

The Hispanic Stress Inventory—Adolescent Version: A Culturally Informed Psychosocial Assessment

Richard C. Cervantes

Behavioral Assessment, Inc., Los Angeles, California

Dennis G. Fisher

California State University, Long Beach

David Córdova Jr.

University of Miami

Lucy E. Napper

California State University, Long Beach

A 2-phase study was conducted to develop a culturally informed measure of psychosocial stress for adolescents: the Hispanic Stress Inventory—Adolescent Version (HSI-A). Phase 1 involved item development through the collection of open-ended focus group interview data ($n = 170$) from a heterogeneous sample of Hispanic youths residing in the southwest and northeast United States. In Phase 2, we examined the psychometric properties of the HSI-A ($n = 1,651$), which involved the use of factor analytic procedures to determine the underlying scale structure of the HSI-A for foreign-born and U.S.-born participants in an aggregated analytic approach. An 8-factor solution was established, with factors that include Family Economic Stress, Acculturation-Gap Stress, Culture and Educational Stress, Immigration-Related Stress, Discrimination Stress, Family Immigration Stress, Community and Gang-Related Stress, and Family and Drug-Related Stress. Concurrent, related validity estimates were calculated to determine relations between HSI-A and other measures of child psychopathology and behavioral and emotional disturbances. HSI-A total stress appraisal scores were significantly correlated with both the Children's Depression Inventory and the Youth Self Report ($p < .001$). Reliability estimates for the HSI-A were conducted, and they yielded high reliability coefficients for most factor subscales, with the HSI-A total stress appraisal score reliability alpha at .92.

Keywords: Hispanic, adolescent, assessment, mental health, stress

The development of assessment tools specifically for Hispanic youth populations has largely been limited to translation and cultural adaptation of existing tools and measures and has not been to assess acculturation related stress exposure (e.g., Eisen et al., 2010). The New Freedom Commission's Final Report (The President's New Freedom Commission on Mental Health, 2003) affirmed the need to eliminate disparities in behavioral health services and expand and improve early mental health screening, assessment, and referral in Hispanic populations. Culturally informed mental health assessment is crucial to accurate diagnosis and subsequent treatment selection and planning.

There have been numerous advances in the development of mental health assessment and diagnostic tests and inventories for children and adolescents (Kotsopoulos, Walker, Copping, Cote, & Stavrakaki, 1994). Most of this development and research focuses on psychological symptomatology and distinct emotional disorders. Self-report, parent-report, and teacher-report measures are now available to assess depression (Kovacs, 2006; Sitarenios & Kovacs, 1999), behavioral disorders (Achenbach, Dumenci, & Rescorla, 2002; Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000; Hogan, Quay, Vaughn, & Shaprio, 1989; Quay & Peterson, 1993), trauma (Bernstein, Ahluvalia, Pogge, & Handelsman, 1997), anxiety (Chorpita, Yim, Moffitt, Umemoto, & Francis, 2000; Gerard & Reynolds, 1999; Reynolds & Richmond, 1985), and parenting stress (Sheras, Abidin, & Konold, 1998). Specific to adolescents, there exist tools to assess stress among parents of adolescents (Sheras et al., 1998): a coping measure that focuses on family crises management (McCubbin, Thompson, & McCubbin, 1996), dating violence (Hokoda et al., 2006), anxiety, and depression (Szabó, 2010).

Work has also been done in the area of the development of culturally appropriate measures for assessing stress among Hispanic adults (Barona & Miller, 1994). Additionally, Cervantes, Padilla, and Salgado de Snyder (1991) developed both immigrant and nonimmigrant versions of the Hispanic Stress Inventory (HSI) to assess stress events across six life domains, including acculturation stress. In addition, culturally appropriate measures are now available to assess acculturation (Cuéllar, Arnold, & Maldonado,

This article was published Online First September 26, 2011.

Richard C. Cervantes, Behavioral Assessment, Inc., Los Angeles, California; Dennis G. Fisher and Lucy E. Napper, Center for Behavioral Research and Services, California State University, Long Beach; David Córdova Jr., Department of Epidemiology and Public Health, Miller School of Medicine, University of Miami.

This research was supported by National Institute of Mental Health Grants 1R43MH073180-01A1 and 2R44MH073180-02 to Richard C. Cervantes. Funding for Lucy E. Napper's participation was obtained from National Research Service Award F32DA022902 from the National Institute on Drug Abuse. We would like to express our appreciation to Jefferson Wood for his assistance with data entry and management.

Correspondence concerning this article should be addressed to Richard C. Cervantes, Behavioral Assessment, Inc., 291 South La Cienega Boulevard, Suite 304, Los Angeles, CA 90211. E-mail: bassessment@aol.com

1995), biculturalism (Cortés & Rogler, 1994), mental health (Cortés et al., 2007), and physical activity (Martinez, Ainsworth, & Elder, 2008).

One gap, however, in assessment science is the lack of measures of psychological status specific to ethnic minority group adolescents in the United States, more specifically, Hispanic youths. In spite of the fact that Hispanics now constitute the largest ethnic minority group in the United States (U.S. Census Bureau, 2007), there is a dearth of mental health and stress assessment instruments that are culturally tailored to meet the needs of this highly overlooked and understudied population (Cervantes, Córdova, Fisher, & Kilp, 2008). This is particularly relevant because Hispanic youths are at risk of exposure to increased community based challenges and acculturation related stressors, relative to their European American counterparts (Córdova & Cervantes, 2010).

The current research suggests that negative aspects of acculturation can be viewed within a stressful life-events paradigm (Rudmin, 2009). This research is based on a theory that postulates that social organization plays a significant role in the origins and consequences of stressful life experiences (Aneshensel, 1992). Further, Lazarus and Folkman (1984) articulated the concept of stress appraisal, which is the subjective (negative) psychological reaction to a specific stress event or set of events. Similarly, negatively appraised stressor events related to acculturation within the Hispanic population are an important antecedent for mental health problems in both adults and children (Cervantes et al., 1991; Rogler, Cortes, & Malgady, 1991; Vega & Gil, 1998). Berry (1991) described "acculturation stress" as the result of one's culture of origin interacting with host culture values, attitudes, customs, and behaviors. Individuals and families from one cultural orientation who are constantly being exposed to new, novel, and challenging events and situations require some form of psychological and behavioral adjustments. Exposure to racial or ethnic discrimination (negative behaviors toward Latino youths) can constitute a source of daily stress (Romero & Roberts, 2003).

