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## **Social emotional assets and resilience scales: development of a strength-based short-form behavior rating scale system**

*Journal for educational research online 4 (2012) 1, S. 124-139*

urn:nbn:de:0111-opus-70542



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## **Social Emotional Assets and Resilience Scales: Development of a strength-based short-form behavior rating scale system**

### **Abstract**

*The purpose of this brief research report is to describe the development of the short form version of a new strength-based behavior rating scale system, the Social-Emotional Assets and Resilience Scales (SEARS; Merrell, 2011). The SEARS is a multi-informant, strength-based, social-emotional assessment system that assesses positive social-emotional attributes of children and adolescents. The results indicate that the SEARS short forms are highly correlated with the SEARS long forms. Additionally, the overall strong correlations between the SEARS short forms and other strength-based measures provide convergent evidence that the SEARS short forms measure a relatively similar construct of social-emotional ability as other strength-based, nationally standardized behavior rating scales. The SEARS system has potential to be used within a multi-tiered prevention and intervention framework; however, additional research is necessary to support its use for screening and progress monitoring-related decisions. Limitations, potential implications, and future research directions of strength-based assessment for progressing monitoring and screening are discussed.*

### **Keywords**

*Social-emotional; Assessment; Strength-based; Behavior*

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# Social Emotional Assets and Resilience Scales: Entwicklung einer stärkenorientierten Kurzform eines Skalensystems zur Verhaltenseinschätzung

## Zusammenfassung

*Dieser Forschungsartikel hat das Anliegen, die Entwicklung der Kurzform eines stärkenorientierten Skalensystems zur Verhaltenseinschätzung, den Social-Emotional Assets and Resilience Scales (SEARS; Merrell, 2011), konzise vorzustellen. SEARS ist ein stärkenorientiertes Bewertungssystem auf Multi-Informanten-Basis zur Einschätzung positiver sozioemotionaler Eigenschaften von Kindern und Jugendlichen. Die hier vorgestellten Ergebnisse weisen auf einen engen Zusammenhang zwischen der Kurz- und der Langfassung von SEARS hin. Darüber hinaus liefern die insgesamt hohen Korrelationen zwischen der SEARS-Kurzform und anderen stärkenorientierten Maßen übereinstimmend Evidenz dafür, dass die SEARS-Kurzform ein relativ ähnliches Konstrukt sozioemotionaler Fähigkeiten misst wie andere stärkenorientierte, national standardisierte Ratingskalen. SEARS bietet das Potenzial, in einem mehrstufigen Rahmenkonzept von Prävention und Intervention eingesetzt zu werden; weitere Forschung ist jedoch notwendig, um den Nutzen dieses Skalensystems für Screeningzwecke und auf Entwicklungsbeobachtungen basierende Entscheidungen herauszustellen. In der abschließenden Diskussion werden Grenzen, potenzielle Implikationen und zukünftige Richtungen stärkenorientierter Erhebungen für Entwicklungsbeobachtungen und Screenings diskutiert.*

## Schlagworte

*Sozioemotional; Bewertung; Stärkenorientiert; Verhalten*

## 1. Introduction

Educational service delivery models in the United States have gradually started to shift toward a problem-solving approach within a multi-tiered prevention and intervention framework, also frequently referred to as a response to intervention framework (LeBuffe, Shapiro, & Naglieri, 2009). These models are developed to more efficiently and accurately identify those students in need of services for the purpose of providing effective academic, social, behavioral, and emotional interventions to all students (Merrell, Ervin, & Gimpel, 2006; Tilly, 2008). There is mounting support for this intervention-focused framework, aimed at the early-identification of students in need of supports and that ensure improvement through frequent progress monitoring in social and emotional functioning once interventions are implemented (Tilly, 2008). If schools are expected to implement this type of service delivery model, however, they will need access to technically adequate, usable, and feasible data (Chafouleus, Volpe, Gresham, & Cook, 2010).

