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An Investigation of Convergent and Divergent Validity Between ASCA and BASC TRS

Jennifer L. Ingles
Eastern Illinois University
This research is a product of the graduate program in School Psychology at Eastern Illinois University. Find out more about the program.

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An Investigation of Convergent and Divergent

Validity Between ASCA and BASC TRS

(TITLE)

BY

Jennifer L. Ingles

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An Investigation of Convergent and Divergent Validity Between ASCA and BASC TRS

Jennifer L. Ingles

Eastern Illinois University
Abstract

The Behavior Assessment Scale for Children - Teacher Rating Scale (BASC-TRS) and the Adjustment Scales for Children and Adolescents (ASCA) are both teacher rating scales which may be used by school psychologists to assess psychopathology. To date, these scales have not been compared in professional literature, although they assess similar social, emotional, and behavioral constructs. According to research, both scales appear to be technically superior teacher report rating scales. The current study analyzed ASCA and BASC TRS ratings which were completed on randomly selected students between the ages of 6 and 11 (n = 124). Convergent validity was evident; results indicated significant correlations between similar constructs at the Global and Subscale levels. Externalizing behaviors correlated more highly than internalizing behaviors. Both instruments displayed convergent validity; however, each scale remained somewhat unique and individual. Evidence of divergent validity also supported ASCA and BASC-TRS construct validity. The current study also investigated teacher preferences among ASCA and BASC TRS. The only significant preference was found in favor of the shorter length of the ASCA.
I would like to take this opportunity to thank key people who helped me complete this thesis. First, I would like to thank my chair advisor, Dr. Canivez, who patiently guided me throughout this eventful process, shared his remarkable knowledge, and donated a great deal of time reading and editing numerous drafts. I would also like to thank Dr. Havey and Dr. Jones for being an important part of my committee and contributing their expertise. Dr. Vanco at Aurora University, an angel in disguise, allowed me to distribute packets to teachers enrolled in education classes at Aurora University. Without his willingness to listen and compassion to understand my predicament, I would not have been able to collect data. I also thank Andi Dannis for her involvement in contacting professors at Aurora University and planning my routes to various classes where I was able to ask for volunteers. I greatly appreciate the time volunteered by Aurora University professors and thank all teachers for completing the rating scales and surveys. I would also like to mention the following towns and teachers for giving me consent to distribute packets within their schools: Plano (Mrs. Ingles), Sandwich (Mr. and Mrs. Wakeman), Hinckley-Big Rock (Jenny Ruh), and West Aurora (Jeni Beetham). Most importantly, I would like to thank my parents helping me enter data and for their support, encouragement, understanding, and willingness to help in every way imaginable. I offer sincere thanks to all of these people and greatly appreciate their kindness and assistance.
An Investigation of Convergent and Divergent
Validity Between ASCA and BASC TRS

When completing an evaluation, it is imperative that school psychologists assess psychopathology, emotional, or behavioral difficulties in the most reliable and valid manner. Evaluations need to be ecologically focused and assessment information must be gathered from multiple sources. One source from which a school psychologist may obtain valuable information is from teachers. Standardized behavior rating scales provide efficient methods for obtaining teacher reports of students' behavioral and emotional problems (McConaughy & Ritter, 1995).

Specifically, behavior rating scales are one of the most efficient and effective methods to identify a student's behavioral strengths and weaknesses, validate initial concerns of a referral source, estimate severity of specific behaviors, and assess atypical behavioral patterns (Knoff, 1995). By utilizing teacher ratings, a school psychologist may recommend treatments that help improve student functioning in the classroom environment and society.

Teachers provide more consistent ratings when compared to parent, self, or peer ratings (Brandon, Dehle, Jenson, & Clark, 1990). Teacher ratings of student behavior are valuable to school psychologists and provide extensive and objective information. A teacher report of child behavior is of great importance. Ulmann, Sleater, and Sprague (1988) stressed "a carefully devised and accurately formulated
teacher rating scale that gives readily interpretable information about the child's behavior is necessary in diagnosis" (p. 11). In addition to observing children's behaviors over long periods of time, teachers are familiar with classroom norms and common classroom behaviors. Teachers have a valuable reference which is derived from familiarity with numerous children of a certain age (Barkley, 1990). The DSM-III-R (APA, 1989) recommended:

When the reports of teachers and parents conflict, primary consideration should be given to the teacher's reports because of greater familiarity with age-appropriate norms. In addition, symptoms typically worsen in situations that require self-application, as in the classroom. (p. 43)

The DSM-IV, however, advises characteristic behaviors to be present in two or more environments; therefore, evaluations from two informants may be necessary. This caution is to avoid diagnosing children with a syndrome in cases where their disturbed behavior is due to specific situations (APA, 1994).

Teachers may be valuable informants due to their comparative experience with many students across time and contexts (Achenbach, 1988; McDermott, 1986). Ratings completed by parents are often more indicative of parent pathology than child pathology (Banez & Compas, 1990; Brody & Forehand, 1986; Richters, 1992). In addition, children's self-report and peer reports are often unreliable (Loeber,
Green, & Lahey, 1990) and peer reports are often based on popularity.

Selecting the most appropriate, psychometrically sound, clear, and concise teacher report behavior rating scale is a primary decision school psychologists must make when designing an assessment plan. The clinician must make an accurate diagnosis, yet use their time effectively. There are a myriad of rating scales from which to choose, each containing unique advantages and disadvantages.

Of the approaches which assess psychopathology and problematic behavior, objective measures are preferred to projective measures. Objective measures have superior psychometric features when compared to projective measures. The need for developing behavioral criteria in order to identify social or emotional disturbances is essential and required by law (Flanagan, 1995; Merenda, 1996). In addition, school psychologists and educators appreciate the advantages associated with standardized rating scales which contain observable and potentially changeable behaviors (McDermott, 1994). Furthermore, those measures with nationally representative standardization samples provide the best assessment for deviant behavior and psychopathology. Standardized instruments provide objective information which is inaccessible when using nonstandardized methods. Standardized tests allow school psychologists to compare students to various populations and quantify data through reference group comparisons (Stone, 1995). Two such
instruments which assess deviant behavior and psychopathology have been recently published: the Adjustment Scales for Children and Adolescents (ASCA; McDermott, 1994) and the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992).

Although these instruments are considered among the best yet developed, both instruments lack independent psychometric research. Independent studies investigating validity of these measures are specifically lacking. For example, published research on the validity of the ASCA were all performed with the data collected through the standardization process. To date, there are no simultaneous examinations of the concurrent validity or construct validity of the ASCA and BASC. Validity is the most crucial aspect of test evaluation. It is essential to increase a scale's predictive ability and to guarantee adequate measurement of the construct being assessed. Furthermore, construct validity is of utmost importance. By investigating construct validity, one can demonstrate that specific constructs account for a certain degree of test performance. Failure to demonstrate construct validity suggests either the theory or measure is not functioning appropriately (Rogers, 1995). A school psychologist's decision to utilize a specific test or rating scale requires scientific support of that particular measurement. These "tools" must contribute meaningfully and accurately to the final decision making process. The focus of this thesis is to examine construct validity of ASCA and
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BASC by determining convergent and divergent validity of these measures.

Adjustment Scales for Children and Adolescents:

The Adjustment Scales for Children and Adolescents (ASCA; McDermott, 1994) is a relatively new instrument designed to evaluate a student's behavior and psychopathology across multiple situations. Unlike most other scales, the ASCA is relatively short, specific, and inexpensive. Rather than including frequency or intensity ratings of behaviors, the ASCA includes items which require a teacher to choose from observable symptomatic or normal behaviors across multiple situations which generalize across age, gender, and ethnicity. Component behaviors serve as building blocks for syndromes which emerge at the surface level. McDermott & Schaefer (1996) recommended:

"Indeed, as emphasized by Cullinan, Polloway, and Epstein (1987), it is the specific behavior level that is best understood and recognized by the very informants who complete the various rating scales - and it is the impressions about group dominance for those behaviors that constitute the bases for stereotypes concerning sex, age, ethnicity, and social class" (McDermott & Schaefer, 1996, p.352).