Purpose of the Study

The purpose of this two-phase study was to develop and determine the psychometric properties of the Hispanic Stress Inventory—Adolescent Version (HSI-A), a new, culturally informed, psychosocial stress-assessment instrument. Informed by previous research conducted on Hispanic stress (Cervantes et al., 1991), our specific aims in this study were to (a) create and test item content in specific domains of life-events stress in adolescent Hispanics living in the United States and (b) assess both life-event stress exposure (i.e., event incidence) and its appraisal in the resulting instrument. By including immigrant and Spanish speaking youths in each step of the sampling, we also expected to find unique immigration stressors, as well as stressors specific to the acculturation process.

Method

Phase 1: Generation of Item Pool

An expert panel comprising four recognized researchers in the field of Hispanic adolescent mental health was interviewed to determine current perspectives on Hispanic life-event stress do-

main and specific stressor events related to Hispanic minority status. These interviews were used in the (a) construction of operational definitions of conceptual life-event stress domains and (b) development of the open-ended focus-group interview guide. The interview guide consisted of six grand tour areas of inquiry and potential probes related to these broad areas. Specifically, in each of the grand tour open-ended questions, participants were asked about stressful life experiences and difficulties. The six grand tour areas of inquiry were consistent with the conceptual life-event stress domains and included (a) immigration stress, (b) communication and language stress, (c) school and academic stress, (d) peer and intimate relationships stress, (e) family stress, and (f) social and economic stress.

Subsequent to the development of the interview guide, focus groups were used to provide information about personal experiences of life-event stress. The focus group methodology has been shown to be a useful investigative tool to facilitate the collection of rich qualitative responses that provide details of individual experiences and perceptions (Denzin & Lincoln, 2005; Patton, 2002). Moreover, focus groups gather large amounts of data in a relatively short time frame yet produce insights that would not be obtained through individual interviews or quantitative methods (Morgan, 1997; Stewart, Shamdasani, & Rook, 2007). Guidelines established by Umaña-Taylor and Bámaca (2004) and found effective with Hispanic populations were implemented in the study design.

Phase 1 Sample

A total of 170 youth participants were interviewed in 25 focus groups. Participants were recruited from middle schools, high schools, and community-based clinical (i.e., behavioral health) programs in two research sites located in the northeast and southwest regions of the United States, including Trenton, New Jersey ($n = 70$), and Los Angeles, California ($n = 100$). A mixed, stratified sampling strategy was designed to elicit information about stressors that are relevant to a wide range of Hispanic adolescents from diverse cultural origins, both immigrant and nonimmigrant. An attempt was made to recruit an equal number of middle school and high school groups, as well as clinical and nonclinical groups. To be considered for this study, participants had to (a) identify themselves as Hispanic or Latino, (b) be between the ages of 11 years old and 19 years old, and (c) give assent and provide parental consent. The exclusion criterion included those individuals who were identified by the research staff as having more severe forms of adolescent mental health disorders, such as developmental disorders (e.g., autism, mental retardation) and/or childhood/adolescent psychosis.

A descriptive analysis indicated that 42% of the focus group participants were recruited from middle school, 35% were recruited from high school, and 23% were recruited from clinics. The mean age of the sample was 14.8 ($SD = 2.20$) years, and more girls (62%) than boys (38%) participated in this study. About half the sample (52%) reported Mexico as their family's country of origin, followed by Guatemala (14%) and Puerto Rico (10%). The remainder of the sample's family's country of origin included South America, Central America, and Caribbean countries including Honduras, El Salvador, Costa Rica, and Ecuador. The majority of the participants were foreign-born (52%). Sixty percent of the participants reported Spanish as their primary language, followed

by those who reported that they were bilingual (26%) and those who reported English as their primary language (14%).

Phase 1 Item Development

Employing similar methods used in the development of the original HSI for adults (Cervantes et al., 1991), Richard C. Cervantes, along with trained research assistants, identified salient life-event stressors and appraisal-coded text segments. A series of short statements that captured the meaning of the longer coded segments were developed in English, in an easily comprehensible format. The first item—development—analytical procedure captured a full range of stressors and appraisals for both nonclinical and clinical adolescent groups. Next, the specificity of items for each group, with sensitivity for age and gender and, most importantly, for immigration status differences was identified. The salient and high frequency stress experience statements and appraisals elicited were then reworded for inclusion in the HSI-A draft. A total of 160 items were developed for this initial HSI-A item pool.

The rating sheet data and response validity data were quantified, as in the HSI adult content validity study (Cervantes et al., 1991). The content validity approach involved asking two expert clinicians to assign each item to one of six conceptual domains by filling in a content validity rating form. The experts were instructed to simply assign the number of the one domain that they thought the item best fits under. Statistical analysis with Cohen's kappa index of interrater agreement was used to measure the extent of consensus among the judges (Cohen, 1960) for each item and for the total scale. The researchers constructed a data file making use of a weight variable to specify the counts for each cell in the 6 (Expert 1 rating) \times 6 (Expert 2) contingency tables. The SPSS (Version 14) count procedure reduced the total scale-item data to a large contingency table that was input into the SPSS crosstabs procedure in which the kappa statistic was calculated. The kappa was calculated on the basis of pairwise contingency tables built from the responses of successive pairs of judges.

Expert 1 and Expert 2 demonstrated an agreement in rating of 75% of the 160 items. The kappa index coefficient was .59 and was highly statistically significant ($p < .001$). On the basis of the kappa analysis of Expert 1 and Expert 2, all scale items were retained. While the kappa was lower than the .70 convention used for interitem reliability of existing scales, we were dealing with a set of items generated from Hispanic adolescents in a first phase of scale development. We concluded that the kappa was high enough not to warrant further item exclusion at this phase of the scale construction process. However, an item-level analysis of the patterns of disagreements indicated that the operational definitions of some of the domains on which the ratings were based could be sharpened. For example, there were 16 disagreements concerning whether to rate a given item in Domain 5 (family stress) or Domain 6 (social and economic stress).

Phase 2: Multisite Sampling, Factor Analysis, and Reliability Analysis of HSI-A

The research design included four data collection sites that represented the diversity of the national Hispanic adolescent population: Los Angeles, Miami, El Paso, and Boston. The total research sample consisted of 1,651 adolescents, ages 10–20 years.

The sample was recruited from middle schools, high schools, and clinics. In an effort to assess the psychometric properties of the HSI-A for a range of acculturation levels and immigrant responses, 259 self-identified immigrant adolescents were sampled.

