

# Using the PLS™ -5 for Culturally Sensitive Assessment of Infants' and Toddlers' Communication Skills



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## Background and Objectives

- At-risk infants and toddlers often have delays in early communication skills that can impact later language development.
- While there are many universals in language development across cultures, individual communication patterns vary widely across cultures and from family to family.
- Accurate identification of children who exhibit a language delay or disorder requires that cultural and linguistic differences among different groups be accounted for to minimize misdiagnosis of children with language differences who are developing language normally.

### Purpose of study:

- Design a culturally sensitive, accurate measure of emerging language and communication skills for a diverse population of infants and toddlers

## Methods

### PLS-5 tryout and standardization:

- Tryout:  $n = 193$  typically developing infants and toddlers.
- Standardization:  $n = 600$  typically developing infants and toddlers.
- Sites for typically developing children included home and daycare programs.
- Children were selected to meet demographic characteristics matching current U.S. Census figures.
- Inclusion Criteria: typically-developing children birth through age 2, living at home with parents.

## Test Formats/Requirements



### Home Communication Questionnaire

- Caregivers provide information about the child's typical communication patterns in the home.
- Examiners can give a child a score of "1" test items based on the caregiver's description of communication behaviors the child does at home.

### Maximizing Culturally Appropriate Testing

- **Caregiver-selected Test Vocabulary and Play Routines:** Caregivers identify words the child knows and the play routines the child enjoys to incorporate as part of the test activities.
- **Caregiver Interactions with Child:** Caregivers participate in the test activities with the child.
- **Family- and/or Culturally-Appropriate Behaviors:** Behaviors appropriate within the family and/or cultural context can be accepted as correct if certain criteria are met.

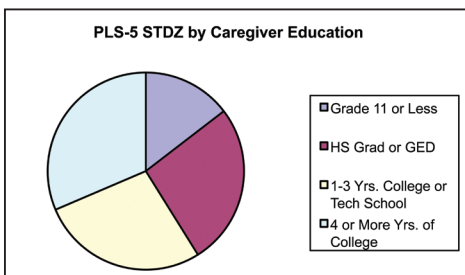
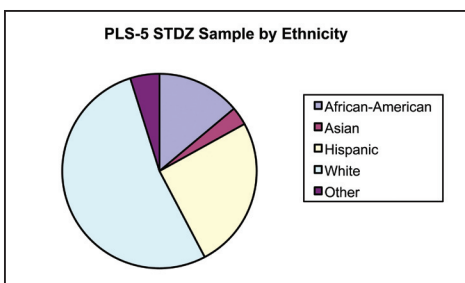
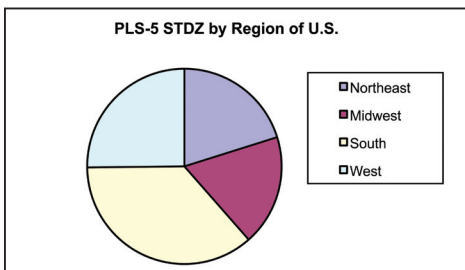
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## Bias Studies

- **Two expert panels** reviewed test content and activities—one panel at the initial phase of test development; the other at tryout. Panelists had expertise in infant/toddler communication development, diverse populations, and assessment best practices.
- **Clinician Review:** 126 clinicians were recruited to provide test feedback. These clinicians worked in rural, suburban, and urban settings with many different cultural groups.
- **Statistical Analysis of Bias:** An oversample of non-White infants and toddlers was collected to examine performance between White and non-White children. Test items that showed differential performance between groups were deleted.
- **Sample composition** matches U.S. Census figures to ensure representation of different cultural groups across ages.

## Normative Sample (Birth to 2:11)



## Results

Scales and Total	N	Developmental Language Delay		Nondclinical Matched Sample		Difference	z	Standard Difference
		Mean	SD	Mean	SD			
Auditory Comprehension	23	74.0	9.1	96.4	16.3	22.4	5.45	1.70
Expressive Communication	23	79.3	9.5	97.9	17.0	18.6	4.37	1.35
Total Language	23	75.3	9.1	97.0	17.3	21.7	4.98	1.57

- PLS-5 accurately differentiates typically developing infants and toddlers (including those with language differences from the mainstream) from those exhibiting delays. This minimizes the possibility of over-identification of infants and toddlers for speech and language services.

### PLS-5 minimizes bias by incorporating

- Authentic test tasks (tasks that elicit best performance in natural interactions with caregiver).
- Caregivers' descriptions about communication behaviors the children demonstrate at home during daily routines with the family, and
- Test items that did not show bias against specific cultural groups.

## Conclusions

- A systematic approach in test development can minimize cultural and linguistic bias for children from diverse backgrounds.
- To develop culturally sensitive assessments, input is needed from all stakeholders: caregivers, clinicians, specialists in assessment and bias issues.
- Caregiver involvement in testing activities is critical to obtain accurate test results.

## Limitations/Future Directions

- Additional research is needed to address the wide range of cultural groups in the United States. The PLS-5 research samples included a large percentage of African-American and Hispanic children, but a relatively low percentage of children from each of the other cultural groups.

## References

Zimmerman, I. L., Steiner, V. G., & Pond, R. E. (2011). *Preschool Language Scales—Fifth Edition*. Bloomington, MN: Pearson.