ASCA is completed by classroom teachers and may be used to assess students 5 through 17 years of age (grades K-12). ASCA contains 96 scorable items which are assigned to one of six core syndromes or two supplementary syndromes. All core
syndromes are reliable across gender, age, and racial groups. Supplementary syndromes, however, are reliable for specific subgroups.

Core syndromes include Attention-Deficit Hyperactive (ADH), Solitary Aggressive (Provocative) (SAP), Solitary Aggressive (Impulsive) (SAI), Oppositional Defiant (OPD), Diffident (DIF), and Avoidant (AVO). The first four core syndromes are combined to form the Overactivity scale (OVR) which is consistent with the Externalizing dimension frequently found in youth psychopathology. Likewise, Diffident and Avoidant syndromes are combined to form the Underactivity scale (UNR) which is similar to the Internalizing dimension frequently found in youth psychopathology. Supplementary syndromes include Delinquent (DEL) and Lethargic (Hypoactive) (LEH). The Delinquent syndrome is reliable for all youths except females under age 12. The Lethargic (Hypoactive) syndrome is reliable for all youths under age 12.

Rather than applying a Likert-type rating scale for teachers to delineate perceived behavior frequency or intensity, the ASCA lists specific behaviors which may be observed across multiple and distinct situations and are selected based on student's typical behavior in that situation. It contains 156 behavioral descriptions are nested within 29 specific social, recreational, or learning situations, thus facilitating intervention planning. In addition, positive behaviors are included in behavioral
descriptions, and gender specific versions are available. Although there are separate forms for males and females, the only difference is in the gender referents. The standardization sample consisted of 1400 youths stratified for age, gender, grade level, race/ethnicity, parent education, family structure, national region, community size, and handicapping condition according to the 1988-90 U.S. Census and U.S. Department of Education data.

ASCA scores may be interpreted by using 3 various approaches. All interpretations require raw scores to be converted to normalized T scores. The cut-score interpretation method suggests T scores below 60 to be indicative of "Adjusted" behaviors, 60 - 66 indicating "At Risk" behaviors, and T scores above 66 suggest "Maladjusted" behaviors. Syndromic profiles were determined by cluster analysis (McDermott and Weiss, 1993) which identified 22 profiles that describe common features of youths associated with specific profile types. The Syndromic Profile Interpretation method allows the examiner to empirically match profiles by the use of generalized distance scores (GDS). Discriminant Function Analysis determined ASCA could differentiate between normal and socially/emotionally disturbed (SED) youths. The Discriminant Classification method classifies a youth's profile as "normal" or "SED" based on regression formulae. To facilitate accurate calculation of GDSs and regression formulae, Canivez (1999) developed a Syndromic Profile and Discriminant Classification
Percentile ranks are also included.

Overall, psychometric studies suggest that ASCA is a psychometrically sound behavior rating scale. Internal consistency estimates ranged between .67 and .91 for the core syndromes (the majority falling between .70 and .80). Overall adjustment scales (OVR and UNR) internal consistency estimates fell between .75 and .92 (the majority falling between .80 and .90) (McDermott, 1993). Interrater agreement correlations ranged from .65 to .85 on subscales and between .81 and .84 on global adjustment scales (McDermott, 1993, 1994; Watkins & Canivez, 1998). Test-retest reliability estimates ranged from .66 to .91 (McDermott, 1993, 1994). Although these may seem lower than other rating scales, the ASCA items are dichotomously scored which limits item variability and thus affects (reduces) correlation coefficients and internal consistency estimates.

Correlations between syndromes and subscales are low to moderate. Little shared variance was evident, and correlations between internalizing (Underactivity) and externalizing (Overactivity) problems were low or negative. In addition, the factor structure was replicated across age, race, and gender. Significant correlations suggest dimensions of ASCA measure consistently with similar dimensions of the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983) and the Conners Teacher Rating Scale (CTRS; Trites et al., 1982). ASCA was also able to differentiate between normal and socially or emotionally disturbed children
of various development levels, sex, races, and other special education categories such as learning disabled, communication impaired, and gifted (McDermott et al., 1995). In general, the ASCA appears to be practical and psychometrically sound.

Behavior Assessment System for Children-Teacher Rating Scale:

Another widely used teacher rating scale is the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992) Teacher Rating Scales (TRS). Flanagan (1995) and Sandoval and Echandia (1994) concluded that the BASC appears to be an appropriate instrument which is useful for school psychologists. The BASC was created to assess emotional disorders, behavioral problems, and personality constructs of children and adolescents from ages 4 through 18. The TRS meets requirements of the personality requirements mandated by IDEA (Flanagan, 1995) and aids in making diagnoses congruent with the Diagnostic and Statistical Manual of Mental Disorders, (3rd ed., Revised). The TRS is especially useful when assessing adaptive and problem behaviors in the school environment.

Three forms of the TRS are available; one for each of the following age groups: 4-5, 6-11, and 12-18. A teacher may respond to each item by answering "never," sometimes," "often," or "almost always." Five composite scores based on 14 scales for children, 13 scales for adolescents, and 10 scales for preschool children are computed. Composite scores include Externalizing Problems (Hyperactivity, Aggression, and Conduct Problems subscales), Internalizing Problems
(Anxiety, Depression, and Somatization subscales), School Problems (Attention Problems and Learning Problems), Behavioral symptoms Index (Atypicality, Attention Problems, Depression, Anxiety, Aggression, and Hyperactivity), and Adaptive Skills (Adaptability, Social Skills, Leadership, and Study Skills). A Withdrawal subscale is also present, but it does not contribute to any composite score. The preschool form does not include Conduct Problems, Learning Problems, Leadership, and Study Skills. Likewise, the adolescent form does not include Leadership items. The TRS includes critical items which may deserve special attention and perhaps require monitoring (e.g., "Says 'I want to die' or 'I wish I were dead'"). The TRS also contains a F scale which relates to the degree in which the rator may distort ratings when evaluating a student's behavior. In addition, the F scale detects inconsistencies which may suggest a rator's lack of motivation when completing the scale. Similar to the ASCA, the TRS also contains items and scales which focus on positive behaviors such as Adaptability, Leadership, Social Skills, and Study Skills.

General, gender specific, and clinical norms are available and reported in the BASC Manual. The TRS general sample included 333 4-5 year old children, 1,259 6-11 year old children, and 809 12-18 adolescents. Integrated or mainstreamed special education students were included in the standardization sample proportional to their presence in the general population.
The test-retest reliability estimates generally ranged between .82 and .90 (Flanagan, 1995). Interrater reliabilities ranged from .44 (Depression) to .93 (Learning Problems) with a median of .72. The forms for children appeared to produce higher interrater reliabilities than the preschool form. Internal consistency estimates ranged from .62 for Conduct Problems (ages 6-7) to .95 for Aggression (ages 8-11). Each item is uniquely assigned to only one scale, thus increasing subtest specificity (Flanagan, 1995). Similar to most rating scales, reliability for externalizing behaviors (i.e., .95 for Aggression and .93 for Hyperactivity) was higher than for internalizing behaviors (i.e., .87 for Depression and .79 for Anxiety). The least reliable scales of the TRS were the Somatization and Anxiety scales.

