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Adjustment Scales for Children and Adolescents and Native American Indians

Factorial Validity Generalization for Yavapai Apache Youths

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The present study reports on the replication of the core syndrome factor structure of the Adjustment Scales for Children and Adolescents (ASCA) for a sample of 229 Native American Indian (Yavapai Apache) children and adolescents from rural north-central Arizona. The six ASCA core syndromes produced the identical two-factor solution as the standardization sample, an independent sample, and a sample of Native American Indians (Ojibwe) from north-central Minnesota. Principal-axis analysis using multiple criteria for the number of factors to extract and retain was used with varimax, direct oblimin, and promax rotations producing identical results and nearly identical factor structure coefficients. As with earlier studies, it was concluded that the ASCA measures two independent global dimensions of youth psychopathology (Overactivity and Underactivity) that are similar to the conduct problems/externalizing and withdrawal/internalizing dimensions commonly found in the child psychopathology assessment literature.

Keywords: *adjustment scales; Native American Indians; validity generalization, psychopathology assessment*

Manson, Bechtold, Novins, and Beals (1997) reported that Native American Indian children and adolescents had developmental disorders, mood disorders, anxiety disorders, psychoactive substance use disorders, suicide, and behavior disorders at significantly higher rates

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than the general population. They further noted that the many studies investigating alcohol and drug use and suicide among Native American Indians indicated higher incidences but that there existed few studies investigating psychopathology and emotional problems. Beals et al. (1997) examined psychopathology among Northern Plains American Indians and found higher rates of simple phobias, major depressive disorder, attention deficit hyperactivity disorder, and alcohol dependence/abuse based on diagnostic interviews and recommended representative and population-based samples in future studies. Costello, Farmer, Angold, Burns, and Erkanli (1997) also found significantly greater substance abuse or dependence and its comorbidity with other psychiatric disorders among Native American Indian children than White youths, but slightly lower overall prevalence of psychiatric disorders than the White sample. Psychiatric diagnoses in the Costello et al. (1997) study were also made using interview methods.

Huang and Gibbs (1998) concluded there was a “need for epidemiological data to indicate the incidence and prevalence of psychological and behavioral disorders among ethnic minority children and adolescents” (pp. 379-380). LaFromboise and Low (1998) reported that “only three community-wide psychiatric epidemiological studies have been conducted among American Indians and Alaska Natives” (p. 116), and Manson et al. (1997) judged these studies as inadequate and criticized the poor samples, diagnostic systems, and cultural insensitivity. Manson et al. also stated that Native American Indian social systems changed greatly in the 20 years following the completion of these early studies. In addition, none of these early studies used objective psychometric assessment approaches such as behavior-rating scales, personality inventories, or psychopathology instruments, relying primarily on diagnostic interviews and classification rates from treatment facilities. McShane (1988) also commented on the lack of adequate instrumentation for use with Native American Indian children and adolescents. Because studies of psychiatric or behavioral disorders in Native American Indian children and adolescents used samples that were not nationally representative, generalization of results beyond those limited samples is problematic and adequate estimation of psychopathology prevalence cannot be made.

The introduction of standardized assessment methods with nationally representative standardization samples (McDermott, 1993, 1994; Reynolds & Kamphaus, 1992, 2004) has greatly improved our understanding of base rates and prevalence of psychopathology of children and adolescents in the population. However, specific application of these measures to Native American Indian children and adolescents for epidemiological investigation or in clinical assessments is problematic and should be used with caution because of the extremely small numbers of Native American Indians in the standardization samples. Little is known about the potential differential reliability and validity for specific Native American Indian tribes or Native American Indians in general. What is needed is systematic examination of behavior-rating instruments with larger samples of Native American Indian youths similar to what is done in examining potential bias and nondiscriminatory assessment with major cognitive assessment instruments (Elliott, 1990; Kush et al., 2001). The *Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Assocation, & the National Council on Measurement in Education, 1999) caution psychologists in the use of assessment instruments that have not been adequately validated with various subgroups within the population. Use of the Adjustment Scales for Children and Adolescents (ASCA; McDermott, Marston, & Stott, 1993), a teacher-report behavior-rating scale designed to assess psychopathology for individuals between 5 and 17 years of age, and other behavior-rating scales, with Native American Indian children and adolescents requires extensive study of reliability and validity to support use in clinical practice or epidemiological study.

