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Parental Beliefs and Knowledge About Dual Language Learning and Education (KnDLLE) Predict Children’s Spanish and English Experiences at Home

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Abstract

Despite a rapid growth in the number of dual language learning children (DLLs) in the United States, there is a limited understanding of what parents of DLLs believe and know about dual language learning and education, and how parental beliefs and knowledge relate to children’s dual language experiences at home. In the current study, 225 parents of 0- to 6-year-old Spanish-English DLLs living in the United States reported on their beliefs and knowledge about dual language learning and education, children’s Spanish and English exposure and usage, and children’s engagement in learning activities in Spanish and English at home. Parents showed strongly positive beliefs about the benefits of home language/bilingual experiences. Nonetheless, they varied in their beliefs and knowledge about children’s capability of learning two languages and the “detriments” of home language/bilingual exposure. These aspects of parental beliefs and knowledge differentially predicted children’s dual language exposure and usage and engagement in learning activities in Spanish and English. These findings reveal the relation between parental beliefs and knowledge and children’s dual language learning experiences and call for efforts to enhance parents’ knowledge.

Keywords Dual Language Development · Bilingual Development · Parental Beliefs · Parental Knowledge · Language and Literacy Experiences · Spanish-English dual Language Learner

In the United States, over 7.4 million children under the age of 5 are dual language learners (DLLs) who are learning two languages at the same time (Migration Policy Institute, 2021). Spanish is the most common non-English language used at home (Dietrich & Hernandez, 2022). In Spanish DLL families, there is enormous variation in parents’

dual language practices, including how much Spanish and English parents use with their children and how often they engage children in learning activities in each language (Farver et al., 2013; Song et al., 2012). This variation, in turn, predicts children’s dual language outcomes, academic success, and future well-being (Hammer et al., 2014).

Why do parents of DLLs (hereafter also referred to as DLL parents) adopt different dual language practices? Theoretical frameworks have underscored parental beliefs and knowledge as one of the important contributing factors to parenting practices. The Developmental Niche theory posits that parents’ ethnotheories, particularly their beliefs and knowledge about parenting and child development, impact parenting practices and children’s developmental outcomes (Super & Harkness, 1986). In the context of dual language development, what parents believe and know about bilingualism and how to support children’s dual language skills may lead them to provide children with different language learning opportunities. For example, parents who recognize the benefits of bilingualism may actively engage their

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children in learning activities in both languages, whereas those parents who believe that early dual language exposure will confuse children may be reluctant to talk to their children in two languages. Additionally, the Family Language Policy framework proposes that parental beliefs towards language(s) and bilingualism are shaped by both individual characteristics and broader political, sociocultural, and economic factors, and further serve as a proximal contributor to the usage, learning, management, and negotiation of languages in the home context (Curdt-Christiansen, 2009; De Houwer, 1999). From this perspective, parental beliefs and knowledge about dual language learning and education can be a malleable factor to improve dual language practices in DLL families.

To date, there is a limited understanding of what DLL parents believe and know about dual language learning and education, as well as whether and how parental beliefs and knowledge are associated with children's dual language experiences at home. The current study aims to address these gaps.

Parental Beliefs and Knowledge about Dual Language Learning and Education

Ample evidence suggests that parents of Spanish-English DLLs highly value bilingualism and hold positive attitudes towards both languages (Farruggio, 2010; Lee et al., 2015; Liang, 2018; Surrain, 2021). Latinx parents recognize the importance of English skills for children's school success, the role of Spanish skills in strengthening cultural identity and family relationships, and the economic and career opportunities associated with bilingual proficiency (Coba-Rodriguez et al., 2020; Cycyk & Hammer, 2020; Lee et al., 2015; Olivos & Lucero, 2018; Surrain, 2021). Below we review the literature on parental beliefs and knowledge in three areas of dual language learning and education.

Characteristics of Dual Language Learning

Research has demonstrated that infants are equipped with the cognitive skills needed to differentiate and acquire two languages (Genesee, 2015) and can learn from bilingual and biliteracy activities early on (Song et al., 2012). Albeit limited, studies with Spanish-speaking parents of preschool and school-aged DLLs have shown that parents vary in their beliefs about whether children can learn and use two languages simultaneously, and relatedly, expose their children to different levels of dual language input (Hwang et al., 2022; Mancilla-Martinez & Lesaux, 2014). Furthermore, although research in monolingual contexts has found that parents hold different beliefs about the age around which

children are ready for literacy activities such as sharing books and viewing letters (Suskind et al., 2018), little is known about parents' beliefs about DLLs' readiness for biliteracy activities.

Additionally, DLLs may show unique characteristics in the process of language learning, such as code-switching (i.e., using words from more than one language within a conversation or speech event; Halpin & Melzi, 2021) and language transfer (i.e., skills in the first/stronger language support the development of the second/weaker language; e.g., López & Greenfield, 2004). The extent to which parents understand these unique features of dual language learning may influence their dual language practices. For example, if parents view code-switching as an indicator of confusion rather than bilingual competence, they may be reluctant to continue providing dual language experiences to children. Similarly, parents' knowledge about language transfer could motivate them to continue supporting DLLs' home/first language.