Items and scales of the TRS were developed a priori; designed to demonstrate high content and construct validity. Research indicated that scales developed in an a priori fashion possess higher reliability (Comrey, 1988; Flanagan, 1995). Confirmatory factor analysis supported the authors' conceptualization of measured characteristics, although further studies are needed to validate this single evaluation (Sandoval & Echandia, 1994). Concurrent validity was also reported in the BASC Manual (Reynolds & Kamphaus, 1992). The BASC TRS was compared with the Teacher's Report Form (TRF; Achenbach, 1991), Burks' Behavior Rating Scales (Burks, 1977), and the Teacher Rating Scale of the Behavior Rating
Profile (BRP; Brown & Hammill, 1983). All correlations were substantial. Many correlations between Achenbach scales and the TRS were in the .80s and .90s. Specifically, correlations between five of the eight subscales of the TRS and TRF were greater than .70. The BASC TRS-A also correlated significantly with the Revised Behavior Problem Checklist (Quay & Peterson, 1983). A high degree of similarity was demonstrated for Externalizing Problems and School Problems (Conners, 1989). In contrast, little overlap was found with the Conners Teacher Rating Scale. The TRS correlated most closely with Burks' Behavior Rating Scales. Validity of the TRS was further investigated and supported by analyzing the ratings on children diagnosed with Conduct Disorder, Behavior Disorder, Depression, Emotional Disturbance, Attention Deficit Hyperactivity Disorder, a Learning Disability, Mild Mental Retardation, and Autism.

The TRS is easy to use and understand. The BASC provides validity scale scores, scale scores, composite scores, T scores, confidence intervals, percentiles, strengths, weaknesses, and comparisons across composites. T scores are a linear transformation of raw scores and reflect skewness of psychopathology norms. It was suggested that percentiles are most useful when interpreting data (Flanagan, 1995), although Merenda (1996) suggested standard scores may be the most reliable score to utilize. In addition, estimating one's "true" score and determining whether or not the observed score is likely to exist within 2 standard
errors of measurement may also increase reliability of the score (Dudek, 1979; Lord & Novick, 1968). T scores may be graphed to provide a helpful visual aid. In addition, a checklist is available in which one may examine critical items. Software packages, BASC Enhanced Assist, are also available.

Although very useful, ASCA and BASC TRS are not without shortcomings. ASCA is a psychopathology oriented scale; it only measures psychopathology and does not include an adaptive subscale. In addition, items on ASCA are dichotomously scored; thus reliability coefficients may be low. To date, all published research on ASCA utilized the norm sample. Further research which includes various participants is needed to replicate these findings.

When combining information from all forms, the BASC provides a multidimensional understanding of a student. Although the BASC is comprised of various forms, there is presently no means of comparing or integrating all information systematically (Sandoval & Echandia, 1994). Also, the BASC provides norms for special education students such as those who are emotionally or behaviorally disturbed according to operational definitions which are consistent with federal definitions. On the other hand procedures conducted throughout sampling were statistically adjusted. Minority norms are not included; however, this is only a weakness if great differences exist between minorities. Although psychometric properties are acceptable, controversy
surrounds the claim that exploratory factor analysis was conducted, as some judge this analysis as confirmatory (Flanagan, 1995). Sandoval and Echandia (1994) also caution the use of the BASC TRS developed for preschoolers (ages 4-5) due to poor psychometrics. Reynolds and Kamphaus (1992) stated the BASC is positively received by teachers and school psychologists. Completion of the TRS is brief, and it is easily scored (Flanagan, 1995).

Due to the shortcomings of behavior rating scales from the 1960's to the early 1980's (i.e., (1)-unidementional in naure, (2)-poor technical properties such as poor item selection/development, poor test development and construction, standardizing procedures not nationally representaive, low validity and reliability/poor psychometric standards, response choice consisting of only yes or no, and (3)-useful information for planning interventions is not provided - need observable behavior responses), new instruments were in demand. Developers of the ASCA and BASC were familiar with these weaknesses in behavior assessment areas, and therefor found it necessary to devise scales which rectify these shortcomings. Similar to achievement test development, random and nationally representaive standardization samples were employed when developing the BASC and ASCA. The purpose of the present study was to examine the psychometric relationship between the ASCA and the BASC TRS. Specifically, convergent validity was investigated.
LITERATURE REVIEW:

ASCA

Several psychometric investigations of the ASCA standardization sample have been published. The standardization sample (N = 1400 and stratified according to the 1988-89 United States Census) was representative of noninstitutionalized youths ages 5 through 17 years and was stratified with matrix blocking for gender, age, race, parent education, national region, community size, and handicapping condition. The goal of ASCA is to measure behavior pathology with sufficient variability to enhance reliability and discrimination. Exploratory and confirmatory factor analyses for the 156 behavioral descriptions were presented and resulted in emergence of eight syndromes. The six core syndromes have relatively low intercorrelations, suggesting they retain unique variance. Core syndrome subtest specificity is substantial, and they occur within multiple specific contextual situations. For example, students with T scores greater than or equal to 70 on the Attention-Deficit Hyperactive scale displayed that behavior in 11.9 of 16 possible situations. General overactive maladjustment was confirmed in 17.3 of 26 situations, and underactive maladjustment was confirmed in 10.1 of 14 situations. To discover group differences, invariance, and generality,
exploratory analysis for syndromes and factor analysis for scales was conducted for 12 random subsamples of the norm sample. An interaction of syndromes with sex and age level was present. Overall, results indicated high to moderately high generalizability. Reliability was determined by calculating internal consistency, interrater agreement, and short term stability. Items were not redundant and syndromes were found to be unique across age, gender, and race. Interobserver agreement was moderately high ranging from .65 to .85. In addition, test-retest coefficients were significant and significant differences were not found between test and retest means (McDermott, 1993).

Convergent and divergent validity was estimated by comparing the ASCA to the Conners Teacher Rating Scale (CTRS; Trites, et al., 1982) and parent ratings on the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983). Overall, half of ASCA variability remains unique (the CTRS was able to predict 44.5% of ASCA's performance). In general, ASCA overactive scales correlated moderately with CTRS and CBCL externalizing scales and ASCA underactive scales correlated more with internalizing scales of the other measures. For example, higher correlations were found between the CTRS Hyperactivity and Conduct Problem factors and the ASCA overactive scale (.78 - .80). ASCA overactivity syndromes also correlated more highly with hyperactive, aggressive, and externalizing dimensions of the CBCL (.42 - .75). Underactivity scales of ASCA correlated more highly
with CBCL social withdrawal, uncommunicative, obsessive-compulsive, and internalizing dimensions (.44 - .50). Also, near-zero or negative correlations between underactive and overactive syndromes were found when comparing both the CTRS and CBCL with ASCA. Correlations confirmed the anticipated paradigm of convergence and divergence across ASCA, CTRS and, CBCL.

By utilizing multistage hierarchical cluster analyses, McDermott and Weiss (1995) identified 22 behavior typologies which define adjusted, at risk, and maladjusted behavior styles. These are included in the ASCA Manual. Each typology is placed on a continuum which ranges from normal to abnormal child behavior. Each typology describes common distinguishing traits of youths associated with a particular profile type. The following method was used to develop these profiles. After a three stage clustering process, T score profiles of the ASCA standardization sample formed various clusters across the six core syndromes. The three stage clustering process (Ward, 1963) involved randomly assigning each participant's profile to seven mutually exclusive blocks of 200. Next, clusters originated from first-stage analyses were subjected to a second and third-stage clustering in which several stopping rules were applied. In addition, support for the validity of the final typologies was employed by conducting further statistical analyses such as ANOVA F tests and Tukey HSD analysis. Final results produced 12 behavior profiles which represent adjusted, adequately
adjusted and marginally adjusted children (78.6%). Six behavior styles were found to represent at risk (16.2%) and four behavior styles resulted in representing seriously maladjusted children (5.2%). A generalized distance score (GDS) is used to determine which profile type a child's obtained profile is most similar to. This score is calculated in the following manner. Each core syndrome $T$ score is subtracted from the corresponding profile type $T$ score. The differences are squared and summed, thus yielding the GDS. A child's profile is classified as most similar to the profile type which produces the smallest GDS. McDermott and Weiss (1995) also described specific qualities and attributes (e.g., age, sex, ethnicity, and social class) which are characteristic of certain profile types based on significant differences in proportions. Acting out behavior was characteristic of at risk and maladjusted profile types. Furthermore, boys tended to dominate at-risk and maladjusted behavior styles. In conclusion, behavior profiles are helpful in providing information about children with similar adjustment characteristics and syndromic profile classification assists in differential diagnosis.