Progress monitoring can be defined as a systematic, scientific process that examines and evaluates students' progress in academic or behavioral performance, as well as evaluates the effectiveness of instruction. Screening is a broadly administered procedure through which students are identified who may need further evaluation to determine if they may benefit from additional services in academics and/or behavioral support and to evaluate the effectiveness of universal interventions. Progress monitoring and screening are similar in that they aim to identify and offer additional support to students who may be in need of supports in various educational domains, and can readily be used within a problem-solving, multi-tiered prevention and intervention-focused framework. The two processes are different in that screening may occur once to several times per year, while progress monitoring likely occurs much more frequently (e.g., biweekly, monthly, etc). Progress monitoring may be used within a multi-tiered framework at all levels, perhaps most particularly to monitor student progress due to more intensive, targeted and frequent instruction. Screening may be used within a multi-tiered framework within universal level/tier, as a broad-based measure able to identify students who may benefit from additional supports.

Selecting a measure for the purpose of mental health screening and the progress monitoring of social behaviors requires consideration of both technical and practical features (Briesch & Volpe, 2007; Glover & Albers, 2007). Glover and Albers (2007) suggested that educators consider the following aspects when choosing a mental health screener: (a) contextual appropriateness – the match with service delivery needs and interventions, research-base, as well as the constructs of interest; (b) technical features – psychometric properties of the measure; and (c) usability – feasibility, acceptability, costs versus benefits, and social acceptability. Educators might consider using third-party behavior rating scales and self-report measures for formative assessment purposes because they provide an efficient approach to assessing students' social, behavioral and emotional functioning (Merrell, 2011). Although behavior rating scales and self-report forms are not the most direct of behavioral assessment measures (compared to systematic direct observations), many have been shown to have strong psychometric properties and provide a generalized estimate of behavior. Given that behavior rating scales tend to be less influenced by immediate environmental variables, they may provide a general indicator of student progress. However, other measures such as direct observations of student behavior may be preferred for capturing differences in behavior across contexts, which may be necessary to inform intervention. Thus, behavior rating scales may be used to help guide decisions about the overall effectiveness of available supports and identify students at risk for social difficulties.

Behavior rating scales and self-report forms show promise as viable and defensible screening and progress monitoring measures for social, emotional, and behavioral functioning (Volpe & DuPaul, 2001). However, many of the currently available behavior rating systems and mental health screeners focus on indicators of problem behavior rather than assessing students' social and emotional skills and assets. Compared to a pathology-based approach to screening, it has been posited that a

strength-based approach may not only have higher social validity with raters (parents, teachers, students) and be less stigmatizing, but may also better inform intervention planning in terms of isolating specific skills that may need to be taught or enhanced (Dowdy, Furlong, Eklund, Saeki, & Ritchey, 2010; Jimerson, Sharkey, O'Brien, & Furlong, 2004; Merrell, 2010). Strength-based assessment with its emphasis on student strengths and competencies may be particularly well suited for progress monitoring and universal screening of students.

Strength-based assessment has been defined as: “the measurement of those emotional and behavioral skills, competencies, and characteristics that create a sense of personal accomplishment; contribute to satisfying relationships with family members, peers, and adults; enhance one’s ability to deal with adversity and stress; and promote one’s personal, social, and academic development” (Epstein and Sharma, 1998, p. 3). This definition lends itself well to educational programming and intervention planning aimed at creating positive learning environments and the systematic instruction and reinforcement of social and emotional skills. A strength-based approach assumes that interventions will build on students’ skills and utilize available resources within the context of the school and family system.

Strength-based assessment identifies those resources and protective factors within and around an individual that promote mental health and wellbeing. This perspective to assessment is built on several assumptions including: “(1) all children have strengths, (2) focusing on children strengths instead of weaknesses may result in enhanced motivation, and improved performance, (3) failure to demonstrate a skill should first be viewed as an opportunity to learn the skill as opposed to a problem, and (4) service plans that begin with a focus on strengths are more likely to involve families and children in treatment” (Epstein, Harniss, Robbins, Wheeler, Cyrulik, Kriz, Nelson, & Weist, 2003, p. 288). These assumptions are directly aligned with best practices emphasizing the prevention of problems by improving family school partnerships and supporting the social, emotional, and academic competence of all learners (Ysseldyke, Burns, Dawson, Kelley, Morrison, Ortiz, Rosenfield, & Telzrow, 2006).

