Assessing the Strengths of Young Children at Risk: Examining Use of the Preschool Behavioral and Emotional Rating Scale With a Head Start Population

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Over the past decade, there has been an increased need for the development and use of psychometrically acceptable measures to assess the behavioral and emotional strengths of young children served in statewide preschool and Head Start programs. One measure developed to address this need is the Preschool Behavioral and Emotional Rating Scale (PreBERS), which is a strength-based instrument designed to evaluate the behavioral and emotional strengths of preschool children aged 3 to 5 years old. In a previous study with a nationally representative sample, researchers found that (a) the items of the PreBERS can best be described by a four-factor structure model (Emotional Regulation, School Readiness, Social Confidence, and Family Involvement), (b) the subscales and total measure have highly acceptable levels of internal consistency, and (c) differences were obtained for levels of strength for preschool children with and without disabilities. The findings of this investigation replicate these previous results with a national sample of children (N = 962) enrolled in Head Start programs. Confirmatory factor analysis and analyses of internal consistency and criterion validity provide support for the use of the PreBERS with children served in Head Start programs. Study limitations and implications are addressed.

Keywords: strength-based assessment; preschool children; Head Start

With increasing numbers of children participating in state-funded preschool and Head Start programs, there is a growing interest in the early identification of problem behaviors (e.g., Conroy & Brown, 2004; Fairbanks, Sugai, Guardino, & Lathrop, 2007; Qi & Kaiser, 2003). Although children are typically not formally identified with an emotional

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and behavioral disorder until well into their elementary school years, a number of children begin to display problem behaviors as early as preschool (Campbell, 2002; Walker, Ramsey, & Gresham, 2004). Researchers have found that many of these young children will go on to engage in problem behaviors as they progress through school and into adulthood and that many will evidence comorbid learning and school-related difficulties (e.g., Gresham, Lane, & Lambros, 2000; Walker et al., 2004). In light of these findings, federal legislation now mandates that school personnel become active in the identification of young children who are in need of early intervention or special education services (National Center for Education Statistics, 2007).

Early identification is particularly important for children living in poverty (Qi & Kaiser, 2003). The United States has the highest level of child poverty of all industrialized nations, with 18% (more than 13 million) of children living in poor families in 2007 (National Center for Children in Poverty, 2008). Children who live in poverty are at a greater risk for problem behaviors because of the number of associated risk factors that affect their families (e.g., unemployment, poor living conditions, low levels of education, health problems; Wakschlag & Keenan, 2001), and they tend to have significantly poorer educational outcomes than do their same-aged middle- or high-income peers (Ou & Reynolds, 2008). Thus, although rates of problem behaviors are estimated to be between 3% and 6% for the general preschool population, rates for preschoolers attending Head Start—a national preschool program for children of families living below the federal poverty guidelines or receiving public assistance—have been reported to be between 16% and 30% (Qi & Kaiser, 2003). As a result, children living in poverty, such as those who are involved with Head Start, have an increased need for early identification and early intervention services.

To address this need, several behavioral rating scales have been developed that are useful for the identification and intervention planning of young children who have or are at risk for emotional and behavioral disorders—for example, the Child Behavior Checklist–Ages 1 1/2–5 (Achenbach & Rescorla, 2000) and the Behavior Assessment System for Children (Reynolds & Kamphaus, 2004). Although these measures have a number of positive qualities, including their demonstration of good psychometric properties, standardization on a large number of youth, and developmental appropriateness for young children, one concern is that they rely on a deficit model for assessment. Specifically, children are identified as being at risk or in need of services on the basis of reports of their behavioral deficits and problems. Whereas the assessment of deficits and problems is important because it identifies areas in which children may be having difficulties, assessment that focuses solely on the negative aspects of children’s behaviors is problematic in that it may limit the range of information available about children, ignoring strengths and positive behaviors that can serve as protective factors moderating risks for negative outcomes (Epstein, Mooney, Ryser, & Pierce, 2004).