McDermott, Watkins, Sichel, Weber, Keenan, Holland, & Leigh (1995) assessed the overall accuracy of the ASCA in detecting emotional disturbance (viz. the ability of ASCA to distinguish between those who are emotionally disturbed from those who are emotionally nondisabled). Discriminant analysis, cross-validation, validity generalization, and
differential classification studies were conducted. Diagnostic efficiency statistics were also calculated. Overall, sensitivity and specificity estimates suggest classification accuracy of approximately 80%. ASCA was shown to have positive predictive power of 80.6% and negative predictive power of 78%. In addition, ASCA was superior to other measures when identifying children with SED and was equivalent to other measures when identifying children without SED. Accuracy rates consistently remained statistically significant (about 80%) when subgroups (age, gender, and race) were separately analyzed. Bivariate and canonical relationships of syndromes to discriminate groups when utilizing the cut score approach was also investigated. The cut score method was less accurate when classifying SED. ASCA sensitivity was shown to be 79%, specificity 56%, overall correct classification 88%, and kappa = .77. SED children demonstrated higher T scores in Oppositional Defiance, Solitary Aggression (Provocative and Impulsive), and Attention-Deficit Hyperactivity. Underactive syndromes (Diffident and Avoidant) did not appear to distinguish between disturbed and nondisturbed. Overall results suggested that ASCA consistently and accurately detects emotional disturbance among children, regardless of developmental level, gender, or ethnic background. Furthermore, ASCA effectively distinguished between emotionally disturbed children and those who were classified by multidisciplinary teams as learning disabled,
McDermott (1995) investigated the extent to which a child's cognitive ability, academic achievement, and social adjustment were influenced by demographic characteristics such as age, gender, ethnicity, social class, national region, and community size. "Failure to proportionately represent the natural variation association with those demographics may effectively undermine the relevance of the constructs measured" (McDermott, 1995, p. 76). For example, if demographics influence social adjustment, precautions need to be taken which will account for these differences. Ability accounted for 3% of variation in adjustment while adjustment accounted for 4.8% of variability in ability. The greatest significant overlap (6.6%) was associated with intellectual ability and achievement interaction, attention deficits accounting for 6.1% ability. In general, after age was partialled out, demographics were able to explain 18.9% variation in cognitive ability (mostly associated with social advantage and ethnicity). Demographics accounted for only 5.5% variation in social and emotional adjustment (mostly associated with age and gender). It was concluded that demographics affect cognitive ability to a greater extent than they affect social and emotional adjustment.

McDermott (1996) provided a comprehensive analysis of youth psychopathology among the general population. This investigation provided an empirical framework to aid in examining the continuum of typical and atypical child communication impaired, or gifted.
behavior. Prevalence of maladjustment was assessed across both developmental levels and gender. Results suggested hyperactive and aggressive behaviors to be elevated among youngest children, and diminishing as children age. The aggressive syndromes are more pronounced in males than in females. The avoidant syndrome was more prevalent among adolescents and females. When compared to females, males were shown to dominate every syndrome except Diffidence. Results of this study were consistent with numerous findings which have been documented.

McDermott and Schaefer (1996) analyzed base rates for rank-order precedence (rank or importance) and prevalence (how often the behavior occurs) of problem behaviors. Base rates are the "proportion of unselected individuals who fall in a specific category of a criterion group" (Rogers, 1995, p.348). Base rates for certain problem behaviors vary across gender, social advantage, and ethnicity. Age, social class, and ethnicity may influence problem behavior prevalence. Results indicated rare behavior problems to include those associated with diminished impulse control, delinquency, anti-social tendencies, and aggressive provocation. Most common behavior problems included nonaggressive behaviors, attention difficulties, and shy or withdrawn tendencies. Significant behavioral differences were found between boys and girls. Boys were more prone to the rarer provocative aggression behaviors than were girls. Preadolescents were more likely to demonstrate aggressive provocation and
attention seeking, whereas adolescents were more likely to actively avoid interactions with a teacher. African Americans were more likely to be perceived as avoiding conversation with teachers and appearing loud. Hispanic youths were seen as demonstrating problems working alone in the classroom setting. Greater prevalence was also associated with low levels of parent education. Rank precedence of problem behaviors appeared to remain significantly stable across demographic strata. Therefore, ASCA is able to elicit equally accurate information when assessing students across different developmental levels, ethnicity, and sex. Rank order correlations suggested comparable patterns of behavioral precedence across demographics, whereas logistic regression suggested various differences of problem behavior prevalence. These differences were demonstrated across developmental levels, gender, ethnic origin, and socio-economic status. Rank order precedence suggested a uniform structure across surface syndromes (McDermott & Schaefer, 1996). Overall, problem behaviors were shown to differ among demographics quantitatively, not qualitatively; prevalence may differ across demographics, but precedence is stable. McDermott (1995) also reported ASCA surface syndromes to be reliable and accurate across demographics.

McDermott and Spencer (1997) investigated base rates of youth psychopathology across racial and social classes. Psychopathology for minority youth is obscured by Whites
(i.e., the majority of the US population). In order to effectively diagnose and treat any youth, unique ethnic and social class distinctions need to be acknowledged. Results indicated that most psychopathology was equally spread across both ethnic background and social class, however, some differences emerged. Specific behavioral differences were especially noted among particular races. For example, African American youths demonstrated higher prevalence for Impulsive Aggression and Oppositional Defiance. They appeared less vulnerable to Diffidence. Disadvantaged Hispanic youths demonstrated a high level of Diffident behaviors. In addition, level of social advantage appeared to affect specific disorders. As parent education increased, maladjustment decreased. Overall, parent education affected the white population most significantly.

**BASC**

After a critique of 13 third-party rating scales (ASCA not included) for young children, Bracken, Keith, and Walker (1994) concluded the Social Skills Rating System (SSRS; Gresham & Elliott, 1990) and the BASC to be most technically adequate. The SSRS is the most comprehensive standardized instrument measuring social skill functioning (Bracken, Keith, & Walker, 1994). Similar to the BASC, the SSRS contains both parent and teacher forms across three developmental levels. The SSRS assesses Social Skills (Cooperation, Assertion, and Self-control) and Behavior Rating (Internalizing Problems, Externalizing Problems, and
Hyperactivity). An Academic Competence rating scale is included in the elementary and secondary grade level forms. Flanagan et al. (1996) investigated convergent validity between the SSRS and the BASC Social Skills subscale. The correlation between BASC TRS Social Skills scale and the SSRS was .23 ($p > .05$). A small degree of similarity was present between the TRS and SSRS teacher form, according to Cohen's (1992) criteria for effect sizes, yet this similarity is not statistically significant. A moderate correlation ($r = .44; p < .001$) was observed between the TRS Adaptability subscale and SSRS Social Skills scale. The correlation between the TRS Adaptive Skills Composite and the SSRS was also moderate to high. Correlations between the TRS Hyperactivity, Aggression, and Externalizing Problems and the SSRS Problem Behavior scale ranged from .50 to .60 ($p < .001$). Overall, the correlation between the TRS Social Skills scales and SSRS teacher form ($r = .23$) was nonsignificant ($p > .05$), and resulted in less than 5% shared variance. It was concluded that the underlying constructs of the BASC TRS Social Skills scales and SSRS teacher form are more dissimilar than they are alike. Furthermore, items on the scales differed greatly. Items on the TRS are general in nature whereas items on the SSRS are skill based and are specific to school environments. This factor may be partly responsible for low association between BASC and SSRS ratings due to a teacher's limited knowledge of a student's social competence in situations out of the school environment. In addition, the
SSRS may assess a more narrow range of social skills functioning, whereas a child's general social development is assessed on the TRS Social Skills subscale. It was recommended that the SSRS be utilized to assess social skill functioning and the BASC be administered in situations which require attention to internalizing behaviors (Flanagan, et al., 1996).

