

Language Outcomes of Children from Spanish-Speaking Families: A Multi-State Perspective

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Today's Topics

- Present language outcomes of children from homes where Spanish is the primary spoken language
- Identify characteristics of children with more successful language outcomes

Participants

- All families are participating in NECAP
 - National Early Childhood Assessment Project
 - CDC-supported project examining language outcomes at a national level
 - Part of a larger effort that also includes children from English-speaking families

Participating States

- Arizona
- California
- Colorado
- Idaho
- Indiana
- Texas
- Wyoming

Assessment Components

- Demographic form
- Release of audiologic information
- Minnesota Child Development Inventory
 - Translated into Spanish; normed in English
- MacArthur-Bates Communicative Development Inventories
 - Developed for and normed on children from Spanish-speaking families

Spanish Assessments Completed

- 142 assessments completed (not including Colorado)
- 97 children assessed 1 to 4 times each

Participant Criteria for Language Outcomes Analysis

- Bilateral hearing loss
- Spanish-speaking home
- No other disabilities believed to affect speech or language development

Language Outcomes Analysis: Number of Assessments

- Number of Children = 55
- Minnesota Child Development Inventory = 28 assessments
- MacArthur-Bates Communicative Development Inventory = 71 assessments

Language Outcomes Analysis: Participant Characteristics

- Chronological age
 - Range = 14 to 63 months
 - Mean = 26 months
 - 98% of sample: 14 to 36 months of age
- Boys = 49%; Girls = 51%

Language Outcomes Analysis: Participant Characteristics

Age at...	Median (mos)	Range (mos)
Identification	3*	.25 to 30
Amplification	6	1.5 to 32
Intervention	6*	1 to 31

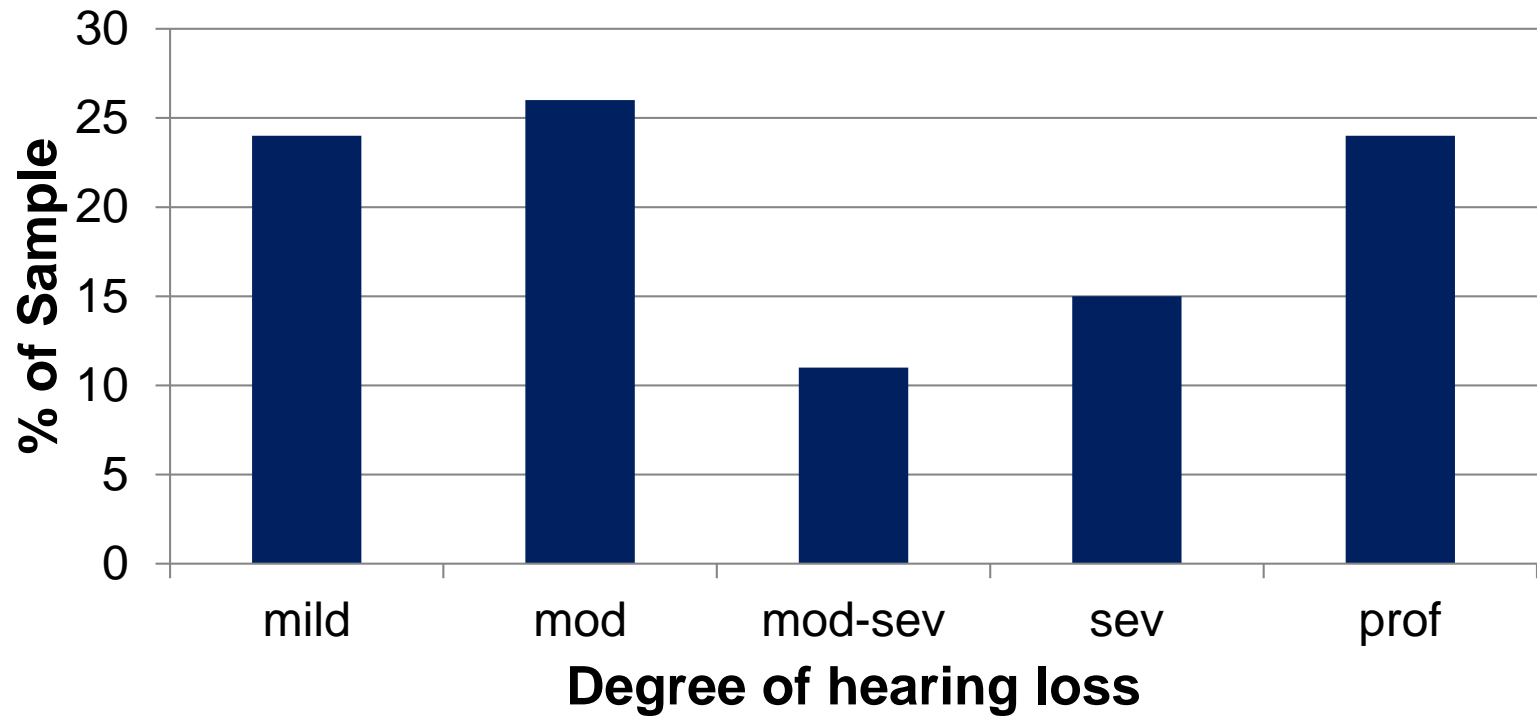
*59% of children were identified by 3 months of age