The Benefits and "Detriments" of Bilingualism

Empirical studies have demonstrated the beneficial rather than detrimental effects of bilingualism (Hammer et al., 2014). Growing up bilingual does not increase the likelihood of language delays (Genesee, 2015). Compared to monolingual children, DLLs have comparable overall vocabulary and grammatical knowledge across the two languages (Hoff et al., 2012; Pearson et al., 1993) and DLLs who are routinely exposed to both languages show advantages in certain cognitive and social domains such as executive functions (Bialystok, 2015) and perspective taking (Fan et al., 2015). Although there is some evidence of an achievement gap between school-aged DLL and monolingual children (Castro et al., 2011), it is often explained by differences in socioeconomic status rather than linguistic backgrounds (Winsler et al., 2014).

While some DLL parents recognize the social, cognitive, and career benefits of bilingualism (King & Fogle, 2006; Surrain, 2021), many are still concerned or uncertain about whether dual language or home language exposure might cause or worsen language delays, slow down English development, or hinder school learning (Cycyk & Hammer, 2020; Lee et al., 2015; Olivos & Lucero, 2018). Such misconceptions and concerns could discourage some DLL parents from using their home language with children.

Parenting and Educational Practices

Previous research has demonstrated associations between certain parenting strategies and positive dual language development. The quantity and quality of children's dual

language experiences at home, such as diverse and responsive language input from parents, frequent language and literacy activities, and rich literacy resources, are all related to DLLs' language and school readiness outcomes (Farver et al., 2013; Song et al., 2012, 2022). Additionally, language input from proficient (or native) speakers is more beneficial for language development than input from non-native speakers (Place & Hoff, 2016). Latinx parents who are not proficient in English but try to use English with their children may slow down their Spanish development without benefiting their English development (Hammer et al., 2009). Furthermore, dual language preschool programs that provide instructions in both English and the home language can enhance children's home language skills without slowing down their English development (Durán et al., 2013; Garcia, 2018). However, it should be acknowledged that most of these studies are non-experimental and therefore causal relationships between parenting/educational practices and DLLs' outcomes cannot be fully ascertained.

Parents have mixed beliefs about which parenting and educational practices best support DLLs. DLL parents not only vary in their views of the importance of early language and literacy activities (Gonzalez et al., 2017), but also in beliefs about in which language(s) these activities should occur. Some Latinx parents hold the language separation ideology and believe that children should learn Spanish at home and English at school (Cuéllar, 2022; Lee et al., 2015). To support home language maintenance, some Latinx parents adopt a language policy that requires children to only speak Spanish at home (Surrain, 2021). In contrast, other parents believe that they should teach children English at home, despite their limited English proficiency (Coba-Rodriguez et al., 2020; Luo et al., 2021). While parents recognize the benefits of dual language programs for home language development (Olivos & Lucero, 2018), some are concerned that dual language programs may provide inadequate support for English learning (Farruggio, 2010; Lee et al., 2015).

Parental Beliefs and Knowledge in Relation to Children's Dual Language Experiences

To date, only a few studies have examined the associations between parental beliefs and knowledge and children's language and literacy experiences in dual language contexts. Some studies focused on parents' attitudes towards bilingualism. For example, parents of 4- to 11-year-old DLLs who rated Spanish skills as more important used more Spanish with their children during daily activities such as conversations, book-reading, and TV watching, and those who rated English skills as more important used more English

with their children (Ronderos et al., 2021). Another study with an online, nation-wide sample found that parental positive attitudes towards bilingualism positively predicted DLLs' relative exposure to the home language and their engagement in learning activities (e.g., book-reading, singing songs, storytelling) in the home language (Surrain & Luk, *forthcoming*).

Other studies included parents' beliefs and knowledge about specific characteristics of dual language learning and practices that support it. Studies with Latinx parents of preschool- or school-aged DLLs found that parental beliefs about children's ability to learn two languages and the importance of avoiding code-switching and teaching children Spanish predicted children's Spanish exposure and usage at home, although the associations might only apply to children with limited English proficiency (Hwang et al., 2022; Mancilla-Martinez & Lesaux, 2014). However, these studies only focused on relative language use, without examining other quality aspects of dual language experiences, such as children's engagement in learning activities in English and the home language, which may explain the language differences among DLLs with similar relative language exposure and use (Song et al., 2022).

Another study that examined low-income parents' knowledge about the characteristics of dual language learning and promising practices to support DLLs found that parents with greater levels of knowledge provided relatively more Spanish input at home and engaged children in learning activities in English less frequently (Luo et al., 2021). However, the small sample size of the study ($n = 32$) precluded any generalizations or tests of different aspects of parental knowledge.

