BILINGUALISM MATTERS
Research Symposium 2020

Features of Parental Input that Predict Home Language Skills in 3- and 4-year-old Spanish-speaking Dual Language Learners

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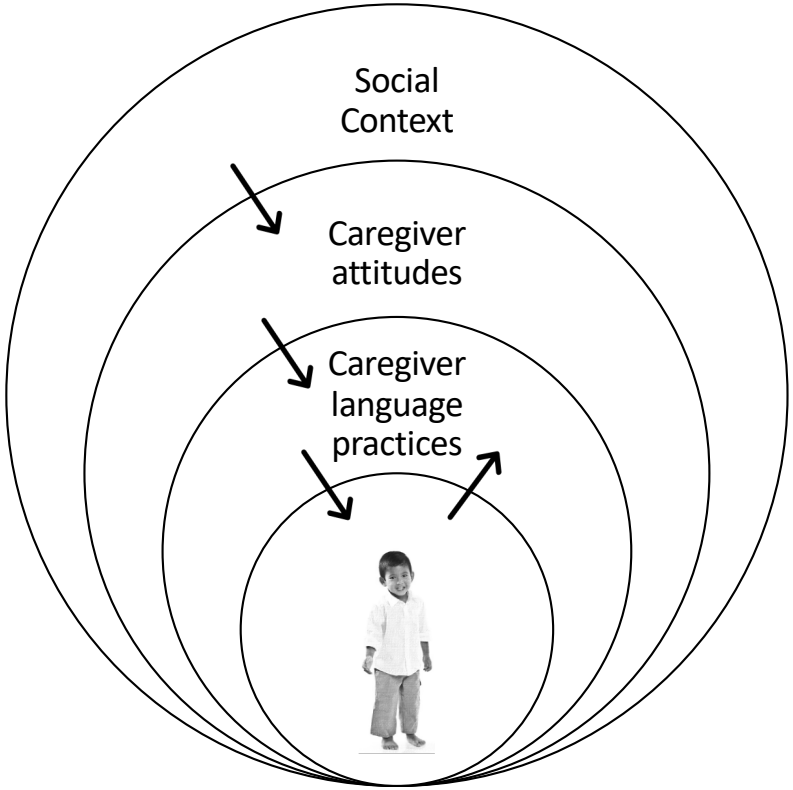
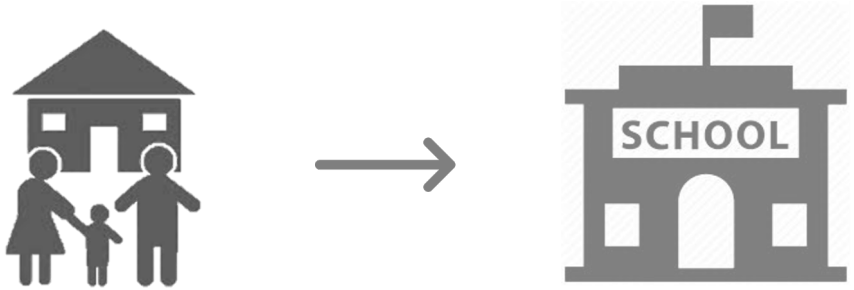
How does context shape DLLs' bilingual development?



DLL = Dual language learner = "Children ... in the process of learning a majority language (L2) in addition to a (minority) language (L1) that is spoken at home."

~30% of preschool-aged children

~60% live in Spanish-speaking households



(Bronfenbrenner, 1977; De Houwer, 1999; Hamers & Blanc, 1982; Pearson, 2007)

(Child Trends, 2014; Park, et al., 2018, Winsler et al., 2014)

