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A Study of Convergent Validity Between the Adjustment Scales for Children and Adolescents (ASCA) and the Behavior Assessment System for Children-Teacher Rating Scale (BASC-TRS)

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Abstract

The Adjustment Scales for Children and Adolescents (ASCA) and the Behavior Assessment System for Children-Teacher Rating Scale (BASC-TRS) are two relatively new behavior assessment devices designed to measure youth problem behavior. Both scales are designed to be completed by the child's classroom teacher and evaluated by qualified professionals. Both scales are unique in their construction and are considered to be technically adequate. Many of their syndromes/subscales and global scales/composites are similar in their name, nature, and descriptions according to their respective manuals. However, no research has been conducted establishing convergent evidence of construct validity between the two instruments. The present study attempted to provide this needed research by directly comparing the ASCA and BASC-TRS. A sample of children (n=52) referred for special education evaluation were participants in the study. Regular education teachers were asked to complete both scales on each child they referred. Comparisons between the two scales were studied through correlational analysis. Results indicated preliminary evidence for convergent validity between the two instruments on the core syndrome/subscale level with several correlation coefficients ranging from .50 to .70 for scales measuring similar traits. On the global scale/composite level, convergent validity was only established between the ASCA Overactivity global scale and the BASC-TRS externalizing composite. Nonsignificant mean differences between ratings on the two scales yielded further evidence of convergent validity among like syndromes/subscales and global scales/composites. The information provided in this study is beneficial to school psychologists and other educational professionals looking for a more psychometrically sound, less subjective methods of assessing problem behavior among youths.

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Chapter I

Introduction

The Adjustment Scales for Children and Adolescents (ASCA; McDermott,

Marston, & Stott, 1993) is a standardized behavior rating instrument that was

designed to be completed by the child's classroom teacher and results

interpreted by qualified professionals. The ASCA was developed in response to

the apparent lack of psychometrically sound objective behavior rating scales that

measure youth psychopathology. Past rating scales that were developed to

measure youth psychopathology had problems including poor standardization

procedures which led to marginal reliability and validity. Previous scales often

lacked the ability to differentiate between disorders and/or situations in which

problematic behaviors occur. Also, separate norm groups for males and females

as well as different syndromes depending on age has led to more confusion and

discontinuity when trying to define youth psychopathology (McDermott, 1994).

The National Institute for Mental Health (NIMH, 1990) acknowledged the need

for psychopathology to be studied through a normal perspective in its National

Plan for Research on Child and Adolescent Mental Health Disorders. The plan

called for an empirical framework for the study of youth psychopathology that

would lie on a continuum of normal and abnormal behavior and would be

generalizable across age, gender, and ethnicity (McDermott & Weiss, 1995).

This framework led to the development of the Adjustment Scales for Children and Adolescents (McDermott, Stott, & Martson, 1993). The ASCA contains 96 scorable items that are uniquely placed into one of six core syndromes or two supplementary syndromes. The core syndromes include Attention-Deficit Hyperactive (ADH), Solitary Aggressive Provocative (SAP), Solitary Aggressive Impulsive (SAI), Oppositional Defiant (OpD), Diffident (DIF), and Avoidant (AVO). The two supplementary syndromes are Delinquent (DEL) and Lethargic/Hypoactive (LEH). The six core syndromes have been found to be reliable across age, gender, race, and ethnic groups. However, the two supplementary syndrome's are suitable for certain subgroups within the youth population. Specifically, the DEL supplementary syndrome is appropriate for all children except females younger than twelve and the LEH supplementary syndrome is appropriate for males and females less than twelve years of age (McDermott, 1994). The ASCA also produces two broad band (overall adjustment) scales: Overactivity (OVR) and Underactivity (UNR). Overactivity is comprised of the core syndromes Attention-Deficit Hyperactive, Solitary Aggressive Provocative, Solitary Aggressive Impulsive, and Oppositional Defiant. The Diffident and Avoidant syndromes comprise the Underactivity scale. Like most personality and behavior scales the ASCA scales are expressed as T scores with a mean of 50 and a standard deviation of 10. The ASCA's uniform development across various demographics allows for the study of youth psychopathology in certain subgroups in regard to prevalence rates and

pathology which can be studied over time.

The ASCA's question format also contains several differences from typical behavior rating scales. It contains many positive behavioral descriptors which other scales that infer psychopathology do not (McDermott, 1994). The ASCA consists of 156 behavioral descriptors which are contained within 29 different social, recreational, and learning situations in which the teacher may have had an opportunity to observe the child. Contextual situations include Relationship with Teacher, Coping with School Work, Games and Play, Relationships with Other Students, Unsocialized Behavior, and Other Behaviors that Cause Concern. To select a manner to which the student responds to a given situation the teacher can mark one or more of the 3 to 8 behavioral descriptors that are presented for each situation. If none apply, no items are marked.

Standardization of the ASCA consisted of 1400 youths between the ages of 5 and 17 (grades K-12), selected to represent school aged children in the U.S. at the beginning of the 1990 decade. The sample was stratified on variables such as gender, age, race/ethnicity, parent education, family structure, national region, community size, and handicapping condition. The sample consisted of 700 boys and 700 girls with an average of 108 students at each age level. Race, ethnicity, and community size for the sample was stratified to closely resemble the U.S. Census information for the 1990 decade. For social class, parent education was used as the defining criteria due to its viability to do so in past research (Farrigton, 1986; Magnuson, Stattin, & Duner, 1983). The sample also included children who were classified as learning disabled, mentally

handicapped, speech impaired, physically disabled, emotionally disturbed, and gifted and talented. All percentages of these subcategories closely resembled prevalence in the general population (McDermott, 1994).

Previous research comparing the ASCA to other behavior rating instruments such as the Conner's Teacher Rating Scale (TRS; Conner's, 1989) and the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983) was presented in the ASCA manual (McDermott, 1994). Comparisons with the CBCL yielded correlations ranging from .42-.75 for like scales and composites. Comparisons with the TRS produced a range of correlations from .18 to .80. Overall expected convergence and divergence between the scales were present. McDermott's (1995) study compared the ASCA with the intelligence and achievement indices of the Differential Ability Scales (DAS; Elliot, 1990). Correlations were low ranging from .01 to .24 suggesting little relationship between intelligence and school achievement with youth problem behavior.

The Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992) is a comprehensive behavior rating system which contains five components; the Teacher Rating Scale (TRS), Self Report of Personality (SRP), Student Observation System (SOS), Parent Rating Scale (PRS), and Structured Developmental History (SDH). The BASC can utilize numerous informants and was designed to be a comprehensive measurement device which would accurately evaluate the behavior and emotions of children aged 4-18. All components of the BASC can be used together to get a broad picture of the child by numerous informants or each component can be used by itself to gain

specific information from a particular source. The BASC was developed in response to the need for a diversified psychometrically sound rating system that could be used by a variety of professionals in school, clinic, or hospital settings. The TRS is a rating scale designed to measure adaptive and problem behaviors of children aged 4-18. The scale is completed by the child's classroom teacher and interpreted by qualified professionals. The TRS contains 109,148, or 138 items, depending on the age of the child, that describe behaviors. The teacher rates behaviors on a four point scale ranging from never to almost always. It takes about 10 to 20 minutes to complete. The TRS contains 14 scales (Aggression, Hyperactivity, Conduct Problems, Anxiety, Depression, Somatization, Attention Problems, Learning Problems, Atypicality, Withdrawal, Adaptability, Leadership, Social Skills, and Study Skills), 5 composites (Externalizing Problems, Internalizing Problems, School Problems, Other Problems, and Adaptive Skills), and one Behavioral Symptoms Index. The TRS's standardization allows the examiner the option to compare rating results to General, Gender Specific, or Clinical norms. Two unique features of the TRS are the F-Index and critical item interpretation. The F-Index allows the examiner to check on the validity of the respondent if items are being endorsed in an extremely negative fashion. The critical items allow the examiner to interpret some items that are considered urgent.

