RELIABILITY AND VALIDITY OF THE 5-ITEM LANGUAGE - BASED LATINO ACCULTURATION SCALE

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Abstract

While there are several reliable and valid measures of Latino acculturation in use, they are relatively expensive to administer and analyze because of their length. Although Marín et. al , 1987 12-item acculturation scale is quite appropriate, factor analytic results suggest the feasibility of a shorter, 5-item scale focused on language use alone. This study investigates the psychometric properties of that *Language Scale* by comparing it with the longer 20-item *Acculturation Rating Scale for Mexican Americans*. Results indicate the proposed scale 5-item scale has high reliability and validity. The *Language Scale* does not have sufficient precision to measure the extent to which persons incorporate both their host and birth cultures. It adequately measures the extent to which the host culture has become familiar or remains unfamiliar to the individual. In some instances, the use of a lengthier scale may not be required, and may even be counterproductive. This is true in some applications, such as clinical trials, pilot studies, and longitudinal studies where the use of the proposed shorter scale can be useful. It applies specially to research situations when investigators wish merely to control for acculturation, rather than study acculturation as a phenomenon in its own right.

Keywords: Acculturation, Psychometrics, Controlled Clinical Trials, Health Related Research

INTRODUCTION

It has been successfully argued that the health beliefs and behavior of Latino immigrant populations are influenced by the individual's level of acculturation - the extent to which the immigrating individual has adopted the beliefs and practices of the host culture (Balcazar, Aoyama, 1991). While the process of acculturation is an area of investigation in its own right, it can also play an important role in studies investigating topics that do not have acculturation as their primary focus. In these studies, acculturation is usually incorporated as a covariate, i.e., a measure which removes the effects of acculturation from the main phenomenon under study (Scribner, Dwyer 1989; Espino, Maldonado 1990; Helman 1994). Researchers in a clinical trail may also want to have participants with equal level of acculturation in each of the various "legs" of the trail to avoid bias in some culturally important condition. The same applies to longitudinal studies where changes in acculturation levels may influence variable outcomes.

Although there are a number of reliable and valid measures of Latino acculturation available (Cuellar, Harris, Jasso 1980; Mendoza 1989), most consist of numerous items and, as a result measure at a depth unnecessary for the research situation in which the investigator wants only a means of controlling for acculturation levels. Thus, longer scales, with the additional expense associated with administration, coding, and analysis, may not be cost effective. This is especially true in the clinical trial situation when much must be accomplished in a short time with many subjects without sacrificing psychometric integrity.

This study focused on a simplified scale to measure acculturation levels among Latinos, the largest and fastest growing immigrant populations in the country. The measure evaluated is a 5-item version of a somewhat longer (12-item) developed by Marín et al. (1987). The 5-item version proposed here limits its questions to language use, therefore we will refer to it as the *Language Scale* throughout. It was

selected because it is easy to use either in a telephone interview or via self-administration, and because it is currently available in both English and Spanish.

The 12-item, *Short Acculturation Scale* has been demonstrated to have high reliability in terms of its internal consistency, and Marín et al. (1987) investigated its construct validity. The criterion validity of the *Language Scale* will be investigated by correlation with two, more complex scales, the *Cultural Life Style Inventory (CLSI)* (Mendoza, 1989), and the *Acculturation Rating Scale for Mexican Americans (ARSMA)* (Cuellar 1980). However, reliability and validity for the *Language Scale* have not been demonstrated. (Carmines, Zeller 1979; DeVellis 1991) Describing the results of that evaluation is the purpose of this report. Table 1 shows the *Language Scale* and *Short Acculturation Scale* from which it has been derived.

The first of the longer scales, the *ARSMA* was designed for both normal and clinical populations. Its 20 questions have response sets that employ a 5-point Likert format. They address the respondents' preferences and behavior, including language, ethnic identity, cultural heritage, and generation. When all 20-item responses have been averaged, a high score indicates a strong accommodation to the host culture, or a high level of acculturation.

The second of the longer acculturation scales, the *CLSI* is somewhat different in structure (Magaña et al, 1996). It attempts to measure patterns of acculturation rather than the position in an assimilation continuum.

The *CLSI* treats acculturation as a complex construct consisting of three separate patterns or cultural life styles: *Resistance* to the host culture, *Shifting* to the host culture, and *Incorporating* both the host and Latino cultures. Each subject receives three separate scores on the *CLSI*, one for each of the three patterns of acculturation listed above. Mendoza argues that the three patterns measured are distinct; therefore, the *CLSI* does not produce an *overall* score measuring the extent of each subject's acculturation. However, two of the three scales produced by the *CLSI* correlates with the 5-item *Language Scale* in a predictable way: the *Language Scale* is expected to have a positive correlation with Mendoza's *Shifting* and a negative correlation with *Resistance*.