Procedure

Site data coordinators identified middle schools and high schools in which Hispanics represented over 50% of the school samples to be included in the sampling frame. Each school was provided with an orientation of the study, and a classroom teacher roster was provided by each participating school. These rosters were then separated by grade level, and all sixth through 12th grade homeroom classrooms were assigned a consecutive number and then randomly selected within grade level with the SPSS randomizer program. Once selected, each classroom teacher was provided a more detailed orientation by the site data coordinators and an informed parental consent form was distributed to each potential adolescent participant. Once all consent forms were returned, the data site coordinator scheduled the group data administration. This procedure was used for all school-based data collection.

Measures

Participants completed the 160-item version of the Hispanic Stress Inventory—Adolescent Version (HSI-A). To measure exposure to life-event stress, for each item the participant was asked whether he or she had experienced the stressor (*yes/no*). If a participant reported experiencing a stressor, he or she was asked to rate the appraised stressfulness of the event on a 5-point Likert scale (1 = *not at all worried/tense*; 2 = *a little worried/tense*; 3 = *moderately worried/tense*; 4 = *very worried/tense*; 5 = *extremely worried/tense*). Where participants reported that they had not experienced a stressor, the appraisal score was coded to 1 (*not at all worried*). The factor analysis was performed on the appraisal scores. Translation of the HSI-A items into Spanish was conducted by two bilingual psychologists, including Richard C. Cervantes. A translation and back-translation process was used (Brislin, 1970).

To examine the construct validity of the HSI-A, participants also completed the Children's Depression Inventory (CDI; Kovacs & Multi-Health Systems Staff, 2003) and the Youth Self Report (YSR) portion of the Achenbach System of Empirically Based Assessment (ASEBA; Achenbach & Rescorla, 2001). It was hypothesized that participants who report experiencing higher levels of stress on the HSI-A would also report higher levels of psychopathology, including symptoms of depression, anxiety, and social and behavioral problems. The CDI and YSR were selected a priori as measures of these psychopathologies. The CDI is a 27-item self-report measure of depression symptoms, which has previously been used in Hispanic populations (Cowell, Gross, McNaughton, Ailey, & Fogg, 2005; Worchel et al., 1990). The total CDI score was calculated, along with scores on the five subscales (Negative Mood, Interpersonal Problems, Ineffectiveness, Anhedonia, Negative Self-Esteem).

The YSR provides a measure of children's psychopathology. The YSR total score was calculated, as well as eight syndromes (Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints,

Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior, Aggressive Behavior) and the Internalizing and Externalizing groups of syndromes.

Data Analysis Method

The HSI-A was used to measure whether an adolescent experienced a stressor and to measure the appraised stressfulness of the event. The analysis of the psychometric properties of the HSI-A focused on the appraisal scores, not the exposure to stressors. The appraisal score reflects the intensity of the stressors experienced.

Some of the participants had missing data on the CDI and/or YSR. For the CDI, missing data values were replaced with the mean of the remaining items. When more than 10% of the CDI items were missing, the participant was excluded from the validity analysis. For the YSR data, participants for whom more than eight items were missing were excluded from the validity analysis.

Results

Demographic Characteristics

The HSI-A was completed by 1,651 participants. Participants who did not identify as Hispanic were excluded from any further analysis ($n = 84$). A small number of participants ($n = 18$) did not self-report as being Hispanic but did indicate that their race was, for example, Mexican or that their parents were Mexican, or these participants did report speaking Spanish at home and experiencing stress due to being Hispanic. These participants were retained in the analysis. Data from the clinical participants ($n = 299$) were not included in the final analysis because the factor structures of clinical and community samples are not always equivalent (e.g., see Kovacs & Multi-Health Systems Staff, 2003). In addition, the data were examined for completeness. Participants who did not complete 11 or more HSI-A appraisal items were excluded from further analysis ($n = 284$). Data from 992 participants were included in the factor analysis.

The demographics of the final sample ($n = 992$) and those excluded from the analysis ($n = 659$) are presented in Table 1. Of the participants retained in the analysis, 44.7% ($n = 443$) were from Los Angeles, California; 25.5% ($n = 253$) were from Lawrence, Massachusetts; 20.8% ($n = 207$) were from Miami, Florida; and 9% ($n = 89$) were from El Paso, Texas. The research sites were selected to afford a sample that was representative of the heterogeneity of U.S. Hispanic adolescents in terms of nationality, generation status, and geographic location. The final sample represented at least 16 national origins, including Mexican (47.0%), Dominican (13.8%), Cuban (12.4%), and Puerto Rican (7.6%). The majority of the final sample reported that they were born in the United States (84.9%) but that their mother (72.0%) and/or father (77.3%) was born outside the United States. Participants were more likely to report speaking Spanish at home (27.1%) than with friends (3.4%). The sample ranged in age from 11 years to 20 years of age ($M = 14.8$, $SD = 1.83$). Participants were given the choice to complete the HSI-A in either English or Spanish. Only 2.0% of the final sample elected to complete the booklet in Spanish. We wanted to create a tool that would be appropriate to all acculturation levels and that would capture immigration related issues, including those that affect nonimmigrants. For that reason, we

Table 1
Participant Demographics

Variable	EFA sample	Excluded cases
<i>n</i>	992	659
Mean age (years)	14.8	14.6
Mean age (<i>SD</i>)	1.83	1.74
Sex of subject		
Male (%)	44.5	53.2
Male (<i>n</i>)	440	347
Female (%)	55.5	46.8
Female (<i>n</i>)	548	305
Data collection site		
Los Angeles, CA (%)	44.7	41.6
Los Angeles, CA (<i>n</i>)	443	274
El Paso, TX (%)	9.0	27.2
El Paso, TX (<i>n</i>)	89	179
Miami, FL (%)	20.8	19.1
Miami, FL (<i>n</i>)	207	126
Lawrence, MA (%)	25.5	12.1
Lawrence, MA (<i>n</i>)	253	80
National origin		
Mexican/Mexican American (%)	47.0	60.9
Mexican/Mexican American (<i>n</i>)	455	343
Central American (%)	5.3	8.0
Central American (<i>n</i>)	51	45
South American (%)	3.6	1.4
South American (<i>n</i>)	35	8
Cuban (%)	12.4	7.3
Cuban (<i>n</i>)	120	41
Puerto Rican (%)	7.6	3.7
Puerto Rican (<i>n</i>)	74	21
Dominican (%)	13.8	7.3
Dominican (<i>n</i>)	134	41
Mixed (%)	8.9	10.7
Mixed (<i>n</i>)	86	60
Other (%)	1.4	0.7
Other (<i>n</i>)	14	4
Born in the United States (%)	84.9	83.0
Born in the United States (<i>n</i>)	840	528
Parent(s) born outside the United States (%)	84.7	82.8
Parent(s) born outside the United States (<i>n</i>)	833	528
Language spoken at home		
English (%)	24.3	27.0
English (<i>n</i>)	239	175
Spanish (%)	27.1	31.3
Spanish (<i>n</i>)	267	203
Both English and Spanish (%)	48.4	37.8
Both English and Spanish (<i>n</i>)	476	245
Living in house/apartment (%)	95.7	95.5
Living in house/apartment (<i>n</i>)	943	617
Both parents unemployed (%)	5.9	10.7
Both parents unemployed (<i>n</i>)	54	61
Parent(s) graduated high school/GED (%)	60.6	44.8
Parent(s) graduated high school/GED (<i>n</i>)	547	254

Note. EFA = exploratory factor analysis; GED = general equivalency diploma.

decided not to separate immigrant from nonimmigrant samples, as was done in the original HSI adult development study.