Building strengths is an important feature of intervention planning within a problem-solving model (Merrell, Ervin, & Gimpel, 2006; Tilly, 2008). Despite the emphasis on systematically building competencies within these prevention-oriented approaches, only a few comprehensive, psychometrically sound, multi-rater strength-based assessment instruments are available (e.g., Epstein, 2004; LeBuffe et al., 2009). As short form strength-based assessment measures are developed, future research will determine their defensibility as formative measures of behavioral functioning and mental wellness. Short forms hold much promise for utility in screening and progress monitoring due to ease of administration, shorter time required for completion and easier scoring than many more comprehensive approaches.

For schools to effectively utilize problem solving and response to intervention models to meet the social and emotional needs of their students, appropriate measures must be available across all tiers to complement programming that focuses

on developing social, behavioral, and emotional competencies. Multiple measures must also be taken into account, as student, teacher, and parent perceptions of social and emotional development contribute to the overall strength of programs being implemented in schools (Arnold & Lindner-Müller, 2012). As opposed to the wait-to-fail model, these approaches focus on prevention by building strengths and competencies. Therefore, educators and mental health professionals are in need of brief, psychometrically sound, and easy to administer measures of wellbeing.

The purpose of this brief research report is to describe the development of the short form version of a new strength-based behavior rating scale system, the Social-Emotional Assets and Resilience Scales (SEARS; Merrell, 2011). The SEARS is a multi-informant, strength-based, social-emotional assessment system that assesses positive social-emotional attributes of children and adolescents. There are four rating forms within the SEARS system, including, the SEARS-C (child self-report), SEARS-A (adolescent self-report), SEARS-P (parent report), and SEARS-T (teacher report). SEARS-C is the student self-report for grades 3 through 6 while SEARS-A is intended for grades 7 through 12. The SEARS-P is the parent report for caregivers of students in grades K through 12, and the SEARS-T is the teacher report for students in grades K through 12 (see Table 1). The full-length versions of these rating forms range from 35 to 41 items. The SEARS rating system measures social-emotional skills and assets such as social-emotional knowledge and competence, peer relationships, coping skills, problem-solving abilities, empathy, and other positive traits. Sample items from the SEARS system, showing similarities across the student, teacher, and parent reports, are provided in Table 2.

**Table 1:** Description of the SEARS assessment system

Form	Description	No. of long form items	No. of short form items	Subscales
SEARS-C	Student self-report for grades 3 through 6	35	12	No subscales
SEARS-A	Student self-report for grades 7 through 12	35	12	Self-Regulation Social Competence Empathy Responsibility
SEARS-P	Parent report for caregivers of students ages 5 through 18	39	12	Self-Regulation/Responsibility Social Competence Empathy
SEARS-T	Teacher report for students in grades K through 12	41	12	Self-Regulation Social Competence Empathy Responsibility

*Note.* SEARS = Social Emotional Assets and Resilience Scales.

In the current study, we describe the methods used to develop the short form versions from the original full-length scales, and we examine several dimensions of reliability and validity that support their development. Lastly, we conclude with a discussion on future directions for research and possible implications of strength-based assessment for progress monitoring and screening of social and emotional skills and competence.

**Table 2:** Sample items from the SEARS system showing similarities across scales

Student self report	Teacher report	Parent report
I am a responsible person <sup>a</sup>	Accepts responsibility when she/he needs to	Accepts responsibility when she/he needs to
I can identify errors or mistakes in the way I think about things <sup>b</sup>	Can identify errors in the way he/she thinks about things	Can identify errors in the way he/she thinks about things
Other kids ask me to hang out with them <sup>a</sup>	People think she/he is fun to be with	Other kids ask him/her to hang out with them
I care what happens to other people <sup>a</sup>	Cares what happens to other people	Cares what happens to other people
I understand how other people feel <sup>b</sup>	Understands how other people feel	Understands how other people feel
I know how to calm down when I am stressed out or upset <sup>a</sup>	Knows how to identify and change negative thoughts	Knows how to calm down when stressed or upset
I make friends easily <sup>a</sup>	Makes friends easily	Makes friends easily
I try to help other people when they need help <sup>a</sup>		Tries to help others when they need help

<sup>a</sup>Items from SEARS-A (i.e., Social Emotional Assets and Resilience Scales – Adolescent). <sup>b</sup>Items from SEARS-C (i.e., Social Emotional Assets and Resilience Scales – Child).