To date, there has been only one investigation of the validity and reliability of the ASCA with a sample of Native American Indian students. With a sample of Ojibwe students in north-central Minnesota, Canivez (2006) replicated results found with the ASCA standardization sample (McDermott, 1993, 1994) and a large, independent sample (Canivez, 2004). Using identical factor-analytic methods as McDermott (1993, 1994) and Canivez (2004), Canivez (2006) replicated the second-order factor structure of the ASCA, and coefficients of congruence indicated an excellent fit to the factor structure coefficients from both the ASCA standardization sample and the large, independent sample (Canivez, 2004). Internal consistency estimates and subtest specificity estimates for the Ojibwe sample were also similar and generally supportive. Whether or not these results generalize to other tribes of Native American Indians needed to be investigated.

The purpose of the present study was to further explore the core syndrome factor structure (generalization) of the ASCA in another sample of Native American Indian (Yavapai Apache) youths and examine both orthogonal and oblique solutions to determine the dependence or independence of the resulting factors. The present study also investigated the internal consistency of ASCA core syndromes and subtest specificity.

Method

Participants

Demographic characteristics of the present sample are presented in Table 1. Students were members of the Yavapai Apache Tribe in north-central Arizona attending local public schools in one rural public school district. Based on the suggestion of the school district tribal liaison at a meeting with school district administrators to discuss the merits of, and to obtain permission to, conduct the study, all Yavapai Apache students were targeted for data collection rather than a smaller random sample. Because teachers volunteered to provide ratings, most, but not all, Yavapai Apache students were rated. Of the 229 students in the sample, 48.5% were male and 51.5% were female. Students ranged in grade from kindergarten through Grade 12. To estimate socioeconomic status, federal free/reduced lunch program data were used. As seen in Table 1, slightly more than half of the students received free or reduced-fee lunch. Most were not disabled (80.8%); however, students with disabilities or exceptionalities were also included (see Table 1). Multidisciplinary evaluation teams previously classified disabled students, using state and federal special education guidelines. The mean age of the students was 12.20 years (*SD* = 3.43) with a range from 5.67 to 20.57. Because of school district and tribal support, more than 90% of the total student population was included.

Eighty-three teachers volunteered to assist in data collection and included 22 (26.5%) male and 59 (71.1%) female teachers (2 failed to report their sex). Of the participating teachers, 72 (86.7%) were Caucasian, 1 (1.2%) was Black/African American, 3 (3.6%) were Hispanic/Latino, 1 (1.2%) was Native American Indian, 1 (1.2%) indicated to be "multiracial," and

Table 1
Sample Demographic Characteristics (N = 229)

Variable	n	%
Sex		
Male	111	48.5
Female	118	51.5
Grade		
K	14	6.1
1	15	6.6
2	20	8.7
3	15	6.6
4	13	5.7
5	32	14.0
6	22	9.6
7	25	10.9
8	22	9.6
9	14	6.1
10	15	6.6
11	13	5.7
12	9	3.9
Free/reduced lunch		
No free/reduced lunch	99	43.2
Reduced lunch	20	8.7
Free lunch	103	45.0
Missing data	7	3.1
Disability/exceptionality		
Not disabled	185	80.8
Learning disabled (LD)	24	10.5
Seriously emotionally disabled (SED)	5	2.2
Mentally retarded (MR)	2	0.9
Speech/language impaired (SLI)	5	2.2
LD and SED	2	0.9
Other health impaired (OHI)	2	0.9
SLI and OHI	1	0.4
Missing data	3	1.3

5 (6.0%) declined reporting their race/ethnicity. Teachers ranged in age from 23 to 63 (M = 44.09, SD = 9.41) and ranged in teaching experience from 1 to 33 years (M = 14.18, SD = 8.54). Teachers rated between one and nine students (M = 2.76, SD = 1.94) and were paid for each child voluntarily rated.