According to Lett and Kamphaus (1997), the BASC TRS is the most inclusive rating scale which adequately differentiates between ADHD and BD, CD, ADHD without Hyperactivity, or Overanxious Disorder. The similarities of the TRS and BASC Student Observation System (SOS) were assessed. Specifically investigated was the effectiveness of the BASC scales to differentiate between students diagnosed with ADHD from nondisabled children and BASC ability to differentiate between students diagnosed with ADHD only from those diagnosed with ADHD and a comorbid disability such as BD, ODD, CD, or LD (ADHD+). In addition, predictive diagnostic ability was assessed. Results suggested the TRS demonstrated good discriminant validity for diagnosing ADHD. Significant group differences between ADHD and nondisabled participants were found on Hyperactivity, Aggression, Conduct Problems, Anxiety, Depression, Attention Problems, Learning Problems, Atypicality, Adaptability, Social Skills, and Study Skills subscales. In addition, significant differences were found on Aggression, Conduct Problems, Depression, and Social Skills when comparing the Pure ADHD group and the ADHD+
group. A Predictive Discriminant Analysis (PDA) was used to
determine if the BASC contributes ample information to use in
diagnosis of ADHD by comparing results to six variables which
define characteristics of ADHD. As a result, group hit rates
were produced. Overall, the TRS correctly classified 73% of
children identified ADHD or nondisabled. Furthermore, the
TRS discriminated between "pure" ADHD and ADHD+ students
(i.e., ADHD students with a comorbid diagnosis such as
Learning Disability, Behavior Disorder, Conduct Disorder, or
Oppositional Defiant Disorder) 62% of the time (23 of 37
participants) and correctly identified nondisabled students
94% of the time. The overall hit rate was 73% (40 of 55
participants). In comparison to the CBCL-TRF (Achenbach,
1991), these results appear more favorable. In conclusion,
as a component in multimodal diagnosis of ADHD, the TRS
appears useful. "The BASC TRS is an excellent vehicle for
measuring teachers' perceptions of children's behavior
related to the characteristics of ADHD" (Lett & Kamphaus,

Both the ASCA and BASC TRS appear to be technically
superior teacher report behavior rating scales. The purpose
of the present study was to examine the psychometric
relationship between the ASCA and the BASC TRS.
Specifically, construct validity through convergent and
divergent evidence were investigated. Convergent validity is
the "extent to which different measures of a given construct
appear to measure the same thing" (Rogers, 1995, p. 479).
Divergent validity, on the other hand, is the degree to which different tests (or subscales) appear to measure distinct entities.

There is a need for further research which examines convergent validity of these two instruments. Although ASCA and TRS may not measure exactly identical syndromes or psychopathologies, many similarities are present. For example, the ASCA Overactivity scale appears virtually identical to the TRS Externalizing scale. The ASCA Underactivity scale appears similar to the TRS Internalizing scale. Furthermore, the following syndromes/subscales were specifically compared:

<table>
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<th>ASCA</th>
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<tr>
<td>Solitary Aggressive- Provocative</td>
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<td>Attention Deficit Hyperactive</td>
<td>Attention Problems</td>
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Method

Participants

Approximately 230 regular and special education teachers of grades one through six had the opportunity to participate in this investigation and complete ratings on a student in their classroom. Student's gender, age, and grade were anonymously provided with an identification number to ensure that identifiable information was unavailable.

Ratings on 124 students attending suburban or rural schools in Northern Illinois were provided by 104 teachers. All ratings were completed on students between ages 6 and 11 (grades 1-6). Table 1 presents the distribution of students in grades K through 6. The mean age of participants was 8.69 (SD = 1.63). Forty-seven percent of the students were male while 53% were female. Fifty-five percent of the teachers indicated student ethnicity. Of these 69 cases, 81% were Caucasian, 10% were African American, 7% were Hispanic, and 1% was Bosnian.

Instruments

ASCA. ASCA assesses student behavior and psychopathology across multiple dimensions. ASCA is a teacher rating scale which may be used with students grades K-12 (ages 5-17). Two broad band scales are included: Overactivity and Underactivity. These scales are made up of six core syndromes which include Attention-Deficit Hyperactive, Solitary Aggressive (Provocative), Solitary Aggressive (Impulsive), Oppositional Defiant, Diffident, and Avoidant.
Delinquent and Lethargic (Hypoactive) are supplementary syndromes which are also included. The ASCA consists of 96 scorable items in which a teacher chooses a response from various observable symptomatic behaviors across multiple situations.

The standardization sample of ASCA was nationally representative. Internal consistency estimates range between .67 and .91. Interrater agreement correlations for subscales ranged from .65-.85 and from .81-.84 for the global scales. Test-retest reliability correlations ranged from .66-.91 (McDermott, 1993, 1994). Validity studies suggest ASCA demonstrates adequate convergent and divergent validity and is able to differentiate between disturbed and nondisturbed students.

**BASC.** The BASC TRS assesses emotional disorders, behavioral problems, and personality constructs of students ages 4-18. This measure assesses Externalizing Problems (Hyperactivity, Aggression, and Conduct Problems), Internalizing Problems (Anxiety, Depression, and Somatization), School Problems (Attention and Learning Problems), Adaptive Skills (Adaptability, Social Skills, Leadership, and Study Skills). Three TRS forms are available, depending upon the age of the particular student. This particular study focused on the form for ages 6 through 11. This form includes 148 items in which the teacher responds to each question by choosing never, sometimes, often, or always.

A nationally representative norm sample was utilized
during development of the BASC. Test-retest reliability estimates generally ranged between .82 and .90 (Flanagan, 1995). The median intrarater reliability was .72. Concurrent validity was reported as substantial when compared to the Teacher's Report Form (TRF; Achenbach, 1991), Burks' Behavior Rating Scales (Burks, 1977), and the TRS of the Behavior Rating Profile (BRP; Brown & Hammill, 1983) (Lett & Kamphaus, 1997).

Procedure

Participating teachers were identified in two ways. Teachers enrolled in college education classes were recruited to partake in this investigation. During the beginning of their class period, teachers listened to a short description of the investigation. Packets were then given to those who wished to participate and were picked up the following week. Also, teachers working in various schools were given the opportunity to participate after principal consent was granted. One teacher per school volunteered to be responsible for distributing and collecting packets.

Packets included the following items: 1) an overview of the research project which included an explanation of the chance to receive $100 for participating, 2) an ASCA and BASC TRS form (in counterbalanced order), and 3) a two page qualitative survey. Teachers volunteered to participate. Those volunteering to participate were entered for the $100 drawing and results of the study were made available. Raters included teachers who spent the greatest proportion of the
day with the student. Teachers were assigned a number and a gender to help select a random student. For example, if a teacher was given the number "seven" and the gender "boy", the teacher completed the ASCA and BASC on the seventh boy on their alphabetical class roster. If the teacher did not have seven boys in her classroom, the teacher continuously counted through the roster until she came to the seventh boy.
Results

After all rating scales were scored, Pearson product-moment correlation coefficients between scales and subscales were used to determine the pattern of convergent and divergent validity. Pearson product moment correlation coefficients between all ASCA and BASC scales are presented in Table 2. Many comparisons suggest convergent validity between ASCA and BASC-TRS and numerous correlations were significant at the $p < .0001$ level. In addition, mean differences between scores were examined between instruments with two tailed dependent $t$-tests to investigate level of convergent and divergent validity. Table 3 summarizes these $t$-test comparisons and includes means and standard deviations for specific comparisons of interest. These data also lend support for convergent validity between ASCA and BASC-TRS.

