

Convergent and Divergent Validity of the Devereux Student Strengths Assessment

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This study assessed the convergent and divergent validity of the Devereux Student Strengths Assessment (DESSA; LeBuffe, Shapiro, & Naglieri, 2008). A total of 227 ($n = 94$ teachers, $n = 133$ parents) raters completed the DESSA, in addition to the Behavioral and Emotional Rating Scales–2 (BERS–2; Epstein, 2004) and/or the Behavior Assessment System for Children–2 (BASC–2; Reynolds & Kamphaus, 2004). All DESSA and BERS–2 subscales and total scales completed by parents and teachers correlated significantly. DESSA subscales and BASC–2 Adaptive Skills subscales correlated significantly for both parent and teacher raters. The divergent validity of the DESSA was explored by correlating the Total Protective Factor scale and subscales with the BASC–2 Behavioral Symptoms Index and clinical subscales. The majority of correlations for the parent ratings were significantly, negatively correlated, with the exception of the Anxiety, Somatization, and Withdrawal subscales. Support for the convergent validity of the DESSA was consistent across raters (e.g., parents; teachers) and measures (e.g., BASC–2; BERS–2). Thus, these findings support the divergent validity of the DESSA.

Keywords: strengths, assessment, validity

In recent years, there has been increased emphasis on positive psychology and strength-based perspectives in school psychology, evidenced by relevant special issues of *School Psychology Quarterly* (Huebner & Gilman, 2003), *The California School Psychologist* (Jimerson, 2004), and *Psychology in the Schools* (Chafouleas & Bray, 2004). School psychologists spend the large majority of their time engaged in assessment (Bramlett, Murphy, Johnson, Wallingsford, & Hall, 2002; Reschly & Wilson, 1995), making strength-based assessment a particularly useful method of infusing principles of positive psychology into prac-

tice. Strength-based assessment is the measurement of emotional and behavioral skills and characteristics that create a sense of accomplishment, contribute to satisfying relationships with family members, peers, and adults, enhance the ability to cope with stress, and promote social and academic development (Epstein & Sharma, 1998).

Strength-based assessment has been argued to be important in terms of providing a comprehensive understanding of a student and having direct implications for intervention. More specifically, strength-based assessment can provide information about the positive aspects of the individual and his or her situation to provide a more balanced and accurate, picture of the individual (McConaughy & Ritter, 2002; Reid, Epstein, Pastor, & Ryser, 2000). Students whose competencies are highlighted are likely to feel more empowered and motivated to strive for social and emotional health (Epstein, Hertzog, & Reid, 2001; LeBuffe & Shapiro, 2004). It is possible that this will lead to more positive parent–student–professional relationships, characterized by mutual trust, supportiveness, and clarity of goals in the absence of blame and guilt (Epstein, Dakan, Oswald, & Yoe, 2001; Epstein et al., 2003; LeBuffe & Shapiro, 2004).

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Identifying strengths and capacities in addition to assessing for psychopathology may lend itself well to informing intervention and treatment (Jimerson, Sharkey, Nyborg, & Furlong, 2004; Rhee, Furlong, Turner, & Harari, 2001). Individualized plans that begin with a focus on strengths rather than deficits may be more acceptable to students, families, and service providers (Epstein et al., 2003; Walrath, Mandell, Holden, & Santiago, 2004). Finally, strength-based assessment moves beyond the individual to consider social contexts as supportive resources (Jimerson et al., 2004) and lends itself to primary prevention and wellness promotion (LeBuffe & Shapiro, 2004).

Despite these arguments, the use of strength-based assessment in treatment planning and educational placement decision making has been recognized and practiced only recently (Oswald, Cohen, Best, Jenson, & Lyons, 2001). There are several potential barriers to the use of strength-based assessment in practice, including bureaucratic and role constraints, the lack of evidence suggesting that adding strength-based assessment will lead to better outcomes for children, and a lack of appropriate, standardized measures (Nickerson, 2007). Nevertheless, the findings from recent research studies provide evidence to refute some of these potential barriers. For example, a study by Donovan and Nickerson (2007) revealed that multidisciplinary team members who read an assessment report that included results from a strength-based assessment were more likely to predict more positive short-term outcomes overall, academically, and socially than were team members who read a report without this information. In addition, Cox (2006) found that the administration and discussion of strength-based assessment resulted in treatment that led to increased parent satisfaction, less premature termination of therapy, and fewer missed appointments than treatment as usual or the administration of the strength-based assessment without utilizing it in treatment.

Although a potential barrier to the use of strength-based assessment is the lack of measures to assess strengths, the number of available strength-based rating scales has begun to increase (Jimerson et al., 2004; Nickerson, 2007). Of the currently available rating scales that focus exclusively on strengths, the Behavioral and Emotional Rating Scales–2 (BERS–2; Epstein, 2004) has the most research support.

Other measures that assess various aspects of strengths or that can be used to better understand strengths include the Child and Adolescent Social Support Scale (CASSS; Malecki, Demaray, Elliott, & Nolten, 1999), the Multidimensional Students' Life Satisfaction Scale (MSLSS; Huebner, 1994), the Values in Action Inventory of Strengths for Youth (Park & Peterson, 2006), and the Temperament Assessment Battery for Children–Revised (Martin & Bridger, 1999). It should be noted that many of these measures are used primarily for research purposes. Overall, there is a need for close psychometric scrutiny of standardized measures dedicated specifically to the assessment of strengths (Epstein et al., 2001; Jimerson et al., 2004; Nickerson, 2007).