In contrast, strength-based measures that can identify areas for improvement in a less-stigmatizing manner by focusing on the positive aspects of behaviors are important for gathering diverse information necessary for intervention planning (Cox, 2006; Epstein et al., 2004). In fact, several years ago, the Working Group on Developmental Assessment identified strengths-based assessment as 1 of 10 key principles that should guide the assessment of young children (Greenspan & Meisels, 1996). Strength-based measures are a more positive method of assessment in that they assume that all children have strengths, and so they focus on measuring
those behavioral and emotional 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 & Sharma, 1998, p. 3)

The use of strengths-based assessment may be valuable in intervention planning for several reasons, including (a) focused attention on children’s strengths versus their problems and accompanying opportunities for learning and growth, (b) enhanced motivation of the family to be involved in planning and subsequent interventions, and (c) improved identification of competencies for progress monitoring of interventions (Epstein & Sharma, 1998; Greenspan & Meisels, 1996). For instance, rather than focus on the reduction of problem behaviors that could be identified through a deficit-based assessment, use of strength-based assessments can help to focus interventions on the improvement and development of positive behaviors that are incompatible with problem behaviors. This change in focus may help teachers, parents, and children to remember and be aware of the positive attributes of children.

In response to the need for strength-based measures to assess children’s behavioral and emotional strengths, the Behavioral and Emotional Rating Scale (Epstein, 2004; Epstein & Sharma, 1998) was developed, which has been shown to have acceptable psychometric qualities and be a valuable tool for identifying the emotional and behavioral strengths of school-age children. Given the increasing need to assess preschool children and the specific need for strength-based measures, an early-childhood version was developed: the Preschool Behavioral and Emotional Rating Scale (PreBERS; Epstein & Synhorst, 2009).

**Preschool Behavioral and Emotional Rating Scale**

The PreBERS is a standardized assessment designed to measure the emotional and behavioral strengths of preschool children (Epstein & Synhorst, 2009). The assessment protocol has 42 items rated with a 4-point Likert-type scale (0 = not at all like the child, 1 = not much like the child, 2 = like the child, 3 = very much like the child). The PreBERS should be completed by preschool teachers, practitioners, or parents who are familiar with children being assessed. The PreBERS measures four dimensions of emotional and behavioral strengths. Specifically, the emotional regulation dimension has 13 items that assess children’s ability to appropriately manage their emotions in social situations (e.g., “reacts to disappointments calmly,” “controls anger towards others”). The school readiness dimension includes 13 items that measure important learning and language skills related to school success (e.g., “persists with tasks until completed,” “understands complex sentences”). The social confidence dimension contains 9 items that assess children’s appropriate initiation and responding in social situations (e.g., “asks for help,” “stands up for self”). Finally, the family involvement dimension includes 7 items that represent important environmental and family characteristics that are related to children’s behavioral and emotional development (e.g., “interacts positively with siblings,” “trusts a significant person in his or her life”).

The PreBERS was based on the original Behavioral and Emotional Rating Scale (Epstein, 2004; Epstein & Sharma, 1998) and was developed with a systematic process.
of item review and analysis (Epstein & Synhorst, 2009). In addition, several aspects of the reliability of the 42-item PreBERS were evaluated during the norming process for preschool children with and without disabilities. For example, the internal consistency of the scale was assessed with the original sample, and the Cronbach coefficients for the subscale and total strength scores were high, ranging between .838 and .982 (Epstein & Synhorst, 2009). With parent and professional respondents rating the PreBERS items for children, interrater and test–retest reliability coefficients were more than .80, indicating that the PreBERS was stable over short-term intervals and consistent between raters (Epstein & Synhorst, 2008). Evaluations of teachers and paraprofessionals’ ratings of the behaviors of children with and without disabilities also yielded acceptable levels of test–retest (correlations over .80) and interrater agreement (correlations over .70; Epstein & Synhorst, 2008).

