 (52.17%)	
Child Born in U.S.		
Yes	113 (98.26%)	
No	2 (1.73%)	
Parent Age of U.S. Arrival ^a		23.43 (13.34)
Parent Age (Years)		33.28 (6.47)
Child Age (Months)		27.34 (2.88)

^aAmong the 79 participants who reported not being born in the U.S.

Table 2.2. Bilingual language exposure variables extracted from the LEAT.

Variables (measure)	Definitions
(a) Overall Spanish	The proportion of total input to the child that has been in Spanish since birth.
(b) Overall English	The proportion of total input to the child that has been in English since birth.
(c) Parent Exposure in Spanish	Proportion of parent input that is in Spanish since child's birth.
(d) Parent Exposure in English	Proportion of parent input that is in English since child's birth.
(e) Total Amount of People Providing Language Input to Child Since Birth	The total number of people that have provided language input to the child since birth.
(f) Persons that speak Spanish only (to the child)	The total number of people that have provided only Spanish language input to the child since birth.
(g) Persons that speak English only (to the child)	The total number of people that have provided only English language input to the child since birth.
(h) Persons that speak both Spanish and English (to the child)	The total number of people that have provided only Spanish & English language input to the child since birth.
(i) Proportion of native input in Spanish	Proportion of native input that is in proficient Spanish since child's birth.
(j) Proportion of native input in English	Proportion of native input that is in proficient English since child's birth.

CHAPTER III

RESULTS

This chapter contains co-authored material based on data collected by the Early Dual Language Development Lab at the University of Oregon, co-directed by Dr. Stephanie De Anda and Dr. Lauren M. Cychk. I contributed the literature review, primary writing, and interpretation of findings, while Dr. Stephanie De Anda guided the study design, data analysis, and provided manuscript feedback.

Descriptive statistics provided an overview of the bilingual language environments of the children in the study (See Tables 3.1 and 3.2).

Language Exposure Assessment Tool

We conducted a series of T-tests to evaluate measures from the LEAT as dependent variables, with parent concerns and history of EI as independent variables. Independent sample T-tests were used to determine whether differences in bilingual language exposure existed between children whose parents' expressed concerns about their communication abilities and those whose parents did not. The analyses revealed no statistically significant differences between the two groups in terms of overall Spanish or English exposure ($p > 0.05$). Figure 3.1 demonstrates that children with parental concerns had slightly lower overall exposure to Spanish and slightly higher exposure to English compared to children without parental concerns. Similarly, children with parental concerns received a higher proportion of parent input and native input in English but slightly lower proportions of parent and native input in Spanish. However, none of these numerical group differences reached statistical significance.

Additionally, the number of individuals providing language input to children (conversational partners), as well as the linguistic patterns of these interactions (Spanish only, English only, or bilingual), did not differ significantly between the groups (all p -values > 0.30). Figure 3.2 demonstrates that children in both groups interacted with a similar number of individuals overall, with a mean of approximately 5.64 for children with parental concerns and 5.69 for those without. Children with communication concerns had slightly more individuals speaking only Spanish to them compared to children without concerns, while the number of individuals speaking only English was slightly lower for the communication concern group. Similarly, children with no concerns had slightly more individuals speaking both Spanish and English to them, but these numerical differences were not statistically significant. These findings indicate that while numerical trends exist, no statistically significant differences were observed between the groups across all language exposure variables captured on the LEAT.

Mother-Child Language Samples

A series of t -tests were conducted to analyze parent-child utterances from the observed language samples, comparing children whose parents' expressed concerns about their communication development to those whose parents did not (see Table 3.2, Figure 3.3, and 3.4). Specifically, we looked for differences in Spanish, English, and code-switched utterances by group. For parents, no significant differences were found in the number of Spanish-only, English-only, or code-switched utterances between groups ($p > .05$). Parents in both groups primarily spoke in Spanish, with comparable use of English and mixed utterances.