The standardization sample was selected to be representative of the U.S. population for ages 4-18 including children with disabilities. One hundred sixteen testing sites were selected controlling for demographic variables such as

geographic region, socioeconomic status, culture, and ethnicity. At each school selected to participate in the standardization, two children (one male and one female) were randomly selected to be rated by their teacher. A total of 2,364 children aged 4-18 (1162 females, and 1202 males) was obtained. The school-based norms were developed to match as closely as possible the population of exceptional children in the regular classroom and this was largely achieved. The sample was selected proportionally to match distributions of race/ethnicity and parental education according to the U.S. Census Bureau population figures from 1986 and 1988. Distribution of geographic regions in which the standardization sample was selected was not adequately controlled and in some instances areas were over represented and others under represented (Reynolds & Kamphaus, 1992).

The BASC is considered to possess adequate psychometric properties. Previous research that involved comparing the BASC with other behavior rating scales was reported in the BASC manual. The BASC was compared with the Conner's Teacher Rating Scales (TRS; Conner's 1989) and the Teacher Report Form (TRF; Achenbach, 1991). Comparisons with the TRF yielded correlation's ranging from .60 to .70 range between like scales and subscales. Correlations were as high as .90 between composites with similar descriptions. Correlations with the Conner's TRS were not as high with coefficients ranging from .38 to .69 for like scales and composites.

Many of the ASCA core syndromes and global scales and the BASC subscales and composites are very similar in their nature and descriptors

according to their respective manuals. For example, similarities exist between the ASCA Attention-Deficit Hyperactive syndrome and BASC-TRS Attention Problems and Hyperactivity scales, the ASCA Avoidant syndrome and BASC-TRS Withdrawal scale, the ASCA Delinquent syndrome and BASC-TRS Conduct Problems scale, the ASCA Diffident syndrome and BASC-TRS Anxiety scale, and the ASCA Solitary Aggressive-Provocative syndrome and BASC-TRS Aggression scale. At the global adjustment/composite level, the ASCA Overactivity and Underactivity adjustment scales are similar to BASC-TRS Externalizing Problems and Internalizing Problems composites, respectively.

The ASCA and BASC-TRS are two relatively new instruments. They both have been the topic of several studies dealing with their relationship with other instruments, current design, psychometrics, and function. Despite this literature there are no studies directly comparing the ASCA and BASC-TRS. A study of this nature would be beneficial to school psychologists and other educational professionals seeking validation for the use of these instruments.

The purpose of the present study was to investigate the convergent validity between the ASCA and BASC-TRS by determining the degree of association between core syndromes and subscales as well as global composite scales. The present study utilized the BASC-TRS for comparison with the ASCA due to both scales using teachers as informants.

Review of the Literature

Adjustment Scales for Children and Adolescents (ASCA)

Construct validity is a very important characteristic when interpreting test scores and other evaluative data. The Standards of Educational and Psychological Testing reported that "construct related evidence of validity should demonstrate that the test scores are more closely associated with variables of theoretical interest than they are with variables not included in the theoretical network" (American Psychological Association, 1985, p.15). McDermott (1995) stressed the importance of a good representative standardization sample in order to establish construct validity and noted the lack of representative samples of most behavioral rating instruments.

Objective definitions for youth problem behaviors and psychopathology are essential in creating an effective rating instrument (McDermott, 1993). Past rating scales that have utilized a self-report format or parent informants were found to be unreliable. The youths completing self-reports often had difficulty understanding questions and often answered in a socially acceptable way while scales completed by parent informants were found to measure parent pathology rather than the child being rated (McDermott, 1994). Teachers are reported to be the preferred source of information on behavior rating instruments due to their unique position to observe children in diverse situational contexts. Teachers can also provide a more objective, knowledgeable assessment of a child's behaviors than can parents or the child themselves (McDermott, 1993).

Previous behavior rating instruments designed to measure youth psychopathology have had problems with overlapping scales which led to discontinuity with the theoretical framework of scales. For example, some previous scales have had different syndromes that purported to measure attention and aggression separately, yet when compared they correlated from .60-.85 (McDermott, 1993). Furthermore, McDermott argued that the use of separate norms for males and females and different age groups utilized by other rating scales are not necessary and can actually be more problematic than a general norm group. The purpose of McDermott's (1993) article was to describe the development of the ASCA (McDermott, 1994) an instrument that possesses separate distinct syndromes of youth psychopathology and contain a single representative sample of the U.S. population for normative data. Internal consistency coefficients of the ASCA ranged from .66 to .93. Inter-rater reliability coefficients ranged from .67 to .85 among syndromes and test-retest reliability coefficients ranged from .66 to .75. Convergent validity coefficients for the ASCA and the Conner's Teacher Rating Scale (CTRS; Trites et al.) were .75-.42 for convergent validity among similar subscales/syndromes. Divergent validity coefficients were near zero or negative between the Overactivity and Underactivity scales. In comparing the ASCA to the Child Behavior Checklist (CBCL; Achenbach, & Edelbrock, 1983) the ASCA Overactivity scales correlated .42 to .75 with the CBCL Externalizing syndromes and the ASCA Underacitivity syndromes correlated .44 to .50 with the CBCL Internalizing

dimension.

McDermott (1995) reported a national study on 1200, 5-17 year old students that were administered the Differential Abilities Scale (DAS; Elliot, 1990) and the ASCA during the co-norming of the two instruments. The purpose was to investigate the effect of demographic characteristics on youth differences in cognitive abilities, academic achievement and social adjustment. Results suggested that measures of ability and adjustment were affected by demographic variables. Overall ability and adjustment overlap was small, but demographic variables accounted for 18.9% of variation in the children's ability. With no control for adjustment, variation was measured at 19.0% suggesting a moderate relationship between ability and adjustment. Race/ethinicity and social class accounted for 13.5% of variance in ability, but for adjustment, demographics only accounted for 5.5% of the variance. Age and sex interaction accounted for 3.1% of overall variance in adjustment.

McDermott, Watkins, Sichel, Weber, Keenan, Holland, and Leigh, (1995) investigated the accuracy of the ASCA when distinguishing between socially or emotionally disturbed (SED) children and normal children. A subsample of the ASCA's standardization sample was used in the study. Results of this study supported the use of the ASCA in discriminating between SED and normal children. Overall correct classification was measured at 80% level beyond chance. Similar past research using the CTRS and the Devereux Scales revealed 67% and 75% level of accuracy beyond chance. The ASCA's positive predictive power was 80.6% and Milich (1987) noted that 75% is adequate. The

conclusion of the study was that the ASCA is a valid and specific instrument designed to present information on youth psychopathology. Practitioners may get better results using the discriminate classification procedure that weighs all six core syndromes when determining SED classification (McDermott et al., 1995).