DLLs' vocabulary growth during the transition to preschool

English Expressive Vocabulary

Spanish Expressive Vocabulary

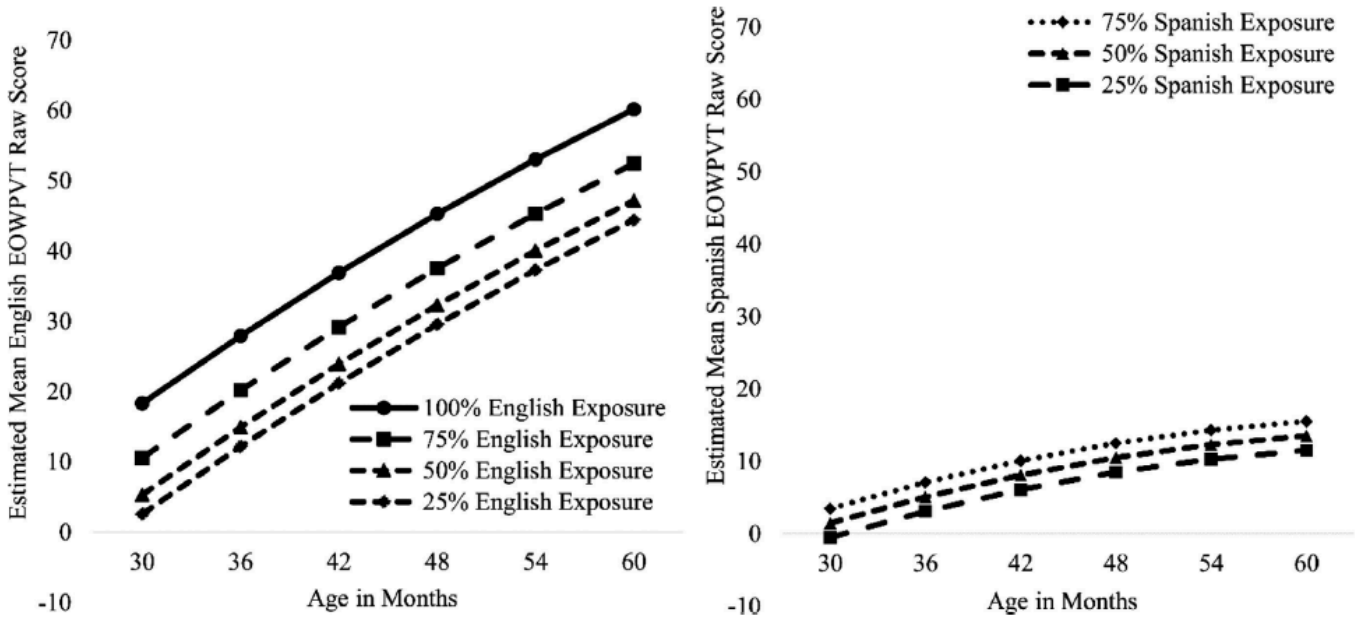


Figure 1. Estimated trajectories of English and Spanish expressive vocabulary growth from 30 to 60 months at different levels of exposure to English, controlling for parent education (N = 151 for English, 112 for Spanish).

Hoff, 2017

What explains variability in DLLs' home language skills?

What we know

- Maternal education in the home language (e.g. Lauro et al., 2020)
- Birth order and sibling effects (e.g. Duncan & Paradis, 2020)
- Age of acquisition of majority language (e.g. Bedore et al., 2016)
- Relative quantity of input in home language (e.g. Place & Hoff, 2011; Pearson et al., 1997)

What we don't know

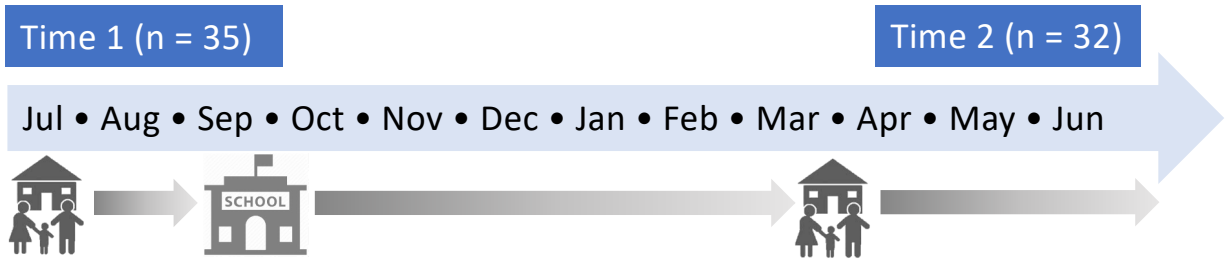
- Do features of parental input such as the absolute quantity and the quality of talk matter for DLLs' home language skills?
- How much does parental input matter after DLLs start school in the majority language?

Previous studies of parental input and child language skills

	Study	Age of children in months	Quantity of talk	Lexical diversity	Syntactic complexity
Mono-lingual English-speakers	Huttenlocher et al., 1991	14-26 mos	YES	NO	
	Hart & Risley, 1992	6-36 mos	YES	YES	
	Hoff & Naigles, 2002	18-29 mos	YES	YES	YES
	Pan et al., 2005	14-36 mos		YES	
	Reynolds et al., 2018	6-36 months		NO	YES
	Huttenlocher et al., 2010	13-46 months		YES	YES
	Huttenlocher et al., 2002	47-60 months			YES
Spanish-English DLLs	**Boyce et al., 2013**	**24-36 months**	NO	NO	NO

The current study

Home-based, structured observations of Spanish-speaking parents and their 3 or 4 year-old child at two time points in the greater Boston area



