



# Project VIABLE: Using Direct Behavior Ratings to Enhance Decision-Making within Multi-Tiered Frameworks

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## Introduction

Educators are witnessing a growing emphasis on multi-tiered decision-making frameworks (e.g., Response to Intervention) for the purpose of identifying and effectively intervening with students in need of additional academic and behavior supports. Despite a call for school-based prevention and early intervention services that include social-behavioral domains, early detection of students in need of those services has received low priority (Severson, Walker, Hope-Doolittle, Kratochwill, & Gresham, 2007). A myriad of reasons have been posited, however, one primary reason is a lack of assessment procedures that meet the requirements of contextual relevance, technical adequacy, and usability in universal screening (Glover & Albers, 2007). Although many extant measures may meet requirements related to technical defensibility, little systematic attention has been specifically directed toward utility and contextual relevance (see Severson et al., 2007).

The purpose of this study was to provide preliminary evidence of the potential for Direct Behavior Rating (DBR) as an assessment method in screening of school social behavior within a sample of kindergarten students. In this study, single item DBR scales were employed, and the Social Skills Rating System (SSRS; Gresham & Elliott, 1990) served as a criterion measure in concurrent validity analyses. The SSRS was chosen given similarity to DBR in both broad construct of interest and intended use. That is, both single item DBR scales and SSRS scales are intended to measure critical aspects of a broader construct of student social skills, yet are expected to be interpreted individually by scale to provide a link from assessment to intervention. It was hypothesized that moderate to strong relationships would be found among the single item DBR scales and the SSRS scales.

## Method

The setting included a full-day inclusive kindergarten classroom within an elementary school in the Northeast. Participants included two teachers (one special education, and one general education) who served as raters of student behavior. Teachers co-taught in the classroom throughout the entire day (e.g., each taking a turn to lead an activity while the other served in a supportive fashion). In addition, kindergarten students in the classroom also served as participants given ratings of their behavior by teachers. Students ranged in age from 4-7 years (median = 5) at study onset, and were split relatively evenly by gender (female = 55%).

At the beginning of data collection, the two teachers collaboratively completed the SSRS for each of the students enrolled in the class. Concurrently, the teachers also began to complete DBR scales of Academic Engagement and Disruptive Behavior. Each student was rated twice a day using the DBR form: once by the general education teacher at the end of the morning (AM) period, and once by the special education teacher at the end of the afternoon (PM) period. Twice daily ratings were made from November to March, with DBR data completion occurring across 70 of the possible 78 full school days. A few weeks prior to completion of DBR data collection, the two teachers re-convened to collaboratively complete a second SSRS for each student.

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**Descriptives.** Two sets of DBR data were extracted for analytic purposes. These included: (a) AM and PM teachers' ratings across 10 days in the Fall, and (b) AM and PM teachers' ratings across 10 days in the Spring. Data chosen were those ratings that were made most closely in time to the completion of the SSRS scales, which was done to meet the assumptions of concurrent validity analyses. The choice to use 10 ratings was based on previously reviewed DBR research (i.e., 5-10 ratings approximate adequate levels of reliability for low-stakes decisions). Student scores on the DBR scales were then derived by taking the mean across the 10-day period in the Fall and Spring for both the AM and PM teachers. (Note. No difference in pattern of results was found between mean-based and median-based analyses.)

**Data Analysis.** A series of two correlational analyses was conducted. In the first, the relationship between each single item DBR scale (and student social risk status (0 = no risk, 1 = risk) across the three SSRS scales was explored. Given concern that the first analysis might not be sensitive to the actual relationship between DBR and SSRS due to dichotomizing by risk status, a second set of correlational analyses was conducted using continuously scored SSRS data (standard score).