McDermott and Weiss (1995) examined the subtypes of normal as well as abnormal behavior using minimum variance three stage clustering procedure. Twenty-two clusters emerged with 12 adequate or marginal types of behavioral styles and 10 at-risk or maladjusted behavioral styles. Eighteen common profiles were emergent across seven of seven replication trials with one rare type prevalent equaling a total of 19 profiles. T score elevation described the level of maladjustment. T scores below 60 were associated with adequate adjustment, T scores between 60-62 were associated with marginal adjustment, T scores between 63-69 were associated with at risk classification, and T scores above 70 were classified as maladjusted. Prevalence rates in the standardization sample revealed that 78.6 percent of the children were adjusted, with 44.2 percent of that group being adequately adjusted, 34.2 percent being marginally adjusted. Boys dominated 10 behavioral profiles characterized by aggressiveness and excessive acting out. Girls dominated Type 1, (Good Adjustment), Type 2 (Adequate Adjustment with inhibition), Type 6 (Marginal Withdrawal), and Type 10 (Moodiness). The other behavioral profile types were more evenly distributed among gender. This study supported the hypothesis that adjusted behavioral styles and maladjusted behavioral styles lie on a continuum.

Use of confirmatory factor analyses to define the course of behavioral pathology was recommended.

Psychopathology in children tends to vary because it sometimes changes its appearance in response to certain pathogens. Gender and developmental milestones also affect the appearance of certain pathologies (McDermott, 1996). Few studies in the past have focused solely on youth psychopathology and the ones that have, displayed serious methodological problems. Ten studies of youth psychopathology have been conducted within the last 12 years and five consisted of American children. Most did not use representative samples. Common problems with the samples included lack of stratification for ethnicity, family structure, community size, urban/rural residence, and comorbidity of disorders. McDermott (1996) investigated the prevalence of distinct psychopathology syndromes across developmental levels and gender as they present themselves in most maladjusted youths. Participants in this study were obtained from a subsample of the larger standardization sample of the ASCA. Maladjustment was assessed in two ways. First, gender was held constant while adjustment was examined from a developmental perspective. Second, developmental levels were held constant while maladjustment was studied across gender. Results suggested that Attention-Deficit Hyperactive (ADH), Solitary Aggressive Impulsive (SAI), and Solitary Aggressive Proactive (SAP) syndromes occurred more frequently among younger children, (ages 5-11). Solitary Aggressive Proactive (SAP), and SAI were found more prevalent among males. The avoidant syndrome was represented more by females ages 9-11 and

11-17. Males appeared to dominate all syndromes of maladjustment while females only dominated one syndrome: Diffidence (DIF). Attention-Deficit Hyperactivity Disorder (ADHD) has tended to be over represented in the male population as opposed to the general population. Possible reasons for these results included that ADHD is now a popular diagnosis among clinicians and that historically males have dominated disorders that consist of excessive acting out and ADHD and Conduct Disorder demonstrate comorbidity of symptomatology.

Investigation of base rates of problem behaviors within subgroups of the general population would increase our knowledge of normal and abnormal child development (McDermott & Schaefer, 1996). The purpose of this study was to examine base rates for youth psychopathology. This may include the context in which a specific behavior occurs, distinctions between behaviors that happen frequently, and those that are quite rare. Rank order prevalence and overall prevalence among the childhood population and across demographics was included. Prevalence was calculated for 20 of the most common behaviors and 20 of the most rare behaviors from each demographic subgroup and overall surface syndromes. Results showed that 50% of the items that were endorsed on the ASCA were positive items with less than 30% being problem indicators. Logistic analysis revealed that the relationships between individual behaviors and demographics were all significant. Preadolescents were found to engage in behaviors such as ruining schoolwork, attacking peers, and more attention seeking behaviors. Adolescents were found to be more avoidant. Males tended to engage in more provocative behaviors including sexually offensive behaviors

and mistreating weaker students (McDermott & Schaefer, 1996). Results also

revealed that males tended to dominate the most common behaviors like ADHD,

and refusal or reluctance to speak. Girls were shown to dominate only in one

area, that being Diffident behaviors, and lack of participation. Greater behavior

problems were noted among children whose parents were lower in educational

attainment. Problem behaviors included such things as carrying a deadly

weapon and drug abuse. Results of the study concluded that precedence of rare

and problem behaviors remained fairly consistent and stable across

demographic variables. Differential prevalence among gender and social class

was apparent. Information gathered in this study suggested that base rates vary

for specific problem behaviors as they relate to the demographics of sex, social

advantage, and ethnicity (McDermott, & Schaefer, 1996).

Many stereotypical relationships are assumed in the prevalence of

aggression and psychopathology among children of certain races. National

studies of youth psychopathology have lacked standardization samples which

explored the relationship of ethnicity and problem behaviors (McDermott, &

Spencer, 1997). McDermott and Spencer's (1997) study utilized the ASCA

standardization sample (McDermott,1994) to examine these questions. Race

and ethnicity consisted of 4 mutually exclusive categories i.e.(White, African

American, Hispanic, and other). Parent education served as the primary

indicator of social class. Results suggested that youth psychopathology tends to

match the distribution of race and social classes among the U.S. population.

One exception to this was the Diffident syndrome in which Hispanics tended to

be overly represented when compared to African Americans (McDermott, &

Spencer, 1997). A higher proportion of African American youths displayed

impulsive/aggressive behaviors. Increased Diffidence and less Oppositional

Defiance and Impulsivity were more frequent among children from less educated

families. Moreover, decreased aggression was found among White children

whose parents did not have secondary education. No significant differences

were found for overall adjustment vs. maladjustment across races. Underactivity

was over represented by White youths with lower SES. White youths with

parents who have had some secondary education displayed significantly more

solitary aggression than expected, although this was not the case for the White

youths whose parents had the highest degree of education. Results suggested

that the amount of parent education does not result in a decrease in youth

psychopathology to the degree for non-Whites as it does for whites. This

research is hard to evaluate because there is very little past research with which

to compare. Results suggested that social class as a sole predictor is not a good

predictor of youth psychopathology. Previous diagnostic criteria, due to its

limitations, have presented skewed distributions of psychopathology among

youths and this could have a very negative impact on children that need help

(McDermott, & Spencer, 1997).

Canivez & Watkins (1997) investigated the interrater reliability of the

ASCA. The study utilized 71 students placed in several different special

education programs. The students were rated by 29 observers in 24 classrooms.

Results produced interrater reliability coefficients ranging from .55 to .80 for core

syndromes, and .83 to .85 for composites. Conclusions indicated adequate

interrater reliability was established for the ASCA.