Instrument

The ASCA (McDermott et al., 1993) is a teacher-report behavior-rating instrument designed for use with all noninstitutionalized youths ages 5 through 17 (Grades K through 12). The ASCA consists of 156 behavioral descriptions within 29 specific school situations where teachers may observe students' behaviors. Of the 156 items, 97 assess psychopathology and based on factor analyses, are singularly assigned to one of six core syndromes (attention deficit/hyperactive [ADH], solitary aggressive–provocative [SAP], solitary aggressive–impulsive [SAI], oppositional defiant [OPD], diffident [DIF], and avoidant [AVO]) or two supplementary syndromes (delinquent [DEL] and lethargic/hypoactive [LEH]). The core syndromes combine to form two composite indexes: Overactivity (ADH, SAP, SAI, and OPD syndromes) and Underactivity (DIF and AVO syndromes).

Extensive evidence for ASCA score reliability and validity is presented in the ASCA manual (McDermott, 1994) and independent studies. Internal consistency estimates (Canivez, 2004, 2006; McDermott, 1993, 1994), stability estimates (Canivez, Perry, & Weller, 2001; McDermott, 1993, 1994), and interrater agreement estimates (Canivez & Watkins, 2002; Canivez, Watkins, & Schaefer, 2002; McDermott, 1993, 1994; Watkins & Canivez, 1997) have supported the reliability of ASCA scores.

Evidence of convergent (Canivez & Bordenkircher, 2002; Canivez & Rains, 2002; McDermott, 1993, 1994), divergent (Canivez & Bordenkircher, 2002; Canivez, Neitzel, & Martin, 2005; Canivez & Rains, 2002; McDermott, 1993, 1994, 1995), discriminative/discriminant (Canivez & Sprouls, 2005; McDermott, 1993, 1994; McDermott et al., 1995), and factorial (Canivez, 2004, 2006; McDermott, 1993, 1994) validity of ASCA scores has also been reported. Psychometric characteristics of the ASCA are generally acceptable and meet standards for both group and individual decision making (Canivez, 2001; Salvia & Ysseldyke, 1995).

Procedure

Classroom teachers of children and adolescents from the Yavapai Apache tribe in north-central Arizona voluntarily completed ASCA rating forms on Yavapai Apache students in their classroom and were paid for their assistance. ASCA forms were distributed and collected by a certified school psychologist or one of three school psychology doctoral students and returned to the lead author for scoring and analysis. Trained undergraduate research assistants scored the ASCA rating forms according to the manual and entered raw scores and *T*-scores into the computer for further analyses.

Data Analyses

Exploratory factor analysis was considered for the 97 ASCA problem behavior items; however, ASCA items are dichotomously scored and considered problematic, and, as is typically observed in pathology-oriented scales, many items deviated significantly from normality (skewness and kurtosis) (Floyd & Widaman, 1995). Several items had no variability or endorsement, thereby preventing analysis at the item level. Some of these issues are a result of the relatively small sample, and first-order factor analyses of items will be conducted when a larger sample of Native American Indians is obtained.