DESSA

The Devereux Student Strengths Assessment (DESSA; LeBuffe, Shapiro, & Naglieri, 2008) is a newly developed rating scale that measures strengths. This tool was created using a resilience framework and specifically targets the “within child” protective factors (i.e., strengths) each child possesses to promote early intervention and prevention practices both in school and at home. The DESSA assesses eight strength subscales: Optimistic Thinking (attitude of confidence and hopefulness about self and life situations), Self-Management (success in controlling emotions and behaviors), Goal-Directed Behavior (initiation of and persistence in task completion), Self-Awareness (realistic understanding of strengths and limitations), Social-Awareness (capacity to interact with others respectfully), Personal Responsibility (care and reliability in actions contributing to group efforts), Decision Making (problem solving), and Relationship Skills (actions that promote positive connections with others). A Total Protective factors scale is also provided. The same rating scale can be used by both parents and teachers to establish cross-informant comparisons.

The purpose of this study was to explore the convergent and divergent validity of the DESSA. Therefore, two widely used measures with good psychometric properties were selected to correlate with the DESSA. The BERS–2 (Epstein, 2004) was selected as the comparison strength-based assessment tool and the Behavior Assessment System for Chil-

dren-2 (BASC-2; Reynolds & Kamphaus, 2004) was used to provide evidence of both convergent validity and divergent validity. The specific hypotheses were as follows: (a) Subscales and total scales of the DESSA and BERS-2 will be significantly and moderately to highly correlated as evidence of convergent validity, (b) DESSA subscales and Total Protective factors will be significantly and moderately to highly correlated with the BASC-2 Adaptive Skills Composite and subscales as evidence of convergent validity, and (c) DESSA subscales and Total Protective factors will be significantly and moderately negatively correlated with BASC-2 clinical scales as evidence of divergent validity. Moderate-negative correlations, as opposed to high-negative correlations, were predicted for the last hypothesis. This was in light of existing research indicating that although students with disabilities score lower than students without disabilities or the normative group in several strength areas (Epstein, 2004; Nickerson & Brosiof, 2003; Reid et al., 2000), negative and positive constructs are not simply opposite ends of a continuum; for example, students with significant psychopathology can have either low- or high-life satisfaction (Greenspoon & Saklofske, 2001).

Method

Participants and Procedure

A total of 227 ($n = 94$ teachers, $n = 133$ parents) raters completed the DESSA and the BASC-2 and/or BERS-2 for individual children. The first part of the data collection occurred within the context of a larger study investigating the test-retest reliability of the DESSA. Therefore, the procedures for that study are explained here. Parent participants were recruited through personal contacts, parent and assessment list-servs, and school districts. Parents were provided with a cover letter explaining the risks, benefits, and voluntary nature of the study. If a parent elected to participate, he or she was sent a packet containing two DESSA forms, a BASC-2 and/or a BERS-2, and a parent questionnaire. Parents were instructed to pick a day of the week to complete the forms; on that day they were to complete one DESSA. Exactly 1 week later, they were instructed to complete the second DESSA, the BASC-2

and/or BERS-2 (depending on what they were sent), and the parent questionnaire. More than one parent in the household was allowed to participate if each parent rated a different child, but each parent could rate only one child.

Schools and afterschool programs were recruited through personal contacts, list-servs, professional conferences, and afterschool program contact sheets. When a school or afterschool program agreed to participate, a contact person was established to coordinate the study. This contact person was responsible for recruiting additional teacher and/or afterschool staff participants from their school using the following guidelines: (a) teacher selection should be dispersed across all grades; (b) no teacher could participate more than once; and (c) student teachers, therapeutic support staff (TSS) workers, or teacher's aides assigned to work one-on-one with a student were not eligible to participate. Teachers were provided with a cover letter explaining the risks, benefits, and voluntary nature of the study. Participating teachers and afterschool staff received two DESSA forms and a BASC-2 and/or BERS-2. On a specified day, participants were instructed to complete one DESSA. Exactly 1 week later, they were instructed to complete the second DESSA, the BASC-2 and/or BERS-2 (depending on which one they were sent). The contact person for the school was responsible for distributing, collecting, and returning all of the forms. Demographic information (e.g., child's sex, race) was also collected through a Child and Family Information Form.

Once data for the larger test-retest reliability study were collected ($N = 99$ for the present study), participant recruitment continued for the present study. Procedures were identical to those used for the test-retest reliability study, except participants only completed the DESSA at one point in time, in addition to a BASC-2 and/or BERS-2. For these participants, the order in which the rating scales were completed was counterbalanced.

For ease of interpretation, the dataset was split into four separate samples: (a) parents who completed the DESSA and BERS-2, (b) teachers who completed the DESSA and BERS-2, (c) parents who completed the DESSA and BASC-2, and (d) teachers who completed the DESSA and BASC-2. Demographic information about the children rated by parents and

teachers in each sample is reported in Table 1. It should be noted that the numbers in each sample exceed the 227 total described above because some parents and teachers completed both the BASC-2 and the BERS-2 in addition to the DESSA. For participants who completed the DESSA twice (as part of the test-retest reliability study), the scores for the second administration of the DESSA were used for the present study.