Although the PreBERS appears to be a promising measure to assess the strengths of preschool-age children, additional research is warranted to replicate findings from the norming process and better determine if the assessment is appropriate for subpopulations of young children. Therefore, we sought to extend the research on the psychometric properties of the PreBERS to children in Head Start programs. Although the four-factor PreBERS scale was based on a nationally representative sample of preschool children without developmental delays, using the scale with high-risk preschool populations may change the manner in which the items load into factors and the resultant psychometric properties of the model. To this end, we addressed three research questions: Can the original PreBERS model with four factors be replicated with a Head Start sample? Can the internal consistency of the four-factor model be replicated with a Head Start sample? Does the PreBERS differentiate between children with and without developmental delays in a Head Start sample?

Method

Participants

The sample included 962 preschool children in Head Start programs ranging in age from 3 years–0 months to 5 years–11 months. We collected individual child data from 2006 and 2007 in the following states: California, Indiana, Kansas, Kentucky, Missouri, Montana, Nebraska, New Mexico, Oklahoma, Pennsylvania, South Dakota, Tennessee, Utah, Vermont, Wisconsin, and Wyoming. Our sample selection procedures resulted in a national sample of preschool children in Head Start programs. The characteristics of the sample with regard to geographical area, gender, race, ethnicity, disability status, and age are reported as percentages in Table 1, which are similar to those of children enrolled in Head Start programs nationwide (Administration for Children and Families, n.d.; O’Brien et al., 2002; see Table 1). Specifically, visual analysis indicates that our sample is similar to preschool children in Head Start programs nationwide with respect to gender, race, ethnicity, and disability status. However, it is not representative of the population in terms of geographic region and age. The sample was overrepresented with children from the South and with 5-year-old children and underrepresented with children from the Northeast.
We recruited Head Start personnel from each of the 50 states to coordinate and assist in PreBRS data collection. Specifically, we e-mailed the directors of local Head Start programs and asked them to be site coordinators at their agencies. In addition, we sent follow-up e-mail as needed for directors who had not responded within a 2-week period. Directors from 16 states (32%) agreed to participate, and we sent letters providing instructions in the administration procedures of the PreBRS. We also provided instructions on how to recruit Head Start teachers and how to train them to complete the PreBRS.

We provided participating teachers with additional information on how to select the children at their program sites. Specifically, we provided raters with the following instructions:

First, decide how many students you wish to rate. Then, start either at the top or bottom of your class roster and rate every other child. Do not skip any child unless you have known this child less than two months. Stop selecting and rating children when you have reached the number of children you wished to rate.

### Table 1

**Demographic Characteristics of the Preschool Behavioral and Emotional Rating Scale Head Start Norming Sample (N = 962)**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Sample (%)</th>
<th>U.S. Head Start Population (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Geographic area</strong></td>
<td></td>
<td></td>
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<tr>
<td>Northeast</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>South</td>
<td>39</td>
<td>25</td>
</tr>
<tr>
<td>Midwest</td>
<td>38</td>
<td>39</td>
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<tr>
<td>West</td>
<td>16</td>
<td>22</td>
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<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
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<td>50</td>
</tr>
<tr>
<td>Female</td>
<td>49</td>
<td>50</td>
</tr>
<tr>
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<tr>
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<td>31</td>
</tr>
<tr>
<td>No</td>
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<td>69</td>
</tr>
<tr>
<td><strong>Race</strong></td>
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</tr>
<tr>
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<td>27</td>
</tr>
<tr>
<td>Black / African American</td>
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<td>31</td>
</tr>
<tr>
<td>Other</td>
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<td>42</td>
</tr>
<tr>
<td><strong>Disability</strong></td>
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<td></td>
</tr>
<tr>
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<td>16</td>
<td>13</td>
</tr>
<tr>
<td>No</td>
<td>84</td>
<td>87</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (n = 286)</td>
<td>30</td>
<td>38</td>
</tr>
<tr>
<td>4 (n = 452)</td>
<td>47</td>
<td>54</td>
</tr>
<tr>
<td>5 (n = 224)</td>
<td>23</td>
<td>8</td>
</tr>
</tbody>
</table>

**Procedures**

*Data collection.* We recruited Head Start personnel from each of the 50 states to coordinate and assist in PreBRS data collection. Specifically, we e-mailed the directors of local Head Start programs and asked them to be site coordinators at their agencies. In addition, we sent follow-up e-mail as needed for directors who had not responded within a 2-week period. Directors from 16 states (32%) agreed to participate, and we sent letters providing instructions in the administration procedures of the PreBRS. We also provided instructions on how to recruit Head Start teachers and how to train them to complete the PreBRS.