The Behavior Assessment System for Children (BASC)

The BASC consists of five measures that provide information from

several informants to provide a multidimensional understanding of the child

being assessed. The measures include a Parent Rating Scale (PRS), Teacher

Rating Scale (TRS), Student Observation System (SOS), Self-Report of

Personality (SRP), and Structured Developmental History (SDH). The BASC

contains items directly linked to DSM-IV diagnostic criteria in order to provide

school and clinical professionals the ability to gather information that will aid in

making a differential diagnosis. The BASC components can all be used together

or each component can be used separately to gather specific information from a

particular source. The BASC components were conormed making the whole

system more practical and informative when interpreting results. Standardization

of the TRS, SRP, and PRS included a total of 4423 children ages 4-18 that were

selected to provide a representative sample of the U.S. population. The sample

was also stratified according to demographics and exceptionality. Technical

information provided in the BASC manual showed high internal consistency and

test-retest reliability for the component's scales and composites. The TRS

displayed internal consistency averaging .80 or above while test-retest

coefficients averaged in the high .80's. Interrater reliability of the TRS was

measured as having a median coefficient value of .83. Convergent evidence of

construct validity was provided for the TRS when compared to five other

behavioral rating instruments with results showing high correlations between the TRS scales and composites with the other instrument's scales and composites especially ones measuring school problems and externalizing behaviors (Reynolds & Kamphaus, 1992).

Sandoval and Echandia (1994) reported that the BASC components are easy to use, although there is some concern about the reading ability required for the Self-Report of Personality (SRP) for ages 8-11. They felt that the BASC would be a very useful device when assessing behaviors of school-aged children, but its use with preschoolers should be with caution. They also described that the BASC components as a "state of the art" instrument for measuring behavioral and emotional problems of school-aged children.

Behavior rating scales have increased in number over the past several years. The BASC is a relatively new instrument designed to measure problem behavior in children (McNamara, Hollmann, & Riegel, 1994). The purpose of the McNamara, et al. (1994) study was to determine if the BASC could differentiate between the condition of children's mental health who were either part of a home-based Head Start program or a center-based program. Parents and teachers were asked to complete the appropriate form of the BASC for their children that were in either a center-based program or a home-based program. Results of the study suggested that parents rated their children as having more problems than did the teachers. Parents rated center-based students as having better adaptive behavior skills while teachers ratings of center-based students suggested less problem behaviors than home-based students. McNamara et al.

(1994) felt that the BASC was a useful instrument when measuring problem and adaptive behavior for preschool children.

The BASC will be a useful tool for school psychologists, clinical psychologists, education personnel, and other professionals when assessing the behavior of children and adolescents (Adams, & Drabman, 1994). Teacher Rating Scale subscales and composites correlated highly with the Child Behavior Checklist-Teacher Report Form (Adams, & Drabman, 1994). The BASC appears similar to the Teacher Report Form, but its validity scales, developmental history component, adaptive scales, and strong psychometric qualities set it apart. Another advantage of the BASC is that it links behaviors to DSM-IV criteria and can help in treatment and programming. Criticisms of the BASC include the complexity of the hand scoring forms and the possibility that the SRP-C addition may lack validity because children at that age may have difficulty understanding the questions. Adams & Drabman (1994) concluded with the statement that "Together the BASC components provide a complete picture of a child's emotional and behavioral functioning to help with assessment purposes" (p. 8).

The BASC differs from other behavior rating devices in that it includes adaptive and maladaptive items. This allows clinicians to measure the strengths and weaknesses of the child (Hoza, 1994). Weaknesses of the BASC were few and mostly regard the scoring procedures. The computer program to assist in scoring is cumbersome and it can be a time consuming process when installing the program into a computer. Hoza also noted a peculiar absence of

correlational data regarding the student observation system (SOS) and the PRS and TRS. Otherwise, the TRS, SRP, and PRS scales appear to be psychometrically sound. The review concluded by suggesting that the BASC may be more useful for the clinician than to the researcher.

Although the BASC appears to be a psychometrically well developed instrument, Jones and Witt (1996) asked "How useful is this instrument" (p.1). The BASC is proposed to be an assessment system which uses five components that were normed together. This apparently is innacurrate and during the development and standardization procedures the classroom observation and developmental history components were not used. Jones and Witt indicated that reliability was a strong trait of the BASC, but did not feel that the BASC was an accurate measure of behavior. In their opinion the BASC requires too much inference on the part of the rater, which leads to measurement error. This is the result of a teacher making a subjective inference of behavior that are placed and interpreted on an ordinal scale. Treatment and social validity of the BASC were highly criticized. The review concluded by stating that the BASC is a good instrument for measuring the perceptions of the raters, but is limited in its ability to provide a useful description of accurate problem behavior of a child and linking it to a treatment plan.

Kline (1994) reviewed of several new objective behavior rating scales including the BASC. The BASC's description and scale construction was presented and overall psychometric characteristics for the TRS and PRS of the BASC were judged as being good. Kline (1994) felt that the TRS cognitive scale,

which is Learning Problems, does not appear to be a very distinct measurement. Also, he did not feel that the TRS can accurately measure differences between children with normal academic achievement and those with difficulty. Kline described several weaknesses of the BASC. The BASC manual contains no clinical examples comparing the TRS and the PRS and very limited interpretive guidelines are presented in the manual for the broad based profiles of the TRS and PRS. Despite these weaknesses Kline considered the BASC as a positive advancement in the area of multisituational and informant evaluation systems.

Flanagan (1995) stressed the need for an objective behavioral rating device that would contribute in the determination of behavioral and emotional problems according to the Individuals with Disabilities Act (IDEA). While reviewing the BASC Flanagan noted that the T scores of the BASC do not measure at the same level across scales. For the clinical scales T scores of > 60 are considered "at risk", and T scores >70 are "clinically significant". The Adaptive measures are scaled in the opposite direction, T scores of < 40 are considered "at risk" and T scores <30 are indicators of poor adaptive functioning. Norms on the BASC are provided for emotionally disturbed students based on the operational definitions and federal classifications of these disorders. Flanagan stated "The BASC has been positively received by students as well as parents" (p.184), and "should become a mainstay in school psychology practice" (p.185).

Merenda's (1996) overview of the BASC included descriptions of the development, standardization, and psychometric properties of the system.

Merenda was critical that the BASC manual still refers to its standard scores as T scores. They are actually ordinary standard scores which are not symmetrical like T scores. Knowledge of ordinary standard scores would be beneficial in the interpretation of the BASC manual. No formal studies focusing on content, criterion, or construct validity were present in the manual. The studies that were presented were correlational studies that lacked ample sample size and did not provide meaningful information (Merenda, 1996). For the TRS, the BASC manual claims that the high correlations it presents with other instruments designed to measure the same construct displays construct validity. The American Educational Research Association (as cited in Merena, 1996) states that "validity is the most important consideration in test evaluation." Merenda suggested that validity is not one of the BASC's stronger characteristics. Merenda recommended any future user of the BASC to read Messick's (1993) treatise on the topic of construct validity. Merenda (1996) concluded that with some improvements upon its psychometric properties, the BASC could become the premier behavioral rating device used by school psychologists and other educational professionals.