Current Study

DLL parents' beliefs and knowledge about dual language learning and education are multifaceted and heterogeneous. The individual variation in parental beliefs and knowledge has not been well understood, partially due to a lack of assessment tools (Luo et al., 2021). Additionally, it remains unclear whether and how specific aspects of parental beliefs and knowledge relate to children's dual language experiences.

To address these gaps, we developed a questionnaire on parental beliefs and knowledge regarding dual language learning and education (KnDLLE). With KnDLLE, we aimed to: (1) assess and characterize parental beliefs and knowledge about dual language learning and parenting and educational practices that support DLLs, (2) examine the relation between parental beliefs and knowledge and

children's dual language exposure and usage at home, and (3) examine the relation between parental beliefs and knowledge and children's engagement in home learning activities in Spanish and English. We expected parents who had more positive beliefs and greater knowledge about dual language learning and education to provide children with more Spanish or bilingual experiences. However, specific aspects of parental beliefs and knowledge may relate to children's dual language experiences in distinct ways.

Methods

Participants

Participants were 225 Spanish-speaking or Spanish-English bilingual parents with 0- to 6-year-old children living in the U.S., recruited online via Qualtrics Panels¹, an online panel service widely used in survey research. Qualtrics Panels shared the survey link of the current study with a large and diverse pool of respondents who self-registered to be survey takers. Respondents interested in participating were then screened and consented for the study. Inclusion criteria were parents being 18 years old or older, understanding and speaking Spanish well or very well, and reporting Spanish as the language or one of the languages used at home.

Procedure

Parents completed a demographic questionnaire, the Knowledge of Dual Language Learning and Education (KnDLLE) questionnaire, and a questionnaire about children's Spanish and English experiences at home online. Parents completed the questionnaires in either English (71%) or Spanish (29%) based on their own preference. Each participant received reward points (e.g., vacation points, travel points, gifts) directly from Qualtrics Panels. Quality checks were conducted to ensure the validity of the online data collection (see Appendix A).

Measures

Parent and Child Demographic Information

Parents reported on their and children's demographic information, as well as their English and Spanish proficiencies (see Table 1). On average, parents were proficient in both Spanish and English.

Parental Beliefs and Knowledge about Dual Language Learning and Education

Parental beliefs and knowledge about dual language learning and education were assessed by the KnDLLE questionnaire, which we adapted and expanded from several previous surveys (Garrity et al., 2018; Hwang et al., 2022; Luo et al., 2021; Song et al., 2020; Suskind et al., 2018; see Appendix B). The KnDLLE questionnaire contained 32 statements about the characteristics of dual language development, the benefits and "detriments" of bilingualism, and ways to support DLLs in the home and school contexts (see Table 2). Parents rated most items on a 4-point Likert scale (1-strongly disagree, 4-strongly agree). The only exceptions were two items asking about when children are ready for biliteracy activities (e.g., "When do you think a child is ready to be read to in two languages?"), which were rated on a different 4-point scale (1-five years or older, 4-one year or younger).

An exploratory factor analysis was conducted to examine the structure of the KnDLLE questionnaire (see Appendix B). After removing 10 items with low or cross factor loadings, the final model yielded three factors, which explained 90% of the total variance.

Factor 1, labeled *Capability of Learning Two Languages*, includes 4 items examining parents' beliefs and knowledge about children's ability to learn and differentiate two languages early on and children's readiness for biliteracy exposure.

Factor 2, labeled *Benefits of Home Language/Bilingual Experiences*, includes 7 items examining parents' beliefs and knowledge about the extent to which home language skills, home language experiences, and/or bilingual experiences in the home and school settings play a positive role in children's language, academic, and/or social cognitive development.

Factor 3, labeled *Detriments of Home Language/Bilingual Experiences*, includes 11 items examining parents' beliefs and knowledge about the costs of bilingualism and the necessity and importance of an English-only environment. Note that these items were reverse coded as they reflected negative views of home language/bilingual experiences. A higher score on this factor indicates stronger beliefs that home language/bilingual experiences *do not* cause confusion or hinder children's language, cognitive, academic, and social development and that providing an English-only environment is *not* the best or only way to support DLLs.

Based on the factor structure, we created three subscales by averaging the items. All three subscales had good reliabilities (Cronbach's Alpha = 0.72-0.77; see Table 2). They significantly correlated with one another, with *r* coefficients ranging from 0.21 to 0.37 (*p*'s < 0.001).

¹ IRB approval#: Pro2021001301, Rutgers University.