## 2. Methods

### 2.1 Development of SEARS-C and SEARS-A self-report long forms

Approximately 1,617 students in grades 3–12 from Massachusetts, Illinois, Iowa, and Colorado participated in the development of the SEARS-C and SEARS-A long forms (Cohn, 2010). Of the 903 students in grades 3–6 that completed the SEARS-C long form, approximately 49 % were female, and approximately 87 % identified as Caucasian, 4.5 % as Latino, 2 % as African American, 2.5 % as Asian/Pacific Islander, and 2 % as approximately multiracial/other. Grade breakdowns for the SEARS-C sample were as follows: 9 % 3rd grade, 30 % 4th grade, 31 % 5th grade, and 30 % 6th grade (Cohn, 2010). Of the 714 students in grades 7–12 that completed the SEARS-A long form, approximately 50 % were female, and approximately 88 % identified as Caucasian, 5 % as Latino, 2 % as African American, 1.5 %



as Asian/Pacific Islander, and 2 % as multiracial/other. Grade breakdowns for the SEARS-A sample were as follows: 37 % 7th grade, 35 % 8th grade, 4 % 9th grade, 8 % 10th grade, 8.5 % 11th grade, and 7 % 12th grade (Cohn, 2010).

## **2.2 Development of the SEARS-T teacher rating scale long form**

For the development of the SEARS-T long form, 418 teachers provided behavioral ratings on a total of 1,673 K–12 students in public and private school systems throughout the United States (Merrell, Cohn & Tom, 2011). Of this sample, 380 teachers (rating 1,524 students) participated in a national norming study for the teacher rater form of the SEARS system. An additional 30 teachers (rating 118 students) participated in a test-retest reliability study of the SEARS-T; and 8 teachers (rating 31 students) were used in a cross-informant correlation of the SEARS-T with a student self-report instrument (Merrell, Cohn, et al., 2011).

Within the final sample of teacher raters, approximately 26 % were male, 72 % were general education teachers, 7 % were special education teachers, 11 %, were from other settings (e.g., reading programs, gifted programs), 5 % were in non-teaching, student support roles, and 3 % were categorized as ‘other’ (Merrell, Cohn, et al., 2011). The number of years of prior experience for each rater ranged from 0 to 50 with a mean of 15. The raters were recruited from 23 participating school research sites in 10 U.S. states, including California, Colorado, Georgia, Hawaii, Illinois, Iowa, North Carolina, Washington, Oregon, and Massachusetts (Merrell, Cohn, et al., 2011).

The children and adolescents for whom SEARS-T ratings were completed were spread across the K–12 grade range, with approximately 56 % in the K–6 grade range, and 44 % in the 7–12 grade level. Approximately 49 % of the sample were male, 18 % were identified by their teacher rater as having a disability for purposes of special education service eligibility, 49 % were identified as White/Caucasian, 19 % as African American, 19 % as Hispanic/Latino, 8 % as Asian/Pacific Islander, 3 % as Multiracial, 1 % as other, and 0.2 % as Native American (Merrell, Cohn, et al., 2011).

## **2.3 Development of the SEARS-P long form**

Participants for the development of the SEARS-P long form included 2,018 parents or guardians of children and adolescents ages 5–18 (Merrell, Felver-Gant, & Tom, 2011). Within the general sample of parent raters, 63 % identified themselves as mothers, 23 % as fathers, and 11 % as grandparents, stepparents, older siblings, or legal guardians. The parent or guardian raters who participated in this study all completed the SEARS-P rating form in English (a Spanish language version of the form is currently under development). The raters were recruited from 12 participating school research sites in eight U.S. states, including California, Colorado,



Georgia, Hawaii, Illinois, Iowa, North Carolina, and Massachusetts (Merrell, Felver-Gant, et al., 2011). These research sites represented a range of urban, suburban, and rural communities, diverse with respect to socioeconomic status of the general areas (Merrell, Felver-Gant, et al., 2011).

