

# Spanish-English Speaking Preschoolers: An Exploratory Study Examining LENA Data

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# Recognized Need

- Increased risk of language disorders in migrant population, associated with poverty (Dollaghan et al., 1999; Hart & Risley, 1995)

38% of Hispanic American children live in poverty (US Census, 2010)

- Progress monitoring tools are needed for earlier identification of young ELLs with LI, particularly in high poverty settings



- Authentic ecologically valid assessments
- Culturally responsive
- Capture the interplay between languages

# Shortfalls in Addressing Need

## Shortfalls in traditional assessments

- Culturally biased assessments

(Kester & Peña, 2002; Laing & Kamhi 2003)

- Lack of translation equivalence

(Restrepo, & Silverman, 2001)

- Ignores interplay between languages

(Cummins, 1984; deGroot & Hoeks, 1995)

- Over or under identifies ELLs

(Kaderavek, 2010)



# Current Study

113 LENA samples from preschoolers in Florida

- 71 typically developing monolingual English-speaking children
- 42 migrant ELLs who predominantly speak Spanish at home and attend English-speaking childcare or preschools



# Purpose

Examine mean hourly CVC, AWC, and CTC for potential group differences and covariates.

- What are average hourly child vocalization counts for young Spanish-English speaking children?
- Are there significant differences between preschool ELLs and monolinguals in average hourly CVC, AWC, and CTC?

What factors account for significant variability?



# Spanish-speaking English Language Learners

- 42 children age 36mo-65mo
  - M* age = 51months, *SD*= 8.8
- Children of migrant farm workers- rural FL
- 100% free lunch eligibility
- Spanish was spoken at home for 78% of segments.

Of 5 minute segments:

- 59% were exclusively in Spanish
- 19% comprised of mixed Spanish/Eng productions
- 20% were exclusively in English



# Family Demographics for ELL group

- Maternal Education
  - High school diploma was highest level completed
- Employment self-reported
  - Field work, laborer, migrant camp
- Predominantly of Mexican descent
- Spanish spoken at home; 1 reported exposure to Mixtec dialect at home as well.



# Monolingual Comparison

- 71 Children 34-65 months

*M* age = 48 months, *SD*= 7.6

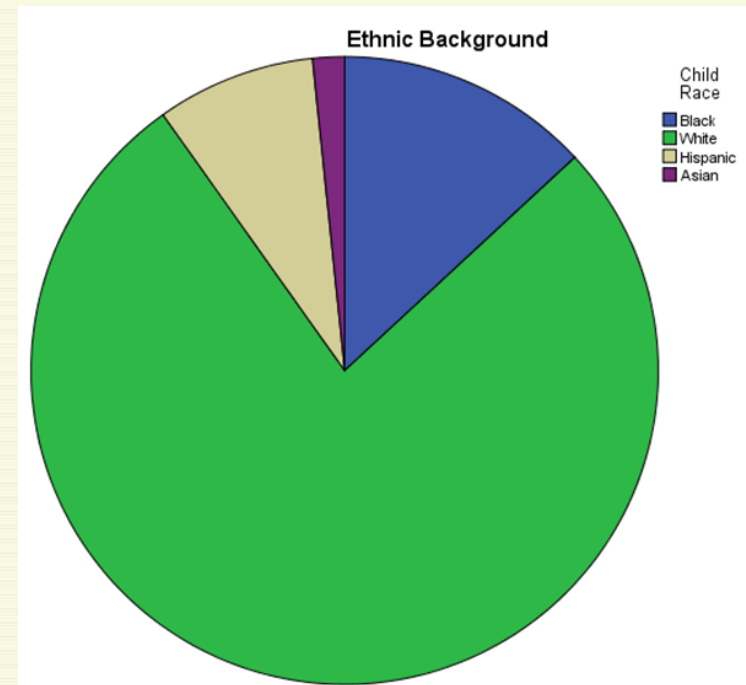
- English spoken at home
- No identified disabilities
- Race/Ethnicity

77% White Caucasian

13% Black African American

8% Hispanic Latin American

2% Asian





# Family Demographics

## Mother's Education Level

High school	18%
Some college	5%
Associates	8%
Bachelor	48%
Masters	18%
Doctoral	3%

## Father's Education Level


High school	15%
Some college	7%
Associates	12%
Bachelor	41%
Masters	13%
Doctoral	8%



# Average Hourly Counts

## English Language Learners

	<b>Mean</b>	<b>SD</b>
CVC	<b>122.4</b>	85.7
AWC	<b>784.5</b>	435.8
CTC	<b>23.2</b>	19.9