Table 1 Descriptive statistics for demographics variables, children's dual language experiences, and parental beliefs and knowledge about dual language learning and education

| | Mean(SD) / % | Min | Max | n |
|--|-----------------|------|------|-----|
| Parent Characteristics | | | | |
| Age (years) | 30.97(6.84) | 18 | 54 | 225 |
| Mother | 80.0% | | | 225 |
| Born in the US | 58.0% | | | 224 |
| Language proficiency (1-not well at all, 4-very well) ^a | | | | |
| English proficiency | 3.61(0.69) | 1 | 4 | 225 |
| Spanish proficiency | 3.77(0.40) | 2.5 | 4 | 225 |
| Educational Level | | | | |
| High School / GED or lower | 34.2% | | | 225 |
| Associate Degree | 21.8% | | | 225 |
| Bachelor's Degree | 36.0% | | | 225 |
| Graduate Degree | 8.0% | | | 225 |
| Latinx | 90.2% | | | 225 |
| Child Characteristics | | | | |
| Age (years) | 2.95(1.64) | 0.21 | 6.76 | 222 |
| Females | 42.2% | | | 225 |
| Firstborn | 56.0% | | | 225 |
| Family Characteristics | | | | |
| Number of children at home | 1.98(1.01) | 1 | 6 | 224 |
| Number of adults at home | 2.37(0.97) | 1 | 7 | 225 |
| Children's Dual Language Experiences at Home | | | | |
| Relative language exposure (1-Spanish only, 5-English only) | 2.85(0.81) | 1 | 4.4 | 225 |
| Relative language use (1-Spanish only, 5-English only) | 3.06(0.92) | 1 | 5 | 204 |
| Balanced language exposure (1-English/Spanish only, 3-English and Spanish equally) | 2.17(0.55) | 1 | 3 | 225 |
| Balanced language use (1-English/Spanish only, 3-English and Spanish equally) | 2.12(0.66) | 1 | 3 | 204 |
| Learning activities in English (1-Never, 5-Everyday) | 4.08(0.81) | 1 | 5 | 224 |
| Learning activities in Spanish (1-Never, 5-Everyday) | 3.91(0.89) | 1 | 5 | 224 |
| Parental Beliefs and Knowledge (1-Strongly Disagree, 4-Strongly Agree) | | | | |
| Capability of learning two languages | 2.92(0.71) | 1.25 | 4 | 225 |
| Benefits of home language/bilingual experiences | 3.37(0.37) | 2.43 | 4 | 225 |
| Detriments of home language/bilingual experiences (R) | 2.99(0.42) | 1.91 | 4 | 225 |

Note. ^aAverage scores were calculated based on 4 items about how well parents could understand, speak, read, and write in English or Spanish

Children's Dual Language Exposure and Usage

Parents were asked to report the language(s) children heard and used with different social partners at home (e.g., mother, father, older siblings, younger siblings, other adults; 1-Spanish only, 3-English and Spanish equally, 5-English only). Average scores were calculated, with higher values indicating relatively greater levels of English (vs. Spanish) exposure or usage.

Relative language exposure and usage were further recoded to indicate the balance of children's dual language exposure and usage (1-Spanish only or English only, 2-Mostly Spanish or Mostly English, 3-English and Spanish equally). Average scores were calculated, with higher values indicating more balanced dual language experiences at home.

Children's Engagement in Learning Activities in Spanish and English

Parents reported on how frequently (1-Never, 5-Everyday) themselves or other family members engaged children in different learning activities (i.e., reading, storytelling, singing, rhyming, teaching letters, teaching the meaning of words, and naming things) in Spanish and English, respectively. An average score was calculated for learning activities in each language separately.

Analytic Plan

As shown in Table 1, the missing value rates were low (i.e., 0-0.8%). The only exceptions were children's relative dual language usage and balanced language usage (9.3%), which were due to missing data for those children who had not started talking yet. Comparisons between participants with and without missing data did not indicate any differences in any of the key predictors or outcome variables (p 's=0.158-0.911).

Descriptive statistics were first conducted to describe and characterize parents' beliefs and knowledge about dual language learning and education. Next, hierarchical regression models were used to examine the prediction of parental beliefs and knowledge to children's relative and balanced dual language exposure and usage. In each model, demographic variables that were significantly associated with the dependent variable at the bivariate level (see Appendix C) were included in Step 1. The three KnDLLE subscale scores of parental beliefs and knowledge were entered in Step 2, first separately, to examine their individual associations with the dependent variables, then simultaneously, to examine their unique effects after controlling for one another. Finally, a similar set of analyses was conducted to examine

the association between parental beliefs and knowledge and DLLs' engagement in learning activities in Spanish and English.

Results

Characteristics of Parental Beliefs and Knowledge

Table 2 presents descriptive statistics for the three KnDLLE subscales. The *Capability of Learning Two Languages* subscale suggested great variation in parental beliefs about children's ability to learn two languages. Although most parents agreed that infants were able to learn and differentiate two languages in the first year of their lives, 26% of them did not believe (i.e., disagreed or strongly disagreed) that a 6-month-old infant can learn two languages simultaneously, and 31% did not think a one-year-old DLL can tell the difference between the two languages. Parents also showed a wide range of expectations for children's readiness for early biliteracy activities. When asked about the age at which children are ready to be read to or be shown alphabets in two languages, 40% and 27% of parents selected 1 year or younger, whereas 16% and 12% of them selected 5 years or older.

The *Benefits of Home Language/Bilingual Experiences* subscale revealed that 90% or above of parents agreed or strongly agreed that skills and learning activities in the home language can support English learning and academic growth (i.e., language transfer), bilingual education programs facilitate DLLs' development of both English and home language skills, and learning two languages helps children understand different perspectives of others.