For children, no significant differences were observed in English-only or code-switched utterances ($p > .05$). However, a statistically significant difference was found in Spanish-only utterances ($t(106) = 3.15, p = .002$), where children whose parents expressed concerns about

child communication produced significantly fewer Spanish utterances ($M = 12.34$, $SD = 12.9$) compared to children whose parents did not express concerns ($M = 24.45$, $SD = 27$).

Table 3.1. Descriptive statistics for LEAT variables.

Variables	All children	With parent concern	No Parent Concern
	M(SD)		
(a) Overall Spanish	73.12 (24.9)	70.78 (27.3)	74.22 (23.7)
(b) Overall English	26.88 (24.4)	27.97 (26.3)	26.37 (23.7)
(c) Parent Exposure in Spanish	79.72 (28)	76.08 (29)	81.45 (27.6)
(d) Parent Exposure in English	20.82 (28.1)	24.19 (29)	19.22 (27.6)
(e) Total Amount of People Providing Language Input to Child Since Birth	5.66 (2.2)	5.69 (2.4)	5.64 (2)
(f) Persons that speak Spanish only (to the child)	2.6 (1.9)	2.33 (1.8)	2.72 (2)
(g) Persons that speak English only (to the child)	.66 (1.1)	.77 (1.1)	.61 (1)
(h) Persons that speak both Spanish and English (to the child)	2.4 (2.1)	2.58 (2.5)	2.32 (1.8)
(i) Proportion of native input in Spanish	74.98 (29.2)	74.5 (29.4)	75.2 (29.2)
(j) Proportion of native input in English	24.61 (28.6)	24.14 (28)	24.84 (29.1)

Table 3.2. Descriptive statistics for mother-child language samples ($n = 108$).

Variables	All children	With parent concern	No Parent Concern
	M(SD)		
Mother Input			
Utterances in Spanish	148.94 (77.1)	155.63 (75)	145.73 (78.4)
Utterances in English	27.06 (49.2)	24.23 (43.5)	28.42 (51.9)
Code-switched utterances	5.32 (11)	7.97 (17.4)	4.11 (5.7)
Child Output			
Utterances in Spanish	20.53 (24)	12.34 (12.9)	24.45 (27)
Utterances in English	9.51 (18.9)	7.11 (15.5)	10.66 (20.4)
Code-switched utterances	.44 (1.4)	.29 (1.5)	.52 (1.3)

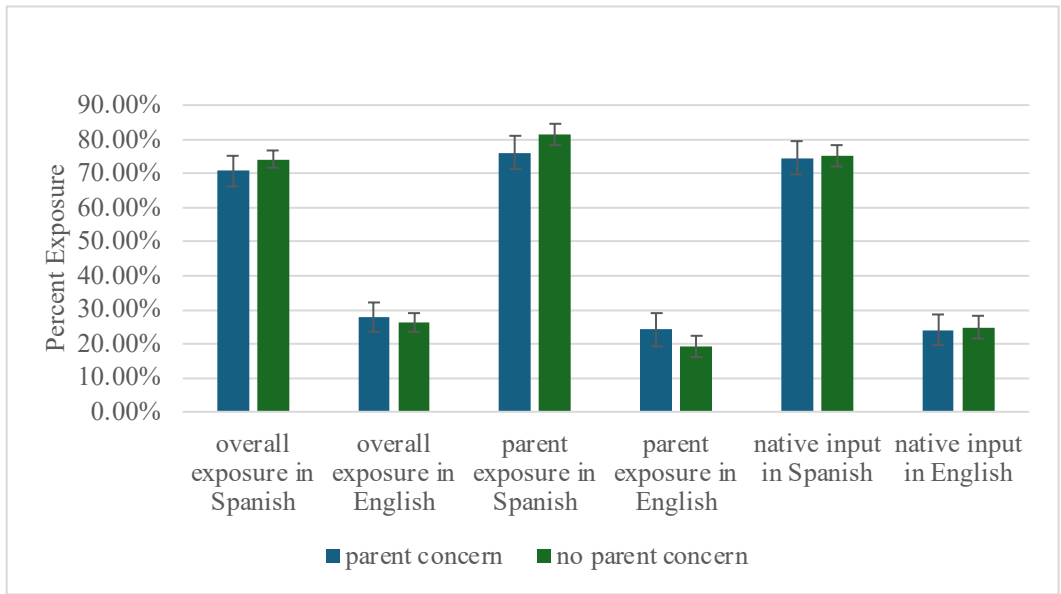


Figure 3.1. Group differences in relative exposure variables.