Flanagan, Alfonso, Primavera, Povall, & Higgins (1996) assessed the convergent validity of the Social Skills Rating System (SSRS; Gresham & Elliot, 1990) and the BASC. A secondary purpose was to compare the relationship between parent-teacher agreement on the BASC and SSRS. The BASC was chosen for comparison because it is one of the few behavior rating scale that has a scale to measure social skills. The SSRS was chosen because it is

recognized as the most psychometrically sound social skills rating instrument available today. Results showed the BASC parent ratings were one-half standard deviation higher than the teacher ratings on problem behaviors. The correlation between the parent forms of SSRS Social Skills scale and the social skills subscale scale of the BASC was .58, which was significant. The correlation between the teacher forms was only .23. Other correlations between the two instrument's scales for teacher and parent forms were in the expected direction. Some correlations between scales were lower than expected, for example the SSRS problem behavior scale and the BASC anxiety scale correlation was .03 ($p > .05$) for parents and .37 ($p < .05$) for teachers. Flanagan et al. (1996) felt that the teacher form of the SSRS should be used to assess school social skills because it is more thorough and also provide a link from assessment to intervention. It was felt that the BASC would be the better measure for the assessment of problem behavior because of the wide range of problems covered and it has shown to be a valid instrument when measuring this construct. Flanagan et al. (1996) concluded with "The results of the present study generally provide preliminary convergent validity evidence for the BASC and SSRS" (p.22).

Statement of the Problem

The use of objective behavior rating scales to aid in the evaluation of children and adolescents with behavioral difficulties has become increasingly prevalent in the profession of school and clinical psychology. It is the ethical and professional responsibility of an examiner to use the most reliable and valid

instruments in evaluating the child. School and clinical psychologists, and other mental health care professionals are constantly striving to find the most practical and interpretable behavioral rating devices available. Many objective behavior rating scales that have been used in the past and some current scales lack documented research pertaining to their convergent evidence of construct validity when compared to other instruments which have been designed to measure the same construct. Convergent evidence of construct validity is important and attempts to determine to what degree two or more procedures designed to measure the same construct converge or measure in a similar fashion (Cohen, Montague, Nathanson, & Swerdlik, 1988).

It would appear by the review of the literature that both instruments the ASCA and the TRS of the BASC seem to be initially technically adequate. However, little convergent evidence of construct validity is present for either instrument. There needs to be more independent verification of the convergent validity between these two instruments. The present study attempted to provide this needed research by comparing the ASCA and the BASC-TRS.

Chapter II

Method

Participants

Participants were 52 students referred for educational evaluation who were attending public or parochial schools encompassing a three county area in rural southern Indiana. The students grade placements were as follows: 3(5.8%) from kindergarten, 14(26.9%) from first grade, 8(15.4%) from second grade, 6(11.5%) from third grade, 4(7.7%) from fourth grade, 7(13.5%) from fifth grade, 4(7.7%) from sixth grade, 2(3.8%) from seventh grade, 2(3.8%) from eighth grade, and 1(1.9%) each from grades ten and eleven. Ages ranged from 5 to 17 ($\underline{M}$ = 9.74, $\underline{SD}$ = 2.52). Sixty-four percent of the students were male and 36% were female and all were Caucasian. The schools were predominately located in communities where agriculture and the woodworking industry are the primary sources of income.

Instruments

The teachers rated student behavior using the appropriate form of the Adjustment Scales for Children and Adolescents (ASCA), and the Behavior Assessment System for Children-Teacher Rating Scale (BASC-TRS). Both of these instruments are nationally standardized behavior rating scales designed to be completed by the student's classroom teacher and interpreted by a qualified professional. It is generally accepted that both instruments are technically adequate.

Adjustment Scales for Children and Adolescents

The ASCA is an objective behavior rating instrument for use in measuring

youth psychopathology for ages 5-17 (grades K-12). It contains 96 scorable

items that are placed into one of six core syndromes or two supplementary

syndromes. It takes approximately 10-20 minutes to complete. The ASCA's

question format also contains many positive behavioral descriptors. The teacher

may mark one or more of the 3 to 8 behavioral descriptors that are presented for

a given situation in which the teacher may have observed the student . If none

apply, no items are marked. Scoring provides percentiles and normalized T

scores for the six core syndromes, two supplementary syndromes, and two

adjustment scales. Review of related research suggests that the ASCA

possesses adequate validity and reliability.

Behavior Assessment System for Children-Teacher Rating Scale

The BASC-TRS is one component of a larger behavior assessment

system. It was designed to provide a diverse, objective behavior rating device

that could measure problem behavior along with an adaptive scale. The TRS

contains 109, 148, 138 items depending on the age of the child being rated. It

takes about 10 to 20 minutes to complete. The TRS contains 14 scales, 5

composites, and one index score. The teacher rates the child's behavior on a

four point scale which ranges from never to almost always. Scoring provides

percentiles and T scores for the 14 scales, 5 composites, and one index.

Review of research on the BASC-TRS indicates adequate reliability and validity.

Procedure

Five school psychologists and one school psychologist intern from a three county special education cooperative participated in the data collection process. The psychologists were asked to randomly select students from their caseload who were initial referrals for special education evaluation to participate in the study. While the random selection was intended for the data collection, this was not always possible due to the school psychologist's varying caseloads. The student's classroom teacher was asked to complete the appropriate form of the ASCA and the BASC-TRS for each student they referred. All teachers completed and returned the forms within the 40 school-day period allotted by the state of Indiana for the initiation and completion of an initial referral for special education evaluation.

The ASCA was scored by hand using the self-scoring record forms. The BASC-TRS was scored with the BASC Enhanced Assist computer software program utilizing the general norm group (AGS, 1996).

Data Analysis

Convergent validity for the ASCA core syndromes and BASC-TRS subscales was examined through the use of Pearson product-moment correlation coefficients. Pearson product-moment coefficients were also used for the ASCA global scales with BASC-TRS composite scales. Two-tailed dependent t-tests were used to determine significance of differences in T scores of core syndromes/subscales, and global/composite scales. Specific comparisons of interest included the following: ASCA Overactivity Adjustment

scale with BASC-TRS Externalizing composite, ASCA Underactivity Adjustment scale with BASC-TRS Internalizing composite, ASCA Attention-Deficit Hyperactive (ADH) core syndrome with BASC-TRS Attention Problems subscale, ASCA ADH core syndrome with BASC-TRS Hyperactivity subscale, ASCA Solitary Aggressive Proactive (SAP) core syndrome with BASC, TRS Aggression subscale, ASCA Solitary Aggressive Impulsive (SAI) core syndrome with BASC-TRS Aggression subscale, ASCA Oppositional Defiant (OpD) core syndrome with BASC-TRS Conduct Problems, ASCA Diffident (DIF) core syndrome with BASC-TRS Anxiety subscale, ASCA Avoidant (AVO) core syndrome with BASC-TRS Withdrawal subscale, ASCA Delinquent (DEL) supplementary syndrome with BASC-TRS Conduct Problems subscale, ASCA Lethargic (LEH) supplementary syndrome with BASC-TRS Depression subscale.