Item Relevance and Analysis

Items were examined for relevance and were excluded from the factor analysis when less than 5% of the sample reported having experienced a stressor. Based on these exclusion criteria, 41 items

Table 2
Factor Loadings of Hispanic Stress Inventory—Adolescent Version Items

Factor and item	1	2	3	4	5	6	7	8
1. Family Economic Stress								
Family could not afford medications	.69	.02	-.12	-.01	.07	-.08	.06	.03
Family struggled paying bills	.65	-.14	-.03	-.04	.06	.14	-.03	.19
Family had problems paying rent	.64	-.14	.01	.01	.02	.22	.01	.11
Family could not afford to pay doctors	.64	.04	-.07	-.02	.01	-.02	.03	.01
Not enough money for everyone in family	.56	.12	.07	.00	-.06	.19	.00	-.07
Could not afford to buy good clothes	.55	-.07	.16	.00	.10	-.03	-.08	-.09
Money problems interfered with school	.54	.07	.11	-.10	.04	.09	-.18	.09
Could not afford to move	.52	.08	.04	.04	.02	-.02	.06	-.09
Parents could not get a good job	.48	.10	.01	.06	-.10	.17	.09	-.01
Family's needs came before my needs	.44	-.06	.12	.03	.02	-.05	.04	.13
No money to plan for college	.41	.04	-.02	.03	-.02	-.05	-.02	.14
Money problems made me want to leave school	.39	.03	-.03	.00	.02	.09	.01	.09
2. Culture and Educational Stress								
People were suspicious of me when I spoke Spanish	-.03	.68	-.02	-.03	.07	.01	.00	-.09
Racial tensions at school	-.05	.56	-.09	-.15	.14	.21	-.01	.12
Had to translate personal information for parents	.29	.54	-.05	-.04	-.04	.00	-.02	.08
School ignored cultural history	.09	.51	-.19	-.09	-.09	.08	.17	.08
Latinos at school not accepted	-.11	.49	-.02	.09	-.02	.07	-.01	.13
Teachers think I am cheating when I am speaking Spanish	-.03	.47	.02	.06	.19	-.03	.05	.01
Arguments with non-Hispanic students	-.11	.46	.22	-.07	.04	-.08	.02	.08
Customs and holidays not recognized at school	-.03	.45	.08	.01	-.06	.01	.05	-.06
Family members were rejoined	.06	.45	.13	.13	-.14	-.09	.02	-.16
Negative stereotypes of Latinos in neighborhood	-.04	.44	.05	-.04	.00	.04	.17	.05
Ridiculed because of clothes	.15	.41	.12	-.01	.21	-.14	.05	-.16
Did not mix with other cultures/races	-.05	.39	-.02	-.02	.06	.09	-.08	.00
Embarrassed because parents do not speak good English	.16	.36	.18	.11	-.08	-.15	-.11	-.02
Things taught at school irrelevant to me	.14	.36	-.04	-.02	.09	.02	.04	-.03
3. Acculturation-Gap Stress								
Parents overprotective	-.07	-.07	.72	-.08	-.01	.10	.01	.05
My parents were too traditional	.10	-.02	.69	-.05	.00	.09	-.11	-.09
Parents did not understand me	-.11	.18	.58	-.01	.02	.06	.08	.04
Parents disapproved of friends	-.05	.05	.56	-.03	.08	.06	.07	.12
Parents want me to maintain customs and traditions	.11	.03	.44	.07	-.12	-.02	.05	-.06
No privacy at home	.20	-.01	.42	-.04	-.03	.02	.02	.16
Parents upset that I wanted to date outside my race/ethnicity	-.01	.11	.38	-.07	-.06	-.04	-.03	.01
Broke up with boyfriend/girlfriend	-.02	-.10	.38	.01	-.03	.10	.15	.01
Parents used different rules for daughters/sons	.01	-.02	.37	.05	-.04	.05	.03	.26
Expected to do many chores at home	.11	-.04	.36	.07	.09	.01	.07	.05
Forgot some Spanish	.02	.14	.36	-.01	.08	-.06	-.02	.02
Expected to be like a parent to siblings	.15	-.07	.34	-.03	.05	.15	-.04	.06
4. Immigration-Related Stress								
Left close friends in home country	-.02	-.10	.01	.86	.04	-.01	.06	-.05
Thought about life in home country	.00	-.07	-.04	.77	.03	-.03	.00	.03
Hard leaving people in home country	-.06	-.08	.05	.74	-.03	.07	.03	.00
Separated from some family members	.03	.11	.05	.73	-.02	.00	.05	-.02
Had to leave family behind in home country	.01	-.02	-.17	.73	.03	.02	.01	.12
Members of family "homesick"	.03	.15	.10	.40	-.02	.11	-.10	.05
Learning English was a struggle	.03	.01	-.15	.38	.08	.15	-.08	.17
5. Discrimination Stress								
Students made racist comments	-.02	-.01	-.13	.00	.75	.14	.02	-.05
Students said racist things	-.10	.07	-.14	.02	.71	.25	.09	-.11
Picked on by other students	.09	.08	.14	-.02	.57	-.14	-.07	.08
Pointed at and called names	.19	-.05	.05	-.02	.56	-.04	.07	-.07
Not liked because of looks	.02	.19	.18	.09	.51	-.11	.05	-.13
Disrespected by other students	.08	.01	.17	.07	.42	-.13	-.06	.22
6. Family Immigration Stress								
Family afraid of getting caught by immigration officials	.08	-.04	-.01	.00	.10	.64	-.01	.00
Family had problems with immigration papers	.12	-.08	.08	-.02	.01	.63	.06	-.11
Family had problems finding work after migrating	.17	.16	.06	.07	-.04	.52	.04	-.14
Family had to pay a lot of money to migrate	.01	.18	.07	.13	-.11	.48	-.02	-.05
Family was caught when migrating	-.01	-.17	.13	-.04	.14	.46	.15	-.09
Family was forced to migrate	-.08	.26	.07	.11	-.14	.36	-.02	.13
Family started all over after migrating	.04	.18	.04	.23	.03	.36	-.09	.02