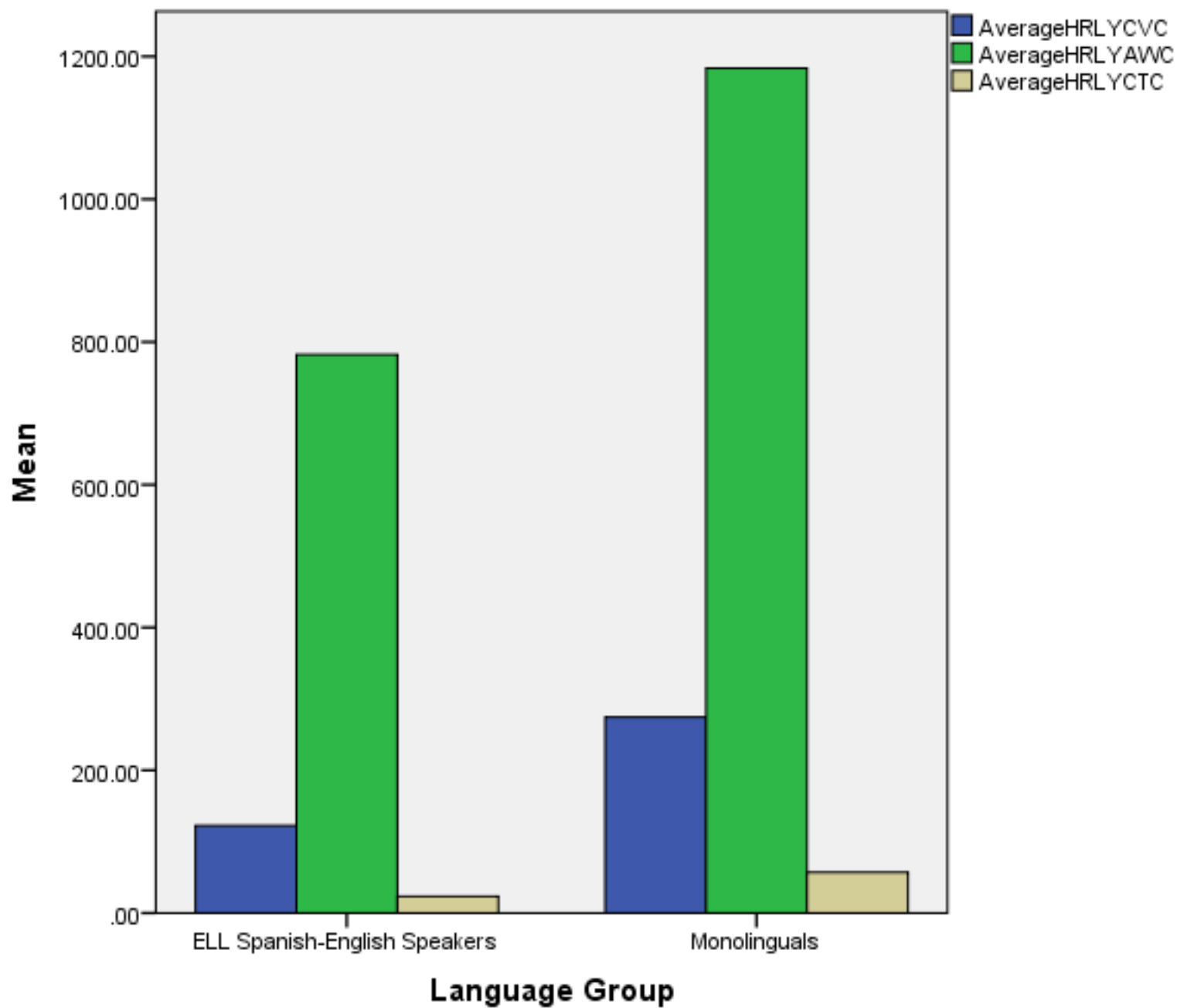
 *n*=42

## Monolingual Comparison

	<b>Mean</b>	<b>SD</b>
CVC	<b>274.3</b>	136.3
AWC	<b>1,183.7</b>	542.9
CTC	<b>56.9</b>	29.3

*n*=71

\*Significantly different between groups at  $p < .001$



# Age as a Covariant

- No significant difference in age between groups  $F(1,111)=2.96$   $p = .09$
- Age was a significant covariant of CTC for the total sample.