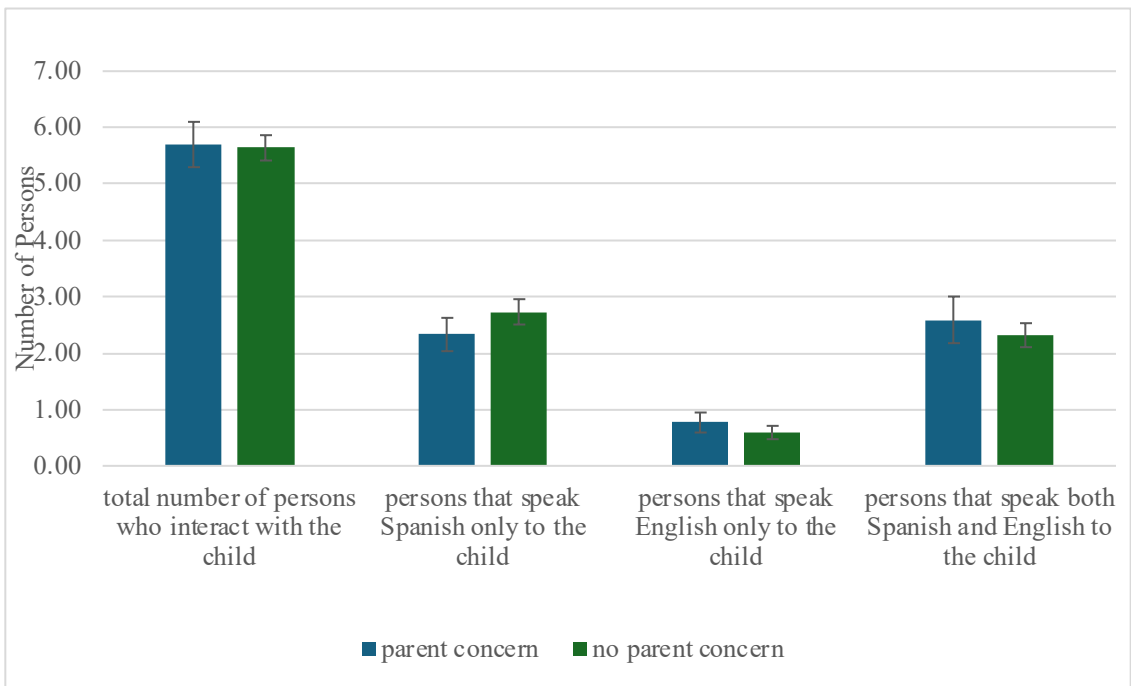


Figure 3.2. Group differences in conversational partners.