(table continues)

This document is copyrighted by the American Psychological Association or one of its allied publishers. This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

Table 2 (continued)

Factor and item	1	2	3	4	5	6	7	8
7. Community and Gang-Related Stress								
A lot of pressure to get involved with gangs	.02	.01	-.02	.07	.02	.03	.49	-.03
Neighborhood dangerous	.05	.20	.05	.00	.00	.00	.46	.05
Saw drive-by shooting	-.02	.03	.07	-.03	-.09	.08	.43	.02
Boyfriend/girlfriend in gang	.04	-.01	.07	-.03	.07	.04	.41	.12
Involved in physical fights	-.11	-.03	.17	.00	.18	.02	.37	.09
Stereotyped as a gang member	.10	.08	-.15	.03	.07	.02	.36	.12
Saw weapons at school	.14	.29	-.04	-.06	.04	-.12	.34	.08
Fought with other students	-.19	.00	.18	.00	.11	.07	.33	.15
8. Family and Drug-Related Stress								
Violence in family	.17	-.12	.15	.05	-.04	-.11	.16	.47
Family member sold drugs	.09	.01	.00	-.01	-.10	-.12	.22	.45
Family member had a drug problem	.17	-.06	.01	.02	-.11	-.07	.19	.40
Too little contact with parents	.11	.06	.15	.02	-.08	.03	-.01	.40
Hard to speak with family	-.09	.18	.28	.01	.10	.04	-.05	.35
Hard to switch from English to Spanish ^a	.03	.12	.03	.20	.12	-.10	-.16	.34

^a This item was deleted from the final scale. Factor loadings greater than .32 are listed in boldface type.

out of the original 160-item pool set were not included in further analyses.

The remaining 119 HSI-A items were examined for skewness. All items were found to be positively skewed. This is likely to reflect the nature of the measure and the sample, not a bias in the observed data; therefore, we opted not to correct for skew. For the exploratory factor analysis, a principal factors extraction method was used because it does not assume a normal distribution (Fabrigar, Wegener, MacCallum, & Strahan, 1999). The exploratory factor analysis was performed on a correlation matrix, with correlations between complete-item pairs. Two pairs of gender-specific items (e.g., "I got pregnant"; "My girlfriend got pregnant") were combined into single items. Interitem correlations were examined, and two items were deleted that had very similar item content and that were highly correlated with other items ($r = .78$).

Exploratory Factor Analysis

The item pool was subjected to exploratory principal factor analysis with the square of the multiple correlation coefficient (SMC) used to obtain preliminary estimates of communalities. Both orthogonal and oblique rotations were examined, and factor solutions were compared for interpretability (Pett, Lackey, & Sullivan, 2003).

The decision to delete items from the item pool was based on several factors, including item loading, cross-loading, and internal consistency. Items with factor loadings less than .32 on all factors were removed first (Tabachnick & Fidell, 2001). After several iterations of deleting items on the basis of low item loadings, items that had multiple loadings greater than .32 on two or more factors were deleted (Costello & Osborne, 2005). Through this iterative process, the item pool was reduced from 111 items to 72 items. This pool of items was subjected to a final principal factor analysis using a promax rotation (see Table 2). Eight factors were extracted on the basis of Velicer's minimum average partial (MAP) test, the scree test, eigenvalues greater than 1, and interpretability (Costello & Osborne, 2005). These eight factors accounted for 81.6% of item variance.

The first factor, Family Economic Stress (12 items), reflects family financial struggles, including problems paying bills and having access to medical care. The second factor, Culture and Educational Stress (14 items), includes stress experienced due to Hispanic culture not being recognized at school and to racial tensions at school. The third factor, Acculturation-Gap Stress (12 items), includes items assessing intercultural and intergeneration conflict. Factor 4, Immigration-Related Stress (seven items), reflects personal experiences of stress due to immigration.

The fifth factor, Discrimination Stress (six items), includes experiences of racism, bullying and disrespect at school. The sixth factor, Family Immigration Stress (seven items), reflects stress due to legal problems experienced by family members when immigrating. The seventh factor, Community and Gang-Related Stress (eight items), includes items relating to both personal experiences of violence and gangs and stress related to violence in the community. The final factor, Family and Drug-Related Stress (six items), reflects stress associated with violence and drug use in the family.

Reliability

Coefficient alphas were calculated to examine whether removing further items would improve the internal consistency of the subscales (see Table 3). The Family Economic Stress, Culture and Educational Stress, Acculturation-Gap Stress, and Immigration-Related Stress subscales had very good internal consistency (DeVellis, 2003). The Discrimination Stress and Family Immigration Stress subscales also had good estimates of internal consistency. The Community and Gang-Related Stress subscale had acceptable internal consistency, while the Family and Drug-Related Stress subscale ($\alpha = .64$) had lower, but not unacceptable, internal consistency (DeVellis, 2003). After reviewing the item-total correlations and coefficient alphas, only one item was identified to be removed from the scale. The final item of the Family and Drug-Related Stress scale (hard to switch from English to Spanish) was not interpretable and had a low item-total correlation ($r = .25$) and, therefore, was removed from the subscale (Field, 2005). Removing the item did not reduce the coefficient alpha for the subscale. The

Table 3
Summary of Coefficient Alphas (α), Means (M), and Standard Deviations (SD) for Scores on the Hispanic Stress Inventory—Adolescent Version (HSI-A)

Scale	α	Items	Sum	M
HSI-A: Total stress—Appraisal score	.92	71	86.12	1.20
SD			19.74	0.28
Family Economic Stress	.85	12	14.83	1.24
SD			5.61	0.47
Culture and Educational Stress	.84	14	15.20	1.09
SD			3.46	0.25
Acculturation-Gap Stress	.82	12	16.10	1.34
SD			6.06	0.51
Immigration-Related Stress	.84	7	8.18	1.17
SD			3.30	0.47
Discrimination Stress	.78	6	6.88	1.15
SD			2.46	0.41
Family Immigration Stress	.77	7	8.36	1.19
SD			3.23	0.46
Community and Gang-Related Stress	.69	8	9.62	1.20
SD			3.13	0.39
Family and Drug-Related Stress	.64	5	6.30	1.26
SD			2.50	0.50

final HSI-A consisted of 71 items measuring eight subdomains. The total scores on the HSI-A subscales were moderately correlated ($.07 < r < .47$; see Table 4). The means and standard deviations for the scale and the subscales are presented in Table 3.