Chapter III

Results

Table 1 presents Pearson product-moment correlation coefficients for the

six ASCA core syndromes and two supplementary syndromes with the 14 BASC-

TRS subscales. Table 2 presents Pearson product-moment correlations for the

ASCA global adjustment scales and BASC-TRS composites. Correlations

ranged from moderately negative to highly positive, depending on the

comparison. Specific comparisons of interest yielded support of convergent

validity for the two instruments. The ASCA ADH core syndrome was highly

correlated with BASC-TRS Hyperactivity subscale (r =.75, p < .0001). Means

and standard deviations of the ASCA syndromes/global scales and BASC-TRS

subscales and composites presented in Table 3 further support agreement as

the ASCA ADH (M = 56.63, SD = 9.78) and the BASC-TRS Hyperactivity

scale(M = 53.96, SD = 10.42) did not differ t(51) = -2.71, p > .05. This degree of

association was expected due to similar descriptions from their respective

manuals. It was also expected that the ASCA ADH core syndrome would also

display a high degree of association with the BASC-TRS Attention Problems

subscale. The correlation was slightly lower, but significant (r =.61, p < .0001).

Mean differences between the ASCA ADH syndrome (M = 56.63, SD = 9.78) and

BASC-TRS Attention Problems (M = 61.50, SD = 9.24) were also significant,

t(51) = 4.17, p < .0001. The correlation between the ASCA SAP and BASC-TRS

Aggression subscale was significant (r =.71, p < .0001), with average ratings

nearly identical for the ASCA SAP (M = 53.88, SD = 12.52) and BASC-TRS

Aggression ($\underline{M}$ = 53.73, $\underline{SD}$ = 13.94), $\underline{t}$(51) = -.11, $\underline{p}$ > .05. The ASCA SAI core

syndrome was also significantly correlated with the BASC-TRS Aggression

subscale ($\underline{r}$ .55, $\underline{p}$ < .0001). The mean differences between the ASCA SAI core

syndrome ($\underline{M}$ = 52.35, $\underline{SD}$ = 11.77) and the BASC-TRS Aggression scale ($\underline{M}$ =

53.73, $\underline{SD}$ = 13.94) were also not significant, $\underline{t}$(51) = .81, $\underline{p}$ > .05. The ASCA OpD

core syndrome was significantly correlated ($\underline{r}$ =.38, $\underline{p}$ < .01) with the BASC-TRS

Conduct Problems subscale and mean differences ASCA OpD ($\underline{M}$ = 52.77, $\underline{SD}$ =

14.10) and BASC-TRS Conduct Problems ($\underline{M}$ = 55.09, $\underline{SD}$ = 16.24) were not

significant $\underline{t}$(51) = .99, $\underline{p}$ > .05. The ASCA DEL supplementary syndrome

displayed convergent validity with three BASC-TRS subscales. The DEL

supplementary syndrome displayed significant correlations with the Hyperactivity

subscale ($\underline{r}$ = .55, $\underline{p}$ < .001), the Aggression subscale ($\underline{r}$ = .53, $\underline{p}$ < .001), and the

Conduct Problems subscale ($\underline{r}$ = .54, $\underline{p}$ < .001). The mean difference between

the DEL core syndrome ($\underline{M}$ = 52.08, $\underline{SD}$ = 11.74) and the Hyperactivity subscale

($\underline{M}$ = 55.08, $\underline{SD}$ = 11.35) was not significant $\underline{t}$(35) = 1.64, $\underline{p}$ > .05. The mean

difference between the DEL core syndrome ($\underline{M}$ = 52.08, $\underline{SD}$ = 11.74) and the

Aggression subscale ($\underline{M}$ = 55.69, $\underline{SD}$ = 15.66) was also not significant $\underline{t}$(1.58), $\underline{p}$

> .05. Finally, the mean difference between the DEL core syndrome ($\underline{M}$ = 52.08,

$\underline{SD}$ = 11.74) and the Conduct Problems subscale ($\underline{M}$ = 57.14, $\underline{SD}$ = 18.45) was

not significant $\underline{t}$(35) = 1.94, $\underline{p}$ > .05.

Further supporting convergent validity of the two instruments was the

significant correlation between the ASCA AVO core syndrome and the BASC-

TRS Withdrawal subscale ($\underline{r}$ =.49, $\underline{p}$ < .0001). There was no difference between

the ASCA AVO ($\underline{M}$ =53.46, $\underline{SD}$ = 11.48) and BASC-TRS Withdrawal scale ($\underline{M}$ = 56.98, $\underline{SD}$ = 13.66), $\underline{t}$(47) = 1.97, $\underline{p}$ > .05. A significant correlation was found between ASCA LEH supplementary syndrome and BASC-TRS Depression subscale ($\underline{r}$ =.37, $\underline{p}$ < .01). Mean ratings for the ASCA LEH ($\underline{M}$ = 57.40, $\underline{SD}$ = 11.91) and BASC-TRS Depression scale ($\underline{M}$ = 55.42, $\underline{SD}$ = 13.86) did not differ, $\underline{t}$(47) = -.94, $\underline{p}$ > .05.

These results also presented information regarding differences between certain scales of the ASCA and BASC-TRS. Convergent evidence of construct validity was further supported by moderate negative correlations for specific comparisons of interest. The ASCA ADH core syndrome was negatively associated with BASC-TRS Adaptability subscale ($\underline{r}$ = -.53, $\underline{p}$ < .0001) and the BASC-TRS Study Skills subscale ($\underline{r}$ = -.42; $\underline{p}$ < .01). The significant mean difference between the ASCA ADH core syndrome ($\underline{M}$ = 53.63, $\underline{SD}$ = 9.78) and BASC-TRS Study Skills subscale ($\underline{M}$ = 39.98, $\underline{SD}$ = 6.42), $\underline{t}$(51) = -8.72, $\underline{p}$ < .0001 further supported the expected difference between two scales having an inverse relationship. The ASCA AVO core syndrome was negatively associated with the BASC-TRS Social Skills subscale ($\underline{r}$ = -.48, $\underline{p}$ < .0001), Leadership subscale ($\underline{r}$ = -.53; $\underline{p}$ < .0001), and Study Skills Subscale ($\underline{r}$ = -.40; $\underline{p}$ < .01). The ASCA DEL supplementary syndrome was negatively associated the with BASC-TRS Study Skills subscales ($\underline{r}$ = -.56, $\underline{p}$ < .0001). Mean differences were not computed for these correlations as the ASCA syndromes were not comparable to these BASC-TRS subscales. These significant, negative correlations between scales reflecting inverse relations are supportive.

It is interesting to note that the BASC-TRS Atypicality subscale was moderately correlated with all of the ASCA OVR syndromes (i.e. ADH = .60, SAP = .53, SAI = .53, OD = .48, p < .0001) and Supplementary syndromes (DEL = .44, LEH = .44, p < .01) but displayed a weaker relationship with ASCA UNR syndromes (i.e. DIF = .05, p > .05, AVO = .33, p < .05).

Comparisons of ASCA global Adjustment scales and BASC-TRS composites revealed conflicting information in regard to convergent and divergent evidence of construct validity. The ASCA OVR Adjustment scale was significantly correlated with the BASC-TRS Externalizing composite (r = .79; p < .0001). The ASCA OVR (M = 56.67, SD = 10.69) and the BASC-TRS Externalizing composite (M = 54.73, SD = 13.47) did not significantly differ, t(51) = -1.71, p > .05. This correlation represents 62% shared variance between the two scales. Interestingly, the ASCA OVR Adjustment scale and BASC-TRS Internalizing composite (r = .52, p < .0001) were moderately correlated. This comparison was higher than expected considering their name, nature, and scale descriptions. The ASCA OVR Adjustment scale was significantly correlated with the BASC-TRS School Problems composite (r = .57, p < .0001). The ASCA OVR Adjustment scale also displayed significant correlation's with the BASC-TRS Behavioral Symptoms Index (r = .78, p < .0001) and Adaptive Skills (r = -.42, p <.01) composites. No significant relationships were found between the ASCA UNR Adjustment scale and BASC-TRS Externalizing and Internalizing composites.