Measures

DESSA

The DESSA (LeBuffe, Shapiro, & Naglieri, 2009) is a 72-item rating scale that can be completed by parents, teachers, or afterschool staff for children in grades kindergarten through eighth. Each item begins with the sentence stem: “During the past four weeks, how often did the child . . .” and ends with a behavioral descriptor regarding a strength (e.g., try to do his or her best? respect another person’s opinion?). Respondents indicate how often each behavior occurs based on a 5 point Likert scale

ranging from 0 (*never*), 1 (*rarely*), 2 (*occasionally*), 3 (*frequently*), to 4 (*very frequently*). The eight previously mentioned subscales and the Total Protective factor scale yield *T* scores, which were used in the analyses for this study.

Items on the DESSA were developed through the identification of 765 key behavioral descriptions of resilient children and youth in the literature. The DESSA authors consolidated overlapping, measurable items into a pool of 156 items. A national pilot study was conducted on 428 students to determine the usefulness of initial items. Items that demonstrated low item-total correlations (<.60), that did not differentiate between students with and without behavioral disorders, and that were rated by 20% of the raters as unclear, were eliminated. The 81 remaining items were incorporated into the standardization edition of the DESSA (LeBuffe et al., 2008).

The DESSA was normed on a typical, non-identified sample of 2,496 children in grades K through 8. Approximately half of the ratings were completed by elementary- or middle-school teachers and childcare staff at after-

Table 1
Demographic Characteristics of Samples

| Variable | Parent BERS-2 (n = 89) | | Teacher BERS-2 (n = 59) | | Parent BASC-2 (n = 75) | | Teacher BASC-2 (n = 65) | |
|--|---------------------------|------|----------------------------|------|---------------------------|------|----------------------------|------|
| | n | P | n | P | n | P | n | P |
| Age (years) | M = 9.7 SD = 3.0 | | M = 9.6 SD = 3.2 | | M = 9.7 SD = 2.4 | | M = 9.4 SD = 3.1 | |
| Gender | | | | | | | | |
| Male | 54 | 60.7 | 33 | 56.9 | 47 | 63.5 | 39 | 60.0 |
| Female | 35 | 39.3 | 25 | 43.1 | 27 | 36.5 | 26 | 40.0 |
| Race/ethnicity | | | | | | | | |
| White | 70 | 78.7 | 34 | 59.6 | 53 | 71.6 | 32 | 50.0 |
| Black/African American | 12 | 13.5 | 17 | 29.8 | 13 | 17.6 | 21 | 32.8 |
| American Indian or Alaskan Native | 1 | 1.1 | | | 1 | 1.4 | 2 | 3.1 |
| Asian | 4 | 4.5 | | | 5 | 6.8 | | |
| Hispanic/Latino | 7 | 7.9 | 6 | 10.5 | 8 | 10.8 | 7 | 10.9 |
| Native Hawaiian or Pacific Islander | 1 | 1.1 | | | 1 | 1.4 | 1 | 1.6 |
| Other | | | | | 2 | 2.7 | 1 | 1.6 |
| Region | | | | | | | | |
| Northeast | 44 | 51.2 | 38 | 64.4 | 36 | 50.0 | 31 | 47.7 |
| South | 30 | 34.9 | 9 | 15.3 | 22 | 30.6 | 9 | 13.8 |
| Midwest | 6 | 7.0 | 10 | 16.9 | 9 | 12.5 | 14 | 21.5 |
| West | 4 | 4.7 | 2 | 3.4 | 5 | 6.9 | 11 | 16.9 |
| Eligibility | 11 | 12.4 | 18 | 31.6 | 8 | 10.8 | 19 | 30.2 |

Note. BERS-2 = Behavioral and Emotional Rating Scales-2; BASC-2 = Behavior Assessment System for Children-2; P = percent; Eligibility = eligibility for free or reduced lunch.

school programs (1,250), the other half were completed by parents and other relatives (1,246). This sample of children accurately represented the 5- to 14-year-old population of the United States with respect to gender, geographic region of residence, race, ethnicity, and socioeconomic status, according to the 2004 to 2005 Census (LeBuffe, Shapiro, & Naglieri, 2009). The internal consistency of the DESSA is high, with reliability coefficients for the subscales ranging from .87 to .93. In addition, test-retest reliability coefficients on the Total Protective factors for a 1-week interval were .94 for teachers ($N = 38$) and .90 for parents ($N = 54$). Test-retest reliability coefficients for the subscales were also high, ranging from .79 (Social Awareness) to .90 (Relationship Skills) for parent ratings and .86 (Self-Awareness) to .94 (Responsibility; Judgment) for teacher ratings (LeBuffe et al., 2008).

BERS-2

The original BERS (Epstein & Sharma, 1998), which consisted of a single rating scale to be completed by caregivers or service providers familiar with the child, was revised by Epstein in 2004 to include the Youth Rating scale (YRS), Parent Rating scale (PRS), and Teacher Rating scale (TRS; Buckley & Epstein, 2004). Each rating scale contains Likert-type questions in which the rater must indicate to what degree the described strength is present or absent for the student based on a scale ranging from 0 (*not at all like*), 1 (*not much like*), 2 (*like*), to 3 (*very much like*) (Epstein, 2004). The BERS-2 includes a Strength Index and five subscales derived through factor analysis: Interpersonal Strengths, Family Involvement, Intrapersonal Strengths, School Functioning, and Affective Strengths. The PRS and YRS contain a supplemental Career Strength subscale.