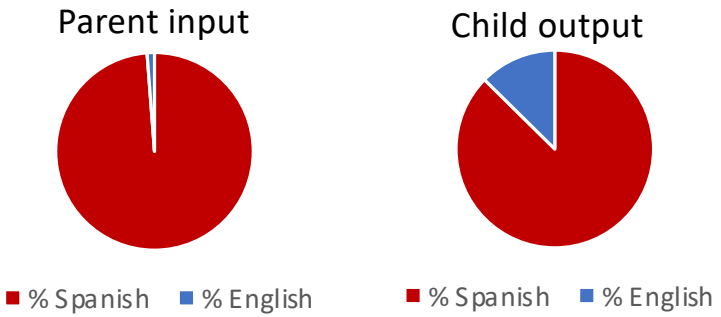
RQ1: Do features of parental input predict children's expressive vocabulary skills in their home language **before** preschool entry ...

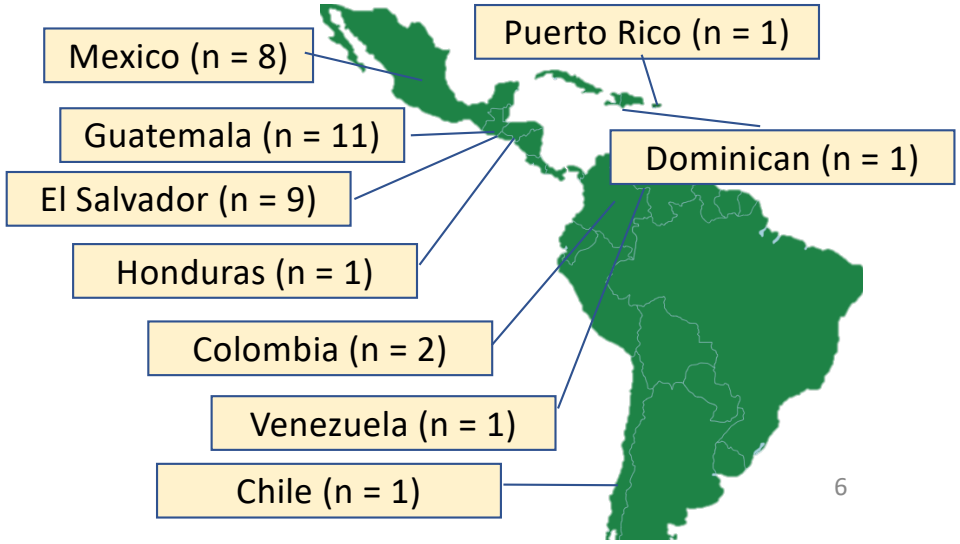
RQ2: ... as well as nine months **after** preschool entry, controlling for Time 1 child language use?

Method: Participants

Parents (n = 35)	
L1 is Spanish L1 is indigenous Guatemalan language	94% 6%
Born in Spanish-speaking country or U.S. territory	100%
Years of education	2 – 18 years
Parent age	26 - 45 years old
Age of immigration to U.S.	age 12 – 35

Children (n = 35)	
Oldest or only child	31%
Female	43%
Born and raised in U.S.	77%
Child age in months	36-58 months at time 1 M = 46 months





Method: Procedure

Time 1

1. Parent-child interaction (3 bags task)

2. Spanish Assessment

CELF PRESCHOOL 2
Clinical Evaluation of Language Fundamentals Preschool – SECOND EDITION