*57% of children were in intervention by 6 months of age

Language Outcomes Analysis: Participant Characteristics

Highest degree completed	% of primary caregivers
Less than HS	47%
High school diploma	33%
Vocational or Associates	9%
Bachelor's degree	11%
Graduate degree	0%

Degree of Hearing Loss (available for 46 children)



Assessment 1: Minnesota Child Development Inventory (1992)

- 8 areas of development assessed
 - Language, Motor, Social, Self Help, Pre-Literacy
- Parent report
 - Parents respond “yes” or “no” to a variety of statements about their child
 - Example: “Has a vocabulary of 20 or more words”
- Scales adapted to reflect abilities in both spoken and sign language
- Translated into Spanish; English norms

Assessment 2: MacArthur-Bates Communicative Dev. Inventories

- Assesses spoken and sign vocabulary
 - Expressive and receptive for younger children
 - Expressive vocabulary for older children
- Parent-report instrument
- Developed for and normed on children from Spanish-speaking families

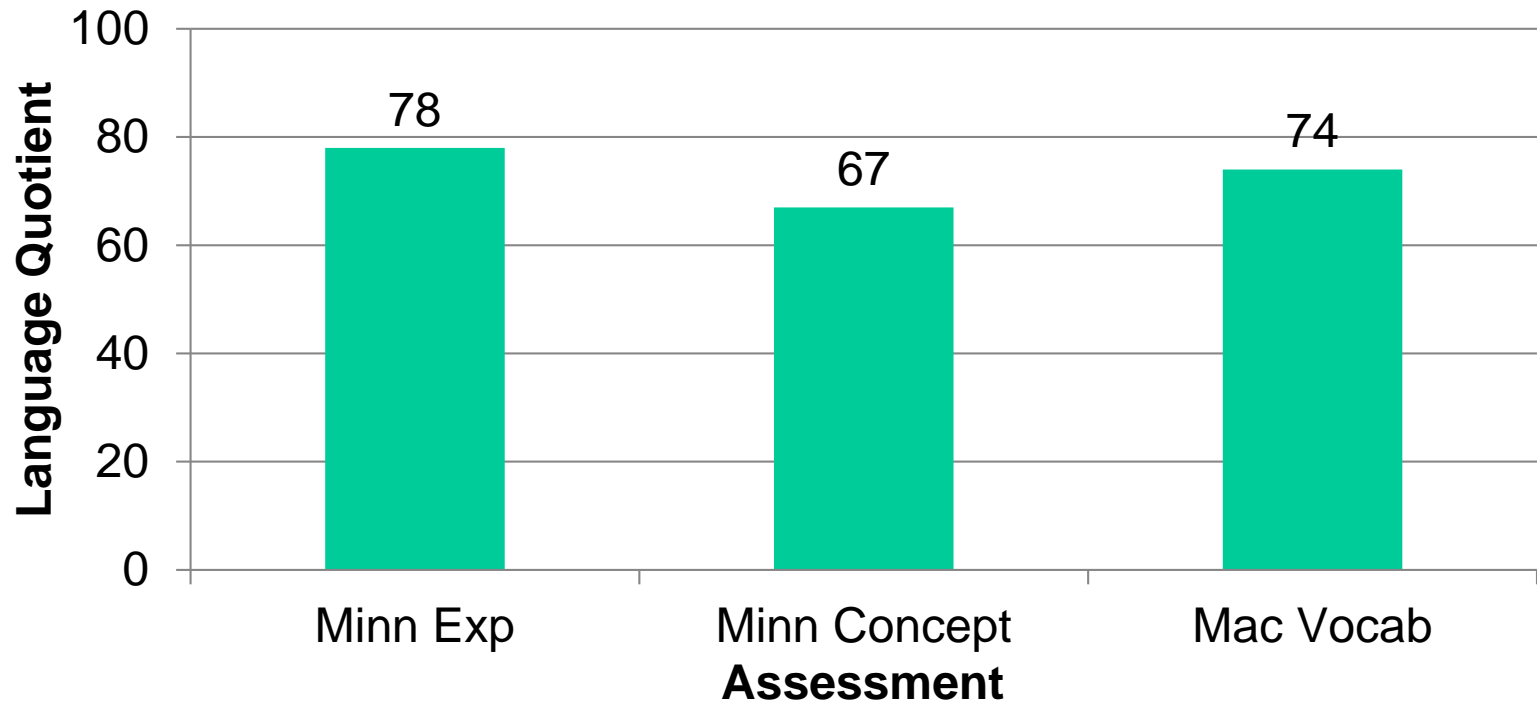
Determining Language Quotient

Language Age/Chronological Age x 100

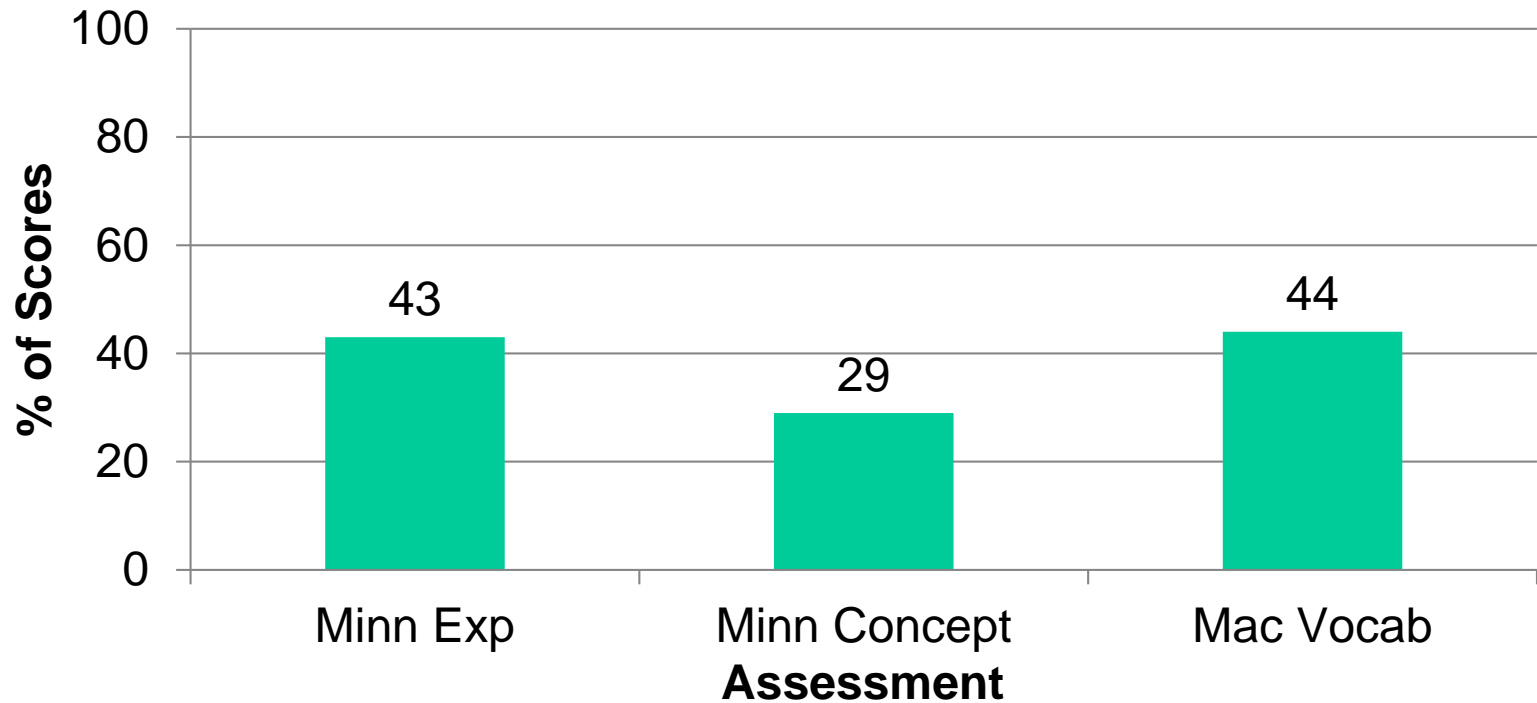
- If $LQ = 100$, Language Age = CA
- If $LQ < 100$, Language Age < CA
- If $LQ > 100$, Language Age > CA