The ASCA core syndrome *T*-score Pearson product–moment correlation matrix was subjected to (a) principal-axis exploratory factor analysis with varimax rotation to investigate the orthogonal solution and (b) direct oblimin and promax rotations to investigate oblique solutions using SPSS 11.0.4 for Macintosh OSX. Both oblique and orthogonal rotations were examined to empirically determine the nature of the relationship of resulting factors (correlated or uncorrelated), although previous research documented the uncorrelated nature of the

ASCA second-order factors (Canivez, 2004, 2006; McDermott, 1993, 1994). Principal-axis exploratory factor analysis was used because of the nonnormal distributions of scores (Cudeck, 2000; Fabrigar, Wegener, MacCallum, & Strahan, 1999; Tabachnick & Fidell, 2001), and it was also the method used in McDermott (1993, 1994) and Canivez (2004, 2006). Multiple criteria as recommended by Gorsuch (1983) were used to determine the number of factors to retain and included eigenvalues greater than 1 (Guttman, 1954), the scree test (Cattell, 1966), and parallel analysis (Horn, 1965). Parallel analysis was included as Thompson and Daniel (1996) indicated it is usually more accurate. The scree test was used to visually determine the optimum number of factors to retain, whereas parallel analysis indicated meaningful factors when sample data eigenvalues exceeded those produced by random data containing the same number of participants and factors (Lautenschlager, 1989). Random data eigenvalues for parallel analyses were produced using the Monte Carlo PCA for Parallel Analysis computer program (Watkins, 2000) with 100 replications to provide stable estimates. As the ASCA Underactivity global scale is estimated by only two core syndromes (DIF and AVO), confirmatory factor analyses were deemed inappropriate, as factors should have a minimum of three estimators in the specified model (Kline, 2005).

To examine factor invariance or how well the factor solution in the present study corresponded to results with other ASCA samples (Canivez, 2004, 2006; McDermott, 1993, 1994), coefficients of congruence (Gorsuch, 1983; Harman, 1976) were calculated using the Coefficient of Congruence (Rc; Watkins, 2002) computer program. MacCallum, Widaman, Zhang, and Hong (1999) offered "guidelines to interpret the congruence coefficient: .98—1.00 = excellent, .92—.98 = good, .82—.92 = borderline, .68—.82 = poor, and below .68 = terrible" (p. 93).

Results

Pearson product–moment correlations, varimax factor structure coefficients, promax factor structure coefficients, eigenvalues, and the percentage of variance are presented in Table 2. Two factors were extracted based on all three factor selection criteria (eigenvalues > 1, the scree test, and parallel analysis) (see Figure 1). Promax and direct oblimin rotations produced almost identical structure coefficients, so only promax coefficients are presented. Results of oblique rotation (promax) indicated the ADH, SAP, SAI, and OPD core syndromes were strongly associated with the first factor (Overactivity), whereas the DIF and AVO core syndromes were strongly associated with the second factor (Underactivity). The correlation between Factor 1 (Overactivity) and Factor 2 (Underactivity) based on the promax rotation was .06. Orthogonal (varimax) rotation of the two factors also resulted in the ADH, SAP, SAI, and OPD core syndromes having strong associations with the first factor (Overactivity), and the DIF and AVO core syndromes had strong associations with the second factor (Underactivity). All structure coefficients for designated core syndrome second-order assignments were good to excellent (Comrey & Lee, 1992).

Coefficients of congruence (Watkins, 2002) tested the factorial invariance of the present factor structure results and resulted in an "excellent" (MacCallum et al., 1999, p. 93) match to the factorial results of the ASCA standardization sample (McDermott, 1993, 1994) (Overactivity Rc = .9963, Underactivity Rc = .9947) and a large independent sample (Canivez, 2004) (Overactivity Rc = .9988, Underactivity Rc = .9948). Similar "excellent" coefficients of

Table 2
Intercorrelations and Factor Structure Coefficients for ASCA Core Syndromes T-Scores (*N* = 229)