We provided participating teachers with additional information on how to select the children at their program sites. Specifically, we provided raters with the following instructions:
We used this selection procedure to minimize the possibility of selection bias on the part of the teachers conducting the ratings. Thus, the Head Start directors and Head Start preschool teachers who volunteered to participate served as a convenience sample. Directors and teachers provided written consent before they participated, and recruitment and consent procedures were approved by the University of Nebraska Internal Review Board.

**Instrument.** The PreBRS is a 42-item rating scale that assesses four areas of emotional and behavioral strengths in preschool children: emotional regulation, school readiness, social confidence, and family involvement (Epstein & Synhorst, 2009). Raters can complete the PreBRS in approximately 10 minutes for each child by reading and coding the 42 queries. For each query, raters’ responses reflect their perceptions of how much of a behavioral characteristic represents the individual child being assessed. Hence, preschool teachers or other adults familiar with the children rate each item on a Likert-type scale. Standard scores are calculated for each of the four subscales ($M = 10$, $SD = 3$). The sum of the subscale standard scores is converted into a strength index that has a mean of 100 and a standard deviation of 15.

**Data Analysis**

**Confirmatory factor analysis.** We used confirmatory factor analysis to evaluate the four-factor structure established during the norming process for the PreBRS (Epstein & Synhorst, 2009). Specifically, we employed AMOS 5.0 (Arbuckle, 2003) to perform confirmatory factor analyses to judge the extent to which the Head Start data fit the original PreBRS structure of four subfactors loading onto a higher-order “strength index” latent factor. The four-factor model proved to be sufficient during the norming process, and we used the same 42 items from the PreBRS during our study. In our analyses, we employed participants’ scaled standard scores as indicators. We generated parameter estimates and model fit estimates using covariance matrices and maximum-likelihood estimation to test the fit of the PreBRS subscale assignment to the PreBRS strength index.

In testing this model, we computed four indexes of model fit: Bentler’s (1990) comparative fit index, Tucker and Lewis’s (1973) index of fit, Bentler and Bonnett’s (1980) normed fit index, and Browne and Cudek’s (1993) root mean square error of approximation. Because we evaluated different aspects of model fit with these indices, the criterion for an acceptable fit varied among the indices. Methodologists have reported that the comparative fit index, the Tucker–Lewis index, and the normed fit index values should be at or above .90 to indicate a satisfactory fitting model (cf. Hu & Bentler, 1999), with values close to 1 indicating a very good fit on any of these indexes. A root mean square error of approximation of less than .11 indicates a reasonable fit; a value of about .05 or less indicates a close fit of the model in relationship to the degrees of freedom (cf. Browne & Cudek, 1993).

**Internal consistency.** To evaluate how well the total measure and each subscale assessed the construct they were intended to assess (i.e., total strength, Emotional Regulation, School Readiness, Social Confidence, Family Involvement), we performed a series of five Cronbach’s coefficient alphas. In addition, we conducted a separate analysis for each subscale verified in the confirmatory factor analysis.
Criterion validity. Criterion validity refers to how representative scores are for subpopulations of individuals. Given what is known about a subpopulation in regard to the content covered by an assessment, each subpopulation’s set of scores should follow a logical pattern. In regard to the PreBERS, which assesses emotional and behavioral strengths, we believe that it is reasonable to assume that teachers will rate Head Start children with developmental delays lower than Head Start children without developmental difficulties. To assess the criterion validity for our sample of Head Start children, we performed five independent $t$-test analyses to determine whether any significant differences existed between (a) children reported as having identified developmental delays (e.g., emotional or behavioral disorders, speech or language impairments) and special education services and (b) those without delays. Because of the limited number of children with any specific type of developmental delay, we aggregated identified children into one developmental delay category for analysis. We conducted an analysis for each subscale and for the overall total strength index. We also calculated Hedge’s $g$ effect sizes to estimate the magnitude of the differences. To control for the number of comparisons performed, the Bonferroni correction method was used to adjust the alpha level to .01.