Remaining two-tailed, dependent t tests comparing differences in group means were consistently small and in expected directions across ratings of the ASCA syndromes and Adjustment scales and the BASC-TRS subscales and composites that is, displaying moderate to high agreement among ratings between the two instruments. There was one difference that was surprisingly significant and should be noted. A significant difference was found between the ASCA SAI core syndrome ($\underline{M}$ = 61, $\underline{SD}$ = 52.35) and the BASC-TRS Attention problems subscale ($\underline{M}$ = 52; $\underline{SD}$ = 9.24), $\underline{t}$(51) = 5.46, $\underline{p}$ < .0001. Initially, it would appear that the two should be rated at a similar level because teachers often relate impulsivity with inattention and hyperactivity, but in fact, the BASC-TRS has a separate subscale with which hyperactivity and impulsivity are measured. The BASC-TRS Hyperactivity subscale was not significantly different from the ASCA SAI core syndrome.

Chapter IV

Discussion

When looking at the specific comparisons of interest involving the ASCA and the BASC-TRS, evidence of convergent validity was apparent. Several of the correlations ranged from .50 to the .70 range for scales measuring similar dimensions. While this degree of association is considered moderate to high, shared variance between the two instruments revealed an even more impressive relationship, considering that this study had a relatively small sample size. For example, the ASCA ADH core syndrome and the BASC-TRS subscale of Hyperactivity correlated r = .75, suggesting slightly over half, (56%) of the variance between the two scales was shared. This type of relationship was also present between the ASCA OVR adjustment scale and the BASC-TRS Externalizing composite r = .79 representing a shared variance of 62%. Another important result of the study was the degree of agreement between the two aggression core syndromes of the ASCA, the (SAP and SAI), and the BASC-TRS Aggression subscale. The SAP core syndrome was associated with the BASC- TRS aggression subscale to a higher degree than was the ASCA SAI core syndrome. The ASCA SAP core syndrome and BASC-TRS Aggression subscale's construction appear to be more closely related than the ASCA SAI core syndrome. The ASCA manual (McDermott, 1994) defines the ASCA SAP core syndrome as measuring behaviors which are intimidating and overly confrontative while it defines the SAI core syndrome as measuring impulse-ridden or habit driven offenses. The BASC-TRS manual (Reynold's &

Kamphaus, 1992) defines their Aggression subscale as assessing both verbal

and physical aggression along with threatening and criticizing behavior. Also,

the ASCA DEL supplementary syndrome displayed similar significant

correlations with the BASC-TRS subscales of Hyperactivity, Aggression, and

Conduct Problems. The correlation with the Conduct Problems subscale was

expected as manuals for both instruments describe each of their scales as

measuring a form of delinquency (i.e. illicit group activity, alcohol and drug use,

destruction of property) for ASCA DEL supplementary syndrome and (truancy,

stealing, alcohol and drug use) for BASC-TRS Conduct Problems subscale. The

ASCA DEL supplementary syndrome's description does not fit the BASC-TRS

manual's descriptions of the Aggression and Hyperactivity subscales as closely.

Moderate correlations may have been related to teachers rating children that are

involved in delinquent activity high in areas of aggression and hyperactivity.

Some comparisons of interests may have not had a very high degree of

agreement simply due to the construct they were designed to measure. For

example, the ASCA OpD core syndrome would appear to be measuring a more

specific, defined behavior than the BASC, TRS Conduct problems subscale.

The ASCA OpD core syndrome contains items such as "child takes corrections

badly" or "loses his temper if he cannot get his way" while the BASC-TRS

Conduct Problems subscale contains items such as "steals at school" and "is

truant often". The difference in items may have lead to their relatively low

correlation (r = .38). The BASC-TRS Atypicality subscale displayed high

correlations with all the ASCA OVR core syndromes but very little correlation

with the ASCA UNR core syndromes. According to the BASC manual (Reynolds

& Kamphaus, 1992) the Atypicality subscale does not load on a particular

composite, but is listed under "Other Problems". The BASC manual defines the

Atypicality subscale as measuring behaviors which are "odd" or immature and

possibly associated with psychosis. It would appear from the results of the

present study that the scale measures behaviors associated with aggression,

acting out, and impulsivity which are easily recognizable and call for little

inference. The BASC manual suggests that interpretation of high scores on this

subscale should be made with caution, and the results of the present study

support that. The ASCA LEH supplementary syndrome displayed moderate

significant correlations with the BASC-TRS Adaptability, Social Skills,

Leadership, and Study Skills subscales. The correlations were negative which

would be expected as high scores on the ASCA LEH supplementary syndrome

would suggest loss of physical energy, apathy, and slowness while high ratings

on the BASC-TRS subscales of Adaptability, Social Skills, Leadership, and

Study Skills would suggest positive adaptive behaviors such as ability to adapt

to one's environment, successful peer interaction, accomplishing academic

goals, and good study habits. The scales are clearly measuring constructs

inversely related and would suggest that a child's adaptive functioning would

decrease along with their energy and motivation. The ASCA DIF and AVO core

syndromes displayed very little association with the BASC-TRS subscales of

Hyperactivity, Aggression, and Conduct Problems. This lack of association would also be expected as the ASCA DIF core syndrome contains items that refer to timid and fearful behaviors and the ASCA AVO core syndrome contains items that apply to aloof, withdrawn, or uncommunicative behaviors. All of these items load under the ASCA's UNR composite and require some inference on the part of the rater. These item descriptions are quite different than the BASC-TRS subscales of Hyperactivity, Aggression, and Conduct Problems subscales which all load under the BASC's Externalizing composite. These subscales contain items which predominately measure behaviors related to inattention, impulsivity, and aggression which are clearly apparent to the rater. The failure to find significant relationships between the ASCA UNR Adjustment scale and the BASC-TRS Internalizing composites was quite unexpected as it does not support separate constructs among the internalizing composites of the BASC-TRS.

Although the ASCA and BASC-TRS are both fairly new instruments designed to measure youth problem behaviors they contain many structural and theoretical differences which could affect ratings and comparisons. For example, the ASCA contains many positive behavioral indicators as well as items closely related to school observations which may make it easier for teachers to complete. The ASCA's straight forward and non technical language makes it easy to understand and user friendly. The BASC-TRS format can be rather long due to the fact that all 138 to 148 items, depending on age of the child, must be rated.

Previous research reported in the BASC manual involving correlations of the BASC-TRS with other instruments such as the Conner's Teacher Rating Scales (TRS; Conner's, 1989) and the Teacher Report Form (TRF; Achenbach, 1991) led to varying degrees of agreement. The BASC-TRS correlated very highly with the Achenbach TRF yielding correlations in the .60 to .70 range between similar scales and up to the .90 range between composites with similar descriptions. Correlations were not as strong between the BASC-TRS and the Conner's Teacher Rating Scales with coefficients ranging from a low of .38 to a high of .69 for similar scales, this may be due in part to the much different design of the TRS. The Achenbach TRF and BASC-TRS share similar format along with many similar subscales and several composites which have the exact same name.

