



The Devereux Early Childhood Assessment for Infants and Toddlers (DECA-I/T)

Devereux Center for Resilient Children

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Topic: Development of the Spanish Language Version of the DECA-I/T

The Devereux Early Childhood Assessment for Infants and Toddlers (DECA-I/T) (Mackrain, LeBuffe, & Powell, 2007) is a standardized, norm-referenced, strength-based behavior rating scale that assesses protective factors in very young children. The DECA-Infant form (DECA-I) is used to assess the within-child protective factors of children 4 weeks up to 18 months, and the DECA-Toddler form (DECA-T) is used to assess children 18 months up to 36 months. The reliability and validity of the DECA-I/T were established during the assessment's national standardization, and the DECA-I/T is now being used in hundreds of programs throughout the United States. However, in order to meet the demands of a growing and diverse population, it is essential to adapt these tools to ensure successful implementation.

One of the barriers to implementation is that the DECA-I/T was originally published only in English, which limited its use with Spanish-speaking populations. Spanish is one of the most prevalent languages in the world, and in the United States it is second only to English (US Census Bureau, 2009). Based on the 2006 American Community Survey (US Census Bureau, 2009) at least 12% of the American population above the age of five uses Spanish as a primary language in the home. During the Head Start Program year 2006-2007, of the 1,061,275 enrolled children, 26% of families used Spanish as the primary language in the home (U.S. Department of Health and Human Services, 2007). To ensure the DECA-I/T is accessible to these families, it has been translated into Spanish. However, translating an assessment does not ensure that the norms and standard scores derived with English-speaking raters during standardization are appropriate when the children are rated in Spanish. Therefore, an equivalency study is necessary (Cofresi & Gorman, 2004).

Translation Procedures

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Both the DECA for Infants and for Toddlers were translated by a professional translation service. The assessments were then back-translated by a group of translation professionals representing a variety of latino cultures (Cuban, Mexican, and Central/South American). Any discrepancies were rectified by changing the Spanish wording to a more generic form of Spanish. This step is necessary because there are multiple Spanish cultures and dialects in the United States, and the same Spanish words may have different meanings for members of the American Spanish-speaking community (Marin & Marin, 1991). This rectification process is called “harmonization.” Once this piece was completed, the translation was then ready for field testing.

Field Testing Instrumentation

Language Use Questionnaire

This Questionnaire consists of 17 questions aimed at assessing the participants’ language use and ensuring their bilingualism.

DECA-Infant Form

The DECA-I has 33 items that reflect positive behaviors (strengths) typically seen in resilient infants. These positive behaviors comprise two protective factor scales (Initiative and Attachment/Relationships) and one Total Protective Factors scale (TPF), which provides an overall indication of the strength of the infant’s protective factors.

DECA-Toddler Form

The DECA-T has 36 positive items that comprise three protective factor scales (Initiative, Attachment/Relationships, Self-Regulation), as well as a Total Protective Factors (TPF) scale.

Method

The equivalency study was conducted using a single-bilingual group design. If the translation of the assessment produced items that were truly equivalent, then the participants would rate the child's behaviors in Spanish the same as in English. Participants were recruited through child care providers and organizations in all four regions of the country. Bilingual Spanish-and-English speaking adults who were the parents and/or teachers of children 4 weeks up to 36 months of age were invited to

participate in an online translation study. Participants were also given the option to do a paper version of the translation study.

Participants were asked to rate 1 infant, 1 toddler, or both an infant and toddler. First, participants were asked to complete the Language Use Questionnaire. Next, participants were asked to complete a Spanish DECA-I/T Form, and an English DECA-I/T Form that were presented in counterbalanced order across participants to control for practice effects. Data were collected from 109 parents and 71 teachers.

Results

Data were analyzed separately for four groups: parent ratings of infants, teacher ratings of infants, parent ratings of toddler, and teacher ratings of toddlers. Pearson product-moment correlations were computed on the TPF scores to examine the relationship between the two forms. The correlation between the English and Spanish TPF scores was found to be statistically significant ($p \leq .01$). across all four groups, ranging from .85 to .99. Correlations for each of the Infant and Toddler protective factor scales were also significant (all $p_s < .01$) and high in magnitude, with Pearson r_s ranging from .80 to .98.

High correlations indicate that the scores covary. However, it is still possible that children could consistently receive a higher T -score on one language version than the other, which possibly could be attributed to bias. To examine the issue of bias, the English T -score for each child on each scale was subtracted from their corresponding Spanish T -score. If the scores were identical the result of this computation would be zero. Table 2 presents the results of this analysis. For each scale, the mean score difference between the two language versions was less than one T -score point. In addition, the standard deviations were quite small with a median value of 3.99. These data indicate that the children received very similar scores on both language forms.

Conclusions

This study provides evidence that children receive the same DECA-I/T scores regardless of which language (English or Spanish) is used. This indicates that the translation of the DECA-I/T into Spanish was appropriate and did not introduce any bias. The current findings contribute to the ability of Early Childhood Professionals to use the Spanish DECA-I/T with confidence.

References

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Table 1. Sample Demographics

	n =	%
Rater Type		
Parent	109	60.5
Teacher	71	39.4
Rated Child's Gender		
Female	87	48.3
Male	93	51.7
Geographical Region		
Northeast	30	16.6
Midwest	29	16.1
South	49	27.2
West	9	5
Other/Unreported	63	35
Hispanic/Latino(a) Cultural Background		
Cuban	25	13.9
Central American	11	6.1
European	2	1.1
Mexican	64	35.5
Puerto Rican	17	9.4
South American	39	21.6
Other	9	5
Not Hispanic/Latino(a)	12	6.7

Table 2. English and Spanish DECA-I/T Correlations and Difference Scores

	English		Spanish		Correlation	Difference Score	
	Mean	SD	Mean	SD		Mean	SD
Parent-Infant n= 54							
Initiative Score	53.09	10.16	53.01	10.08	.927**	.0741	3.86
Attachment Score	49.48	9.4	50.26	9.4	.873**	-.7778	4.79
TPF Score	51.98	10.06	51.98	10.06	.919**	-.5926	4.14
Parent-Toddler n= 55							
Initiative Score	51	8.78	50.85	9.38	.874**	.1455	4.59
Attachment Score	46.87	9.55	45.94	9.19	.858**	.9273	4.99
Self-Regulations Score	47.21	9.99	47.5	9.94	.796**	-.2909	6.36
TPF Score	48.2	9.72	47.85	9.52	.846**	.3455	5.33
Teacher-Infant n= 27							
Initiative Score	56.27	6.89	55.85	7.29	.977**	.4231	1.54
Attachment Score	52.11	9.48	51.73	9.28	.983**	.3846	1.73
TPF Score	54.38	8.01	54.11	8.08	.991**	.2692	1.05
Teacher-Toddler n=44							
Initiative Score	49.81	8.26	50.49	8.15	.943**	-.6744	2.74
Attachment Score	46.23	8.36	46.16	8.65	.902**	.0698	3.74
Self-Control Score	46.55	9.23	46.42	9.57	.884**	.1395	4.49
TPF Score	47.32	9.11	47.39	9.61	.946**	-.0698	3.09

** $p < .01$