	Correlations						Varimax Structure Coefficient[a]		Promax Structure Coefficient[a]	
ASCA Core Syndrome	1	2	3	4	5	6	OVR	UNR	OVR	UNR
1. ADH							*.73*	.00	*.73*	.02
2. SAP	.58						*.81*	−.04	*.80*	−.02
3. SAI	.50	.56					*.69*	.02	*.69*	.03
4. OPD	.45	.52	.44				*.63*	.16	*.64*	.17
5. DIF	−.13	−.12	−.07	.04			−.13	*.70*	−.11	*.70*
6. AVO	.19	.12	.14	.21	.40		.20	*.62*	.22	*.62*
Eigenvalue							2.59	1.41		
Percentage of variance										
Common							35.14	14.89		
Cumulative							35.14	50.02		

Note: ASCA = Adjustment Scales for Children and Adolescents; ADH = attention deficit hyperactive; SAP = solitary aggressive (provocative); SAI = solitary aggressive (impulsive); OPD = oppositional defiant; DIF = diffident; AVO = avoidant. The Kaiser-Meyer-Olkin measure of sampling adequacy was .74, and Bartlett's Test of Sphericity was 346.56, $p < .0001$. Communality estimates ranged from .42 to .65 (*Mdn* = .49).
a. Factor coefficients ≥ .40 are considered salient and are in italics. Promax-rotated Factor 1 and Factor 2 $r = .06$. Direct oblimin structure coefficients are available upon request.

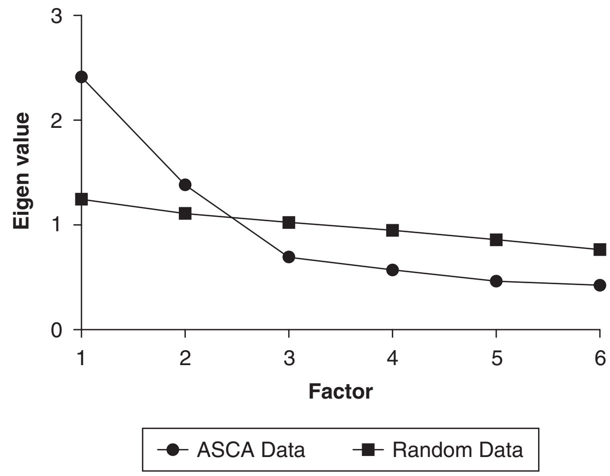
congruence were obtained in comparing the present factor structure results with those from the Ojibwe tribe (Canivez, 2006) (Overactivity Rc = .9929, Underactivity Rc = .9835).

Table 3 presents the descriptive statistics for the ASCA core syndrome *T*-scores, internal consistency estimates, and subtest specificity estimates. Several scales deviated slightly from normality. High internal consistency estimates of the Overactivity syndrome ($r_\alpha = .92$) and the Underactivity syndrome ($r_\alpha = .81$) scores were observed based on the individual items from the respective global syndromes. Another method of estimating the reliability of the two global syndromes was to use the core syndrome internal consistency estimates in linear combination to their respective higher order factor (global syndrome) (Nunnally & Bernstein, 1994). Based on this method, slightly different internal consistency estimates were observed (overactivity $r_\alpha = .99$, underactivity $r_\alpha = .57$). Internal consistency estimates for the ASCA core syndromes ranged from .55 to .87.

Discussion

Results of factor analyses in the present study are consistent with and replicate those obtained with the ASCA standardization sample (McDermott, 1993, 1994), a large independent sample (Canivez, 2004), and another sample of Native American Indians (Ojibwe) (Canivez, 2006). An important finding in the present study is the continued observation of the

Figure 1
Scree Plots for ASCA Parallel Analysis



Note: ASCA = Adjustment Scales for Children and Adolescents.