The BERS-2 was normed on a typical, non-identified, nationally representative sample of 2,176 school-age children for the TRS, 927 students for the PRS, and 1,301 for the YRS (Epstein, 2004). Internal consistency coefficients range from .81 to .89 for the TRS and .80 to .97 for the PRS. The Strength Index internal consistency coefficients for the TRS and PRS were .98 and .97, respectively. Internal consistency coefficients for the YRS were calculated for ages 11 through 18, with average coeffi-

cients for the subscales ranging from .79 to .88. The Strength Index had a coefficient of .95. According to the manual, the BERS-2 possesses adequate test-retest reliability for the TRS ($r = .85$ to $.99$; $N = 59$), PRS ($r = .82$ to $.92$; $N = 45$), and YRS ($r = .84$ to $.91$; $N = 42$).

There is some evidence of convergent validity of parent and teacher ratings for students with emotional and behavioral disorders (EBD; Friedman, Leone, & Freidman, 1999), although significant differences have been observed between adolescent and caregiver ratings for the Family Involvement and School Functioning subscales on the BERS (Friedman, Friedman, & Weaver, 2003).

Moderate negative correlations were observed between the BERS-2 and the maladaptive scales of the Systematic Screening for Behavior Disorders (Walker & Severson, 1999), the Scale for Assessing Emotional Disturbance (Epstein & Cullinan, 1998), the Social Skills Rating System (Gresham & Elliot, 1990), and the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001). Positive correlations were observed for adaptive scales of the same measures. These findings indicate the BERS-2 is well-suited and validated for use with students with EBD (Epstein, 2004; Epstein, Mooney, Ryser, & Pierce, 2004).

BASC-2

The BASC-2 (Reynolds & Kamphaus, 2004) is a multimethod, multidimensional assessment system that may be used to evaluate the behavior and self-perceptions of children and young adults aged 2 to 25 years. It contains two rating scales, one for teachers (Teacher Rating scales, or TRS) and one for parents (Parent Rating scales, or PRS), a self-report scale (Self-Report of Personality, or SRP), a Structured Developmental History form (SDH), and an observational form (Student Observation System, or SOS). Both the TRS and the PRS contain Likert-type questions in which the rater is asked to indicate how often a certain behavior has occurred in the last several months (i.e., $N =$ *never occurs*, $S =$ *sometimes occurs*, $O =$ *often occurs*, and $A =$ *almost always occurs*). The child versions of the PRS and TRS (i.e., PRS-C and PRS-A) are to be used with children ages 6 to 11 and contain 139 items. The adolescent versions (i.e., TRS-C and TRS-A) are to be

used with young adults aged 12 to 21 and contain 160 and 150 items, respectively.

The BASC-2 rating scales include 10 clinical subscales: Aggression, Anxiety, Attention Problems, Atypicality, Conduct Problems, Depression, Hyperactivity, Learning Problems (on TRS only), Somatization, and Withdrawal. They also contain four strength subscales: Adaptability, Leadership, Social Skills, and Study Skills (on TRS only). Further, both the TRS and the PRS provide a Behavioral Symptoms Index (BSI) and three composite scales: Externalizing Problems, Internalizing Problems, and Adaptive Skills. The TRS also includes a School Problems composite scale (Reynolds & Kamphaus, 2004). The BASC-2 was normed on a nationally representative sample of 13,000 children and young adults aged 2 through 18 years (Reynolds & Kamphaus, 2004).

Internal consistency scores for the TRS are in the middle .90s for the BSI and Externalizing Problems composite, in the low to middle .90s for School Problems and Adaptive Skills composites, and in the high .80s to .90s for the Internalizing Problems composite. Furthermore, internal consistency scores of individual scales have a median value of .84 at the preschool level and range from .85 to .89 at the child and adolescent levels (Reynolds & Kamphaus, 2004). Test-retest reliabilities for the composite scales are in the middle .80s to the low .90s, except for the Internalizing Problems scale at the adolescent level, which is .78. The test-retest median test-retest reliabilities for the subscales are .82 at the preschool level, .86 at the child level, and .81 at the adolescent level. Interrater reliabilities for the BASC-2 are lower with median reliability estimates at .65, .56, and .53 for the preschool, child, and adolescent levels, respectively (Reynolds & Kamphaus, 2004). The validity for the TRS was determined through factor analysis and through correlations with other measures. Factor analytic approaches indicated that the BASC-2 has adequate construct validity for preschool, child, and adolescent levels. Moreover, moderate to high correlations between the BASC-2 and comparable behavior rating scales also support the validity of the BASC-2. Further, extremely high correlations between the BASC-2 TRS and the original BASC TRS provide a credible basis for

generalizing previous research on the BASC to the BASC-2 (Reynolds & Kamphaus, 2004).

Composite score reliabilities for the PRS are also high, although slightly lower than those on the TRS. The median values range from .80 to .83 at the preschool level, .83 to .87 at the child level, and .83 to .86 at the adolescent level. Test-retest reliabilities for the PRS composite scales are high as well, generally in the low .80s to the low .90s, except on for the Internalizing Problems at the child level (.78). For the subscales the median test-retest reliabilities are .77, .84, and .81 at the preschool, child, and adolescent levels, respectively. The PRS also has adequate interrater reliability with median reliabilities at .74, .69, and .77 for preschool, child, and adolescent levels, respectively. As with the TRS, factor analyses and correlations with other measures were used to establish validity for the PRS. The factor analyses generally revealed positive correlations within clinical scales and adaptive scales and negative correlations between clinical and adaptive scales. Further, the correlations between scales and composites provide evidence of construct validity. Overall, correlations between the PRS and the Achenbach System of Empirically Based Assessment Child Behavior Checklist (Achenbach & Rescorla, 2001), the Conners' Parent Rating Scale—Revised (Conners, 1997), and the Behavior Rating Inventory of Executive Functioning (Gioia, Isquith, Guy, & Kenworthy, 2000) were moderate to high, further supporting the validity of the BASC-2. Also, as with the TRS, extremely high correlations were noted between the BASC-2 PRS and the original BASC PRS (Reynolds & Kamphaus, 2004).