LQs of 80+ are within the normal range compared to hearing children

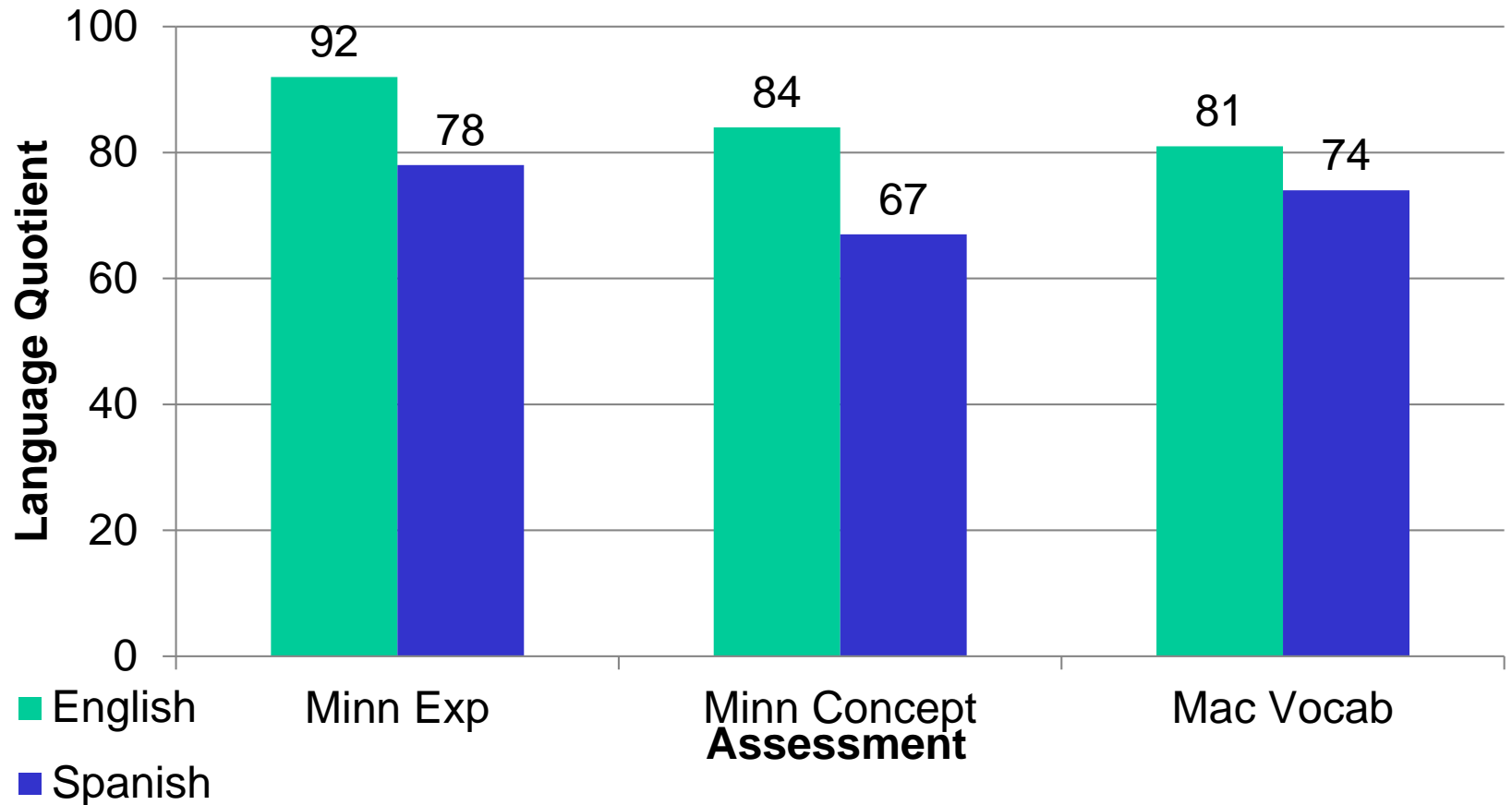
Median Language Quotients



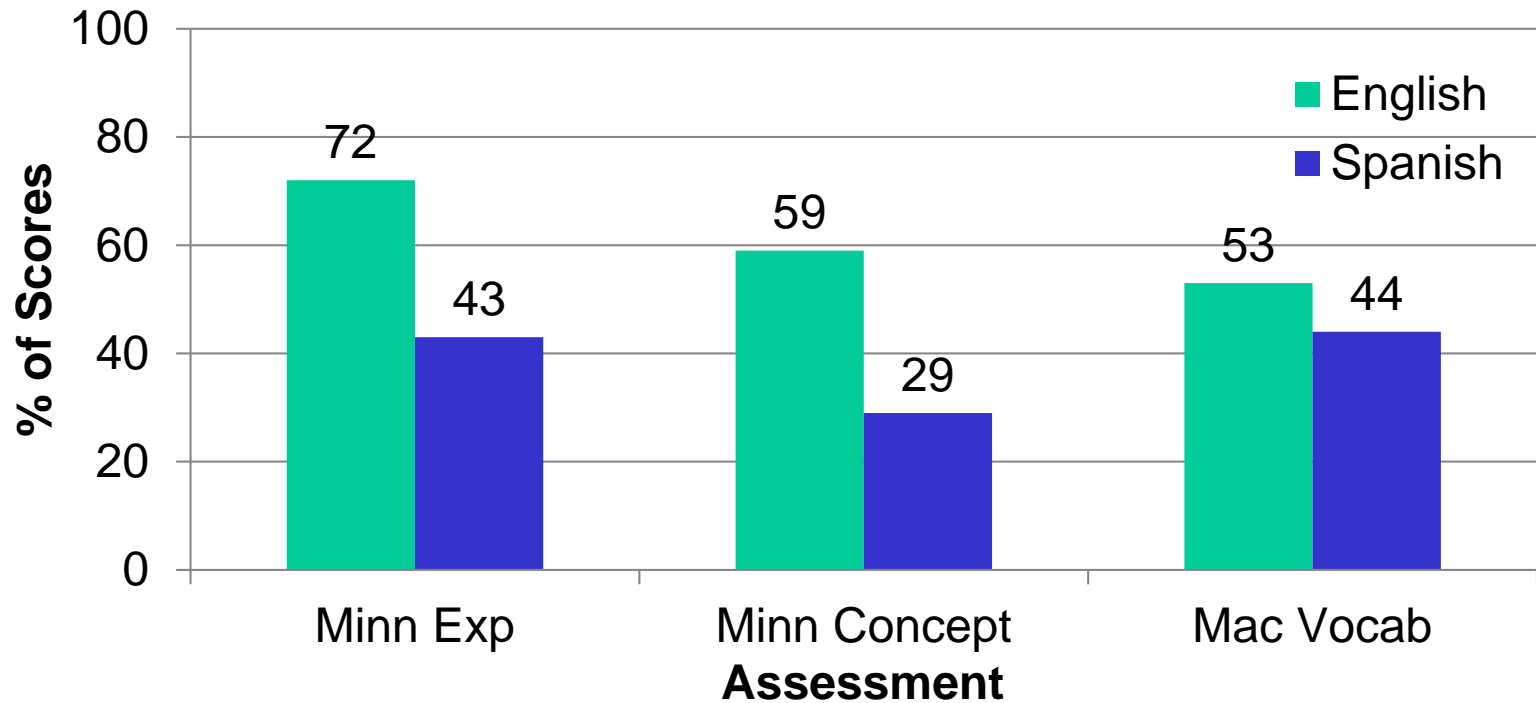
Percent of Scores in the Average Range (LQ = 80+)



Median Language Quotients: English vs. Spanish



Percent of Scores in the Average Range (LQ = 80+)



Bates-MacArthur Exp Vocabulary: Sub-Group Comparisons

- All group comparisons examine the MacArthur expressive vocabulary LQ
 - Insufficient number of participants with the Minnesota for group comparisons
 - Unilateral vs. Bilateral and Additional Disabilities vs. No Disabilities examined with most recent assessment from all participants (n = 72)
 - Other comparisons made with most recent assessment from children with bilateral loss and no additional disabilities (n = 32 to 42)