Table 3
***T*-Score Descriptive Statistics, Core Syndrome Internal Consistency Reliability, and Subtest Specificity Estimates (*N* = 229)**

	M	*SD*	Range	Skewness	Kurtosis	r_α	Specificity[a]
ADH	51.63	10.63	39-81	0.29	–0.50	.87	*.34*
SAP	52.60	11.15	45-76	0.89	–1.07	.78	.13
SAI	50.93	8.88	47-77	1.87	1.61	.55	.08
OPD	51.51	11.45	43-99	1.14	1.13	.81	*.39*
DIF	53.61	10.61	40-78	0.00	–1.01	.78	*.27*
AVO	54.87	11.99	42-99	0.35	–0.70	.79	*.37*

Note: ASCA = Adjustment Scales for Children and Adolescents; ADH = attention deficit hyperactive; SAP = solitary aggressive (provocative); SAI = solitary aggressive (impulsive); OPD = oppositional defiant; DIF = diffident; AVO = avoidant. Overactivity r_α = .99 and Underactivity r_α = .57 based on the linear combination of the respective core syndromes' internal consistency (Nunnally & Bernstein, 1994).

a. Specificity = r_α – communality. Specificity estimates exceeding error variance are considered significant and are in italics. Overactivity r_α = .92 and Underactivity r_α = .81 based on coefficient alpha calculations from ASCA items representing core syndromes of respective global syndromes.

factorial independence of the ASCA Overactivity and Underactivity syndromes. The correlation between the two obliquely rotated (promax) factors was .06 for the Yavapai Apache sample. The correlation between the Overactivity and Underactivity global syndromes *T*-scores of .05 also indicated independence of the global scales based on the standardized scores from the ASCA norms. Given the very low factor and global scale (OVR–UNR) correlations and the nearly identical factor structure coefficients obtained from both varimax and promax rotations, the orthogonal solution is clearly appropriate, as these factors appear truly independent (Tabachnick & Fidell, 2001).

The Overactivity and Underactivity factors are similar to the Externalizing and Internalizing factors frequently reported in the youth psychopathology assessment literature (Achenbach, 1991; Cicchetti & Toth, 1991; Kamphaus & Frick, 2002; Merrell, 1994, 2002, 2003; Quay, 1986; Reynolds & Kamphaus, 1992, 2004). However, these behavior-rating scales (i.e., Child Behavior Checklist [CBCL], Perschool and Kindergarten Behavior Scales [PKBS, PKBS-2] and Behavior Assessment System for Children [BASC, BASC-2]) often have moderately high correlations between the composite Externalizing and Internalizing scores (rs ranging from .30 to .48, Achenbach, 1991; r = .66, Merrell, 1994; r = .66, Merrell, 2002; rs ranging from .21 to .54, Reynolds & Kamphaus, 1992; rs ranging from .39 to .51, Reynolds & Kamphaus, 2004), which complicates clinical interpretation and interpretation of factor analyses. In the construction of the ASCA, syndromes such as anxiety and depression were avoided because of their "internalized" nature, which is difficult or impossible for third parties to adequately observe and report. The ASCA Underactivity syndromes focus on specific behaviors indicating shy, timid, distant, and withdrawing characteristics, which are observable and although related to "internalizing" dimensions, do not directly measure internal characteristics such as anxiety or depression. This difference may account for the independence observed among the Overactivity and Underactivity syndromes because the observable ASCA behaviors seem mutually exclusive.

Furthermore, the intercorrelations among the ASCA core syndromes here, as well as in other samples (Canivez, 2004, 2006; McDermott, 1993, 1994), are also lower than what is frequently seen in other teacher-report measures of child psychopathology, suggesting greater independence and interpretability of individual scales. This is a distinct advantage for the ASCA in that psychologists may interpret ASCA core and supplementary syndromes as they measure unique variability beyond the common factor and error variance. This is not the case for instruments where subscales have substantial covariance such as the BASC (Teacher Rating Scale [TRS] Hyperactivity–Aggression rs = .80-.84; Reynolds & Kamphaus, 1992), BASC-2 (TRS Hyperactivity–Aggression rs = .78-.83; Reynolds & Kamphaus, 2004), PKBS (Self-Centered/Explosive–Attention Problems/Overactive r = .79, Antisocial/Aggressive–Attention Problems/Overactive r = .78; Merrell, 1994), and PKBS-2 (Self-Centered/Explosive–Attention Problems/Overactive r = .80, Self-Centered/Explosive–Antisocial/Aggressive r = .80, Antisocial/Aggressive–Attention Problems/Overactive r = .78; Merrell, 2002). Such high correlations significantly limit or prevent the individual scale interpretation and claims for, or measurement of, "co-morbidity."