Results

Descriptive statistics for the parent and teacher ratings on the DESSA, BASC-2, and BERS-2 are provided in Table 2. Pearson product-moment correlations between the DESSA and BERS-2 subscales and total scales completed by parents and teachers are displayed in Tables 3 and 4, respectively. All DESSA and BERS-2 subscales and total scales completed by parents and teachers were correlated significantly at the $p < .01$ level. The DESSA Total Protective factors and BERS-2 Strengths Index correlated highly at .80 for both parents and teachers. To obtain an average correlation

Table 2
*Descriptive Statistics for the DESSA, BERS-2,
 and BASC-2*

| | Parent ^a | | Teacher ^b | |
|--------------------------|---------------------|-----------|----------------------|-----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| DESSA | | | | |
| Optimistic Thinking | 47.02 | 11.16 | 45.63 | 11.00 |
| Self-Management | 46.43 | 10.64 | 47.05 | 11.17 |
| Goal-Directed Behavior | 46.39 | 10.14 | 46.66 | 10.49 |
| Self-Awareness | 48.15 | 9.58 | 46.54 | 10.17 |
| Social-Awareness | 47.26 | 10.59 | 47.31 | 11.58 |
| Personal Responsibility | 45.86 | 9.87 | 46.91 | 10.88 |
| Decision Making | 47.35 | 10.56 | 47.33 | 11.89 |
| Relationship Skills | 48.69 | 10.45 | 46.73 | 10.86 |
| Total Protective factors | 46.70 | 10.35 | 46.14 | 11.09 |
| BERS-2 | | | | |
| Interpersonal Strengths | 9.86 | 3.19 | 10.53 | 3.45 |
| Family Involvement | 10.34 | 2.69 | 10.24 | 3.45 |
| Intrapersonal Strengths | 10.58 | 3.36 | 9.59 | 3.12 |
| School Functioning | 9.61 | 3.56 | 9.59 | 3.42 |
| Affective Strength | 10.51 | 2.85 | 10.54 | 3.45 |
| Career Strength | 10.25 | 3.35 | — | — |
| Strength Index | 101.03 | 18.28 | 100.51 | 20.13 |
| BASC-2 | | | | |
| Behavioral Symptoms | | | | |
| Index | 53.48 | 12.30 | 56.59 | 13.77 |
| Attention Problems | 54.59 | 11.44 | 53.49 | 11.11 |
| Atypicality | 52.11 | 14.09 | 59.96 | 14.50 |
| Withdrawal | 50.02 | 10.61 | 55.10 | 11.38 |
| Externalizing | 53.69 | 12.90 | 54.39 | 14.22 |
| Hyperactivity | 54.98 | 13.35 | 53.63 | 12.40 |
| Aggression | 52.45 | 11.95 | 55.60 | 16.15 |
| Conduct Problems | 52.48 | 12.63 | 53.16 | 12.92 |
| Internalizing | 51.50 | 9.26 | 55.65 | 11.81 |
| Anxiety | 51.95 | 9.69 | 53.26 | 11.62 |
| Depression | 52.42 | 10.41 | 57.69 | 14.66 |
| Somatization | 49.22 | 11.00 | 52.76 | 11.02 |
| Adaptive Skills | 47.92 | 10.50 | 46.14 | 10.83 |
| Adaptability | 46.97 | 10.64 | 45.28 | 11.35 |
| Social Skills | 49.73 | 10.26 | 47.15 | 10.46 |
| Leadership | 50.97 | 9.55 | 48.43 | 10.38 |

Note. An em dash (—) indicates that teachers did not complete the Career Strength on the BERS-2. DESSA = Devereux Student Strengths Assessment; BERS-2 = Behavioral and Emotional Rating Scales-2; BASC-2 = Behavior Assessment System for Children-2.

^a DESSA, *n* = 122; BERS-2, *n* = 98; BASC-2, *n* = 86. ^b DESSA, *n* = 92; BERS-2, *n* = 59; BASC-2, *n* = 68.

across all subscales that is less affected by sampling distribution (Corey, Dunlap, & Burke, 1998), a Fisher's *Z* transformation was conducted, $z[\text{prime}] = 0.5[\ln(1+r) - \ln(1-r)]$, where all Pearson *r* values were converted to $z[\text{prime}]$. Once the average of the $z[\text{prime}]$ was obtained, this value was converted back to *r*.

The correlations between parent ratings on the DESSA and BERS-2 subscales ranged from .41 to .77 (mean *r* = .59). Correlation coefficients for teacher ratings on the DESSA and BERS-2 subscales ranged from .49 to .78 (mean *r* = .57). According to Cohen's (1992) guidelines for interpreting the magnitude of product-moment correlations as small (.10), medium (.30), or large (.50), the large majority of correlations between parent and teacher ratings on the DESSA and BERS-2 were large.