Global Level Comparisons:

Convergent validity was evident at the overall Adjustment and Composite score level. The ASCA Overactivity and BASC Externalizing Problems scale resulted in a significant correlation ($r = .77$, $p < .0001$) with 59% shared variance. Although the mean difference between the ASCA Overactivity ($M = 52.86$, $SD = 9.85$) and BASC Externalizing Problems scales ($M = 51.57$, $SD = 9.58$) was significant, $t(122) = 2.16$, $p = .03$, this difference was not meaningful ($\eta^2 = .04$) thus, these scales appear to result in similar ratings.

The ASCA Underactivity and BASC Internalizing Problems
scales resulted in a significant correlation ($r = .45, p < .0001$). There was a significant difference between the ASCA Underactivity ($M = 49.05, SD = 10.13$) and BASC Internalizing Problems scales ($M = 51.78, SD = 11.34$), $t(122) = -2.03, p = .04$. The small effect size ($\eta^2 = .03$) indicates this difference is not meaningful and lends support to convergent validity.

Subscale/Syndrome Comparisons:

ASCA Attention Deficit Hyperactive and BASC Hyperactivity yielded a significant correlation of .78. Although there was a significant difference between ASCA Attention Deficit Hyperactive ($M = 52.53, SD = 10$) and BASC Hyperactivity ($M = 51.33, SD = 9.54$), $t(122) = 2.05, p = .043$; an index of effect strength ($\eta^2 = .03$) suggests small effect strength and thus good agreement between these scales.

ASCA Attention Deficit Hyperactive and BASC Attention Problems yielded a significant correlation ($r = .63, p < .0001$) and there was no significant difference between mean scores on ASCA Attention Deficit Hyperactive ($M = 52.53, SD = 10.00$) and BASC Attention Problems ($M = 52.02, SD = 11.26$), $t(122) = .61, p = .546$. The ASCA Solitary Aggressive (Provocative) syndrome and BASC Aggression scales yielded a significant correlation ($r = .64, p < .0001$). There was no significant difference between the ASCA Solitary Aggressive (Provocative) ($M = 51.28, SD = 10.47$) and BASC Aggression scales ($M = 51.57, SD = 9.86$), $t(122) = -.37, p = .708$. The ASCA Solitary Aggressive (Impulsive) syndrome and BASC
Aggression scale yielded a significant correlation ($r = .48$, $p < .0001$) and there was no significant difference between the ASCA Solitary Aggressive (Impulsive) syndrome ($M = 51.42$, $SD = 9.64$) and the BASC Aggression scale ($M = 51.57$, $SD = 9.86$), $t(122) = -.16$, $p = .869$. The ASCA Oppositional Defiant syndrome and BASC Conduct Problems scale yielded a significant correlation of .37 and there was no significant difference between the ASCA Oppositional Defiant syndrome ($M = 51.37$, $SD = 11.31$) and BASC Conduct Problems scale ($M = 51.23$, $SD = 10.46$), $t(122) = .13$, $p = .894$.

There was a significant correlation between the ASCA Diffident syndrome and the BASC Withdrawal scale ($r = .38$), however, there was a significant difference between ASCA Diffident syndrome ($M = 48.81$, $SD = 6.62$) and BASC Withdrawal scale ($M = 52.78$, $SD = 11.01$), $t(122) = -3.80$, $p < .0001$. The mean score on BASC Withdrawal was higher than the mean score on ASCA Diffident and the effect strength was low to moderate ($\eta^2 = .11$). The level of convergent validity between these scales may be limited.

There was no significant correlation between ASCA Diffident and BASC Anxiety ($r = .05$). There was, however, a significant difference between the ASCA Diffident syndrome ($M = 48.81$, $SD = 9.62$) and the BASC Anxiety scale ($M = 52.09$, $SD = 10.25$), $t(122) = -2.65$, $p = .019$, but the effect strength was low ($\eta^2 = .05$) and thus negligible. Due to the low correlation and difference between mean scores, convergent validity between these scales appears to be limited.
There was no significant correlation between ASCA Avoidant syndrome and BASC Anxiety scale ($r = .13$). There was a significant difference between ASCA Avoidant syndrome ($M = 49.20$, $SD = 10.20$) and BASC Anxiety scale ($M = 52.09$, $SD = 10.25$), $t(122) = -2.37$, $p = .019$, but the effect strength was low and thus the difference is not meaningful ($\eta^2 = .04$). Overall, these scales appear to lack convergent validity.

The ASCA Delinquent syndrome correlated significantly with the BASC Aggression scale ($r = .34$, $p < .0001$). There was a significant difference between ASCA Delinquent syndrome ($M = 49.16$, $SD = 9.23$) and BASC Aggression scale ($M = 51.57$, $SD = 9.86$), $t(122) = -2.44$, $p = .05$, but again, the effect strength ($\eta^2 = .05$) was low and thus not meaningful.

The ASCA Delinquent syndrome also correlated significantly with the BASC Conduct Problems scale ($r = .40$, $p < .0001$). There was a significant difference between the ASCA Delinquent syndrome ($M = 49.16$, $SD = 9.23$) and the BASC Conduct Problems scale ($M = 51.23$, $SD = 10.46$), $t(122) = -2.12$, $p = .036$, but the small effect strength ($\eta^2 = .04$) suggested this difference is not meaningful. The mean score on the BASC Conduct Problems scale was only slightly more elevated than the mean score on the ASCA Delinquent scale.

**Additional Correlations of Interest at Subscale Level:**

Additional significant correlations between ASCA and BASC emerged at the subscale level; thus indicating convergent validity. These moderate correlations were between .40 and .60 and were significant at $p < .0001$. These
correlations indicate some overlap and relative independence, yet support convergent validity. ASCA Attention-Deficit Hyperactive syndrome was significantly correlated with BASC-TRS Atypicality, Learning Problems, and Conduct Problems ($rs = .49, .46, \text{ and } .45$ respectively). ASCA Solitary Aggressive (Provocative) syndrome was significantly correlated with BASC-TRS Conduct Problems, Hyperactivity, and Attention Problems ($rs = .57, .49, \text{ and } .47$ respectively). ASCA Solitary Aggressive (Impulsive) syndrome correlated with BASC-TRS Withdrawal, Adaptability, Conduct Problems, Hyperactivity, Aggression, and Somatization with $rs = .57, .51, .50, .48, .48, \text{ and } .40$ respectively. ASCA Oppositional Defiant syndrome was significantly correlated with BASC-TRS Aggression ($r = .52$), Depression ($r = .50$), Hyperactivity ($r = .40$), and Anxiety ($r = 40$). ASCA Lethargic syndrome was significantly correlated with BASC-TRS Attention Problems, Anxiety, Learning Problems, Atypicality, Withdrawal, Depression and Hyperactivity ($rs = .54, .52, .51, .51, .51, .43, \text{ and } .40$ respectively).

Negative correlations which indicate inverse relations between dissimilar ASCA and BASC subscales provided additional convergent validity evidence. The ASCA Syndromes negatively correlated with all of BASC Adaptive Scales; 27 of 32 correlations were significant at the $p < .0001$ level. Many of these correlations were between .40 and .60 (see Table 2). The ASCA Attention-Deficit Hyperactive had significant negative correlations with all BASC-TRS adaptive
scales: Study Skills ($r = -0.55$), Adaptability ($r = -0.54$), Social Skills ($r = -0.48$), and Leadership ($r = -0.44$). ASCA Lethargic (Hypoactive) also had significant negative correlations with all BASC-TRS adaptive scales: Study Skills ($r = -0.51$), Adaptability ($r = -0.46$), Leadership ($r = -0.45$) and Social Skills ($r = -0.40$). ASCA Solitary Aggressive (Provocative) significantly correlated with BASC-TRS Adaptability, Social Skills, and Study Skills ($rs = -0.46$, -0.44, and -0.42 respectively) as did ASCA Solitary Aggressive (Impulsive) ($rs = -0.43, -0.48,$ and -0.44), and ASCA Oppositional Defiant ($rs = -0.49, -0.43,$ and -0.40) syndromes.