Internal consistency estimates in the present study (except for the SAI core syndrome) were almost identical to those observed in other ASCA samples (Canivez, 2004, 2006; McDermott, 1993, 1994). Two items of the SAI core syndrome had zero item variance (no endorsement), and one had very low item variance (very rare problem behavior). Thus, r_α was based only on the seven SAI items that had variance. Of those seven, one item had very low, near zero variance, which adversely affected r_α estimates. ASCA internal consistency estimates are somewhat lower than those found in other teacher-report behavior-rating scales (Achenbach, 1991; Achenbach & Edelbrock, 1983; Merrell, 1994, 2002; Reynolds

& Kamphaus, 1992, 2004) but, in part, are likely due to the dichotomous nature of ASCA items, which limits item and total raw score variability. Other teacher-report rating scales typically have items rated on a 3- or 4-point continuum.

Four of the six ASCA core syndromes achieved subtest specificity estimates exceeding error variance (see Table 3), indicating syndrome interpretability beyond the global factor score. The specificity estimates for the ASCA core syndromes in the present sample are generally lower than those found in the ASCA standardization sample, a result of generally higher communality estimates and some lower internal consistency estimates. Core syndromes with lower internal consistency estimates had limited item variability. The choice of providing teachers an easier way to report problem behaviors nested within behavioral contexts comes with a cost of reduced item and scale variability, which in turn lowers internal consistency and other reliability estimates. Nevertheless, core syndromes with lower reliability estimates should be interpreted cautiously.

Participants in the present study included more than 90% of the Yavapai Apache students in the rural north-central Arizona community where data were collected, and this limits generalization. However, generalization to this specific tribe and community is strong. Study limitations are based on the representativeness of the sample. Disability, geographic location, and tribal affiliation are limited to observations from the Yavapai Apache tribe in north-central Arizona, so caution must be exercised in interpreting these results beyond this group. As additional data on other tribes from different geographic areas are obtained, comparisons between tribes will be possible and help to determine broader generalizability.

Another limitation was that the small sample size prevented various analyses such as investigation of the first-order factor structure for the 97 problem behavior items. The small sample size also limited investigation of the second-order factor structure across the entire age/developmental range (kindergarten to Grade 12). It was not possible to examine the generalizability of the second-order factor structure across different age or developmental ranges.

Future studies of the ASCA with Native American Indians should continue to investigate differential reliability and validity with other tribes to further examine generalizability. Once a large enough sample of Native American Indians is obtained, it would be useful to investigate the first-order factor structure of the 97 ASCA problem behavior items. Other studies should examine the extent to which item and syndrome base rates or behavior problem/psychopathology prevalence differ among different Native American Indian tribes as well as with other racial/ethnic groups. As noted by McDermott (1995) and McDermott and Spencer (1997), some problems have been observed with greater frequency among different racial/ethnic groups in the population. However, only after determining the reliability and validity of ASCA for Native American Indians can such research be legitimately pursued.

Overall, the present study strongly supported the two-factor structure of the ASCA core syndromes and the factorial independence of the Overactivity and Underactivity syndromes with another sample of Native American Indian (Yavapai Apache) students, findings also observed among Ojibwe students (Canivez, 2006). School and clinical psychologists now have additional evidence the ASCA measures the same dimensions of youth psychopathology with Native American Indian students as observed in the general population and can be more confident in using the ASCA with Native American Indian students. With replication of these results with larger samples and with additional tribes, school and clinical psychologists may use the ASCA with Native American Indian youths with even greater confidence.

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