Convergent validity was further explored by correlating the DESSA with the BASC-2 Adaptive Skills Composite and subscales. As shown in Tables 5 and 6, all DESSA subscales and BASC-2 Adaptive Skills subscales correlated significantly at the *p* < .01 level for both parent and teacher raters. The DESSA Total Protective factors and BASC-2 Adaptive Skills Composite were strongly correlated for parents (*r* = .77) and teachers (*r* = .92). Subscale correlations ranged from .42 to .71 for parents and .62 to .85 for teachers. Fisher *z* transformations were computed for the Pearson *r* coefficients for subscales of the DESSA and the Adaptive Skills subscales of the BASC-2, means were then calculated, and transformed back into *r*, resulting in an average *r* of .57 for parents and .77 for teachers.

The divergent validity of the DESSA was explored by correlating the Total Protective factors and subscales with the BASC-2 Behavioral Symptoms Index and clinical subscales. As shown in Table 5, the large majority of correlations for the parent ratings were significantly, negatively correlated, with the exception of the Anxiety, Somatization, and Withdrawal subscales. Using the Fisher's *Z* transformation to obtain average correlations, the mean *r* for parent DESSA subscales and the Externalizing Scales of the BASC-2 was -.50. The mean *r* for the parent DESSA subscales and the BASC-2 Internalizing subscales was -.14. A very similar pattern of results were found for teacher ratings, with moderate-to-high negative correlations between DESSA subscales and BASC-2 clinical subscales, except for Anxiety and Somatization. The mean Pearson *r* correlations between the teacher DESSA subscales and the BASC-2 clinical subscales were as follows: Externalizing -.60, Internalizing -.26, and School Problems -.62.

Table 3
Correlations Between Parent Devereux Student Strengths Assessment and BERS-2

| BERS-2 | Devereux student strengths assessment | | | | | | | | |
|-------------------------|---------------------------------------|-------|-------|--------|-------|-------|-------|-------|-------|
| | Opt | S-M | G-D | Self-A | Soc-A | Resp | DM | Relat | TPF |
| Interpersonal Strengths | .55** | .77** | .51** | .50** | .72** | .68** | .71** | .67** | .72** |
| Family Strength | .56** | .56** | .53** | .49** | .59** | .58** | .61** | .57** | .65** |
| Intrapersonal Strengths | .71** | .56** | .53** | .59** | .56** | .59** | .53** | .55** | .65** |
| School Functioning | .57** | .68** | .72** | .58** | .52** | .72** | .62** | .50** | .70** |
| Affective Strength | .62** | .46** | .48** | .65** | .57** | .48** | .59** | .65** | .64** |
| Career Functioning | .49** | .48** | .53** | .60** | .42** | .54** | .56** | .41** | .57** |
| Strength Index | .72** | .73** | .67** | .67** | .70** | .73** | .73** | .69** | .80** |

Note. *N* = 89. BERS-2 = Behavioral and Emotional Rating Scales-2; Opt = Optimistic Thinking; S-M = Self-Management; G-D = Goal-Directed Behavior; Self-A = Self-Awareness; Soc-A = Social Awareness; Resp = Personal Responsibility; DM = Decision Making; Relat = Relationship Skills; TPF = Total Protective factors.
** *p* < .01.

The average correlations were further examined for differences in raters and behaviors measured. Teachers' mean correlations for DESSA subscales and BASC-2 Externalizing subscales were significantly higher than the parents' mean correlations for DESSA subscales and BASC-2 Externalizing subscales, *t*(46) = 3.75, *p* < .001, but teacher and parent mean correlations for DESSA subscales and BASC-2 Internalizing subscales did not differ significantly, *t*(46) = 1.85, *p* = .07. In addition, combined parent and teacher average correlations between DESSA subscales and BASC-2 Externalizing subscales were significantly higher than the average correlations between DESSA subscales and BASC-2 Internalizing subscales, *t*(47) = -12.78, *p* < .001.

Discussion

The results across all four samples yielded consistent findings supporting the convergent

and divergent validity of the DESSA. The DESSA Total Protective factors and subscales had significant, moderate-to-high correlations with the BERS-2 Strength Index and subscales as well as the BASC-2 Adaptive Skills Composite and subscales. This suggests that the DESSA corresponds closely to other standardized, psychometrically sound instruments that measure similar constructs, yet the correlations were not so high as to raise concerns about the measures being exact replications of each other.

Support for the convergent validity of the DESSA was found for both parents and teachers and across measures (i.e., BERS-2 and BASC-2). Findings of the current study also supported the divergent validity of the DESSA, evidenced by the moderate negative correlations with the BASC-2 clinical subscales. These correlations between the DESSA subscales and BASC-2 Externalizing subscales were higher for teachers than parents. It is not uncommon for reli-

Table 4
Correlations Between Teacher Devereux Student Strengths Assessment and BERS-2

| BERS-2 | Devereux student strengths assessment | | | | | | | | |
|-------------------------|---------------------------------------|-------|-------|--------|-------|-------|-------|-------|-------|
| | Opt | S-M | G-D | Self-A | Soc-A | Resp | DM | Relat | TPF |
| Interpersonal Strengths | .55** | .75** | .67** | .49** | .74** | .66** | .75** | .72** | .74** |
| Family Involvement | .70** | .68** | .76** | .66** | .67** | .72** | .76** | .70** | .78** |
| Intrapersonal Strengths | .77** | .61** | .67** | .59** | .53** | .63** | .63** | .62** | .69** |
| School Functioning | .49** | .69** | .72** | .53** | .56** | .78** | .69** | .55** | .69** |
| Affective Strength | .65** | .50** | .59** | .59** | .49** | .49** | .58** | .63** | .62** |
| Strength Index | .72** | .73** | .78** | .65** | .68** | .75** | .78** | .74** | .80** |

Note. *N* = 59. BERS-2 = Behavioral and Emotional Rating Scales-2; Opt = Optimistic Thinking; S-M = Self-Management; G-D = Goal-Directed Behavior; Self-A = Self-Awareness; Soc-A = Social Awareness; Resp = Personal Responsibility; DM = Decision Making; Relat = Relationship Skills; TPF = Total Protective factors.
** *p* < .01.

