



Evidence for the interpretation of Social, Academic, and Emotional Behavior Risk Screener (SAEBRS) scores: An argument-based approach to screener validation[☆]



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ABSTRACT

In accordance with an argument-based approach to validation, the purpose of the current study was to yield evidence relating to Social, Academic, and Emotional Behavior Risk Screener (SAEBRS) score interpretation. Bifactor item response theory analyses were performed to examine SAEBRS item functioning. Structural equation modeling (SEM) was used to simultaneously evaluate intra- and inter-scale relationships, expressed through (a) a measurement model specifying a bifactor structure to SAEBRS items, and (b) a structural model specifying convergent and discriminant relations with an outcome measure (i.e., Behavioral and Emotional Screening System [BESS]). Finally, hierarchical omega coefficients were calculated in evaluating the model-based internal reliability of each SAEBRS scale. IRT analyses supported the adequate fit of the bifactor model, indicating items adequately discriminated moderate and high-risk students. SEM results further supported the fit of the latent bifactor measurement model, yielding superior fit relative to alternative models (i.e., unidimensional and correlated factors). SEM analyses also indicated the latent SAEBRS-Total Behavior factor was a statistically significant predictor of all BESS subscales, the SAEBRS-Academic Behavior predicted BESS Adaptive Skills subscales, and the SAEBRS-Emotional Behavior predicted the BESS Internalizing Problems subscale. Hierarchical omega coefficients indicated the SAEBRS-Total Behavior factor was associated with adequate reliability. In contrast, after accounting for the total scale, each of the SAEBRS subscales was associated with somewhat limited reliability, suggesting variability in these scores is largely driven by the Total Behavior scale. Implications for practice and future research are discussed.

Universal screening is defined as the use of brief methods and procedures across a population of individuals for the purpose of identifying those possessing some condition of interest (Jenkins, Hudson, & Johnson, 2007). Schools have traditionally been interested in identifying students at risk for a range of concerns, including hearing or vision problems, or academic difficulties (Dever, Raines, & Barclay, 2012). More recently, many schools have also begun to screen students for social-emotional and behavioral (SEB) concerns (Kamphaus, 2012). SEB screening has come to represent a core component of prevention-oriented multi-tiered systems of support, serving as the primary means through which to identify at-risk children who require additional interventions and supports to

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be successful within the school setting (Severson, Walker, Hope-Doolittle, Kratochwill, & Gresham, 2007). Given the growing interest in and documented need for SEB screening, researchers have developed and validated several screening tools over recent years. Some of the more frequently researched screeners consist of the Behavioral and Emotional Screening System (BESS; Kamphaus & Reynolds, 2015), Student Risk Screening Scale – Internalizing and Externalizing (SRSS-IE; Lane et al., 2012), and the Systematic Screening for Behavior Disorders, Second Edition (SSBD; Walker, Severson, & Feil, 2014). The Social, Academic, and Emotional Behavior Risk Screener (SAEBRS; Kilgus & von der Embse, 2014) is a novel screening measure around which technical adequacy evidence has recently accumulated.

1. Social, Academic, and Emotional Behavior Risk Screener (SAEBRS)

The SAEBS is a 19-item teacher rating scale, estimated to take approximately 1–3 min to complete for an individual student. The SAEBS is commercially available for use via FastBridge Learning (www.fastbridge.org), an electronic web-based system for assessment administration, scoring, and interpretation. To screen a classroom using the SAEBS, a teacher completes the SAEBS once for each student in his or her classroom. Item scores are then summed to derive an overall Total Behavior (TB) scale score, as well as three subscale scores: Social Behavior, Academic Behavior, and Emotional Behavior. Each domain includes items representative of both positive and negative behaviors. Social Behavior (SB; 6 items) is defined as behaviors that promote (e.g., social skills) or limit (e.g., externalizing problems) one's capacity to establish and maintain relationships with peers and adults. Academic Behavior (AB; 6 items) is defined as behaviors that promote (e.g., academic enablers) or limit (e.g., attentional problems) one's capacity to be prepared for, participate in, and benefit from academic instruction. Finally, Emotional Behavior (EB; 7 items) is defined as actions that promote (e.g., social-emotional competencies) or limit (e.g., internalizing problems) one's capacity to regulate their internal states, adapt to change, and respond to stressful/challenging events.

1.1. Evidence for use

A series of SAEBS-related studies have been completed to date relative to samples across the K-12 grade spectrum from a range of geographic locations (e.g., Southeast, Southwest, Midwest). This research has been conducted in accordance with an argument-based approach to validation, with researchers pursuing evidence that might be used to support both the use and interpretation of SAEBS data (Kane, 2013). First, evidence of SAEBS diagnostic accuracy, or the tool's ability to reliably differentiate between at-risk and not at-risk children, has supported the use of SAEBS scores for universal screening purposes. Specifically, findings have spoken to the acceptable sensitivity and specificity associated with cut scores defining the decisional framework within each SAEBS scale and subscale (Kilgus, Chafouleas, & Riley-Tillman, 2013; Kilgus, Eklund, von der Embse, Taylor, & Sims, 2016; Kilgus, Sims, von der Embse, & Taylor, 2016). Within a unified validity framework, such evidence is considered indicative of SAEBS consequential validity, or the screener's capacity to yield intended consequences while limiting unintended consequences (Messick, 1995).

1.2. Evidence for interpretation

Second, several forms of evidence have supported the interpretation of SAEBS scores. Specifically, when considered within a unified validity framework (Messick, 1995), such evidence is viewed as supporting the construct validity of SAEBS scores as indicators of both (a) overall SEB functioning, as indicated by the broad TB score; and (b) specific child functioning within specific SEB domains, as indicated by narrow subscales (Kilgus, Sims, von der Embse, & Riley-Tillman, 2015; Pendergast, von der Embse, Kilgus, & Eklund, 2017; von der Embse, Pendergast, Kilgus, & Eklund, 2016). Existing evidence for SAEBS score interpretation has taken two forms.

1.2.1. Item level

The first of these evidentiary forms is at the item level, pertaining to the performance of individual SAEBS items. Previous research employing confirmatory factor analysis (CFA) has found a latent bifactor structure to best fit SAEBS items (Kilgus et al., 2015; Pendergast et al., 2017; von der Embse et al., 2016). Within such a model, each SAEBS item serves as a predictor of the general SAEBS-TB factor, as well as an indicator of a narrow factor (e.g., SAEBS-SB) that is representative of residual item covariation not accounted for by the general factor. Previous research suggests SAEBS items may serve as stronger predictors of the SAEBS-TB factor, with prediction of the narrow factors being adequate but relatively inferior.

Additional research, founded in item response theory (IRT), has supported the use of individual SAEBS items as indicators of the SAEBS-TB factor. von der Embse et al. (2016) found the majority of SAEBS items provided good discrimination between students relative to their level on the general factor. This was with the exception of certain positively-worded items indicative of appropriate behavior (e.g., adaptable to change), which were not found to discriminate between students at any level of the general SAEBS-TB factor. Results further indicated that across the SAEBS items, discrimination was best at the lower end of the score spectrum (less than or equal to item mean), such that the items did a good job of differentiating moderate and high-risk students. The items did a comparatively worse job of differentiating low- and moderate-risk students. Such item functioning has been noted in relation to alternative universal screening tools, such as the SRSS-IE (Schatschneider, Lane, Oakes, & Kalberg, 2014).

1.2.2. Scale level

Beyond item-level evidence, research has also yielded findings supporting the interpretation of SAEBS scale scores. The majority

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