# No Significant Effects by Gender

CVC/hr: males ( $M=235$ ) females( $M=204$ )

$$F(1,111)= 1.396 \quad p =0.240$$

AWC/hr: males ( $M= 984$ ) females( $M=1,074$ )

$$F(1,111)=.776 \quad p =0.380$$

CTC/hr: males ( $M=46$ ) and females ( $M=43$ )

$$F(1,111)= .455 \quad p =0.501$$

Female  $n = 63$ ; Male  $n = 50$



# Influence of Spanish Use?

Language use differed across environments

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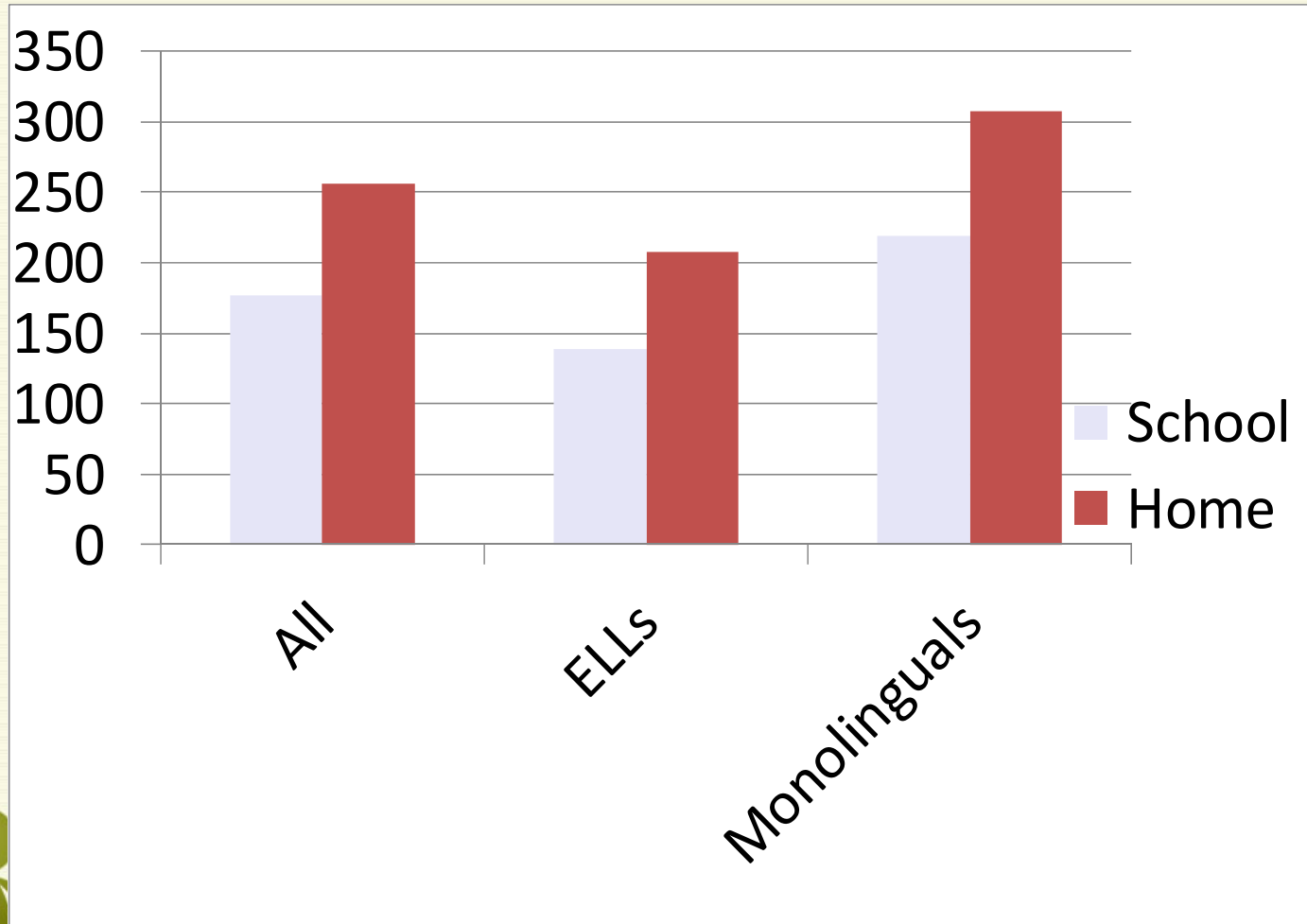
	<b>% of Spanish Use</b>	<b>% of English Use</b>	<b>% Spanish/English Use (Mixed)</b>
<b>School</b>	<b>38.09</b>	<b>42.88</b>	<b>19.00</b>
<b>Home</b>	<b>59.36</b>	<b>20.50</b>	<b>19.07</b>

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\*Excluded naps and bus ride between preschool and home



# Environment Differences in Mean CVC/hr



	Mean hourly CVC at School (SD)	Mean Hourly CVC at Home (SD)	Difference between Home and School Mean Hourly CVC
ELL & Monolingual Combined	177.30 (94.4)	255.97 (139.0)	78.67 (133.0)
ELL (Spanish-English)	138.77 (66.5)	208.04 (126.9)	69.27 (130.0)
Monolingual (English-only)	218.68 (103.3)	307.46 (135.0)	88.78 (137.9)





# Summary of Environment

- Based on the total sample, the mean home average hourly CVC was significantly higher than the mean school average hourly CVC  $t(55) = -4.43; p < .0001$ .
- There was not a statistically significant difference in the effect of the environment between groups ( $F(1,54) = 0.297, p = .588$ ).