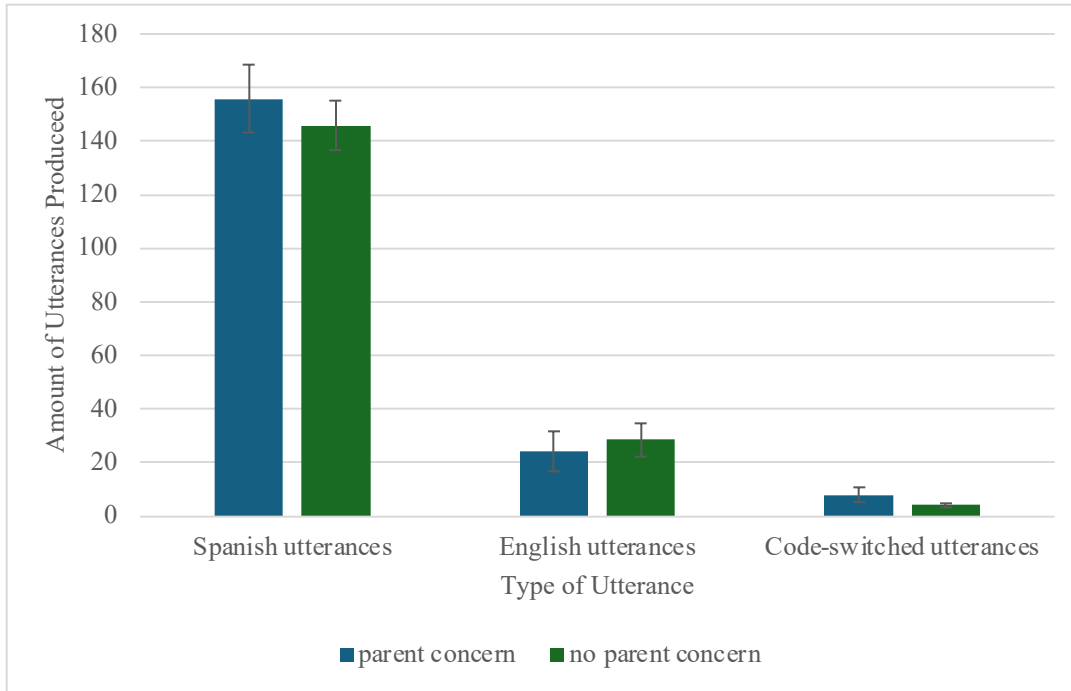


Figure 3.3. Maternal language use (input) as observed during language sample.

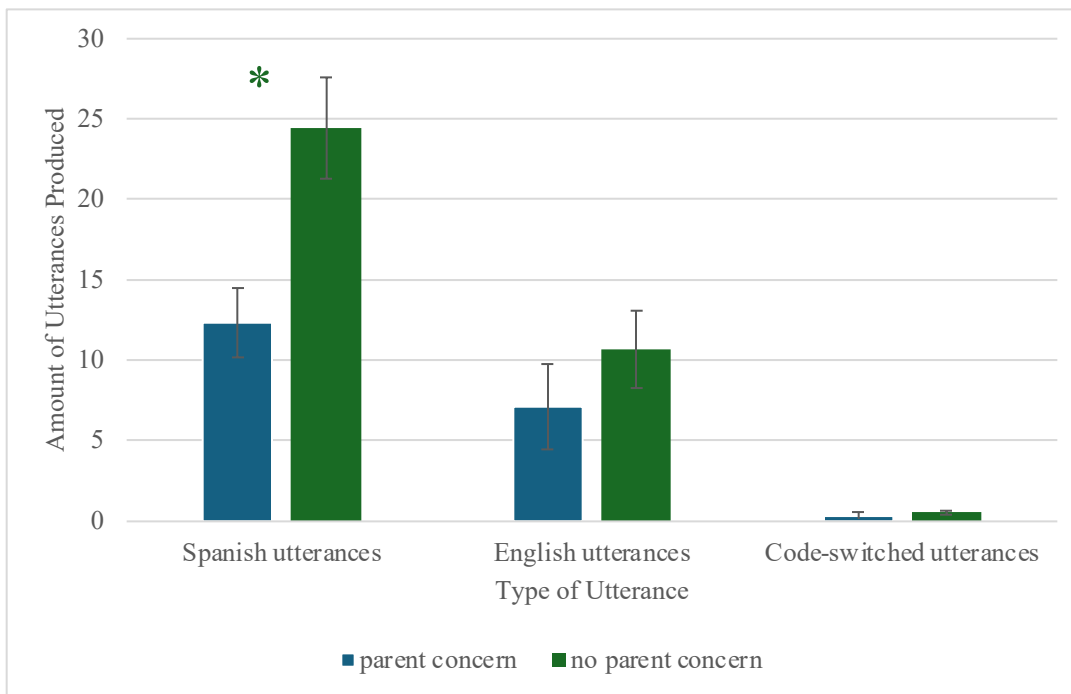


Figure 3.4. Child language use (output) as observed during language sample.