The *Detriments of Home Language/Bilingual Experiences* subscale showed that parents overall understood that bilingualism does not hinder child development. For example, over 80% of parents believed that home language or bilingual exposure does not increase DLLs' risk for language, cognitive, or academic delays nor does it cause social or cultural confusion. However, parents showed concerns about the costs of bilingualism in certain situations. Over a third of the parents viewed within-sentence code-switching as a sign of confusing the two languages as being one (36%) and were concerned that dual language learning could worsen the situation for children with language delays (38%). Additionally, many parents held the misunderstanding that engaging DLLs in an English-only environment is the best or the only way to support their English and academic learning. For example, 42% of parents agreed or strongly agreed that "reading books must be done in English to support DLLs' academic growth," and 47% agreed

or strongly agreed that "being in an English-only preschool/school program is the best way for DLLs to learn English."

The Associations Between Parental Beliefs and Knowledge and Children's Dual Language Exposure and Usage

After controlling for demographic variables, parents with stronger beliefs about the *Benefits of Home Language/Bilingual Experiences* had children who heard English and Spanish in a more balanced way at home ($p = .032$; see Table 3). The effect was marginally significant ($p = .080$) when all three KnDLLE subscales were included in the model. Additionally, parents' beliefs and knowledge about the *Benefits of Home Language/Bilingual Experiences* ($p = .039$) and the *Detriments of Home Language/Bilingual Experiences* ($p = .031$; reverse coded) predicted children's balanced language usage, although the effects were nonsignificant when all three KnDLLE subscales were included in the model. None of the KnDLLE subscale predicted children's relative language exposure and usage (p 's > 0.05 ; see Table 3).

The Associations Between Parental Beliefs and Knowledge and Children's Engagement in Learning Activities in Spanish and English

As shown in Table 4, parents' beliefs and knowledge about children's *Capability of Learning Two Languages* ($p = .008$) and the *Detriments of Home Language/Bilingual Experiences* subscale (reverse coded; $p = .004$) predicted children's engagement in home learning activities in Spanish. When all three KnDLLE subscales were entered into the model, the effects of these predictors were marginally significant (p 's = 0.057 and 0.052). Parents' beliefs and knowledge about the *Benefits of Home Language/Bilingual Experiences* did not predict children's home learning activities in Spanish.

Additionally, parents' beliefs and knowledge about children's *Capability of Learning Two Languages* predicted children's engagement in home learning activities in English with ($p = .003$) and without ($p = .001$) controlling for other KnDLLE subscales. The other two KnDLLE subscales did not play a significant role.

Discussion

Using a newly-developed questionnaire (KnDLLE), we examined DLL parents' beliefs and knowledge about dual language learning and education. While most parents recognized the benefits of home language/bilingual experiences, they varied in their beliefs and knowledge about children's capability of

Table 2 Descriptive statistics for parents' beliefs and knowledge about dual language learning and education

| Items | Responses | | | |
|---|-------------------|---------------|---------------|-------------------|
| Capability of learning two languages (4 items; Cronbach's alpha = 0.72) | Strongly disagree | Disagree | Agree | Strongly agree |
| Infants under 6 months are able to learn two languages at the same time. | 9% | 17% | 37% | 36% |
| Infants (0- to 1-year-old) learning two languages at the same time can tell the difference between the two. | 3% | 28% | 41% | 28% |
| | 5 years or older | 3–5 years old | 1–3 years old | 1 year or younger |
| When do you think a child is ready to be read to in two languages? ^a | 16% | 20% | 25% | 40% |
| When do you think a child is ready to be shown the alphabets in two languages? ^a | 12% | 21% | 40% | 27% |
| Benefits of home language/bilingual experiences (7 items; Cronbach's alpha = 0.77) | Strongly disagree | Disagree | Agree | Strongly agree |
| Children's literacy skills (e.g., spelling, reading, writing) in the first language can help them develop literacy skills in the second language. | 0% | 4% | 57% | 39% |
| Children's home language skills can support their academic learning at school in the U.S. | 0% | 2% | 55% | 44% |
| Learning two languages at the same time helps children understand different views and beliefs of others. | 1% | 9% | 44% | 45% |
| Book reading in the non-English home language can support DLLs' academic growth. | 0% | 6% | 64% | 30% |
| Bilingual preschool/school programs in which instructions are given in both English and the home language benefit DLLs' home language development. | 0% | 3% | 48% | 49% |
| Bilingual preschool/school programs in which instructions are given in both English and the home language benefit DLLs' English development. | 0% | 1% | 53% | 45% |
| Bilingual preschool/school programs in which instructions are given in both English and the home language do NOT benefit DLLs who know English very well (R) ^b . | 39% | 57% | 4% | 0% |
| Detriments of home language/bilingual experiences (11 items; Cronbach's alpha = 0.75) | Strongly disagree | Disagree | Agree | Strongly agree |
| When children mix words from two languages in a sentence, they are confusing the two languages as being one (R). | 14% | 50% | 31% | 5% |
| Learning two languages at the same time slows down children's cognitive development (e.g., keeping attention, reasoning, processing information, memorizing, etc.) (R). | 46% | 45% | 6% | 2% |
| Children exposed to two languages early on are often confused about which culture or social group they belong to (R). | 35% | 48% | 14% | 4% |
| Hearing two languages during infancy and preschool years may put children at greater risk for language delays (R). | 37% | 45% | 14% | 4% |
| If a child already has language delays, learning two languages at the same time will make the situation worse (R). | 18% | 44% | 32% | 6% |
| Using a home language other than English with children will lower their chances for academic success in the U.S. (R). | 54% | 38% | 5% | 3% |
| Use of the home language (e.g., Spanish) by children or parents at home slows down children's English learning (R). | 35% | 51% | 13% | 1% |
| Parents whose children are showing language delays should stop using the home language and speak only English so as not to confuse the children (R). | 29% | 60% | 9% | 2% |
| Reading books must be done in English to support DLLs' academic growth (R). | 18% | 40% | 28% | 14% |
| Parents should engage in teaching and learning activities (e.g., reading) with DLLs only in English (R). | 18% | 52% | 23% | 8% |
| Being in an English-only preschool/school program is the best way for DLLs to learn English (R). | 12% | 42% | 36% | 11% |