The children and adolescents for whom SEARS-P ratings were completed were spread across the K–12 grade range, with 55 % in the K–6 grade range, and 45 % in the 7–12 grade level. Approximately 51 % of the child/adolescent sample were male, 66 % were identified as White/Caucasian, 16 % as Asian/Pacific Islander, 6 % as African American, 6 % as multiracial, 5 % as Hispanic/Latino, 0.9 % as other, and 0.2 % as Native American, and approximately 10 % of the child/adolescent sample were identified by the parent/guardian raters as having a disability for purposes of special education service eligibility (Merrell, Felver-Gant, et al., 2011). All participants from the SEARS long form participant samples were included in the current study.

## **2.4 Short forms development procedures**

For the SEARS assessment system short forms development, five phases of data analysis were conducted, including development, preliminary product, validation, and final product phases. Figure 1 depicts a condensed flowchart highlighting these phases of data analysis for a single short form (e.g., SEARS-A). Additionally, analyses were conducted on convergent validity, temporal stability, interrater reliability, cross informant validity, and discriminant validity, and are discussed in the results section. Data were analyzed using SPSS 18.0.

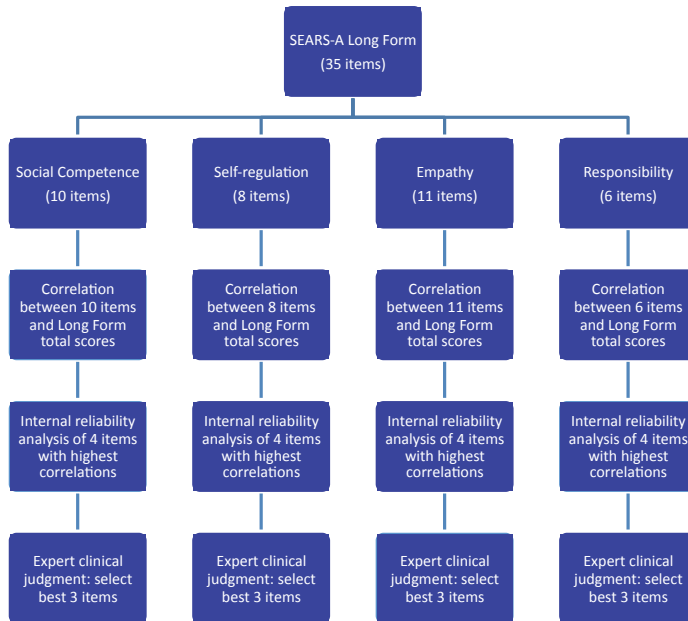
### **2.4.1 Phase one**

In phase one, the development phase of the SEARS short forms, the primary goal was to select an initial item pool. Item-total correlations (i.e., correlation of each item to the SEARS total score) were conducted for each subscale.

### **2.4.2 Phase two**

In phase two, the preliminary product phase of the SEARS short forms, the four items with the highest reliability (i.e., the strongest values) were selected. Reliability statistics for each subscale were run using Cronbach's alpha. This led to a new four-item scale.

Figure 1: SEARS short form – stages of development



Note. SEARS = Social Emotional Assets and Resilience Scales.

### 2.4.3 Phase three

In phase three, the items with the highest Cronbach’s alphas were selected. Expert (e.g., individuals with experience constructing and validating rating scales) panel validation ensued and an exclusion criterion for deleting items was created. If a particular item’s Cronbach’s alpha items-total correlation was the lowest of all items’ alphas, that item would be deleted in order to increase the total alpha for that subscale. The expert panel examined how the particular item would fit within the context of the other items selected. If more than one item had the same total correlation value, a subjective analysis was conducted to determine which item was too similar to the items that were already selected. After the appropriate items were deleted, the preliminary short form items were selected for each subscale. The remaining items were considered to be highly representative of their parent subscale.