3. Parent questionnaire

4. English Assessment

Time 2

1. Parent-child interaction (3 bags task)

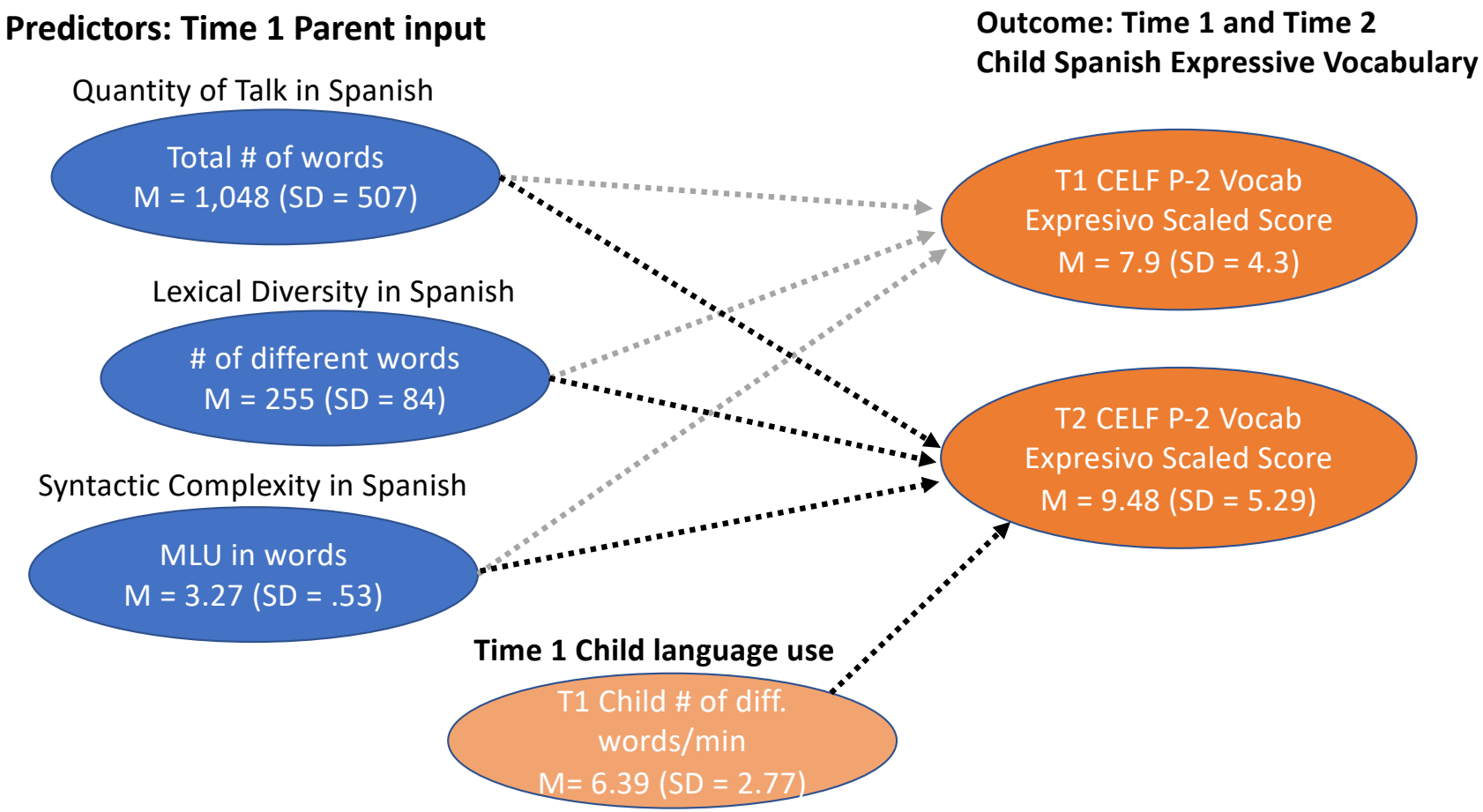
2. Spanish Assessment

CELF PRESCHOOL 2
Clinical Evaluation of Language Fundamentals Preschool – SECOND EDITION

3. Parent questionnaire

4. English Assessment

Descriptive Measures and Analytic Plan



RQ1: Do features of parental input predict children's expressive vocabulary skills in their home language before preschool entry?

RQ1: Pairwise correlations

		T1 Vocab	Parent Ed	Female	Oldest	Child born abroad	Quantity	Lexical Diversity
Time 1 Spanish Expressive Vocab		1.000						
	Parent education in years	**0.354***	1.000					
	Child is female	-0.112	0.082	1.000				
	Oldest child	**0.478***	**0.449***	-0.089	1.000			
	Child born abroad	**0.396***	0.151	-0.196	0.071	1.000		
Parent	Quantity of Talk	0.280	**0.335***	-0.081	0.156	0.032	1.000	
	Lexical Diversity	**0.367***	**0.383***	-0.151	0.249	0.016	**0.931***	1.000
	Syntactic Complexity	**0.552***	**0.524***	-0.094	0.264	0.161	**0.726***	**0.823***

*p <.05, **p <.01, ***p <.001

Pearson correlations, n = 35

RQ1: Predicting Concurrent Spanish Expressive Vocabulary

		Baseline	Quantity of Talk	Lexical Diversity	Syntactic Complexity
	Parent education in years	0.107	0.0784	0.0873	-0.0893
		(0.140)	(0.152)	(0.143)	(0.141)
	Oldest child	**3.603***	**3.653***	**3.314***	**3.452***
		(1.441)	(1.461)	(1.488)	(1.282)
	Child born abroad	**3.494***	**3.476***	3.056	**3.113***
		(1.441)	(1.458)	(1.538)	(1.286)
Parent	Quantity of Talk		0.0183		
			(0.0342)		
	Lexical Diversity			0.597	
				(0.709)	
	Syntactic Complexity				**3.638****
					(1.195)
Constant		4.775**	4.035	5.198**	-4.706
		(1.582)	(2.118)	(1.668)	(3.418)
R-Squared		0.372	0.378	0.386	0.520

RQ2: Do features of parent input predict children's expressive vocabulary skills in their home language nine months after preschool entry, controlling for Time 1 child language use?