^a Two items in the Capability of Learning Two Languages subscale were rated on a different scale: 5 years or older, 3–5 years old, 1–3 years old, 1 year or younger

^b Statements denoted with "R" were reversely coded

dual language learning and the "detriments" of home language/bilingual experiences. More importantly, different aspects of parental beliefs and knowledge were associated with children's dual language experiences at home in unique ways, providing support for the critical role of parents' dual-language specific

beliefs and knowledge in shaping DLLs' language learning environment at home.

Table 3 Parental beliefs and knowledge predicting children's dual language exposure and usage

| | Relative English (vs. Spanish) exposure | | | Relative English (vs. Spanish) use | | | Balanced language exposure | | | Balanced language use | | | | | | |
|--|---|---------------|--------------|------------------------------------|--------------|---------------|----------------------------|------|--------------|-----------------------|--------------|------|-------------|---------------|-------------|----|
| | B | S.E. | Beta | B | S.E. | Beta | B | S.E. | Beta | B | S.E. | Beta | p | | | |
| Step 1: Control variables | | | | | | | | | | | | | | | | |
| Parent born in the US | 0.32 | (0.12) | 0.19 | ** | 0.42 | (0.15) | 0.21 | ** | 0.22 | (0.09) | 0.20 | ** | 0.23 | (0.10) | 0.17 | * |
| Parent English proficiency | 0.35 | (0.08) | 0.30 | *** | 0.39 | (0.10) | 0.28 | *** | 0.19 | (0.06) | 0.24 | ** | 0.19 | (0.07) | 0.20 | ** |
| Parent Spanish proficiency | -0.35 | (0.13) | -0.17 | ** | -0.40 | (0.16) | -0.16 | * | -0.01 | (0.10) | -0.01 | | | | | |
| Parent education | | | | | | | | | | | | | | | | |
| Parent ethnicity (Latino as reference group) | -0.13 | (0.17) | -0.05 | | -0.07 | (0.20) | -0.02 | | -0.12 | (0.12) | -0.07 | | -0.14 | (0.04) | -0.22 | ** |
| Child age | | | | | 0.16 | (0.04) | 0.25 | *** | | | | | | | | ^ |
| Child firstborn | -0.23 | (0.09) | -0.14 | | | | | | | | | | | | | |
| Step 2: Parental beliefs and knowledge in separate models | | | | | | | | | | | | | | | | |
| Capability of learning two languages | 0.10 | (0.07) | 0.08 | | 0.09 | (0.09) | 0.06 | | 0.07 | (0.05) | 0.09 | | 0.05 | (0.06) | 0.05 | |
| Benefits of home language/bilingual experiences | 0.10 | (0.13) | 0.04 | | -0.02 | (0.17) | -0.01 | | 0.20 | (0.09) | 0.13 | * | 0.24 | (0.12) | 0.14 | * |
| Detriments of home language/bilingual experiences (R) | 0.13 | (0.12) | 0.07 | | 0.10 | (0.15) | 0.04 | | 0.10 | (0.09) | 0.07 | | 0.24 | (0.11) | 0.15 | * |
| Step 2: Parental beliefs and knowledge in the same model | | | | | | | | | | | | | | | | |
| Capability of learning two languages | 0.08 | (0.07) | 0.07 | | 0.08 | (0.09) | 0.06 | | 0.05 | (0.05) | 0.07 | | 0.00 | (0.06) | 0.00 | |
| Benefits of home language/bilingual experiences | 0.03 | (0.14) | 0.01 | | -0.09 | (0.18) | -0.03 | | 0.18 | (0.10) | 0.12 | ^ | 0.18 | (0.13) | 0.10 | |
| Detriments of home language/bilingual experiences (R) | 0.09 | (0.13) | 0.04 | | 0.10 | (0.17) | 0.04 | | 0.02 | (0.09) | 0.01 | | 0.18 | (0.12) | 0.11 | |