### 2.4.4 Phase four

In the fourth phase, validation of the preliminary product was conducted. Alpha reliability coefficients were determined for preliminary short form selection. Cronbach’s alpha was run for the new 12 items, first within the 12 items them-

selves. Then, item-total correlations were run for the new 12 items. Correlations were determined for each item to the total subscale.

### 2.4.5 Phase five

In the final phase, short to long form correlations were run to confirm the final products for each of the SEARS versions (see Table 3). The results of these analyses confirmed the final short form items.

Table 3: Comparison of SEARS long form and short form

Form	Internal consistency coefficient		Short form to long form correlation
	Long form	Short form	
SEARS-C	.92	.85	.93**
SEARS-A	.93	.83	.94**
SEARS-P	.96	.90	.97**
SEARS-T	.98	.93	.98**

Note. Number of items in each short form = 12. SEARS-C, -A, -P, -T: Social Emotional Assets and Resilience Scales – Child, -Adolescent, -Parent, -Teacher.

\*\* Correlation is significant at the 0.01 level (2-tailed).

## 3. Results

The short form to long form correlations revealed statistically significant associations across paired measures. The short and long forms of the SEARS-C, SEARS-A, SEARS-P, and SEARS-T had correlations of .93, .94, .97, and .98 respectively (see Table 3).

The convergent validity of the SEARS short forms was assessed by comparing SEARS short form scores with other commonly used and nationally standardized strength-based child behavior rating scales. A subsample of parents, teachers, and students from a public elementary school and a private high school in Hawaii completed the SEARS assessments along with other strength-based measures as part of the SEARS Norming Project (Merrell, 2011).

To assess the convergent validity of the SEARS-C short form, we used data from a sample of 137 children in grades 3 to 6 who completed the SEARS-C short form and either the Social Skills Rating Scale (Gresham & Elliot, 1990) or the Positive Affect Scale of the Internalizing Symptoms Scales for Children (ISSC; Merrell & Walters, 1998). Similarly, we used a sample of self-report data from 259 adolescents in grades 9 to 12 who completed the SEARS-A short form along with the Social Skills Rating Scale (SSRS; Gresham & Elliott, 1990) or the Student Life Satisfaction Scale (SLSS; Huebner, 1991).

To demonstrate convergent validity of the SEARS-T short form, we utilized a sample of 92 teacher ratings on students in grades K–6 and a sample of 72 teacher ratings of students in grades 9–12. Teachers of grades K–6 rated students using the SEARS-T short form and School Social Behavior Scales (SSBS-2; Merrell, 2002), while teachers of grades 9–12 completed the SEARS-T short form and the SSRS. Finally, to evaluate convergent validity of the SEARS-P short form, we used a sample of 89 parent ratings of K–6 students and 136 parent ratings of students in grades 9–12. Parents in both groups filled out the SEARS-P short form and either the social skills subscale of the SSRS or the social competence subscale of the Home and Community Social Behavior Scales (HCSBS; Merrell & Caldarella, 2002). With one exception, the ISSC Positive Affect subscale, higher scores on these measures indicate higher social and emotional skills, life satisfaction, and happiness.

Pearson product-moment correlations between SEARS short forms and the other strength-based rating scales demonstrated convergent validity, and indicated the SEARS short forms are measuring the social and emotional constructs that the measure was designed to assess. Pearson product-moment correlations between students' self-report scores on the SEARS-C short form and SSRS (Cooperation, Assertion, Empathy, and Self-Control subscales and the Total score) were positive and ranged from .62 to .78 ( $p < .01$ ). The correlation between students' SEARS-C short form score and ISSC Positive Affect subscale score was  $-.47$  and statistically significant ( $p < .01$ ). Similar to the younger-aged students, Pearson product-moment correlations between adolescent self-report scores on the SEARS-A short form and SSRS were also positive and ranged from .67 to .72 ( $p < .01$ ). The correlation between the SEARS-A short form and the SLSS was positive (.44) and statistically significant ( $p < .01$ ).