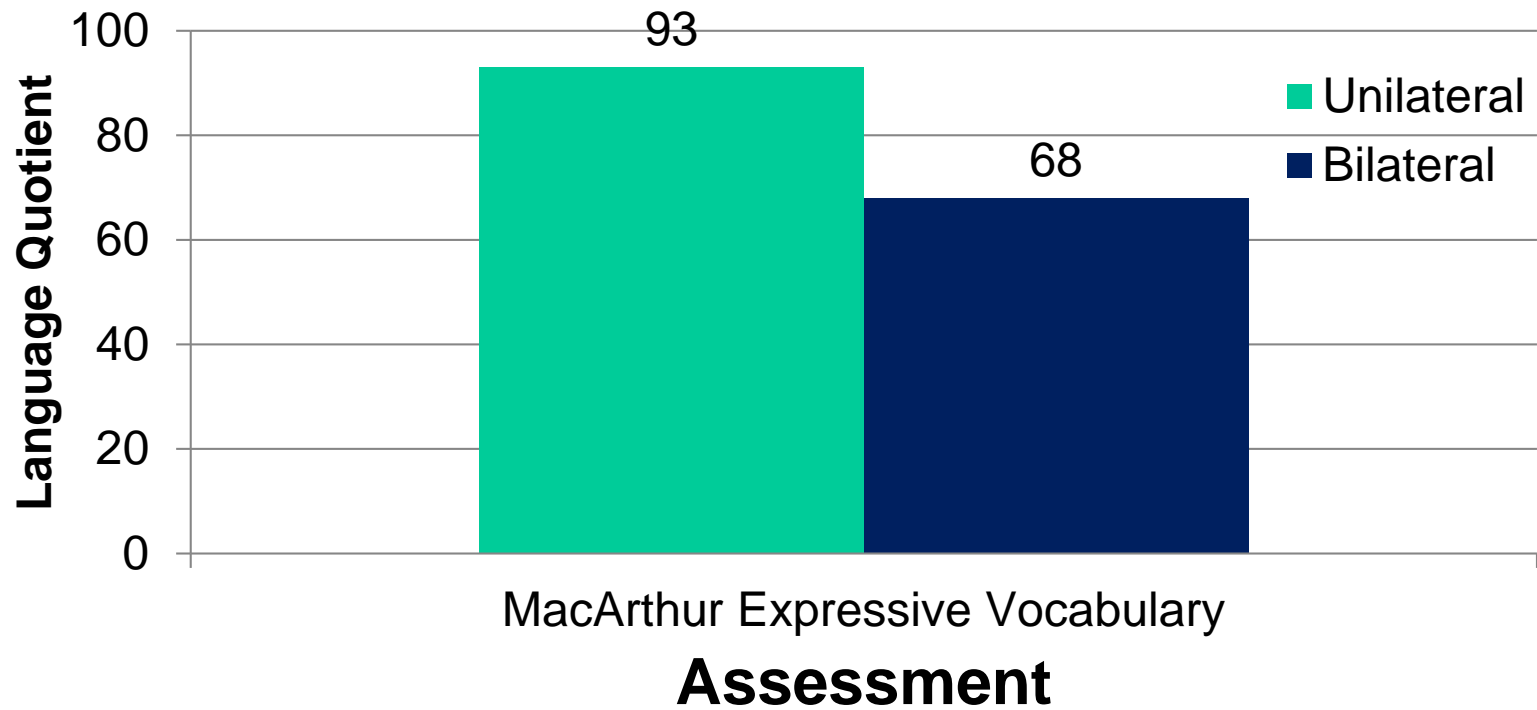
Bates-MacArthur Exp Vocabulary: Sub-Group Comparisons

- No significant difference ($p > .05$)
between:
 - Boys vs. girls
 - Mothers with vs. without a high school diploma

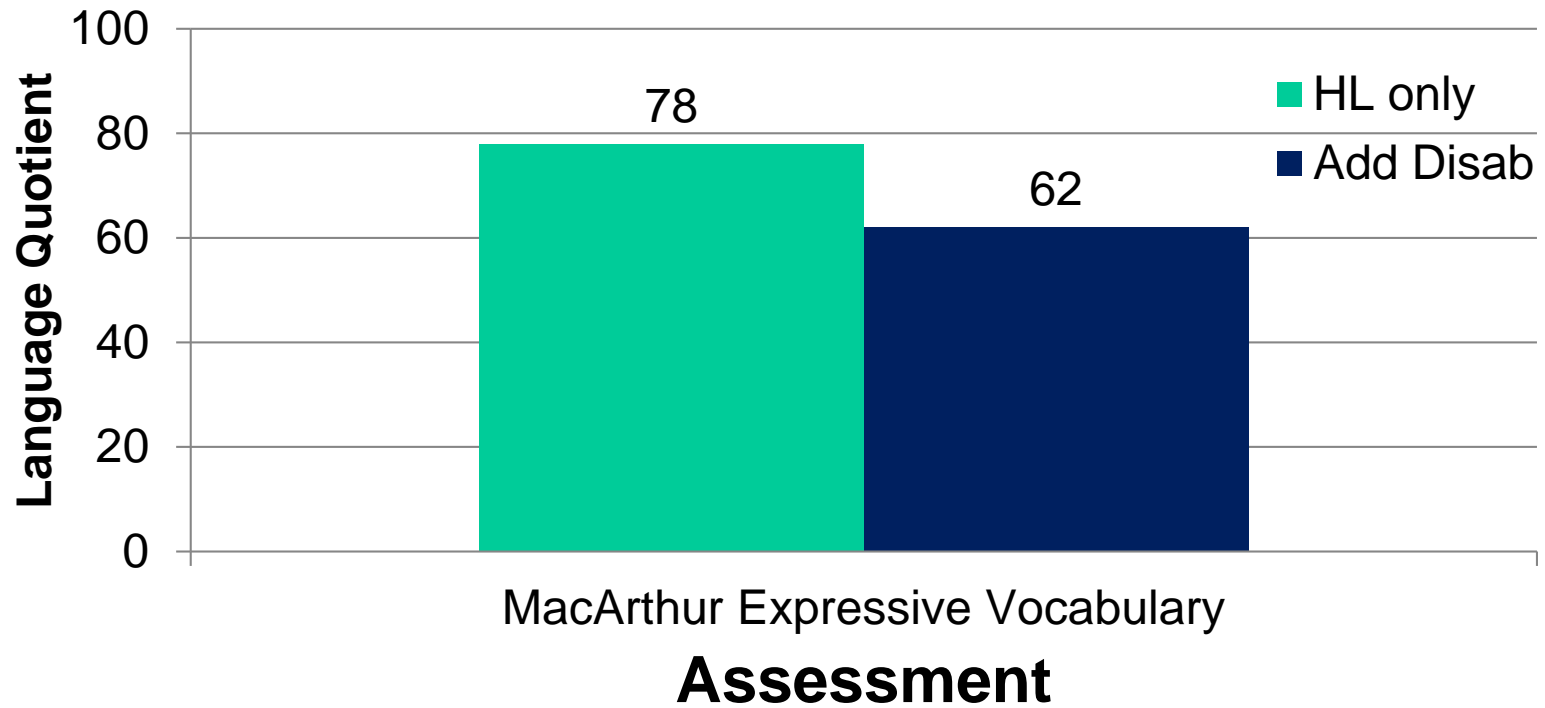
Bates-MacArthur Exp Vocabulary: Sub-Group Comparisons

