

Parent report as a screening tool of speech disorders in Spanish speaking preschool children

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Linguistic Diversity in the U.S.

- 46 million people speak a language other than English
- 28 million Spanish speakers; one of the fastest growing populations (U.S. Census Bureau)

Speech & Language Professionals

- 6% speak a language other than English (Roseberry-Mackibbin, 2004)
- Interpreters:
 - Often unavailable or untrained
 - Can be cost-prohibitive

Speech Disorders

- Affect an estimated 10 to 15% of preschool children (Plante & Beeson, 1999)
 - Assume the same for linguistically diverse students
 - Yet over-identification and under-identification are common

Assessing the Speech of Linguistically Diverse Students

- Lack of normative data on typical development
- Few standardized assessment tools
- Reliability and validity tend to be poor
 - Foreign standardization samples common
 - Cannot account for dialect
- Informal assessment
 - Time consuming

Parent Reports

- Valid & reliable measures of vocabulary, syntax and language in toddlers (including linguistically diverse)
 - i.e. MacArthur Communicative Development Inventory
 - i.e. Inventario del Desarrollo de Habilidades Comunicativas
- Also used to identify Spanish speakers ages 5 to 7 years, with language impairment (Restrepo, 1998)

What about speech?

- Can a parent report be used to screen students in need of a full assessment?

Research Hypothesis

- Parents are sensitive judges of their children's speech skills
- Predict a positive correlation between single word speech samples, and parent questionnaire responses

Method

- Part of a larger longitudinal study on bilingual speech development
- Participants
 - 24 Head Start students from Spanish home environments
 - Spanish speaking classrooms

Method

- Background surveys
 - home language
 - developmental history
 - possible speech disorder
- 115 word Spanish articulation test
 - Tests administered by fluent Spanish speaker
 - Audio and video taped

Data Analysis

- Narrow phonetic transcription
- Computer analysis Logical International Phonetic Program (LIPP)
 - Determined percent consonants correct (PCC) and percent vowels correct (PVC)

Statistical Analysis

- Pearson Correlation
- Examine the relationship between parent questionnaire responses and PCC and PVC

Results

- Examined the relationship between the accuracy of preschool children's production of single words, and parents' responses to survey questions regarding their children's speech.

Pearson correlation between parent questionnaire responses and percentage of vowels (PVC) and consonants (PCC) produced correctly

Survey Questions	PVC	r ²	PCC	r ²
1. Is your child's pronunciation difficult to understand?	+ .40 (pos. weak)	16%	+ .30 (pos. weak)	9%
2. In comparison to other children his/her age, do you think your child is difficult to understand?	+ .61** (pos. moderate)	37%	+ .60** (pos. moderate)	36%
3. Do other people think your child is difficult to understand?	+ .84** (pos. strong)	71%	+ .81** (pos. strong)	66%
4. Does your child have difficulty pronouncing words?	+ .68** (pos. strong)	46%	+ .57** (pos. moderate)	32%
5. Does your child have problems producing certain sounds?	+ .39 (pos. weak)	15%	+ .44 (pos. moderate)	19%
6. Does your child leave out sounds when he/she speaks? For example, saying "ca" for "cat", or "tar" for "star"?	+ .39 (pos. weak)	15%	+ .38 (pos. weak)	14%
7. Does your child change sounds when he/she speaks? For example, saying "too" for "shoe" or "wun" for "run"?	+ .43* (pos. moderate)	18%	+ .48* (pos. moderate)	23%
8. Is your child frustrated when he/she speaks?	+ .65** (pos. strong)	42%	+ .75** (pos. strong)	56%
9. In comparison to other children his/her age, do you think your child has speech problems?	+ .60** (pos. moderate)	36%	+ .55** (pos. moderate)	30%
10. Do other people think your child has speech problems?	+ .69** (pos. strong)	48%	+ .78** (pos. strong)	61%

Overall analysis results

- The questionnaire as a whole yielded a statistically significant correlation to phoneme accuracy
 - r = .70 for vowels
 - r = .69 for consonants

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Results: 3-year olds only

Pearson correlation between parent questionnaire responses and percentage of vowels (PVC) and consonants (PCC) produced correctly for 3-year olds (N = 7)

