Development of the Language Acculturation Meter for Spanish-Speaking English Language Learners

Sue Madden Trujillo, MS, Jennifer A. Greene, PhD, Carrie Champ Morera, PsyD, and Alicia C. Carrillo, BS

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Background

The Language Acculturation Meter (LAM) is an instrument designed for individuals of all ages who are transitioning from Spanish to English-language proficiency.

Prior to development, the authors conducted a review of existing acculturation scales and found that most failed to combine background information and educational history with questions about language acculturation. The LAM was developed to address this deficit.

Item development was aided by consultations with bilingual psychologists and experts in the field.

The LAM was designed to be completed in an interview format to increase cultural awareness of the examinee and ensure a more ecologically valid assessment.

The LAM consists of three parts:
• **Part 1** – Background Information and Educational History
• **Part 2** – Everyday Language Usage
• **Part 3** – English Comprehension
   • Language usage and comprehension are also assessed in three domains: Home Environment, Social Interaction, and Academic/Cognitive.

Scale	# items	Description
Everyday Language Usage	11	Language preference on a 9-point scale from "Spanish only" (0) to "English only" (8).
English Comprehension	6	Understanding of English on a 9-point scale from "Don't understand" (0) to "Fully understand" (8).
Total	17	All Everyday Language Usage and English Comprehension scale items.

Domain	# items	Description
Home Environment	5	Language spoken at home and by others at home, as well as language preferences for television.
Social Interaction	6	Language preferences when listening to the radio, using social media or phones, as well as comprehension of English when speaking with friends and coworkers.
Academic/Cognitive	8	Language preference and comprehension when reading text and listening to music. Includes comprehension of written English and English instruction.

Method

• 360 Spanish-speaking individuals living in the U.S. completed the LAM.
• The performance of items on each scale/domain were analyzed via exploratory factor analysis (EFA) and item-total correlations.
• Reliability of the scales/domains was assessed via Cronbach's alpha.
• Percentiles were created to facilitate interpretation of the scale/domains.

Results

Participant demographics
• Most participants were female (58.3%), with an average age of 29 years.
• 41.1% of participants were U.S. natives. Most participants not born in the U.S. were from Mexico, Puerto Rico, and Cuba.
• On average, non-U.S. natives immigrated to the U.S. at the age of 20 years.
• 31% of participants immigrated to the U.S. in the past 5 years, 36% immigrated in the past 6-19 years, and 33% immigrated 20 or more years ago.
• Participants reported more years of academic instruction in Spanish than bilingual instruction or instruction in English.

Educational History	M	SD
Years of instruction in Spanish	8.59	5.37
Years of bilingual instruction	5.38	4.47
Years of instruction in English (outside the U.S.)	5.65	4.54
Years of instruction in English (inside the U.S.)	6.09	4.61
Years not attending school	6.94	5.13

Characteristic		
N		360
Sex (%)		
Male		41.7
Female		58.3
	M	**SD**
Age (years)	28.57	20.54
Range	5-84 years	
Country of origin (%)		
U.S. native (excluding Puerto Rico)		41.1
Mexico		22.5
Puerto Rico		16.4
Cuba		5.3
Venezuela		3.1
Other		11.7
Age of arrival in U.S.*	19.54	16.52
Years in U.S. (%)*		
0-5 years		31.1
6-19 years		35.8
20+ years		33.0

*Does not include U.S. natives.

Item analysis
• For each scale, all item-total correlations were appropriate (>0.40), indicating very good discrimination.
• A principal axis factoring EFA with promax rotation revealed two factors with eigenvalues greater than 1.
   Factor 1 = English Comprehension scale
   Factor 2 = Everyday Language Usage scale
• Two items were cross-loaded but retained on their original scales for content coverage.
• All 17 items were retained based on these initial item analyses.