* Denotes significant group difference at $p < .05$

CHAPTER IV

DISCUSSION

This chapter contains co-authored material based on data collected by the Early Dual Language Development Lab at the University of Oregon, co-directed by Dr. Stephanie De Anda and Dr. Lauren M. Cychk. I contributed the literature review, primary writing, and interpretation of findings, while Dr. Stephanie De Anda guided the study design, data analysis, and provided manuscript feedback.

This study aimed to investigate whether parental concerns about child language development are associated with bilingual language exposure in Spanish and English among children from 24-30 months of age, a critical period of early language development. Specifically, the study examined whether differences in bilingual exposure were shown among children with and without parent concern for child communication delays. We analyzed bilingual exposure in children's environments through parent report and observed language samples. The results showed no statistically significant differences in overall Spanish or English exposure between children whose parents had concerns about their communication development and those whose parents did not. While numeric trends were observed such as slightly higher Spanish exposure and lower English exposure for children with no parental concerns in many cases, these differences were not statistically significant. Similarly, no significant group differences were found in parental input, native input, or the number of individuals providing language exposure in Spanish, English, or both languages. However, one notable significant difference emerged: children whose parents expressed concerns about their communication abilities produced significantly fewer Spanish-only utterances compared to children whose parents did not express

concerns. Taken together with literature in older children, the pattern of findings and numerical trends suggest that bilingual exposure differences may emerge over time as parent concerns grow as children's delays become evident with development.

The trends in the current study must be considered alongside existing research on bilingual development, as they may indicate an early shift in language exposure that could become more pronounced over time. Although it is expected communication delays would result in fewer utterances, the fact that this is observed in Spanish only suggests that the general trend of lower Spanish input may affect child outcomes as early as 24 months of age. Children with early communication concerns may already be demonstrating differences in bilingual use well before formal diagnoses are made. Importantly, these differences were observed at 24-30 months, a critical period for early language development (Paradis et al., 2011). Prior research suggests that parental beliefs play a key role in shaping bilingual language exposure and ultimately child bilingual language outcomes (Ronderos et al., 2021). Parents are told myths about bilingualism by practitioners, such as the belief that bilingualism causes or worsens language delays, which in turn affects practices that limit home and heritage language exposure and reduce the child's bilingual language development (Blanc et al., 2022; Yu, 2018). The earliest age of these studies included children at age 4 years.

The current study extends these findings by evaluating bilingual exposure at 24-30 months of age. Whereas parental self-report and observed bilingual input did not show statistically significant differences across English and Spanish exposure, the numerical trends suggest that families with concerns about their child's language abilities may begin shifting toward increased English exposure as early as the child's second birthday (24 months of age). To further explore this pattern, we tested a post-hoc hypothesis to evaluate whether the small subset

of children with a history of early intervention (EI) services demonstrated a similar or stronger shift in language exposure. Results showed no statistically significant differences in Spanish or English input between children with and without EI history similar to the current findings using parent concern to evaluate group differences.

The findings of this study align with prior research on the influence of parental beliefs in shaping language practices (Ronderos et al., 2021; García & Alonso, 2021). The pattern of results across this study and existing research suggests that, over time and as the child grows up, reductions in Spanish input may lead to heritage language attrition among children with communication challenges. Given the young age of the children in this study (24-30 months), it is possible that the observed numerical trends represent early signs of a growing effect that is captured in prior research studies that evaluate children beginning at 4 years of age (e.g., Ronderos et al., 2021; Blanc et al., 2022). Language exposure patterns are complex, and subtle differences at 24-30 months of age may intensify over time, leading to greater disparities in bilingual proficiency as children enter preschool and beyond. Taken together, the findings add to the model presented by Ronderos et al., 2021 and adapted in Figure 1.1 by showing how parent concerns about child language development and potential delays and disorders may influence bilingual exposure.