Table 5
Correlations Between Parent Devereux Student Strengths Assessment and BASC-2

| BASC-2 | Devereux student strengths assessment | | | | | | | | |
|--------------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Opt | S-M | G-D | Self-A | Soc-A | Resp | DM | Relat | TPF |
| BSI | -.61** | -.69** | -.53** | -.42** | -.57** | -.62** | -.57** | -.52** | -.64** |
| Attention Problems | -.59** | -.74** | -.60** | -.48** | -.54** | -.68** | -.60** | -.46** | -.65** |
| Atypicality | -.46** | -.57** | -.47** | -.39** | -.44** | -.57** | -.50** | -.41** | -.53** |
| Withdrawal | -.40** | -.28* | -.18 | -.21 | -.27* | -.23 | -.25* | -.32** | -.30** |
| Externalizing | -.54** | -.71** | -.53** | -.36** | -.58** | -.63** | -.58** | -.48** | -.62** |
| Hyperactivity | -.40** | -.64** | -.42** | -.21 | -.48** | -.53** | -.46** | -.34** | -.49** |
| Aggression | -.56** | -.62** | -.49** | -.37** | -.57** | -.58** | -.56** | -.53** | -.61** |
| Conduct Problems | -.48** | -.61** | -.51** | -.42** | -.51** | -.60** | -.55** | -.44** | -.57** |
| Internalizing | -.25* | -.29* | -.20 | -.20 | -.19 | -.15 | -.17 | -.16 | -.24* |
| Anxiety | -.02 | -.01 | .06 | .01 | .05 | .11 | .10 | .09 | .04 |
| Depression | -.51** | -.43** | -.33** | -.34** | -.47** | -.37** | -.37** | -.43** | -.46** |
| Somatization | -.01 | -.18 | -.17 | -.10 | .01 | -.07 | -.12 | -.01 | -.10 |
| Adaptive Skills | .75** | .71** | .66** | .64** | .65** | .74** | .72** | .66** | .77** |
| Adaptability | .56** | .62** | .46** | .42** | .61** | .56** | .60** | .52** | .61** |
| Social Skills | .63** | .52** | .49** | .56** | .63** | .58** | .64** | .71** | .67** |
| Leadership | .61** | .56** | .58** | .58** | .49** | .59** | .59** | .49** | .63** |

Note. $N = 75$. BASC-2 = Behavior Assessment System for Children-2; BSI = Behavioral Symptoms Index; Opt = Optimistic Thinking; S-M = Self-Management; G-D = Goal-Directed Behavior; Self-A = Self-Awareness; Soc-A = Social Awareness; Resp = Personal Responsibility; DM = Decision Making; Relat = Relationship Skills; TPF = Total Protective factors.

* $p < .05$. ** $p < .01$.

ability to differ between and among different raters and across behaviors. For example, an influential meta-analysis conducted by Achenbach, McConaughy, and Howell (1987) on cross-informant correlations for emotional and behavioral problems found a mean Pearson r of .60 for informants with similar roles (e.g., mother and father, two teachers), a mean r of .28 for different status informants (e.g., teacher and parent), and a mean r of .22 for a child rater and an adult informant. It has been argued that these diverse perspectives are not evidence of reliability problems, per se, but rather indicative of the need to gather information from different sources and to use multiple methods of assessment (Achenbach et al., 1987). The accuracy of informant reports may differ depending on the type of behavior rated. Parent ratings of internalizing behavior are more closely related than teacher ratings to independent observations of internalizing behavior, whereas teacher ratings are more strongly related than parent ratings to independent observations of externalizing behavior (Hinshaw, Han, Erhardt, & Huber, 1992). Results of the current study are suggestive of teachers having slightly more consistency in the inverse relationship between

strengths and externalizing behaviors than parents, although parents were also highly consistent.

The moderate negative relationships between the clinical scales of the BASC-2 and the subscales of the DESSA are consistent with relevant literature indicating that students with identified disabilities exhibit fewer strength areas (Epstein, 2004; Nickerson & Brosol, 2003; Reid et al., 2000). More interesting, Anxiety, and Somatization were not significantly correlated, (either positively or negatively), with the DESSA Total Protective factors or subscales. In addition, the DESSA subscales correlated higher for BASC-2 Externalizing subscales than for Internalizing subscales for both parents and teachers. These results are similar to those obtained by Nickerson and Brosol (2003), indicating that an anxiety-related subscale of physical symptoms and fears did not correlate significantly with a strength-based measure. It is possible that some internalizing problems, such as moderate anxiety, may actually be helpful for some children, in areas such as self-management and responsibility, but not for others, therefore accounting for the near-zero correlations. In contrast, children who exhibit external-