ASCA Avoidant syndrome was significantly negatively correlated with BASC-TRS Social Skills ($r = -0.49$), Leadership ($r = -0.47$), and Study Skills ($r = -0.46$).

**Additional Correlations at Global Level:**

Additional correlations of great significance emerged at the Global level. ASCA Overactivity also was significantly and highly correlated with BASC Behavior Symptoms Index ($r = .74, p < .0001$), thus resulting in a shared variance of 56%. Correlations between .40 and .60 indicate relative independence, yet share a degree of overlap. ASCA Overactivity was significantly correlated with BASC-TRS School Problems ($r = .59, p < .0001$) with 35% overlap. ASCA Overactivity was also significantly correlated with BASC-TRS Internalizing Problems ($r = .45, p < .0001$) with shared variance of 20%.

Negative correlations of dissimilar scales also provided
convergent validity evidence at the Global scale level. The ASCA Overactivity and BASC Adaptive Skills scales yielded a significant negative correlation ($r = - .62$; shared variance = 38%). The ASCA Underactivity scale was significantly correlated with BASC-TRS Adaptive Skills scale ($r = - .45$; shared variance = 20%).

Qualitative Assessment:

Appendix 1 includes a sample of ASCA and BASC-TRS qualitative surveys. Results of the qualitative data were analyzed to determine which scale was preferred by teachers. Teachers rated each item according to the following scale: 1 = strongly agree, 2 = mostly agree, 3 = neutral, 4 = mostly disagree, 5 = strongly disagree. Questions stated in negative format (i.e., number 2, 4, and 10) were reverse scored to ensure consistency. Results of teacher qualitative surveys are summarized in Table 6. The lower the score, the more positively the instrument was viewed.

Results of two tailed $t$-tests resulted in six significant differences between the ASCA and BASC. Questions numbered one and nine favored the ASCA whereas questions numbered two, five, six, and eight favored the BASC-TRS.

There was a significant difference between teacher responses regarding the length of the instrument (item 1): ASCA ($M = 1.59$, $SD = .74$); BASC ($M = 2.59$, $SD = 1.2$), $t(242) = -7.86$, $p < .001$. The index of effect strength was moderate ($\eta^2 = .20$), suggesting the responses to item 1 differs between ASCA and BASC in a meaningful way. Teachers
preferred the shorter length of ASCA.

There was also a significant difference between responses regarding the scale's ease to complete (item 9): ASCA \((M = 1.84, SD = 1.07)\); BASC \((M = 2.09, SD = 1.11)\), \(t(242) = -1.97, p = .05\). The index of effect strength was small \((\eta^2 = .02)\), thus indicating no practical difference between teacher ratings on this item.

There was a significant difference between teacher responses regarding usefulness of items (question 2) on each scale: ASCA \((M = 2.56, SD = .90)\); BASC \((M = 2.32, SD = .87)\), \(t(242) = 2.16, p = .03\). The index of effect strength was small \((\eta^2 = .02)\) and indicated no practical difference.

There was a significant difference between teacher responses regarding the appropriateness of items (question 5) on each scale: ASCA \((M = 2.48, SD = 1.06)\); BASC \((M = 2.16, SD = .86)\), \(t(242) = 2.52, p = .01\). The index of effect strength was small \((\eta^2 = .03)\), thus there was no practical difference between the instruments.

There was a significant difference between teacher responses regarding the instrument's benefit to teachers (item 6): ASCA \((M = 2.57, SD = .9)\); BASC \((M = 2.31, SD = .86)\), \(t(242) = 2.47, p = .01\). The index of effect strength \((\eta^2 = .02)\) suggests the difference between teacher ratings on item 6 were not meaningful.

There was a significant difference between teacher responses regarding the scale's perceived effectiveness (item 8): ASCA \((M = 2.74, SD = .84)\); BASC \((M = 2.44, SD = .77)\),
\[ t(242) = 2.85, \ p = .98. \] The index of effect strength \( \eta^2 = .03 \) suggests the difference between teacher ratings on this item was not meaningful.

Of these significant findings, the only one which demonstrated a meaningful difference was question number 1 in favor of the ASCA \( \eta^2 = .20 \). Overall, \( \eta^2 \) indicated small effect strength and no practical differences in teachers qualitative assessments except for item one which resulted in a moderate effect in favor of the ASCA length.

Discussion

Results of the current comparisons between similar domains of ASCA and BASC TRS scales indicate a high degree of convergent validity. Many specific comparisons resulted in correlations which were significant and ranged from .40 - .80. These results were similar to various comparisons reported in the ASCA Manual (McDermott, 1994) and the BASC Manual (Reynolds & Kamphaus, 1992). For example, McDermott (1994) confirmed convergent and divergent validity across the ASCA, the revised Conners Teacher Rating Scale (CTRS; Trites et al., 1982) and the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983). Reynolds & Kamphaus (1992) reported high correlations between the BASC TRS and the Teacher Report Form (TRF; Achenbach, 1991) and a range of correlations between BASC TRS and the CTRS.

ASCA Overactivity scale was positively correlated with three BASC global scales at a level between .60 - .80. The highest correlation was found between ASCA Overactivity and
BASC-TRS Externalizing Problems ($r = .77$), thus yielding an overlap of 59%. In addition, ASCA Overactivity was highly correlated with BASC-TRS Behavior Symptoms Index ($r = .74$), resulting in a shared variance of 55%.

At the Subscale/Core syndrome level, ASCA Attention-Deficit Hyperactive scale positively correlated with three BASC TRS subscales at a level between .60 and .80. The most evident correlation was found between ASCA Attention-Deficit Hyperactivity and BASC-TRS Hyperactivity ($r = .78$). Furthermore, shared variance of 61% was present, suggesting that 39% of ASCA and BASC remains unique. ASCA Attention-Deficit Hyperactive was highly correlated with BASC-TRS Attention Problems and Aggression. ASCA Solitary Aggressive (Provocative) and TRS Conduct Problems also yielded a high correlation. In addition, ASCA Solitary Aggressive (Provocative) and ASCA Solitary Aggressive (Impulsive), resulted in significant correlations with BASC TRS Aggression; however, the high correlation between Solitary Aggressive (Provocative) and Aggression was more significant than the moderate correlation between Solitary Aggressive (Impulsive) and Aggression.

Overall, the most significant correlations were found among scales which measure observable behaviors (e.g., externalizing or overactive behaviors). Correlations among internalizing behaviors were much lower than those of externalizing behaviors. For example, the correlation between ASCA Underactivity and BASC TRS Internalizing
Problems was not significant. At the subscale level, Avoidant and Withdrawal yielded a low to moderate correlation. Correlations between scales which measured more overt, observable behaviors were much higher (e.g., ASCA Overactivity with BASC TRS Externalizing Problems, ASCA Attention-Deficit Hyperactive with BASC TRS Hyperactivity). This tendency is similar to and supported by various research. Conners (1989) reported the highest degree of similarity between BASC and various rating scales to be found among more observable behaviors. For example, a high degree of similarity was demonstrated for BASC TRS Externalizing Problems and the Revised Behavior Problem Checklist (Quay & Peterson, 1983). BASC TRS and Burks’ Behavior Rating Scale shared a higher degree of similarity for externalizing behaviors than for internalizing behaviors. Similarly, when comparing ASCA and the Conners Teacher Rating Scale (CTRS) McDermott (1994) reported the highest correlations to be found among overactive syndromes. Furthermore, McDermott found the highest correlation to be between ASCA Attention-Deficit Hyperactive and CTRS Hyperactivity Index ($r = .75$).

The common finding that overactive behaviors correlate more highly than underactive behaviors may be due to various reasons. Less inference is needed to assess externalizing or observable behaviors. Also, overactive behaviors may be noticed by teachers more than internalizing behaviors due to classroom management difficulties and the invasive nature of externalizing type behaviors. Those students with
internalizing difficulties may not demonstrate challenging behaviors which draw attention to themselves.