Table 1: Language Scale and the Short Acculturation Scale

Language Scale

1. In general, what language(s) do you read and speak?
2. What was the language(s) you used as a child?
3. What language(s) do you usually speak at home?
4. In which language(s) do you usually think?
5. What language(s) do you usually speak with your friends?

Short Acculturation Scale

1. In general, what language(s) do you read and speak?
2. What was the language(s) you used as a child?
3. What language(s) do you usually speak at home?
4. In which language(s) do you usually think?
5. What language(s) do you usually speak with your friends?
6. In what language(s) are the TV programs you usually watch?
7. In what language(s) are the radio programs you usually listen to?
8. In general, what language(s) are the movies, TV and radio programs you prefer to watch?
9. Your close friends are:
10. You prefer going to social gatherings/parties at which the people are:
11. The persons you visit or who visit you are:
12. If you could choose your children's friends, you would want them to be:

Table 2: Acculturation Rating Scale for Mexican Americans (ARSMA)

1. What language do you speak?
2. What language do you prefer?
3. How do you identify yourself?
4. Which ethnic identification does (did) your mother use?
5. Which ethnic identification does (did) your father use?
6. What is the ethnic origin of the friends and peers you had as a child up to age 6?
7. What is the ethnic origin of the friends and peers you had as a child from 6 to 18?
8. Whom do you now associate with in the outside community?
9. What is your music preference?
10. What is your TV viewing preference?
11. What is your movie preference?
12. a) Where were you born?
    b) Where was your father born?
    c) Where was your mother born?
    d) Where was your father's mother born?
    e) Where was your father's father born?
    f) Where was your mother's mother born?
    g) Where was your mother's father born?
13. Where were you raised?
14. What contacts have you had in Mexico?
15. What is your food preference?
16. In what language do you think?
17. Can you read Spanish?
    Can you read English?
18. Can you write in Spanish?
    Can you write in English?
19. If you consider yourself a Mexican, Chicano, Mexican American, member of La Raza, or however you identify this group, how much pride do you have in is group?
20. How would you rate yourself?

Table 3: Cultural Life Style Inventory (CLSI) Scale

1. What language do you use when you speak with your grandparents?
2. What language do you use when you speak with your parents?
3. What language do you use when you speak with your brothers and sisters?
4. What language do you use when you speak to your spouse or person you live with?
5. What language do you use when you speak to your children?
6. What language do you use when you speak to your closest friends?
7. What kind of records, tapes or compact disks do you own?
8. What kind of radio stations do you listen to?
9. What kind of television programs do you watch?
10. What kind of newspapers and magazines do you read?
11. In what language do you pray?
12. In what language are the jokes with which you are familiar?
13. What types of food do you typically eat at home?
14. At what kinds of restaurants do you typically eat?
15. What is the ethnic background of your closest friends?
16. What is the ethnic background of the people that you have dated?
17. When you go to social functions such as parties, dances, picnics or sports events, what is the ethnic background of the people that you tend to go with?
18. What is the ethnic background of the neighborhood where you live?
19. What national anthem do you know?
20. Which national or cultural heritage do you feel most proud of?
21. What types of national or cultural holidays do you typically celebrate?
22. What is the ethnic background of the movie stars and popular singers that you most admire?
23. If you had a choice, what is the ethnic background of the person that you would marry?
24. If you had children, what types of names would you give them?
25. If you had children, what language would you teach them to read, write and speak?
26. Which culture and way of life do you believe is responsible for the social problems found in some Mexican-American communities?
27. What kind of stores do you typically shop?
28. How do you prefer to be identified?
29. Which culture and way of life would you say has had the most positive influence in your life?

METHODS

Thirty-seven consecutive Latino men and women were recruited from the subject pool of a larger study, the NIMH Multisite HIV Prevention Trial, which evaluated an HIV prevention intervention. The clinic in which the study was conducted was situated in East Los Angeles, a community populated almost exclusively by Latinos, most of whom are of Mexican descent.

Table 4 reports the study participants' demographic characteristics. As shown, about half had been born in the U.S. and 84% had lived only or mostly in the U.S. The subjects represent a broad spectrum of acculturation, including individuals who have lived all of their lives in the United States as well as recent immigrants from Latin American countries, mostly Mexico.

As part of the larger study, subjects were paid to complete a baseline interview and a series of weekly instructional sessions. In addition, they completed the 5-item *Language Scale*, the *CLSI*, and the *ARSMA* as part of the initial interview.

Other variables analyzed here to replicate the validation portion of Marín et al.'s earlier work were taken from the baseline interview. All subjects were interviewed in the language of their choice.