Note. ^ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. Significant coefficients were bolded

Table 4 Parental beliefs and knowledge predicting children's engagement in learning activities in Spanish and English

| | Learning activities in Spanish | | | Learning activities in English | | | |
|---|--------------------------------|---------------|--------------|--------------------------------|-------------|---------------|-------------|
| | <i>B</i> | <i>S.E.</i> | <i>Beta</i> | <i>B</i> | <i>S.E.</i> | <i>Beta</i> | |
| Step 1: Control variables | | | | | | | |
| Parent born in the US | -0.28 | (0.11) | -0.17 | * | 0.02 | (0.14) | 0.01 |
| Parent English proficiency | | | | | 0.36 | (0.09) | 0.28 |
| Parent Spanish proficiency | | | | | -0.27 | (0.16) | -0.12 |
| Parent education | | | | | | | |
| Parent ethnicity (Latino as reference group) | | | | | -0.32 | (0.20) | -0.11 |
| Child age | | | | | | | |
| Child firstborn | | | | | | | |
| Step 2: Parental beliefs in separate models | | | | | | | |
| Capability of learning two languages | 0.20 | (0.07) | 0.18 | ** | 0.27 | (0.08) | 0.21 |
| Benefits of home language/bilingual experiences | 0.24 | (0.14) | 0.11 | | 0.12 | (0.15) | 0.05 |
| Detriments of home language/bilingual experiences (R) | 0.36 | (0.13) | 0.19 | ** | 0.25 | (0.14) | 0.12 |
| Step 2: Parental beliefs in the same model | | | | | | | |
| Capability of learning two languages | 0.15 | (0.08) | 0.13 | ^ | 0.25 | (0.08) | 0.20 |
| Benefits of home language/bilingual experiences | 0.06 | (0.16) | 0.03 | | -0.03 | (0.16) | -0.01 |
| Detriments of home language/bilingual experiences (R) | 0.27 | (0.14) | 0.14 | ^ | 0.15 | (0.15) | 0.07 |

Note. ^ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. Significant coefficients were bolded

Three Aspects of Parental Beliefs and Knowledge about Dual Language Learning and Education

We identified three key aspects of parental beliefs and knowledge about dual language learning and education. First, DLL parents varied in their beliefs and knowledge about *children's capability of learning two languages*. Although 70% of parents believed that infants can learn and differentiate two languages in the first year of life, they held different beliefs about *at what age* DLLs are ready to engage in literacy activities in two languages. These findings are consistent with previous findings on individual differences in parental beliefs about when (Suskind et al., 2018) and why (e.g., for developing skills vs. for entertaining; Sonnenschein et al., 1997) children should engage in early literacy activities, regardless of children's DLL status. Studies with Spanish-speaking or Spanish-English bilingual samples have also revealed that parents recognized the importance of early literacy activities for children's educational success, yet varied in the extent to which they engaged children in these activities due to multiple reasons such as experiences with the school system, family stressors (e.g., available resources, work schedule), and parents' and children's reading interest or ability (Reese et al., 1995; Sawyer et al., 2018). Additionally, some Spanish-speaking, immigrant parents believed that children should learn literacy skills at school, and that young children (especially infants and toddlers) were too young to be read to (Reese & Gallimore, 2000).

Second, parents showed uniformly strong beliefs about the *benefits of home language/bilingual experiences*. Almost all parents agreed/strongly agreed with the concept of language transfer, the cognitive and social benefits of bilingualism,

and the positive effects of Spanish learning activities (e.g., book-reading) and bilingual preschool/school programs on children's dual language development and academic growth. These beliefs suggest that DLL parents highly value bilingualism (Farruggio, 2010; Lee et al., 2015; Liang, 2018; Surrain, 2021). Asset-based interventions aimed to enhance children's home language and bilingual learning experiences at home should build upon parents' positive beliefs about bilingualism.

Third, regarding potential "*detriments*" of home language/bilingual experiences, most parents understood that home language or bilingual experiences do not hinder children's language, cognitive, or academic development or cause confusion (see also Genesee, 2015; Hammer et al., 2014; Hoff et al., 2012). However, over one third of parents agreed or strongly agree that within-sentence code-switching is a sign of confusion, were concerned about the negative effects of home language/bilingual exposure for children with language delays, and believed that English experiences benefit academic learning more than Spanish experiences. These beliefs might be shaped by the social and educational contexts where DLL parents are pressured by practitioners to use more English with their children, especially when their children show language or academic delays (Langdon, 2015).

These results suggest both strengths and progress in parental beliefs and knowledge regarding dual language learning and education thanks to increasing research and advocacy, and potential areas for improvement through intervention and public messaging.