In addition, the findings corroborate that the heritage language exposure may be reduced among children with language delays and disorders; Importantly, this reduction in Spanish-only utterances among children with parental concerns may be a result of *both* limited Spanish exposure and the child's own underlying communication delays. While communication delays themselves may reduce the quantity or quality of expressive language, especially in a less dominant language, reduced exposure to Spanish—possibly influenced by parental concerns and/or linguisticism against non-English languages—could possibly further compound this effect.

That is, children may use less Spanish due to their communication challenges which in turn interacts with parent beliefs about Spanish language exposure when the child presents with communication delays and disorders. Thus, the finding suggests a potentially bidirectional relationship between language delay and heritage language use, one that warrants further investigation. Understanding this relationship more clearly can help inform evidence-based interventions that prevent reductions in heritage language input at the earliest stages of communication development. In sum, the current study adds to existing literature in three ways: (1) by extending our understanding of parent concerns and their association with bilingual practices, (2) evaluating associations prior to the preschool period (age 4 years) and (3) positing a potential bidirectional association between parent bilingual practices and child language outcomes.

Limitations

This study has limitations that should be considered when interpreting the findings. First, the effect size for group differences on overall Spanish exposure as measured on the LEAT was considered small (Cohen's $d = .19$), meaning a larger sample size may be needed to detect an emerging effect of reduced heritage language exposure. This limitation suggests that findings should be interpreted with caution, and larger-scale studies should be conducted to confirm these trends across more diverse populations. Second, the sample included uneven group sizes between children with and without parental concern for communication delays (36 vs. 79 dyads). This discrepancy may limit the statistical power to detect group differences. Unequal group sizes can also impact the stability of group comparisons and should be considered in future research aiming for balanced sampling or stratified recruitment strategies. Third, the study sample was drawn from a specific geographic region, which may not fully represent the diversity of bilingual

families in the United States. The results may not be generalizable to families with different cultural, socioeconomic, or linguistic backgrounds. Future research should aim to include more geographically and demographically diverse samples to better understand bilingual exposure trends across various contexts. Fourth, the study design is correlational and therefore does not allow for conclusions about causality between language exposure and communication delays. It remains unclear whether reduced Spanish use is a consequence of underlying language difficulties, a result of decreased Spanish input due to parental concern, or an interaction of both. Fifth, the study focused solely on the language input and concerns reported by one primary caregiver, the mother. However, children often interact regularly with multiple caregivers—including fathers, grandparents, and other family members—whose language use and beliefs may also influence the child’s bilingual exposure and development.

Future Research

Future studies should aim to evaluate language input across multiple caregivers to capture a more complete picture of the child’s communicative environment. Future research should explore the potential causal pathways between parent concern, language exposure, and child language outcomes. While this study used a correlational design, it is important to consider that the associations observed may be mediated or moderated by other variables. For instance, parental beliefs, stress levels, or access to early intervention services may mediate the relationship between concern and reductions in heritage language use, meaning that concern may lead to changes in beliefs or practices, which then potentially influence exposure. Additionally, moderating factors may alter the strength or direction of this association. For example, parental identity, such as whether a parent identifies as bilingual versus monolingual, may influence how concern impacts bilingual practices. A bilingual parent may be more confident in continuing

Spanish use despite concern, whereas a monolingual parent may be more likely to shift toward English potentially due to perceived pressure or limited access to Spanish-language resources.

Further, acculturation level may also moderate the impact of parental concern: parents with stronger ties to their cultural heritage may resist shifting away from Spanish despite concern, while those more acculturated to U.S. norms may feel greater pressure to prioritize English. Understanding how factors like linguistic identity, cultural values, and acculturation interact with concern can help clarify for whom these shifts are most likely to occur. Future studies using longitudinal designs and models that include moderators and mediators would be well-positioned to investigate these nuanced, contextually rich pathways of influence. This line of research may inform tailored interventions that account for individual family beliefs and backgrounds while promoting bilingual development in culturally sustaining ways.