Previous research comparing the ASCA to other instruments such as the Conner's TRS (TRS; Conner's, 1989) and the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983) was presented in the ASCA manual (McDermott, 1994). The comparison with the CBCL consisted of significant correlations similar to the present study ranging from .75-.42 for like scales and composites. Comparisons with the TRS yielded a greater range of correlations from .18-.80. Overall expected convergence and divergence between the scales were present. The ASCA was also compared to the intelligence and achievement indices of the Differential Ability Scales (DAS; Elliot, 1990). Correlations in the McDermott (1995) study were low ranging from .01 to .24 suggesting that intelligence and school achievement vary independently of youth

psychopathology. The results of the present study appear to follow the same pattern as previous research involving the two instruments by displaying convergent validity with moderate to high correlations between similar scales, but also displaying some individual characteristics of each scale evidenced by very low or near zero correlations, divergent validity.

There are several limitations of the present study. The sample size was relatively small ($\underline{n}$ = 52) and was not representative of the general population as all subjects and raters were Caucasian and from a rural three county area. Teachers were asked to complete all rating scales at the same time, but some scales were returned a week or two apart and this could have contributed to some rating differences. It would also have been beneficial to have older subjects in the study to get a better representation of the construct validity of the instruments across a wider age range. Furthermore, an increase in sample size along with more racially and geographically diverse participants in future studies would allow greater generalization of the present results.

In conclusion, the present study provided some evidence of convergent validity for the ASCA core and supplementary syndromes and the BASC-TRS subscales. For the ASCA global adjustment scales and BASC-TRS composites convergent validity was only established for the ASCA OVR global adjustment scale and the BASC-TRS Externalizing composite. The lack of support for convergent validity between the ASCA UNR global adjustment scale with the BASC-TRS internalizing composite was apparent. This may be a result of the ASCA not directly measuring internalizing disorders. Both instruments appear to

be useful for school psychologists in identifying externalizing problem behaviors in children. They seem to provide a nice complement to one another when used together and may provide a clearer picture to a clinician about a child's overall behavior. The ASCA's flexible scoring procedures and both instruments' link to DSM-IV criteria make for a very useful combination. Future research needs to focus on the predictive validity of the two instruments. More specifically, what behavior problems rated on the instruments lead to what diagnoses. For example, are students rated high on BASC-TRS Conduct Problems subscale more likely to be placed in a class for children with behavior problems? Do the ASCA and BASC-TRS provide accurate diagnostic information supportive of students placed in emotionally handicapped programs? This information would be very beneficial to school psychologists and other educational professionals who are seeking a more accurate, less subjective methods for assessing youth problem behavior.

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Table 1

Correlations between the ASCA Core Syndromes and BASC-TRS Subscales

	ASCA Syndromes							
	ADH	SA(P)	SA(I)	OpD	DIF	AVO	DEL	LEH
BASC-TRS Subscales								
Hyperactivity	.75****	.72****	.55****	.56****	-.26	.12	.55***	.24
Aggression	.62****	.71****	.55****	.54****	-.22	.18	.53***	.19
Conduct Problems	.52****	.66****	.67****	.38**	-.06	.30*	.54***	.33*
Anxiety	.28*	.13	-.05	.26	.17	-.05	-.02	.36*
Depression	.48****	.47****	.22	.49****	.09	.17	.39*	.37**
Somatization	.38**	.27*	.19	.32*	-.03	.09	.38*	.30*
Attention Problems	.61****	.41**	.36**	.37**	.20	.35*	.32	.48***
Learning Problems	.34*	.37**	.40**	.15	.16	.24	.29	.26
Atypicality	.60****	.53****	.53****	.48****	.05	.33*	.44**	.44**
Withdrawal	.30*	.12	.16	.19	.40**	.49****	.04	.38**
Adaptability	-.53****	-.34*	-.22	-.37*	-.11	-.14	-.35	-.40**
Social Skills	-.26	-.22	-.27	-.20	-.37**	-.48****	-.37*	-.45***
Leadership	-.15	-.06	-.07	-.11	-.48****	-.53****	-.21	-.51****
Studyskills	-.42**	-.32*	-.45***	-.28*	-.12	-.40**	-.56****	-.47***

Note. ASCA = Adjustment Scales for Children and Adolescents, BASC-TRS = Behavior Assessment System for Children - Teacher Rating Scale, ADH = Attention Deficit Hyperactive, SA(P) = Solitary Aggressive (Provocative)., SA(I) = Solitary Aggressive (Impulsive)., OpD = Oppositional Defiant., DIF = Diffident., AVO = Avoidant DEL = Delinquent., LEH = Lethargic. n = 52 for all scales except Delinquent (n = 36) and Lethargic (n = 48).
*p < .05.   **p < .01.   ***p < .001.   ****p < .0001.

Table 2

Correlations between the ASCA Adjustment Scales and BASC-TRS Global
Composites.

	ASCA Adjustment Scales	
	Overactivity	Underactivity
BASC-TRS Composites		
Externalizing	.79****	-.05
Internalizing	.52****	.00
School Problems	.57****	.19
Behavior Symptoms Index	.78****	.00
Adaptive Skills	-.42**	-.44***

Note. ASCA = Adjustment Scales for Children and Adolescents, BASC-TRS =
Behavior Assessment System for Children-Teacher Rating Scale.
p < .01. ***p < .001.**p < .0001.

Table 3

Means and Standard Deviations for ASCA core syndromes/global scales and
BASC, TRS subscales/composites.

Scales	M	SD
ASCA Syndromes		
Attention-Deficit Hyperactive	56.63	9.77
Solitary Aggressive (Provocative)	53.88	12.52
Solitary Aggressive (Impulsive)	52.35	11.77
Oppositional Defiant	52.77	14.10
Diffident	51.35	11.77
Avoidant	53.46	11.48
Delinquent	52.08	11.74
Lethargic	57.39	11.90
ASCA Adjustment Scales		
Overactivity	56.67	10.69
Underactivity	53.96	12.13
BASC-TRS Subscales		
Hyperactivity	53.96	10.41
Aggression	53.73	13.94
Conduct Problems	55.09	16.24
Anxiety	57.79	11.69
Depression	55.12	13.50
Somatization	51.44	12.15
Attention Problems	61.50	9.24
Learning Problems	65.40	9.10
Atypicality	58.25	14.53
Withdrawal	56.98	13.67
Study Skills	39.98	6.42
BASC-TRS Composites		
Externalizing	54.73	13.47
Internalizing	55.71	12.05

Note. ASCA = Adjustment Scales for Children and Adolescents, BASC-TRS =
Behavior Assessment System for Children-Teacher Rating Scale. n = 52 for all
scales except Delinquent (n = 36) and Lethargic (n = 48). BASC-TRS
composites: Behavior Symptoms Index, School Problems, and Adaptive Skills
were not included in the table due to the ASCA not having comparable scales.