Results

Confirmatory Factor Analysis

Figure 1 shows the results of the confirmatory factor analysis for the proposed model and illustrates the factor representing the PreBERS strength index as a circle. The values on the arrows between the factor and the subscales, which are represented by squares, are factor loadings. The factor loadings are regression coefficients that represent the influence of the factor—the PreBERS strength index—on the subscale. The values on the arrows pointing from $e_1$ through $e_4$ to the subscales represent error variance. Error variance consists of random error and may include unique systematic error unrelated to the variances of the other subscales.

According to Hopkins’s criteria (2002), the resultant factor loadings associated with all subscales are in the range of large to very large and are significantly different from zero. Specifically, for the Head Start sample, the subscales are large ($> .60$ for the Family Involvement subscale) to very large ($> .80$ for the Emotional Regulation, School Readiness, and Social Confidence subscales). Moreover, three of the four confirmatory factor indices support the fit of the four-factor model to the data, with the comparative fit index equal to .984, the Tucker–Lewis index equal to .951, and the normed fit index equal to .987. The root mean square error of approximation equals .148, which exceeds the recommended range of .11 or less for reasonable fit.

Internal consistency. We calculated Cronbach’s alphas for each subscale and the total strength index, and the coefficients are as follows: .956 for Emotional Regulation, .943 for School Readiness, .895 for Social Competence, .886 for Family Involvement, and .975 for the total strength index, respectively.

Criterion validity. Table 2 displays the means and standard deviations for Head Start children with and without developmental delays. Our $t$-test analyses indicate statistically
significant between-group differences, with children without developmental delays scoring higher in emotional and behavioral functioning on the PreBERS than children with identified developmental delays. This finding is consistent across subscales and for the total strength index. Hedge’s $g$ effect sizes indicate that the magnitude of the size differences is moderate to large.

**Discussion**

With a nationally representative sample of preschool children, Epstein and Synhorst (2009) demonstrated acceptable psychometric characteristics of the PreBERS with a four-factor structure (Emotional Regulation, School Readiness, Social Confidence, and Family Involvement). Our study replicates their findings with a national sample of children attending Head Start programs. Our confirmatory factor analyses indicate support for the original model, with four subscales loading onto a higher-order “strength index” latent factor and with large to very large factor loadings for the four subscales. In addition, three of the four model fit indices—Bentler’s (1990) comparative fit index, Tucker and Lewis’s (1973) index of fit, and the Bentler and Bonnett’s (1980) normed fit index—indicate good model fit. The root mean square error of approximation value exceeds the recommended range for a reasonable fit, likely because of relatively low degrees of freedom. Whereas the obtained
root mean square error of approximation value indicates a possible misspecification of the model, the findings with the other three indices support the adequacy of the original model. We also found evidence of high internal consistency of the four factors with the Head Start sample. Our results provide evidence for a four-factor subscale structure of the PreBRS with Head Start children, replicating previous findings with preschool populations (Epstein & Synhorst, 2009) and lending further support to the use of the PreBRS with children living in poverty and having identified developmental delays. Specifically, our results suggest that for children living in poverty and having developmental delays, the PreBRS will likely retain its original empirically derived factor structure found for children in the general preschool population. Whereas the factor structure remains consistent in the Head Start population, we provide evidence of criterion validity, with Head Start children without identified developmental delays having PreBRS scores indicating higher functioning than that of similar-aged Head Start peers with identified developmental delays.