Concurrent Validity Estimates

Pearson correlation coefficients were calculated to examine the relation between the HSI-A total score (the mean of all HSI-A items), HSI-A subscales, and CDI and YSR scores (see Tables 5 and 6). The HSI-A total score was positively correlated with the total CDI score ($r = .41, p < .001$), indicating that higher appraisals of stress were associated with more frequent and intense depressive symptoms. The total score was most strongly associated with scores on Anhedonia ($r = .41, p < .001$) and Negative Mood ($r = .36, p < .001$). The HSI-A Acculturation-Gap Stress subscale was most highly correlated with scores on the CDI subscales ($.16 > r > .40$).

The HSI-A total score was positively correlated with the YSR total score ($r = .49, p < .001$) and was more strongly associated with Internalizing ($r = .49, p < .001$) than with Externalizing ($r =$

$.41, p < .001$). The HSI-A total score was most strongly associated with the Anxious/Depressed YSR syndrome scale ($r = .45, p < .001$) and the Thought Problems scale ($r = .45, p < .001$), followed by the Somatic Complaints ($r = .44, p < .001$) scale and the Social Problems ($r = .43, p < .001$) scale. The Acculturation-Gap Stress, Discrimination Stress, and Family and Drug-Related Stress HSI-A subscales were most strongly associated with anxiety and depression on the YSR. The HSI-A Acculturation-Gap Stress, Family and Drug-Related Stress, and Community and Gang-Related Stress subscales were most strongly associated with aggressive behavior. Of the HSI-A subscales, the Acculturation-Gap Stress subscale was most highly correlated with the YSR syndrome scales ($.37 > r > .51$). The Immigration-Related Stress scale was the HSI-A subscale that was most weakly associated with the YSR syndrome scales ($.06 > r > .16$).

Discussion

Hispanic adolescents experience significant health disparities and are exposed to intense contextual challenges (Córdova & Cervantes, 2010; Santisteban & Mena, 2009). The purpose of this study was to systematically develop an instrument that would have high utility to both professionals and researchers who, respectively, practice and conduct research with foreign-born and U.S.-born Hispanic adolescents. Specifically, in this study, we aimed to establish the psychometric properties and factor structure of the HSI-A, a culturally informed stress assessment specifically tailored to Hispanic adolescents. Our development of the HSI-A version was grounded on the previous pioneering work of Cervantes et al. (1991) in the area of assessment in Hispanic populations.

Exploratory factor analysis procedures were implemented and yielded an interpretable eight-factor solution, with factors labeled Family Economic Stress, Acculturation-Gap Stress, Culture and Educational Stress, Immigration-Related Stress, Community and Gang-Related Stress, Discrimination Stress, Family and Drug-Related Stress, and Family Immigration Stress. Further, our study demonstrated that the HSI-A has strong concurrent validity with measures of psychological symptomatology. The HSI-A total and subscale stress appraisal scores also show well acceptable estimates of internal consistency. Future research on the HSI-A final eight subscale version is needed to determine the utility of the tool and to determine whether it is appropriate for use in clinical settings. Findings from the study suggest that appraisals of stress

Table 4
Intercorrelations Between Hispanic Stress Inventory—Adolescent Version Subscales

Scale	1	2	3	4	5	6	7	8
1. Family Economic Stress	—							
2. Culture and Educational Stress	.41***	—						
3. Acculturation-Gap Stress	.46***	.45***	—					
4. Immigration-Related Stress	.22***	.21***	.19***	—				
5. Discrimination Stress	.30***	.44***	.41***	.11***	—			
6. Family Immigration Stress	.46***	.35***	.37***	.33***	.21***	—		
7. Community and Gang-Related Stress	.34***	.45***	.38***	.07**	.35***	.28***	—	
8. Family and Drug-Related Stress	.42***	.31***	.45***	.15***	.25***	.25***	.36***	—

Note. N = 992.
** $p < .01$. *** $p < .001$.

Table 5
Summary of Intercorrelations of the Hispanic Stress Inventory—Adolescent Version (HSI-A) and Children’s Depression Inventory (CDI)

Scale	CDI Total	CDI Negative Self	CDI Anhedonia	CDI Ineffectiveness	CDI Interpersonal	CDI Negative Mood
HSI-A: Total stress—Appraisal score	.41***	.32***	.41***	.30***	.15***	.36***
Family Economic Stress	.28***	.22***	.31***	.19***	.04	.25***
Culture and Educational Stress	.23***	.18***	.22***	.19***	.07*	.18***
Acculturation-Gap Stress	.40***	.30***	.37***	.29***	.16***	.37***
Immigration-Related Stress	.15***	.11**	.18***	.09*	.02	.12***
Discrimination Stress	.36***	.35***	.33***	.20***	.18***	.33***
Family Immigration Stress	.14***	.07	.18***	.12***	.05	.10**
Community and Gang-Related Stress	.23***	.18***	.17***	.21***	.20***	.19***
Family and Drug-Related Stress	.27***	.20***	.26***	.19***	.15***	.24***

Note. N = 786.
* p < .05. ** p < .01. *** p < .001.

as measured by the HSI-A are associated with higher levels of symptoms related to psychopathology and behavioral and conduct problems, as well as higher levels of emotional disturbance among youth participants. Separately, many of the HSI-A subscales show unique relationships with particular behavioral and emotional syndromes. One subscale factor, Acculturation-Gap Stress, appears to be one of the more robust measures of psychosocial stress in Hispanic adolescents, with high scores corresponding to increased risk for childhood depression as measured with Kovacs’s (2006) CDI. The HSI-A, when compared with other assessment measures, has the unique ability to screen for culturally based stressor events such as acculturation gaps, family immigration stress, and discrimination stress. The role of acculturation gaps and related problems among youths and the potential for these problems to increase depression in this population is in need of much more study. Additionally, we noted that the Family and Drug-Related Stress subscale factor corresponded with increased reports of aggressive behavior, reinforcing previous research on the link between family instability, poor parenting practices, and conduct-related problems in Hispanic youths (Santisteban & Mena, 2009). Again, research into the nature of this relation and the HSI-A’s potential as a screening and early detection tool is needed. Culturally informed early screening and assessment with tools such as the HSI-A may prove beneficial to school personnel, as well as to

trained clinicians who desire more relevant diagnostic information for treatment planning purposes.