Table 6
Correlations Between Teacher Devereux Student Strengths Assessment and BASC-2

| BASC-2 | Devereux Student Strengths Assessment | | | | | | | | |
|--------------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Opt | S-M | G-D | Self-A | Soc-A | Resp | DM | Relat | TPF |
| BSI | -.62** | -.77** | -.63** | -.56** | -.73** | -.66** | -.73** | -.70** | -.72** |
| Atypicality | -.40** | -.56** | -.49** | -.43** | -.42** | -.51** | -.51** | -.45** | -.50** |
| Withdrawal | -.61** | -.64** | -.48** | -.46** | -.65** | -.51** | -.53** | -.59** | -.59** |
| Externalizing | -.53** | -.69** | -.54** | -.50** | -.70** | -.58** | -.71** | -.70** | -.67** |
| Hyperactivity | -.44** | -.68** | -.54** | -.50** | -.62** | -.59** | -.67** | -.62** | -.63** |
| Aggression | -.53** | -.63** | -.47** | -.43** | -.69** | -.50** | -.66** | -.66** | -.62** |
| Conduct Problems | -.55** | -.69** | -.57** | -.53** | -.70** | -.59** | -.73** | -.71** | -.69** |
| Internalizing | -.36** | -.46** | -.31* | -.24 | -.42** | -.31* | -.37** | -.36** | -.37** |
| Anxiety | -.14 | -.30* | -.12 | -.06 | -.21 | -.13 | -.15 | -.12 | -.16 |
| Depression | -.51** | -.57** | -.42** | -.35** | -.59** | -.43** | -.52** | -.51** | -.52** |
| Somatization | -.11 | -.12 | -.11 | -.12 | -.10 | -.11 | -.11 | -.14 | -.11 |
| School Problems | -.55** | -.73** | -.73** | -.60** | -.61** | -.73** | -.68** | -.56** | -.70** |
| Attention Problems | -.59** | -.78** | -.77** | -.66** | -.65** | -.79** | -.74** | -.63** | -.74** |
| Learning Problems | -.44** | -.61** | -.62** | -.47** | -.50** | -.59** | -.55** | -.43** | -.56** |
| Adaptive Skills | .81** | .91** | .87** | .82** | .85** | .88** | .88** | .86** | .92** |
| Adaptability | .75** | .87** | .70** | .67** | .84** | .71** | .79** | .81** | .82** |
| Social Skills | .73** | .77** | .71** | .72** | .78** | .75** | .79** | .85** | .81** |
| Leadership | .76** | .85** | .80** | .76** | .76** | .84** | .81** | .77** | .84** |
| Study Skills | .62** | .72** | .82** | .69** | .66** | .81** | .74** | .66** | .76** |

Note. N = 65. BASC-2 = Behavior Assessment System for Children-2; BSI = Behavioral Symptoms Index; Opt = Optimistic Thinking; S-M = Self-Management; G-D = Goal-Directed Behavior; Self-A = Self-Awareness; Soc-A = Social Awareness; Resp = Personal Responsibility; DM = Decision Making; Relat = Relationship Skills; TPF = Total Protective factors.

* p < .05. ** p < .01.

izing behaviors can be more aversive to adults and difficult to like (Kauffman, 2001). Further support for these hypotheses comes from a study by Gresham, Lane, MacMillan, and Bocian (1999), who reviewed school records and found that students with externalizing behaviors had six times as many negative comments in their files as did students in the control group; internalizing students had four times as many negative comments as those in the control group.

In summary, the findings of this study provide evidence for both the convergent and the divergent validity of the DESSA. An important question that arises when investigating convergent validity is why one would choose to use a newer scale over more established scales. One advantage of the DESSA is that it utilizes only strength-based items, whereas most rating scales have a larger focus on clinically oriented items. The DESSA also lends itself to be used with the general population in Tier 1 (i.e., universal screening) to promote the social-emotional well-being of all youth as well as for more targeted and intensive interventions. Fur-

ther, the DESSA was developed primarily to be used in schools. Information obtained through the DESSA may provide useful information about student strengths to promote optimal learning and development both at home and at school. Another advantage the DESSA has over both the BASC-2 and the BERS-2 is that it is shorter and simpler because the same form can be used with both parents and teachers. This also enables parent and teacher ratings to be directly compared on the same set of behaviors.

The DESSA and other strength-based assessment measures may be used in educational and behavioral programming in schools and other settings that serve children and adolescents. This should be done in a systematic way so that strength-based assessment is linked to intervention (Cox, 2006). The DESSA can be used in general classroom settings to provide information to parents and teachers about children's strengths that can be capitalized in academic and behavioral interventions. In addition, strength-based measures can also be incorporated into a comprehensive assessment of students referred for psychoeducational evalua-

tions and systematically related to goals on Individualized Education Plans or Behavior Support Plans. Strength-based measures can also be used to assess individual student progress and for program evaluation.

There were some limitations of the study in terms of sample. The sample sizes for each study were relatively modest. In addition, the convenience samples, although diverse, were not representative of children living in the United States, particularly in terms of gender and geographic region in which the child lived. Therefore, caution must be used when generalizing findings of this research. Another limitation is that the order in which the rating scales were completed was counterbalanced only for participants that were not involved in the larger test-retest reliability study. Notwithstanding these limitations, results of the present study provide preliminary support for the potential of the DESSA as a tool to identify strengths in children. Future research should continue to examine the psychometrics of this instrument.

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