Pearson product-moment correlations between teacher ratings of high school students on the SEARS-T short form and SSRS subscales (Cooperation, Assertion, and Self-Control) ranged from .67 to .72, and .79 for the SSRS total score and SEARS-T short form ( $p < .01$ ). The correlation between teacher rating scores of elementary aged students on the SEARS-T short form and SSBS Peer Relations Subscale was .88 ( $p < .01$ ).

Lastly, correlations between parent report scores of their elementary (K–6) and high school-aged children on the SEARS-P short form and SSRS subscales (Cooperation, Assertion, Empathy, and Self Control) ranged from .40 to .64 and were .71 (K–6) and .69 (9–12) for the SSRS Total scores and SEARS-P short form scores ( $p < .01$ ). Similarly, Pearson product-moment correlations between parent ratings of their children on the SEARS-P short form and HCSBS, also divided into K–6 and 9–12 groups, were positively correlated ranging from .69 to .84 across HCSBS subscale and total scores ( $p < .01$ ).

To evaluate the temporal stability of the SEARS short forms, we used sample SEARS short form data from a mid-sized town in Massachusetts, and teacher SEARS short form scores of students from two diverse, urban elementary schools in Washington state (Romer & Merrell, in press). Test-retest reliability co-

efficients were calculated by computing Pearson product-moment correlations between SEARS short form scores obtained across four administrations (every two weeks) of the SEARS-C and SEARS-A. The SEARS-C was completed by 83 6th graders and the SEARS-A by 42 7th graders and 44 8th graders. We also analyzed SEARS-T short form scores from 30 teacher reports of 118 elementary aged students. Teachers rated students on two occasions that were two weeks apart. For the SEARS-C short form, coefficients ranged from .67 to .81 and SEARS-A short form coefficients ranged from .80 to .84 across the three intervals ( $p < .01$ ). SEARS-T short form product-moment correlation across a two-week interval was .90 ( $p < .01$ ).

To determine the consistency with which different individuals rated the same child on SEARS short forms, we computed Pearson product-moment correlations between SEARS short form scores of mothers' and fathers' ratings of the same child. The correlation of SEARS-P short form scores of 194 mother-father pairs was .67 and statistically significant ( $p < .01$ ).

To investigate the degree to which teacher ratings of students' social and emotional strengths and assets are similar to students' self-reports of these skills and assets, we computed Pearson product-moment correlations between student and teacher scores on respective versions of the SEARS short forms. The sample consisted of 31 elementary school students and their teachers from a school in a mid-sized community in the Northwestern region of the United States (Cohn, 2010). Correlations between student self-report scores on the SEARS-C short form and teacher ratings on the SEARS-T short form were relatively small, and were not statistically significant ( $r = .24$ ;  $p > .05$ ).

We examined the extent to which the SEARS short forms are able to differentiate between groups of students based on students' gender and whether or not they are receiving special education services. Because a large body of research indicates that students with disabilities are more likely to exhibit deficits in important social-emotional competencies in comparison with their typically developing peers (see Merrell & Gimpel, 1998, for a review of this research), it would be expected that a valid screening measure of social-emotional competencies and assets should differentiate among groups of students in this manner. To determine if this was the case for the SEARS short forms, we conducted independent observations *t*-tests comparing ratings of students identified as receiving special education services by their parent ( $n = 156$ ) or teacher ( $n = 161$ ) to students who were not identified as receiving special education services ( $n = 1,047$  and  $n = 1,222$  respectively). As anticipated, both parents and teachers rated students not receiving special education services significantly higher than students receiving special education services. We then used Cohen's *d* method for calculating effect size (Cohen, 1992) to establish if these differences were clinically relevant. Effect sizes based on differences of parent ratings (.75) and teacher ratings (.74) were both medium suggesting that the difference in scores between students receiving special education services and those students not receiving special education services were not only significant, but that these differences were clinically meaningful.