Raw mean	Total	Everyday Language Usage	English Comprehension	Home Environment	Social Interaction	Academic/ Cognitive
8	>99	>99	>99	>99	>99	>99
7	95	97	62	97	93	87
6	84	89	44	93	81	73
5	66	76	28	82	57	53
4	35	57	18	58	29	31
3	19	36	9	36	19	18
2	11	19	6	18	12	10
1	7	11	4	8	7	6
0	2	6	2	3	3	2
M	4.81	4.10	6.28	4.05	5.01	5.20
SD	1.76	1.95	1.98	1.75	1.88	1.96
α	.95	.94	.96	.81	.89	.91

Reliability
• Alpha (α) reliabilities ranged from .81 to .91 for the domains and from .94 to .96 for the scales.

Scoring and interpretation
• The mean raw score of each scale was computed.
• Percentiles of the mean raw score were created to facilitate interpretation of the scale/domains.
• Percentiles were provided for the full sample (shown here) as well as for U.S. natives and non-U.S. natives who have lived in the U.S. 0-5 years, 6-19 years, or 20+ years.

Conclusions

The LAM examines language use and self-identified English comprehension, as well as an individual's background and educational history, while remaining internally consistent. Percentiles of the mean raw score facilitate interpretation of scale/domain scores.

Full Sample (*n* = 360)

Raw Mean	Everyday Language Usage	English Comprehension	Home Environment	Social Interaction	Academic/ Cognitive	Total
8	>99	>99	>99	>99	>99	>99
7	97	62	97	93	87	95
6	89	44	93	81	73	84
5	76	28	82	57	53	66
4	57	18	58	29	31	35
3	36	9	36	19	18	19
2	19	6	18	12	10	11
1	11	4	8	7	6	7
0	6	2	3	3	2	2
M	4.10	6.28	4.05	5.01	5.20	4.81
SD	1.95	1.98	1.75	1.88	1.96	1.76

20+ Years in U.S. (*n* = 70)

Raw Mean	Everyday Language Usage	English Comprehension	Home Environment	Social Interaction	Academic/ Cognitive	Total
8	>99	>99	>99	>99	>99	>99
7	>99	59	>99	>99	>99	>99
6	>99	39	>99	89	89	99
5	94	31	93	67	73	83
4	73	20	70	34	37	44
3	53	11	46	21	21	20
2	23	9	23	14	11	14
1	13	7	9	11	10	10
0	6	3	4	3	4	3
M	3.39	6.21	3.56	4.60	4.54	4.27
SD	1.54	2.22	1.49	1.82	1.77	1.56

0-5 Years in U.S. (*n* = 66)

Raw Mean	Everyday Language Usage	English Comprehension	Home Environment	Social Interaction	Academic/ Cognitive	Total
8	>99	>99	>99	>99	>99	>99
7	95	79	97	89	91	92
6	91	68	95	89	89	91
5	88	56	88	80	77	89
4	83	41	80	56	59	64
3	62	24	61	39	41	45
2	41	18	39	27	26	29
1	27	9	24	18	18	21
0	20	3	11	8	5	3
M	2.92	5.02	3.05	3.92	3.94	3.65
SD	2.19	2.34	1.97	2.24	2.18	2.05

U.S. Native (*n* = 148)

Raw Mean	Everyday Language Usage	English Comprehension	Home Environment	Social Interaction	Academic/ Cognitive	Total
8	>99	>99	>99	>99	>99	>99
7	>99	55	>99	95	82	99
6	86	37	93	75	57	78
5	62	18	77	39	32	45
4	34	9	42	16	15	17
3	14	1	19	8	4	6
2	7	<1	7	3	1	2
1	2	<1	1	1	<1	<2
0	<2	<1	<1	<1	<1	<2
M	4.94	6.79	4.60	5.64	6.09	5.53
SD	1.43	1.37	1.32	1.37	1.42	1.20

6-19 Years in U.S. (*n* = 76)

Raw Mean	Everyday Language Usage	English Comprehension	Home Environment	Social Interaction	Academic/ Cognitive	Total
8	>99	>99	>99	>99	>99	>99
7	88	62	88	84	82	86
6	83	39	86	78	76	79
5	75	20	75	62	54	68
4	63	12	58	28	32	37
3	41	9	37	20	20	20
2	20	5	17	12	11	11
1	11	4	7	5	5	4
0	5	<4	3	3	3	3
M	4.14	6.45	4.30	5.09	5.18	4.93
SD	2.18	1.94	2.02	1.99	2.04	1.93