Parental Beliefs and Knowledge Predicting Children's Dual Language Exposure and Usage

We further examined the association between the three aspects of parental beliefs and knowledge and children's dual language exposure and usage at home. Previous work (Hwang et al., 2022; Mancilla-Martinez & Lesaux, 2014) found that parental beliefs and knowledge about home language learning and children's ability to acquire dual language skills were associated with children's greater Spanish usage and exposure at home. However, findings from the current study suggested that parents who more strongly believed in the benefits of home language/bilingual experiences and those who were less concerned about the "detriments" of home language/bilingual experiences had children who heard and/or used more *balanced* Spanish and English at home. This is probably because the parents in our sample had relatively balanced English and Spanish proficiencies, affording them more flexibility in their dual language practices. Parents' positive beliefs about home language/bilingual experiences might lead them to encourage the use of both languages at home. Alternatively, parents whose children have balanced dual language use may experience or witness the benefits of it, thus holding positive beliefs about home language/bilingual experiences. Notably, the effects were small and became marginally or non-significant when all three aspects of parental beliefs and knowledge were included, calling for replication in future research.

Parental Beliefs and Knowledge Predicting Children's Engagement in Learning Activities in Spanish and English

The relation between parental beliefs and knowledge and children's engagement in learning activities in English and Spanish was stronger than the relation with children's dual language exposure and usage, probably because a parent has less control over the language(s) used by others at home but can intentionally engage in learning activities with their child. Interestingly, it is not beliefs and knowledge about the benefits of home language/bilingual experiences (where parents showed high agreement), but rather beliefs and knowledge about children's *capability of learning two languages* and the "detriments" of home language/bilingual experiences that showed the relationship. Specifically, parental beliefs and knowledge about children's *capability of learning two languages* positively predicted the frequencies of home learning activities in Spanish and English. This is in contrast with previous work with low- socioeconomic status (SES) families where parental beliefs and knowledge about dual language development negatively predicted children's learning activities in English and did not relate to learning activities in Spanish (Luo et al.,

2021). Perhaps, factors such as language proficiency, lack of resources, long working hours, and children's own language preferences, made it challenging for low-SES parents to translate their beliefs and knowledge into rich dual language environment at home (Liang, 2018). However, parents in the current study reported dual language proficiency and had relatively higher SES, with 44% of parents having a Bachelor's or graduate degree, in comparison to only 25% of the parents in the previous study (Luo et al., 2021). As a result, understanding children's early readiness for dual language exposure and biliteracy activities might motivate parents who have the language skills and resources to engage in learning activities in both languages.

Furthermore, parents who disagreed that there were *detriments of home language/bilingual experiences* had children who engaged in learning activities in Spanish more frequently. DLL parents' hesitancy to expose children to Spanish learning environments might be due to their overestimates of the importance of English experiences and concerns about the potential costs/detriments of bilingualism, rather than their unawareness of the benefits of Spanish/bilingual experiences.

Therefore, moving beyond merely advocating the benefits of home language skills and bilingualism, it is crucial to ease parents' common, but unjustified, concerns about children's capacity to learn two languages and the "detriments" of dual language experiences in order to enhance DLLs' engagement in dual language learning activities. Rather than general endorsement of bilingualism, parents should be provided with specific information on language and literacy teaching strategies, language delays, and educational practices/programs in the dual language context.

Limitations and Future Directions

The current study has several limitations and future directions. First, the correlational study precludes any causal inferences. While parental beliefs and knowledge may influence their practices, different practices can elicit unique experiences for parents and children and in turn shape parental beliefs and knowledge. Second, the translation of parental beliefs and knowledge into practices does not occur in a vacuum. Individual and contextual factors such as the prestige of the home language, the availability of educational resources, children's language preferences, and parental language proficiencies might play a moderating role (Kasstan et al., 2018) and are worth studying in future research. Third, the current study did not assess children's dual language skills, which can be both an outcome and a predictor of parental beliefs, knowledge, and dual language practices. Longitudinal studies should investigate the bidirectional influences between parents and children. Finally, although parent surveys have been widely used to assess parental beliefs, knowledge and dual language practices,

it is important to integrate other methodological approaches, such as observations and qualitative interviews, to evaluate the accuracy of parental reports and further explore why and how parents develop such beliefs and knowledge. For example, future research should examine how factors such as parents' sociocultural, linguistic, educational, and/or immigration backgrounds might shape parents' beliefs and knowledge about dual language development and education.

Conclusion

The current study examined parental beliefs and knowledge about dual language learning and education as a proximal contributor to children's Spanish and English experiences at home. Parents of DLLs showed both strengths and gaps in their beliefs and knowledge about children's capability of dual language learning and the benefits and "detriments" of home language/bilingual experiences. Furthermore, these aspects of parental beliefs and knowledge predicted children's dual language experiences in unique ways. Together, these results call for efforts to enhance parental knowledge about how to support DLLs and provide resources to help parents translate their beliefs and knowledge into effective dual language practices.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s10643-023-01594-5>.

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