Limitations

The study has several limitations that merit attention. In Phase 1, the study design consisted of a convenience sample, and thus, participants were not randomly selected. The study sample was school based and predominately of Mexican-origin, with fewer participants representative of Central and South America. With regard to Phase 2 study limitations, a limited number of Hispanic immigrant adolescents were recruited, relative to nonimmigrants. This may be in part because of the current sociopolitical and anti-immigrant climate. Nevertheless, recruiting a larger immigrant sample would be useful. Finally, the clinic-based sample was collected at two sites and was not sufficient to conduct separate analysis for this study.

Notwithstanding these limitations, the study resulted in an important step toward providing health and mental health researchers and clinicians with a more precise and culturally informed assessment tool for Hispanic adolescents. For the future, studies of the HSI-A among clinical and high risk groups of youths are suggested, as well as studies on the utility of the HSI-A as a treatment planning tool.

Table 6
Summary of Intercorrelations of the Hispanic Stress Inventory—Adolescent Version (HSI-A) and Youth Self Report (YSR)

Scale	YSR Total	Int	Ext	I	II	III	IV	V	VI	VII	VIII
HSI-A: Total stress—Appraisal score	.49***	.49***	.41***	.45***	.38***	.44***	.43***	.45***	.37***	.37***	.38***
Family Economic Stress	.32***	.35***	.24***	.30***	.29***	.31***	.25***	.29***	.25***	.22***	.22***
Culture and Educational Stress	.29***	.27***	.23***	.22***	.20***	.27***	.29***	.30***	.23***	.20***	.22***
Acculturation-Gap Stress	.51***	.51***	.43***	.50***	.38***	.43***	.44***	.43***	.41***	.37***	.41***
Immigration-Related Stress	.11**	.15***	.06	.12***	.10**	.16**	.13***	.10**	.06	.06	.06
Discrimination Stress	.34***	.36***	.21***	.35***	.28***	.30***	.37***	.32***	.22***	.19***	.21***
Family Immigration Stress	.22***	.21***	.20***	.16***	.20***	.20***	.14***	.21***	.18***	.18***	.18***
Community and Gang-Related Stress	.29***	.23***	.33***	.19***	.18***	.23***	.22***	.24***	.21***	.31***	.29***
Family and Drug-Related Stress	.36***	.32***	.35***	.31***	.24***	.27***	.25***	.35***	.26***	.32***	.32***

Note. N = 824. Int = Internalizing; Ext = Externalizing; I = Anxious/Depressed; II = Withdrawn/Depressed; III = Somatic Complaints; IV = Social Problems; V = Thought Problems; VI = Attention Problems; VII = Rule-Breaking Behavior; VIII Aggressive Behavior.
** p < .01. *** p < .001.

This document is copyrighted by the American Psychological Association or one of its allied publishers. This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.