# Next steps

- **Effect of Maternal Education:** Compare Spanish-English children of parents with normally distributed levels of education.
- **Norms/Progress Monitoring:** Continue to gather longitudinal data on migrant ELLs for normative database.
- **Construct Validity:** Examine CTC predictive validity for estimating KG-2<sup>nd</sup> grade language and literacy performance.



# Gratitude

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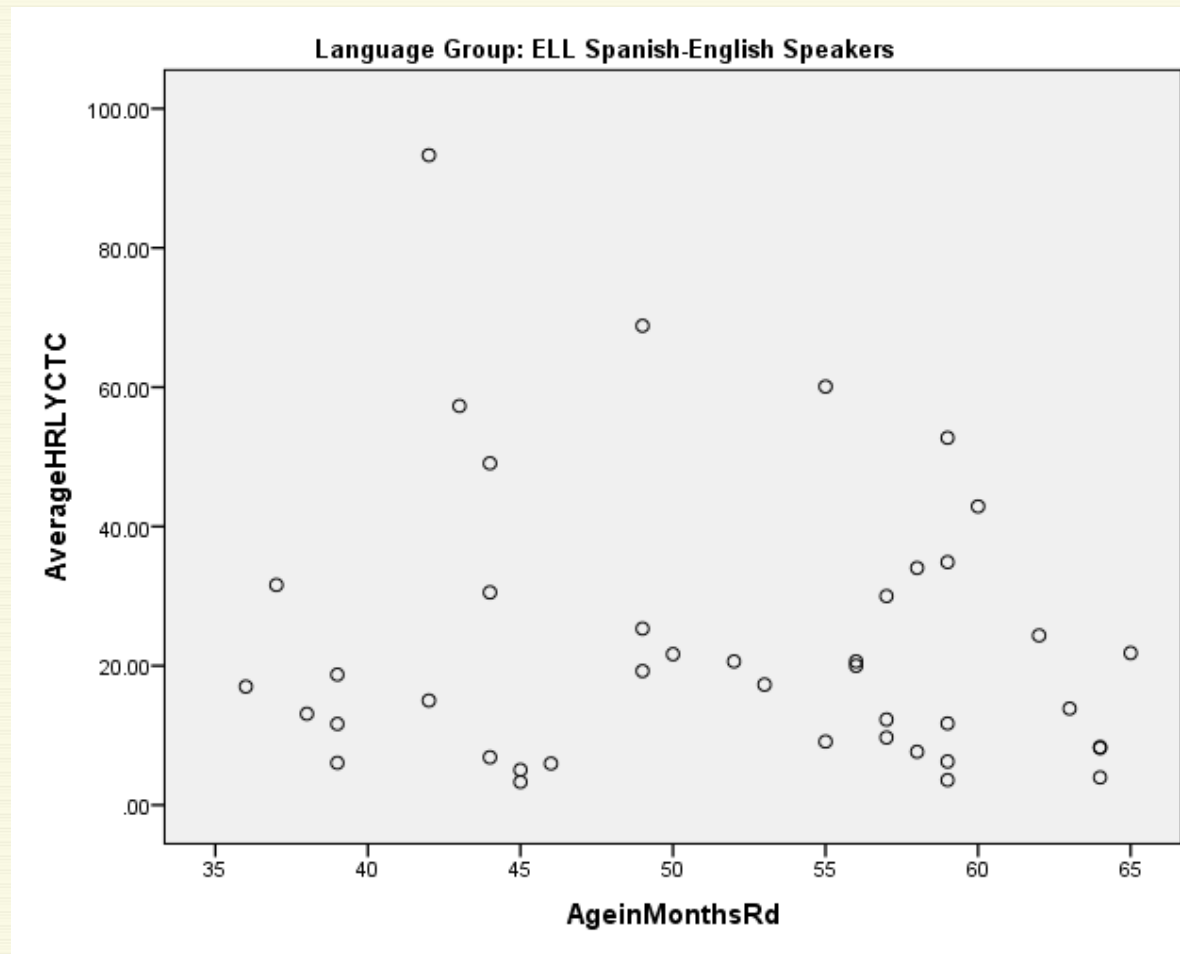


- An ANOVA was used to determine if average hourly CVC, AWC, and/or CTC were significantly different between ELLs and monolinguals.

	$F$	$p$
CVC	41.18	<.001
AWC	16.59	<.001
CTC	43.63	<.001



# Relationship between Age & CTC



### Language Group: Monolinguals