Likewise, a large body of evidence shows that there are often significant gender differences in social-emotional functioning (Merrell & Gimpel, 1998), and such an analysis was deemed important for the current data set. To determine if there was a difference between reported social emotional strengths between male and female students, we conducted independent observations *t*-tests comparing SEARS short form ratings of female and male students by parents, teachers, and students themselves (Merrell, Cohn, et al., 2011; Romer, Tom, Ravitch, Wesley, & Merrell, 2011). Regardless of the rater, female students' mean scores were higher than male students' scores ( $p < .01$ ). Given the large size of the sample, we also calculated effect sizes using Cohen's *d* (Cohen, 1992), which indicated that the effects for the difference between female and male scores on the SEARS short forms were small (.21 on the SEARS-P, .35 on the SEARS-T, .33 on the SEARS-C, and .31 on the SEARS-A).

#### 4. Discussion

In this study, we documented the methods used to develop the SEARS short forms from the original full-length scales, and examined several dimensions of reliability and validity that support their development. The results indicate that the SEARS short forms are highly correlated with the SEARS long forms. Additionally, the overall strong correlations between the SEARS short forms and other strength-based measures provide convergent evidence that the SEARS short forms measure a relatively similar construct of social-emotional skills as other strength-based, nationally standardized behavior rating scales. Results of the test-retest reliability analyses indicate that the SEARS short forms have good temporal stability, and the high interrater reliability across parents suggests that mothers and fathers tend to rate their children's social and emotional strengths and assets quite similarly on the SEARS-P. Our analyses of differences among groups of students on SEARS short form scores with respect to special education status and gender are consistent with much prior research in these areas, and support the construct validity of the scales.

Although these results indicate that the SEARS short forms have the potential of serving as statistically sound assessment tools, additional research will determine if the short forms are appropriate for screening or progress monitoring purposes. Future research should explore the SEARS short forms' sensitivity to changes in students' social-emotional skills over time and its utility for decision making, intervention development and implementation. Future research may also consider utilizing classification and diagnostic accuracy analyses, such as receiver operating characteristic (ROC) curve analyses and logistic regression, in examining the suitability of the SEARS short forms as screeners for students in need of targeted or intensive intervention strategies. Such analyses may also be used to compare SEARS data to comparison measure diagnostic categories in an evaluation of the utility of SEARS short forms in screening.

The SEARS short forms hold promise in fulfilling the guidelines that Glover and Albers (2007) suggested, including being contextually appropriate, in that the SEARS system matches with many service delivery needs in school settings, available interventions, the existing research-base, and key associated constructs. The SEARS short forms exhibit characteristics of sound psychometric properties. Future research on the SEARS system should continue to explore social acceptability of the measures, as well as the costs versus benefits dichotomy so often connected with implementing new measures in school settings.

In addition to future empirical studies that examine the utility of the SEARS short forms for screening and progress monitoring, further research is also needed to expand on the findings of the present study, as they may not be applicable to all populations of students. For example, a limited number of Latino students, 3rd grade students, 10th grade students, and 12th grade students were available during the SEARS' development and norming projects. The present study also included the use of convenience sampling, as the sample was not stratified or randomly selected. Additionally, no procedural integrity data was collected, limiting the statements made about accuracy of the assessment procedures. Future empirical studies may address these limitations in order to build a stronger case for the utility of the SEARS short forms system.

The recent movement towards early identification of students at-risk for social and emotional problems, the use of a problem solving approach and the incorporation of ongoing progress monitoring suggest that a salient need exists for a tool that can assist in accurate identification and the development of interventions that lead to consequential positive changes in student behavior and well-being. Evaluating the effectiveness of interventions will involve continual measurement of problem behaviors as well as students' social and emotional skills and competencies. Behavior rating scales have been adapted and used as progress monitoring tools with strong sensitivity to change, particularly if they include several items that focus on specific behaviors more sensitive to change than those traditionally captured through the use of broad-band rating scales (Gresham, Cook, Collins, Dart, Rasetshwane, Truelson, & Grant, 2010). We believe the advantages of a shorter, yet technically adequate measure, may be embodied by the SEARS, however, future research will determine if the SEARS short forms may serve these purposes.

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