- Significant differences ($p < .05$):
 - Unilateral vs. bilateral hearing loss
 - No additional disabilities vs. having additional disabilities
 - Mild/Mod vs. mod-severe to profound hearing loss
 - Identification of hearing loss by vs. after 6 months of age

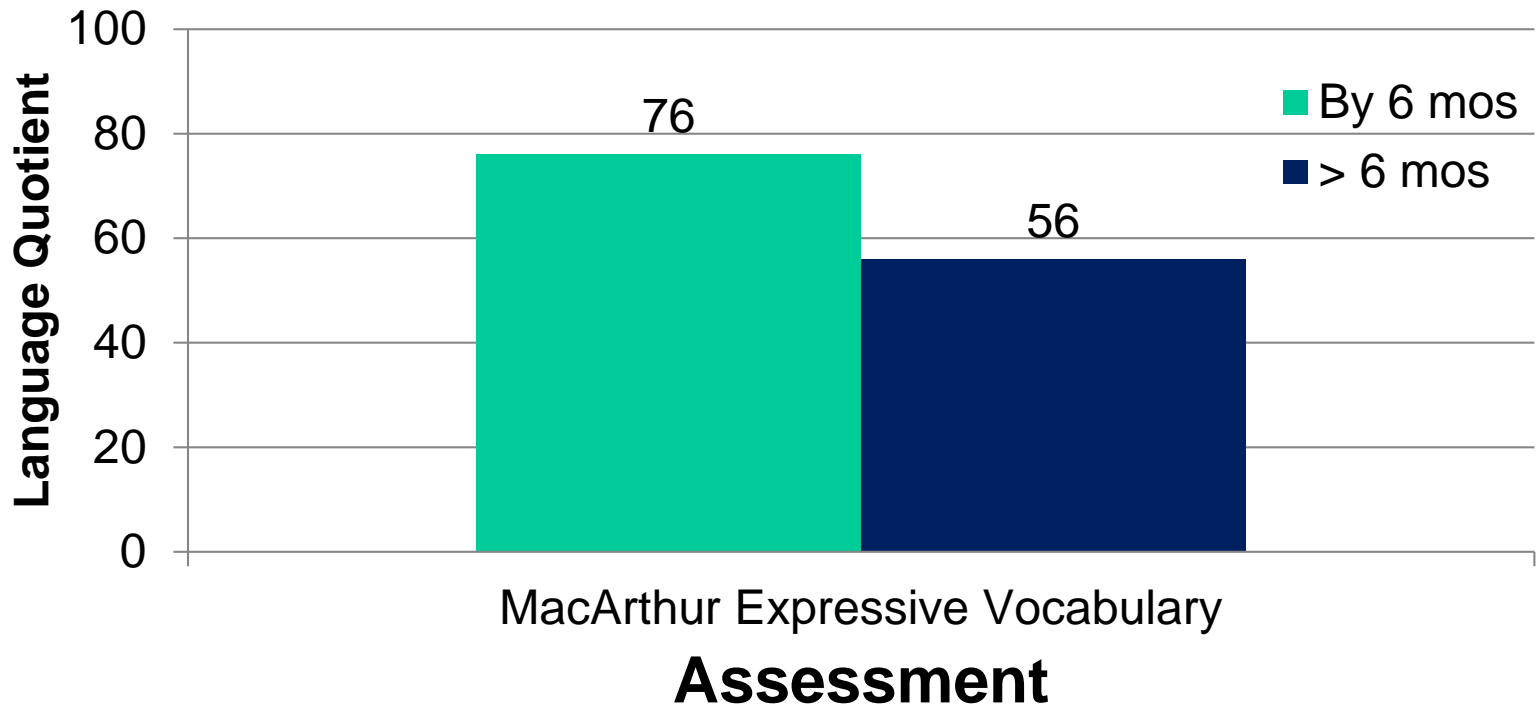
Unilateral vs. Bilateral Hearing Loss



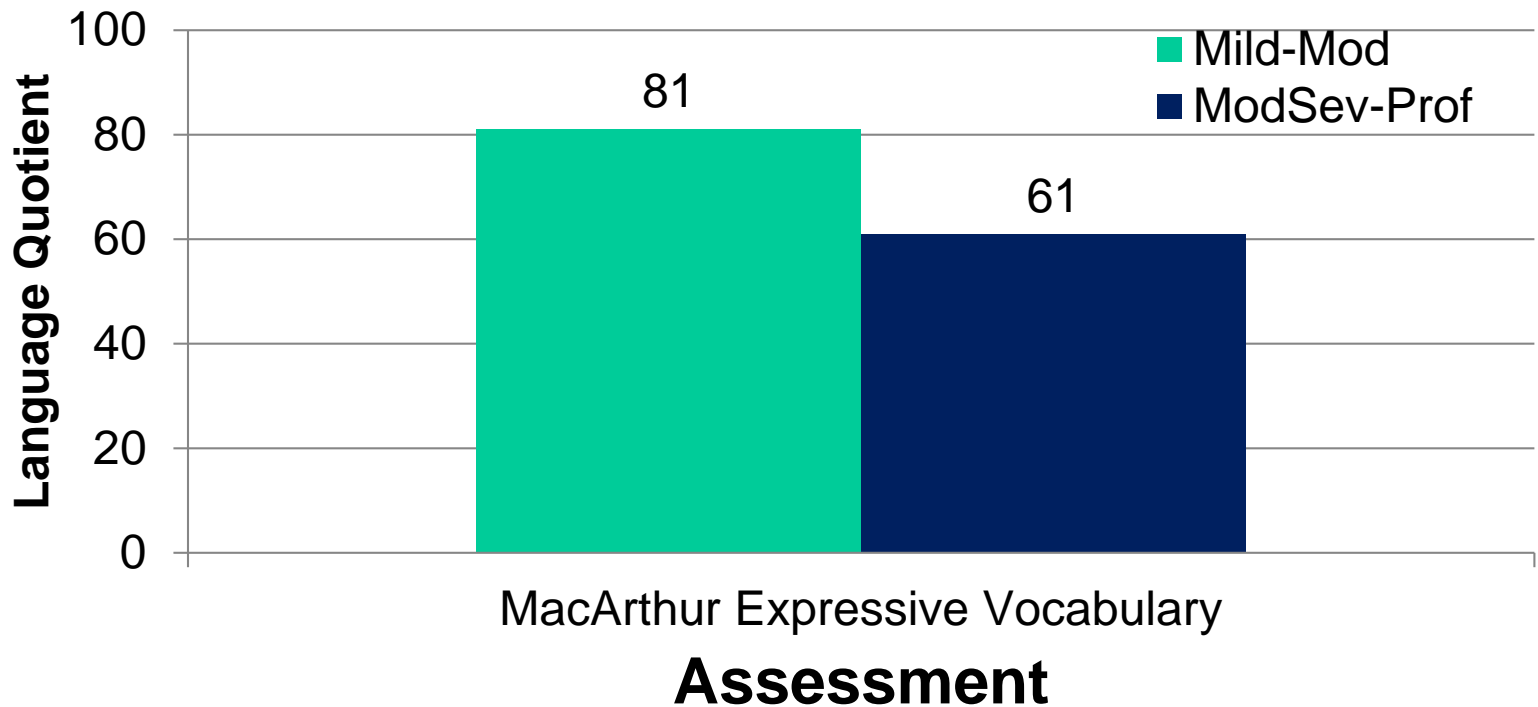
Additional Disabilities vs. Hearing Loss Only



Identification by 6 months vs. Later



Mild to Mod Hearing Loss vs. Mod-Sev to Profound Hearing Loss



Conclusions

- More than half of the children demonstrated significant language delays
- Median language quotients were lower for children from Spanish-speaking compared to English-speaking homes
- Typically children scored more poorly on cognitive-linguistic items compared to both vocabulary and more concrete/routine language items

Conclusions

- Expressive vocabulary quotients were higher (on average by 20-25 points) for children who had:
 - Unilateral hearing loss
 - Intervention by 6 months of age
 - No additional disabilities
 - Mild or moderate hearing loss