Finally, a notable pattern in this study was the mismatch in language use between mother output and children output. While mothers showed more balanced bilingual use, children demonstrated greater output in one language, especially English. This may reflect changes in input over time; parents might have shifted from mostly Spanish in early years to more English, even if unintentionally. Children's English use could also result from sequential bilingual exposure, despite simultaneous input early on. LEAT data showing higher Spanish input, paired with child samples showing more English, suggests language practices may have changed gradually, influencing how language use unfolds. Future research should examine how evolving input and multiple caregivers influences shape children's bilingual development over time.

Clinical Implications

The findings of this study have important clinical implications for early intervention and bilingual language development. While no widespread differences in bilingual exposure were

observed between groups, the significant reduction in Spanish utterances among children with parental concerns highlights a potential early risk for heritage language attrition (Rodríguez, 2015; Oh & Fuligni, 2010). This underscores the need for proactive strategies to support bilingual development from an early age. Speech-language pathologists (SLPs), pediatricians, and other early childhood professionals should encourage parents to maintain bilingual exposure, particularly emphasizing the importance of consistent Spanish input to support long-term bilingual proficiency (Kuhl & Rivera-Gaxiola, 2008; Bialystok, 2001; Rodríguez, 2010; Poulin-Dubois et al., 2011; García et al., 2008). Dispelling myths surrounding bilingualism and language delays is important, as misinformation can lead to unnecessary reductions in heritage language use (Blanc et al., 2022; Yu, 2018; Hoff & Core, 2015). Providing culturally responsive and evidence-based guidance ensures that parental concerns do not inadvertently contribute to heritage language attrition (Durán et al., 2010; Hyter & Salas-Provence, 2023). Furthermore, ongoing monitoring of bilingual language development is important. Even if early numerical trends do not reach statistical significance, they may still signal meaningful shifts in language exposure that could have long-term impacts given that research with older children as early as age 4 clearly show differences in parent beliefs, practices, and child outcomes (Ronderos et al., 2021; Cioè-Peña, 2020). Clinicians should track language use over time and offer tailored recommendations to support bilingual language acquisition for individual families (Paradis et al., 2011; De Anda et al., 2016). Additionally, advocacy for bilingual development should extend beyond individual clinical settings. Public health campaigns aimed at parents, educators, and healthcare professionals can help shift societal attitudes toward bilingualism, ensuring that bilingual children receive the support they need to thrive in both of their languages (García & Alonso, 2021; Thorsos, 2019; National Center for Education Statistics, 2023).

The gaps shown in this study and previous research highlight the need for increased advocacy and education to dispel myths and promote evidence-based practices in raising and educating bilingual children. Parents, educators, and healthcare professionals must be informed about the advantages of bilingualism and provided with strategies to support the development of both languages in children (Hoff & Core, 2015; Bialystok, 2015). Understanding and addressing these myths is critical, especially for bilingual children with language delays or disorders. These children are often doubly marginalized—first by their language disorder and second by the societal and professional misconceptions about bilingualism (Yu, 2016; Kohnert & Medina, 2009). By debunking these myths and promoting a supportive bilingual environment, we can ensure that these children receive the benefits of bilingualism and are disadvantaged by outdated and incorrect beliefs (Hoff & Core, 2016). This approach requires a concerted effort to bridge the gap between research and practice, ensuring that all children, regardless of their linguistic background, can thrive.