Inverse relationships were not as strong as positive relationships, yet evidence provided suggested convergence between the ASCA and BASC-TRS. At the Global scale level, ASCA Overactivity and BASC-TRS Adaptive Skills resulted in a high negative correlation. In addition, all BASC-TRS adaptive scales (i.e., Adaptability, Social Skills, Leadership, and Study Skills) were negatively correlated with each ASCA scale. Similar to these findings, inverse relationships between ASCA and CTRS scales were weaker than positive relationships (McDermott, 1994).

Some scales did not correlate as expected. These low correlations may be due, in part, by differing definitions according to the different instruments. The ASCA Manual (McDermott, 1994) and BASC Manual (Reynolds & Kamphaus, 1992) include definitions for each scale. The ASCA Oppositional Defiant and TRS Conduct Problems resulted in a correlation of only .37. Although significant, this correlation indicates a low to moderate relationship. ASCA defines Oppositional Defiant as describing "irascible, often covert, defiance and manipulation" (p. 3), whereas the TRS defines Conduct Problems as the tendency to demonstrate antisocial behaviors and breaking rules (e.g., destroying property). This TRS definition of Conduct Problems is more similar to the ASCA definition of Delinquent. ASCA Delinquent and BASC TRS Conduct Problems resulted in a higher correlation. Likewise,
ASCA Diffident and BASC TRS Withdrawal yielded a low to moderate correlation suggesting only 14% overlap. ASCA Diffident is defined as demonstrating a fearful or timid demeanor, whereas TRS Withdrawal is defined as the tendency to deliberately avoid social contact by eluding others. TRS Anxiety did not share a significant relationship with the ASCA Avoidant syndrome. TRS Anxiety is defined as the tendency to be nervous, fearful, or worried about both actual and imaginary predicaments; ASCA Avoidant refers to demonstrating aloof, withdrawn, and reserved behaviors.

Although the previous unexpected low correlations may be partially explained by varying definitions, ASCA Diffident and TRS Anxiety are defined similarly. Both suggest nervous or fearful behaviors, yet these syndromes did not correlate significantly. ASCA Avoidant and TRS Withdrawal are also defined similarly, yet share only low to moderate similarities. These outcomes may be due to the inference needed to evaluate a student's internalizing worries or fear. Furthermore, higher mean scores resulted on the BASC TRS for these internalizing scales. For example, the mean score for BASC TRS Withdrawal scale was higher than the mean score for ASCA Diffident syndrome. Likewise, the mean score for BASC TRS Anxiety was higher than the mean score for ASCA Avoidant. When analyzing the definitions between these two comparisons, the TRS definition appears to include more significant, obvious behaviors (e.g., overtly avoiding others vs. timid).

These lower than expected correlations may also be due
to structure, format, or scaling differences between ASCA and BASC. ASCA contains dichotomous items of behavior specification, whereas BASC contains scale items on a continuum where teachers indicate their judgment on how often a behavior occurs. The BASC TRS has been compared to various teacher rating forms. Of these, Reynolds and Kamphaus (1992) reported the BASC TRS to be most highly correlated with Achenbach Teacher Report Form (TRF; Achenbach, 1991), possibly because the structure of these two scales are similar, as are constructs in which they measure. BASC TRS scales were also compared to the Revised Conners Teacher Rating Scales (CTRS: Trites et al., 1989). Agreement between like scales was found to be lower than agreement between like scales of the BASC TRS and TRF, possibly due to structure and format differences between the BASC TRS and CTRS. Supporting this explanation, Bracken, Keith, and Walker (1994) suggested low correlations between the Social Skills Scale on the BASC TRS and the Social Skills Rating Scale to be a result of item content differences and dissimilar underlying constructs. It was concluded that the SSRS items appear more specific to the school environment, whereas TRS items seem more general.

In summary, ASCA and BASC TRS display convergent validity with significant correlations between like scales. Each scale remains somewhat unique and individual, possibly due to differences such as teacher response format (dichotomous vs. scale scoring), item development, or scale definition. ASCA and BASC TRS may define similar scales
differently; more or less specific or inclusive.

Qualitative data appears to suggest that teachers did not prefer one scale over the other overall; they preferred various aspects of each instrument. Although several items resulted in significant response differences, the only meaningful difference was found on an item which related to the length of the rating scale. Teachers noted the length of the ASCA to be more reasonable than the length of the BASC.

Limitations of the present study revolve around participants. The sample consisted of 124 student ratings. Most of these students and teachers who rated them were Caucasian and resided in rural or suburban areas of a large midwestern city. This sample is not representative of the entire population for which these instruments may be used.

Future research should investigate relations between the BASC-TRS Adolescent Form and ASCA. This comparison would include students between the ages of 12 and 18. Predictive validity may be investigated. Discriminant validity may help determine which instrument best discriminates between students identified with special needs. By identifying false positives and false negatives and overall correct classification rate, results of this analysis may suggest which instrument best predicts LD, BD, or ED. In addition, ethnicity issues may be analyzed. The outcome of this research may determine whether or not one instrument "diagnoses" a particular ethnicity group with a specific syndrome more frequently than other ethnicity groups.
References


Table 1

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ASCA and BASC TRS 55
### Table 2

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Note. ADH = Attention Deficit Hyperactive, HYPR = Hyperactivity, SAP = Solitary Aggressive (Provocative), AGG = Aggression, SAI = Solitary Aggressive (Impulsive), OPD = Oppositional Defiant, CP = Conduct Problems, DIF = Diffident, WITHD = Withdrawal, ANX = Anxiety, AVO = Avoidance, ATNPRB = Attention Problems, OVR = Overactivity, EXT = Externalizing, UNR = Underactivity, INT = Internalizing, DEL = Delinquent
### Table 4

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**Note.** ADH = Attention-Deficit Hyperactive, SA(P) = Solitary Aggressive (Provocative), SA(I) = Solitary Aggressive (Provocative), OPD = Oppositional Defiant, DIF = Diffident, AVO = Avoidant, DEL = Delinquent, LEH = Lethargic (Hypoactive), OVR = Overactivity, UNR = Underactivity
### Table 5

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TEACHER QUALITATIVE SURVEY

Below are statements concerning various aspects of ASCA. After each statement, please circle the response that best represents your opinion.

1 = strongly agree
2 = mostly agree
3 = neutral
4 = mostly disagree
5 = strongly disagree

The length of ASCA is reasonable.

1 2 3 4 5

Information gained from ASCA is useless.

1 2 3 4 5

The format of ASCA is beneficial.

1 2 3 4 5

ASCA was difficult to complete.

1 2 3 4 5

ASCA contains appropriate questions.

1 2 3 4 5

ASCA is beneficial to teachers.

1 2 3 4 5

The time required to complete ASCA contributed to valuable information.

1 2 3 4 5

ASCA is an effective rating scale.

1 2 3 4 5

ASCA was easy to complete.

1 2 3 4 5

Completing ASCA was a waste of time.

1 2 3 4 5

Data gathered from ASCA is useful.

1 2 3 4 5

Comments:
Below are statements concerning various aspects of BASC TRS. After each statement, please circle the response that best represents your opinion.

The length of TRS is reasonable.

1 2 3 4 5

Information gained from TRS is useless.

1 2 3 4 5

The format of TRS is beneficial.

1 2 3 4 5

TRS was difficult to complete.

1 2 3 4 5

TRS contains appropriate questions.

1 2 3 4 5

TRS is beneficial to teachers.

1 2 3 4 5

The time required to complete TRS contributed to valuable information.

1 2 3 4 5

TRS is an effective rating scale.

1 2 3 4 5

TRS was easy to complete.

1 2 3 4 5

Completing TRS was a waste of time.

1 2 3 4 5

Data gathered from TRS is useful.

1 2 3 4 5

Comments:

Which rating scale do you prefer? Why?

What aspects do you feel are most important when completing behavior rating scales on your students?