RESULTS

All three acculturation scales had high internal consistency. Cronbach's alpha was .96 for the five-item *Language Scale*; .95 for the 29-item *CLSI*; and .94 for the 20-item *ARSMA*. Table 3 reports the Pearson correlations between the *Language Scale*, *ARSMA*, and two *CLSI* scales, *Resistance* and *Shifting*. The correlations are all strong and in the expected direction. These coefficients suggest, that the *Language Scale* has high criterion validity and can be substituted for the more lengthy scales, when a less detailed measure of acculturation is required.

We also replicated an evaluation of the validity of the *Short Acculturation Scale* for the *Language Scale* using the same demographic measures of acculturation used in the original analysis and described

Table 4: Demographic Characteristics of the Sample

Characteristic	Category Label	%	Mean	(SD)	Min	Max
Sex	Male	44.4				
	Female	55.6				
Age			33.0	(9.9)	20	56
Education	High School	37.8				
	HS/GED	32.4				
	Some College	18.9				
	Baccalaureate	5.4				
	Grad School	2.7				
Where Born	U.S.	54.1				
	Outside U.S.	45.9				
Years in U.S. for those born outside			18.2	(9.5)	4	35
Where lived	U.S. Only	54.1				
	U.S. Mostly	29.7				
	Outside U.S. Mostly	16.2				
Latino Group	Mexican	57.1				
	Mexican-American	20.0				
	Chicano	11.4				
	Other	11.5				

Table 5: Correlation of the Language Scale with ARSMA and CLSI to Estimate Criterion Validity

Language Scale	CLSI		ARSMA
	Resistance	Shifting	
	-.702*	.647*	.883*

* $p < .001$

Table 6: Replication of Reliability and Construct Validity Analysis

Reliability	Construct	Short Acculturation Scale	Language Scale
alpha		.90	.96
	Generation	.69**	.59*
	Percent Life in U.S.	.76**	.40*
	Self-Evaluation	.74**	.33*
	Acculturative Index	.86**	.60**
	Age of Arrival	-.72**	-.44*

* $p < .05$ ** $p < .001$

by Marín et al (1987). These measures consisted of (1) generation; (2) percentage of life spent in the United States; (3) self-evaluation of cultural identification; (4) an acculturative index obtained by multiplying the percentage of time as a U.S. resident by 4, adding generation minus 1, and adding self-evaluation minus 1; and (5) age of arrival in U.S. (coded as 0 for those born in U.S.). Table 6 shows that Cronbach's alpha was a high .96 for the *Language Scale* compared to .90 for the longer *Short Acculturation Scale*.

The table also shows that all of the validity coefficients were statistically significant, even though the magnitude of the coefficients was generally lower than those observed by Marín et al. One explanation for the drop in coefficient magnitude may in fact be that the *Language Scale* has less information than the *Short Acculturation Scale* to which it is being compared in this table.

DISCUSSION

Studies have shown that the level of acculturation is related to many psychological and sociological constructs (Kaplan and Marks 1990; Moyerman, Forman 1992; Cuellar et al 1997), especially as they refer to mental health, and the health beliefs and practices of Mexican-Americans (Rogler, Cortes, Malgady 1990; Epstein et al 1994; Sabogal et al 1995; Gardner et al 1995). Thus, a short, easy-to-administer and easy-to-score measure of acculturation with demonstrated reliability and validity would be a critical addition to many health-related studies, large scale longitudinal studies, and screening instruments. While the more complete measures of acculturation are longer and can be complicated to score (e.g., Mendoza's 29-item scale), the 5-item *Language Scale* is recommended here as an economical alternative measure. The *Language Scale* behaves as predicted with both the *ARSMA*

and *CLSI* scales, which are representative of most available scales used to measure acculturation. While the *Language Scale* does not have sufficient precision to measure the extent to which persons incorporate both their host and birth cultures (i.e., Mendoza's *Incorporating Scale*), it does adequately measure the extent to which the host culture has become familiar or remains unfamiliar to the individual. Thus, the smaller 5-item *Language Scale* derived for Marín's (1987) *Short Acculturation Scale* is recommended for use as a statistical control for levels of acculturation in research rather than study acculturation as a phenomenon in its own right. Future measurements of acculturation should take into consideration the value systems of the actors in a specific context. A person who measures at a high level of acculturation may not behave in the "culturally appropriate" way in some situations. When confronted with situations in a particular context, the actor may "revert" to the expected behaviors in their native culture. A highly acculturated human resources manager favoring a twice-removed cousin in a job situation may be seen as acting inappropriately, but be in perfect synchrony with his or hers native culture value system.

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