

Diagnostic Accuracy of Select Language Assessment Measures

Sensitivity	What proportion of people who have Language Disorder are correctly identified by the test? (true positives)
Specificity	What proportion of people who do not have the condition are correctly identified by the test? (true negatives)
Positive Predictive Power	The probability that those with Language Disorder will be identified as having a Language Disorder
Negative Predictive Power	The probability that those without Language Disorder will be identified as not having Language Disorder

The Goal: Balance sensitivity and specificity (or PPP and NPP) to maximize diagnostic accuracy.

Diagnostic Accuracy of Select Assessment Measures in Classifying Language Disorder (LD)

Standard Deviation Cut-Point	Standard Score Cut-Point	Sensitivity	Specificity	Percent with LD Misclassified	Percent without LD Misclassified
CELF-5 Core, Receptive and Expressive					
-1	85	1.00	.91	0	9%
-1.3	80	.97	.97	3%	3%
-1.5	77	.85	.99	15%	1%
-2	70	.57	1.00	43%	0%
CELF-4-Spanish					
-1 SD	85	.96	.87	4%	13%
-1.5 SD	77.5	.86	.95	14%	5%
-2 SD	70	.52	1.00	48%	0%

How do we use measures of diagnostic accuracy in the clinical setting?

As in all of our evaluations, we do not use a single score to make a diagnostic decision. We use the scores to guide our decision along with other information, such as performance on informal tasks, dynamic assessment, and parent and teacher input.

Standard Deviation Cut-Point	Standard Score Cut-Point	PPP (Sensitivity at Base Rate of 50%)	NPP (Specificity at Base Rate of 50%)	Percent with LD Misclassified	Percent without LD Misclassified
PLS-5 Spanish, Auditory Comprehension					
-1	85	.82	.79	18%	21%
-1.5	77.5	.94	.68	6%	32%
-2	70	.95	.61	5%	39%
PLS-5-Spanish, Expressive Communication					
-1	85	.84	.77	16%	23%
-1.5	77.5	.89	.64	11%	36%
-2	70	.90	.58	10%	42%
PLS-5-Spanish, Total Language					
-1	85	.87	.86	13%	14%
-1.5	77.5	.93	.71	7%	29%
-2	70	.94	.61	6%	39%
CELF-P2-Spanish					
-1	85	.89	.86	11%	14%
-1.5	77.5	.93	.68	7%	32%
-2	70	.94	.60	6%	40%
CASL-2, Diverse Clinical Sample as Base					
-0.65	90	.86	.76	14%	24%
-1	85	.74	.84	26%	16%
-1.3	80	.64	.91	36%	9%
-1.65	75	.47	.96	53%	4%
-2	70	.41	.99	59%	1%

References

Zimmerman, Steiner & Pond, 2012. PLS-5 – Spanish, Pearson
 Wiig, Secord & Semel, 2009. CELF-Preschool-2-Spanish, Pearson
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 Semel, Wiig, Secord & Langdon, 2006. CELF-4-Spanish, Pearson
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