RQ2: Pairwise correlations

		T2 Vocab	T1 child lang. use	Parent ed.	Female	Oldest	Born abroad	Quantity	Lexical Diversity
	Time 2 Span Exp. Vocab.	1.000							
	Time 1 child language use	**0.577***	1.000						
	Parent education in years	0.316	0.215	1.000					
	Child is female	-0.217	0.160	0.082	1.000				
	Oldest child	**0.488***	0.131	**0.449***	-0.089	1.000			
	Child born abroad	**0.559***	**0.426***	0.151	-0.196	0.071	1.000		
Parent	Quantity of Talk	0.167	-0.094	**0.335***	-0.081	0.156	0.032	1.000	
	Lexical Diversity	0.248	-0.052	**0.383***	-0.151	0.249	0.016	**0.931***	1.000
	Syntactic Complexity	**0.464***	0.177	**0.524***	-0.094	0.264	0.161	**0.726***	**0.823***

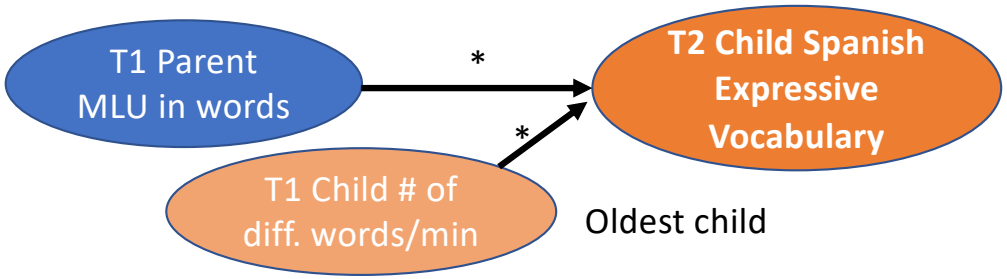
*p <.05, **p <.01, ***p <.001

Pearson correlations, *n's* range from 29 - 35

RQ2: Predicting Spanish Expressive Vocabulary

		Baseline	Quantity of Talk	Lexical Diversity	Syntactic Complexity
Time 1 child language use		**0.749***	**0.796***	**0.779***	**0.702***
		(0.302)	(0.301)	(0.291)	(0.282)
Oldest child		**4.613****	**4.213****	**3.960****	**4.014****
		(1.383)	(1.405)	(1.388)	(1.318)
Child born abroad		3.526	3.569	3.762	3.143
		(2.037)	(2.016)	(1.970)	(1.908)
Parent	Quantity of Talk		0.00192		
			(0.00154)		
	Lexical Diversity			0.0143	
				(0.00846)	
	Syntactic Complexity				**2.762***
					(1.266)
Constant		1.967	-0.202	-1.739	-6.591
		(2.000)	(2.635)	(2.915)	(4.344)
R-Squared		0.590	0.615	0.634	0.658

Conclusions



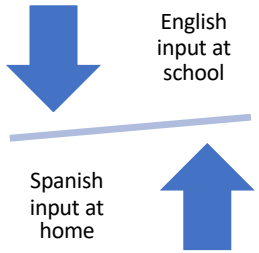
For Spanish-speaking DLLs, the **syntactic complexity** of parental input in Spanish (but not quantity or lexical diversity) **predicted expressive vocabulary in Spanish** before and after preschool entry

Why might longer utterances facilitate word learning?

- Syntactic Bootstrapping Hypothesis (Landau & Gleitman, 1985; Naigles, 1990)
  - Children use syntactic frames to build their understanding of word meanings
  - Hearing words in more complex utterances provides more complete information about a word

Things to ponder

- Pandemic effects?
  - Initially intended to look at the effect of the transition to preschool on the home language environment
  - Time 2 visits were conducted online from April – June 2020, after preschools closed in March 2020



- Next steps
  - Stability and change in parental input from Time 1 to Time 2
  - Parent responses to child language mixing (Lanza, 1997) - poster to be presented at the Many Paths to Language conference in October 2020

Muchísimas gracias a ...

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The families

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OBSERVATORY of the Spanish Language and Hispanic Cultures in the United States

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