### Study Limitations

As with other applied investigations, we acknowledge several limitations with our study to be addressed in the future. First, the PreBERs was developed for use with teachers; as such, adults’ ratings of children did not include the important information of their parents or other caregivers. For example, researchers have shown that ratings of children’s behaviors differ between parents and teachers (e.g., Achenbach & Edelbrock, 1978; Glaser, Kronsnoble, & Forkner, 1997; Hartman, Rhee, Willcutt, & Pennington, 2007; Miner & Clarke-Stewart, 2008). The environmental circumstances and adult expectations among home, community, and school settings may be quite different. At preschools, children are likely to participate in group activities in classroom settings with multiple peers; with parents, however, children find themselves in a variety of behavioral settings (e.g., homes, shopping centers, churches) and will likely participate in individual or small group activities. Moreover, adults with multiple roles (e.g., caregivers, professionals) may differ greatly on their expectations for and perceptions of children’s behaviors. Hence, we recommend that researchers collect information from multiple informants, including parents.
and preschool practitioners. Second, in our study we did not address issues regarding measurement invariance across demographic variables such as ethnicity and gender. Hence, we suggest that researchers examine if the factor structure remains invariant for other demographically different subpopulations. Finally, although our study sample was relatively large and reasonably well distributed nationally (as in many applied studies with children and their families), it was one of convenience, and we do not know how representative the sample is of young children served in Head Start or other preschool programs.

Implications for Practitioners

With our study, we provide support for the use of the PreBERS to assess the emotional and behavioral strengths of preschool children—especially, those attending Head Start programs. With the PreBERS, we and other researchers have demonstrated acceptable psychometric properties, including short- and long-term test–retest reliability, convergent validity, and interrater reliability (e.g., Epstein & Synhorst, 2008, 2009). We believe that the confirmation of the factor structure in the Head Start population sampled indicates that the instrument is stable and will perform similarly with a different preschool population. Moreover, the extant findings suggest that the PreBERS may be appropriate for populations of children living in poverty.

With mandates for educators and clinicians to identify potential behavioral and emotional competencies of young children, the appropriate use of the PreBERS offers practitioners an option for an assessment focused on child strengths. A strength-based approach may assist preschool practitioners in effective identification of important emotional and behavioral competencies for young children. We also believe that it may provide better support for the development of intervention plans and educational goals aimed at teaching essential social behaviors for preschoolers at risk for emotional or behavioral problems or other developmental difficulties. Specifically, results from the PreBERS across the four domains may be useful in developing individualized family, educational, social, and emotional goals that align well with children’s strengths and address their developmental and behavioral needs (cf. Brown, Odom, & McConnell, 2008).

Implications for Researchers

As mentioned in our study limitations, we acknowledge that additional investigations are needed to develop and further validate the PreBERS as a new behavioral assessment. Specifically, we believe that researchers should perform additional psychometric studies to examine the predictive and discriminant validity as well as the invariance of the measurement model for specific subpopulations. For example, we recommend development and validation of the PreBERS in other languages to assist in its use with young children and their parents who may not be fluent in English. In the United States, further development of the PreBERS may be particularly important given the number of young children whose families speak Spanish as their primary language. The availability of the PreBERS in other languages may be especially beneficial if, as discussed previously, a parent report measure is developed in the future. Hence, the PreBERS in other languages may be helpful with identifying the emotional and behavioral strengths and intervention needs of children who
are English-language learners by soliciting important information from both their preschool teachers and their parents.

Conclusions

Many early childhood practitioners are in need of psychometrically appropriate and strength-based assessments to identify emotional and behavioral competencies for young children who may be at risk for behavioral and developmental problems. The PreBERS provides educators and clinicians with a strength-based assessment to identify important social and emotional abilities in preschoolers. Our study replicates previous work on the PreBERS with a new sample of children in Head Start programs. Whereas additional research is warranted to further evaluate the psychometric properties of the PreBERS and extend the development and evaluation of the assessment, our investigation provides information about the PreBERS in another population of young children. We believe that these advancements with the PreBERS indicate that the assessment may provide a useful and positive approach to identify the emotional and behavioral abilities of young children, assist preschool practitioners in the development and implementation of needed intervention plans, and provide a potential measure to monitor children’s behavioral and developmental progress.

References