References

- Achenbach, T. M., Dumenci, L., & Rescorla, L. A. (2002). Ten-year comparisons of problems and competencies for national samples of youth: Self, parent, and teacher reports. *Journal of Emotional and Behavioral Disorders, 10*, 194–203.
- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA school-age forms & profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.
- Aneshensel, C. S. (1992). Social stress: Theory and research. *Annual Review of Sociology, 18*, 15–38. doi:10.1146/annurev.so.18.080192.000311
- Barona, A., & Miller, J. A. (1994). Short acculturation scale for Hispanic youth (SASH-Y). *Hispanic Journal of Behavioral Sciences, 16*, 155–162. doi:10.1177/07399863940162005
- Bernstein, D. P., Ahluvalia, T., Pogge, D., & Handelsman, L. (1997). Validity of the Childhood Trauma Questionnaire in an adolescent psychiatric population. *Journal of the American Academy of Child & Adolescent Psychiatry, 36*, 340–348. doi:10.1097/00004583-199703000-00012
- Berry, J. W. (2001). A psychology of immigration. *Journal of Social Issues, 57*, 615–631. doi:10.1111/0022-4537.00231
- Brislin, R. W. (1970). Back-translation for crosscultural research. *Journal of Cross-Cultural Psychology, 1*, 185–216. doi:10.1177/135910457000100301
- Cervantes, R. C., Córdova, D., Fisher, D. G., & Kilp, L. (2008, October). *Development of the Hispanic Stress Inventory—Adolescent Version: Preliminary findings*. Poster session presented at the Annual Conference of the National Hispanic Science Network on Drug Abuse, Washington, DC.
- Cervantes, R. C., Padilla, A. M., & Salgado de Snyder, N. (1991). The Hispanic Stress Inventory: A culturally relevant approach to psychosocial assessment. *Psychological Assessment, 3*, 438–447.
- Chorpita, B. F., Yim, L., Moffitt, C., Umemoto, L. A., & Francis, S. E. (2000). Assessment of symptoms of DSM-IV anxiety and depression in children: A revised child anxiety and depression scale. *Behaviour Research and Therapy, 38*, 835–855. doi:10.1016/S0005-7967(99)00130-8
- Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement, 20*, 37–46. doi:10.1177/001316446002000104
- Connor-Smith, J. K., Compas, B. E., Wadsworth, M. E., Thomsen, A. H., & Saltzman, H. (2000). Responses to stress in adolescence: Measurement of coping with involuntary stress responses. *Journal of Consulting and Clinical Psychology, 68*, 976–992. doi:10.1037/0022-006X.68.6.976
- Córdova, D., & Cervantes, R. C. (2010). Intergroup and within-group perceived discrimination among U.S.-born and foreign-born Latino youth. *Hispanic Journal of Behavioral Sciences, 32*, 259–274. doi:10.1177/0739986310362371
- Cortés, D. E., Gerena, M., Canino, G., Aguilar-Gaxiola, S., Febo, V., Magaña, C., & Eisen, S. V. (2007). Translations and cultural adaptation of a mental health outcome measure: The BASIS-R. *Culture, Medicine, and Psychiatry, 31*, 25–49. doi:10.1007/s11013-006-9043-x
- Cortés, D. E., & Rogler, L. H. (1994). Biculturalism among Puerto Rican adults in the United States. *American Journal of Community Psychology, 22*, 707–721. doi:10.1007/BF02506900
- Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment Research & Evaluation, 10*(7), 1–9. Retrieved from <http://pareonline.net/pdf/v10n7.pdf>
- Cowell, J. M., Gross, D., McNaughton, D., Ailey, S., & Fogg, L. (2005). Depression and suicidal ideation among Mexican American school-aged children. *Research and Theory for Nursing Practice, 19*, 77–94. doi:10.1891/rtnp.19.1.77.66337
- Cuéllar, I., Arnold, B., & Maldonado, R. (1995). Acculturation Rating Scale for Mexican Americans—II: A revision of the original ARSMA scale. *Hispanic Journal of Behavioral Sciences, 17*, 275–304. doi:10.1177/07399863950173001
- Denzin, N. K., & Lincoln, Y. (2005). *Handbook of qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.
- DeVellis, R. F. (2003). *Scale development: Theory and application* (2nd ed.). Thousand Oaks, CA: Sage.
- Eisen, S. V., Seal, P., Glickman, M. E., Cortés, D. E., Gerena-Melia, M., Aguilar-Gaxiola, S., . . . Canino, G. (2010). Psychometric properties of the Spanish BASIS-24 mental health survey. *The Journal of Behavioral Health Services & Research, 37*, 124–143. doi:10.1007/s11414-009-9170-6
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*, 272–299. doi:10.1037/1082-989X.4.3.272
- Field, A. (2005). *Discovering statistics using SPSS* (2nd ed.). London, England: Sage.
- Gerard, A. B., & Reynolds, C. R. (1999). Characteristics and applications of the Revised Children's Manifest Anxiety Scale. In M. E. Maruish (Ed.), *The use of psychological testing for treatment and planning and outcomes assessment* (2nd ed., pp. 323–340). Mahwah, NJ: Erlbaum.
- Hogan, A. E., Quay, H. C., Vaughn, S., & Shaprio, S. K. (1989). Revised Behavior Problem Checklist: Stability, prevalence, and incidence of behavior problems in kindergarten and first-grade children. *Psychological Assessment, 1*, 103–111. doi:10.1037/1040-3590.1.2.103
- Hokoda, A., Ramos-Lira, L., Celaya, P., Vilhauer, K., Angeles, M., Ruiz, S., . . . Marina Duque, M. (2006). Reliability of translated measures assessing dating violence among Mexican adolescents. *Violence and Victims, 21*, 117–127. doi:10.1891/vivi.21.1.117
- Kotsopoulos, S., Walker, S., Copping, W., Cote, A., & Stavrakaki, C. (1994). Parent-rating and self-report measures in the psychiatric assessment of adolescents. *Adolescence, 29*, 653–663.
- Kovacs, M. (2006). *The children's depression inventory*. Minneapolis, MN: Pearson Assessment.
- Kovacs, M., & Multi-Health Systems Staff. (2003). *Children's Depression Inventory (CDI): Technical manual update*. North Tonawanda, NY: Multi-Health Systems.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.
- Martinez, S. M., Ainsworth, B. E., & Elder, J. P. (2008). A review of physical activity measures used among U.S. Latinos: Guidelines for developing culturally appropriate measures. *Annals of Behavioral Medicine, 36*, 195–207. doi:10.1007/s12160-008-9063-6
- McCubbin, H. I., Thompson, A. I., & McCubbin, M. A. (1996). *Family assessment: Resiliency, coping and adaptation*. Madison, WI: University of Wisconsin.
- Morgan, D. L. (1997). *Focus groups as qualitative research* (2nd ed.). Newbury Park, CA: Sage.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage.
- Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research*. Thousand Oaks, CA: Sage.
- The President's New Freedom Commission on Mental Health. (2003). *Achieving the promise: Transforming mental health care in America* (Publication No. SMA-03-3831). Washington, DC: Substance Abuse & Mental Health Services Administration.
- Quay, H. C., & Peterson, D. R. (1993). *The revised behavior problem checklist: Manual*. Odessa, FL: Psychological Assessment Resources.
- Reynolds, C. R., & Richmond, B. O. (1985). *Revised children's manifest anxiety scale (RCMAS)*. Austin, TX: Pro-Ed.
- Rogler, L. H., Cortes, D. E., & Malgady, R. G. (1991). Acculturation and mental health status among Hispanics: Convergence and new directions

- for research. *American Psychologist*, *46*, 585–597. doi:10.1037/0003-066X.46.6.585
- Romero, A. J., & Roberts, R. E. (2003). Stress within a bicultural context for adolescents of Mexican descent. *Cultural Diversity and Ethnic Minority Psychology*, *9*, 171–184. doi:10.1037/1099-9809.9.2.171
- Rudmin, F. (2009). Constructs, measurements and models of acculturation and acculturative stress. *International Journal of Intercultural Relations*, *33*, 106–123. doi:10.1016/j.ijintrel.2008.12.001
- Santisteban, D. A., & Mena, M. P. (2009). Culturally informed and flexible family-based treatment for adolescents: A tailored and integrative treatment for Hispanic youth. *Family Process*, *48*, 253–268. doi:10.1111/j.1545-5300.2009.01280.x
- Sheras, O. L., Abidin, R. R., & Konold, T. R. (1998). *SIPA: Stress index for parents of adolescents*. Odessa, FL: Psychological Assessment Resources.
- Sitarenios, G., & Kovacs, M. (1999). Use of the Children's Depression Inventory. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcomes assessment* (pp. 267–298). Mahwah, NJ: Erlbaum.
- Stewart, D. W., Shamdasani, P. N., & Rook, D. W. (2007). *Focus groups: Theory and practice* (2nd ed.). Thousand Oaks, CA: Sage.
- Szabó, M. (2010). The short version of the depression anxiety stress scales (DASS-21): Factor structure in a young adolescent sample. *Journal of Adolescence*, *33*, 1–8. doi:10.1016/j.adolescence.2009.05.014
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn & Bacon.
- Umaña-Taylor, A. J., & Bámaca, M. Y. (2004). Conducting focus groups with Latino populations: Lessons from the field. *Family Relations*, *53*, 261–272. doi:10.1111/j.0022-2445.2004.0002.x
- U.S. Census Bureau. (2007). Hispanic heritage month 2007: Sept. 15–Oct. 15 [Press release]. *Facts for Features*. Retrieved from <http://www.census.gov/newsroom/releases/pdf/cb07ff-14.pdf>
- Vega, W. A., & Gil, A. G. (1998). *Drug use and ethnicity in early adolescence*. Thousand Oaks, CA: Sage.
- Worchel, F. F., Hughes, J. N., Hall, B. M., Stanton, S. B., Stanton, H., & Little, V. Z. (1990). Evaluation of subclinical depression in children using self-, peer-, and teacher-report measures. *Journal of Abnormal Child Psychology*, *18*, 271–282. doi:10.1007/BF00916565

Received July 7, 2010

Revision received June 8, 2011

Accepted June 21, 2011 ■