Survey Questions	PVC	r ²	PCC	r ²
1. Is your child's pronunciation difficult to understand?	+ .35 (pos. weak)	12%	+ .31 (pos. weak)	10%
2. In comparison to other children his/her age, do you think your child is difficult to understand?	+ .71 (pos. strong)	50%	+ .67 (pos. strong)	45%
3. Do other people think your child is difficult to understand	+ .96** (pos. strong)	92%	+ .92** (pos. strong)	85%
4. Does your child have difficulty pronouncing words?	+ .79* (pos. strong)	62%	+ .73 (pos. strong)	53%
5. Does your child have problems producing certain sounds?	+ .62 (pos. moderate)	38%	+ .55 (pos. moderate)	30%
6. Does your child leave out sounds when he/she speaks? For example, saying "ca" for "cat", or "tar" for "star"?	+ .40 (pos. moderate)	16%	+ .33 (pos. weak)	11%
7. Does your child change sounds when he/she speaks? For example, saying "too" for "shoe" or "wun" for "run"?	+ .84* (pos. strong)	71%	+ .79* (pos. strong)	62%
8. Is your child frustrated when he/she speaks?	+ .87* (pos. strong)	76%	+ .89** (pos. strong)	79%
9. In comparison to other children his/her age, do you think your child has speech problems?	+ .69 (pos. strong)	48%	+ .59 (pos. moderate)	35%
10. Do other people think your child has speech problems?	+ .99** (pos. strong)	97%	+ .98** (pos. strong)	96%

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10. Do other people think your child has speech problems?	+ .99** (pos. strong)	97%	+ .98** (pos. strong)	96%

Results: 4-year olds only

Pearson correlation between parent questionnaire responses and percentage of vowels (PVC) and consonants (PCC) produced correctly for 4-year olds (N = 14)

Survey Questions	PVC	r ²	PCC	r ²
1. Is your child's pronunciation difficult to understand?	.46 (pos. moderate)	21%	.21 (pos. weak)	4%
2. In comparison to other children his/her age, do you think your child is difficult to understand?	.63* (pos. moderate)	40%	.54 (pos. moderate)	29%
3. Do other people think your child is difficult to understand?	.77** (pos. strong)	59%	.61* (pos. moderate)	37%
4. Does your child have difficulty pronouncing words?	.55* (pos. moderate)	30%	.32 (pos. weak)	10%
5. Does your child have problems producing certain sounds?	.16 (pos. weak)	3%	.30 (pos. weak)	9%
6. Does your child leave out sounds when he/she speaks? For example, saying "ca" for "cat", or "tar" for "star"?	.62* (pos. moderate)	38%	.50 (pos. moderate)	25%
7. Does your child change sounds when he/she speaks? For example, saying "too" for "shoe" or "wun" for "run"?	.13 (pos. weak)	2%	.15 (pos. weak)	2%
8. Is your child frustrated when he/she speaks?	.42 (pos. moderate)	18%	.58* (pos. moderate)	34%
9. In comparison to other children his/her age, do you think your child has speech problems?	.65* (pos. strong)	42%	.44 (pos. moderate)	19%
10. Do other people think your child has speech problems?	.65* (pos. strong)	42%	.58* (pos. moderate)	29%

Pearson correlation between parent questionnaire responses and percentage of vowels (PVC) and consonants (PCC) produced correctly for 4-year olds (N = 14)

Survey Questions	PVC	r ²	PCC	r ²
1. Is your child's pronunciation difficult to understand?	.46 (pos. moderate)	21%	.21 (pos. weak)	4%
2. In comparison to other children his/her age, do you think your child is difficult to understand?	.63* (pos. moderate)	40%	.54 (pos. moderate)	29%
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Age specific results: 5-year olds

- More participants needed

Overall

- The perceptions of "others" key to identifying a child's speech difficulties

Implications

- Parents able to report valuable diagnostic information
 - Sensitivity and specificity

Implications

- Translate into students' home languages to address:
 - Language barrier between SLPs and students
 - Lack of interpreters
 - Lack of unbiased assessment tools
 - Requirements of PL 94-142; communicative abilities of students be assessed in native language
 - Must consider cultural appropriateness

Limitations of the study

- Small sample size
- Some previously diagnosed participants
 - Parents biased by SLP previous findings

Conclusion

- Large potential for clinical utility
- More research is needed
 - Part of larger longitudinal study
 - Larger sample size
 - Wider age range
 - Wider variety of language backgrounds

Questions?

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