SLPs play an important role in ensuring that bilingual children receive support that promotes balanced language development rather than reinforcing language attrition. One of the most effective intervention strategies involves educating parents on the cognitive, linguistic, and social benefits of maintaining the heritage language at home, even for children with language delays (Bialystok, 2015; Bartolotti & Marian, 2012). Research consistently shows that bilingual children develop enhanced executive function, cognitive flexibility, and problem-solving skills, which are beneficial regardless of whether they have a language delay (Poulin-Dubois et al., 2011; Conboy & Thal, 2006). SLPs should actively work to dispel myths that suggest bilingualism causes or exacerbates language delays. Instead, they should provide families with practical strategies to maintain both languages in daily interactions. This could include

encouraging natural code-switching, engaging in bilingual storytelling, and creating home environments rich in Spanish exposure (Rodríguez, 2015; Hammer et al., 2015). Furthermore, clinicians should tailor interventions to incorporate culturally relevant practices, recognizing that language learning is deeply embedded in familial and community contexts (García et al., 2008; Hyter & Salas-Provance, 2023). By reinforcing the importance of bilingualism and equipping parents with tools to sustain Spanish at home, SLPs can help mitigate the long-term risk of language shift and loss in bilingual children (Durán et al., 2010; Rodríguez, 2015).

Latinx mothers play a critical role in shaping the bilingual environments of their children. Research highlights that Latinx mothers often serve as the primary language models and gatekeepers of heritage language exposure, making their beliefs, practices, and involvement in language development particularly influential (Cioè-Peña, 2024). However, systemic barriers, including limited access to bilingual resources, pressure to assimilate, and misinformation about bilingualism from professionals, often impact how Latinx mothers navigate bilingual language development in their households (Durán et al., 2010; García et al., 2008). Parental involvement extends beyond direct language exposure; it includes the ways in which mothers advocate for bilingual education, seek out Spanish-language books and media, and engage their children in cultural traditions that reinforce language use (Rodríguez, 2015; Hoff & Core, 2015). Schools and early intervention programs must recognize and validate these diverse forms of parental involvement rather than solely focusing on traditional, school-based participation. Supporting Latinx mothers in fostering bilingual development requires acknowledging the structural challenges they face and providing accessible, community-centered resources to empower their efforts. Additionally, fostering stronger connections between educators, clinicians, and Latinx families can bridge the gap between research and practice. Programs that center the voices and

experiences of Latinx mothers can help create interventions that are culturally sustaining and responsive to their needs. Ensuring that Latinx mothers have the knowledge and support to maintain bilingual environments will not only strengthen individual language outcomes but also contribute to broader efforts in preserving linguistic and cultural heritage within Latinx communities (Oh & Fuligni, 2010; Thorsos, 2019).

Conclusion

This study provides early evidence that parental concerns about child communication abilities correspond to observable differences in bilingual language environments, particularly in Spanish-only utterances. While overall language exposure did not differ significantly, findings suggest that even in the absence of a formal diagnosis, children with parental language concerns may begin to shift toward reduced Spanish heritage language use. Critically, this study underscores the need for bilingual-affirming interventions to combat deficit-based perspectives about heritage language learning among children with communication challenges. Practitioners must be aware of how internalized ableism and professional guidance may shape parental beliefs, ultimately influencing children's bilingual development. Future research should explore longitudinal outcomes, assessing whether these early trends predict language trajectories in later childhood, and to further examine how child communication profiles and parental language practices mutually influence one another over time to investigate a potentially bidirectional relationship. As the U.S. continues to diversify linguistically, dismantling persistent myths through evidence-based education remains critical to fostering positive multilingual outcomes for all children.

APPENDIX

Positionality Statement

As a first-generation, bicultural (Mexican American), and bilingual (Spanish-English) graduate student in Communication Disorders and Sciences, my lived experiences shape my approach to research on bilingualism, disability, and parent beliefs about language development. Growing up bilingual, I witnessed both the strengths and challenges of navigating multiple languages, which informs my commitment to culturally responsive and equitable speech-language services. My shared identity with many of the families in my study influences how I interpret their perspectives, particularly regarding bilingualism and disability within Latinx communities. I acknowledge that my own cultural and linguistic background may shape my interpretations of findings, and I engage in ongoing reflexivity to ensure my work remains ethical, objective, and representative of the families' lived experiences.

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