Table 1. Means, standard deviations, and number of students identified at risk for DBR and SSRS scales by assessment period

Scale	Teacher	Fall <sup>a</sup>		Spring <sup>b</sup>	
		M (SD)	# identified at risk	M (SD)	# identified at risk
DBR - Academic Engagement	AM	8.72 (1.31)	n/a	9.40 (.63)	n/a
	PM	8.25 (2.03)	n/a	9.37 (.88)	n/a
DBR - Disruptive Behavior	AM	1.30 (1.47)	n/a	0.60 (.62)	n/a
	PM	1.61 (2.08)	n/a	0.42 (.52)	n/a
SSRS - Academic Competence	AM & PM	93.35 (10.58)	2	98.28 (12.48)	5
SSRS - Social Skills	AM & PM	97.30 (16.76)	5	110.61 (14.61)	1
SSRS - Problem Behaviors	AM & PM	98.40 (16.17)	3	91.22 (8.96)	3

Note. <sup>a</sup>N = 20, <sup>b</sup>N = 18. DBR is scored using a 0-10 scale whereas SSRS data are standard scores with M = 100, SD = 15.

Table 2. Correlations between average DBR score and SSRS risk identification by assessment period.

DBR	Teacher	SSRS		
		Academic Competence	Social Skills	Problem Behaviors
Fall <sup>a</sup>				
Academic Engagement	AM	-.03	-.86**	-.64**
	PM	-.05	-.85**	-.70**
	Average AM/PM	-.06	-.87**	-.68**
Disruptive Behavior	AM	.00	.84**	.63**
	PM	.12	.77**	.64**
	Average AM/PM	.07	.83**	.65**
Spring <sup>b</sup>				
Academic Engagement	AM	-.09	-.40 <sup>+</sup>	-.12
	PM	.25	-.03	-.19
	Average AM/PM	-.18	-.19	.23
Disruptive Behavior	AM	.07	.41 <sup>+</sup>	-.12
	PM	-.05	-.13	.09
	Average AM/PM	.09	.16	-.09

Note. <sup>a</sup>N = 20, <sup>b</sup>N = 18. DBR is scored using a 0-10 scale whereas SSRS risk identification is scored dichotomously (0 = not identified as at-risk, 1 = identified as at-risk). <sup>+</sup> p < .10, \* p < .05, \*\* p < .01

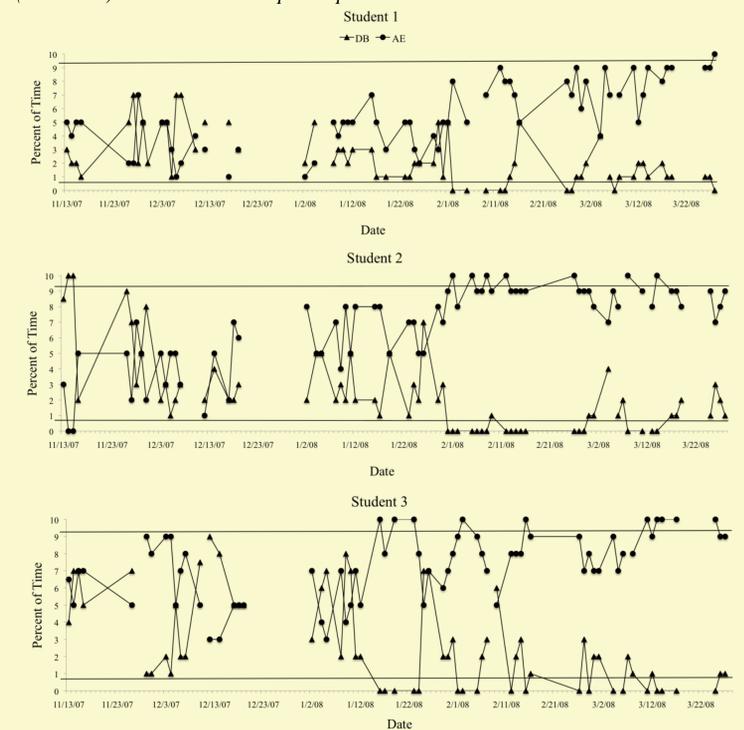
Table 3. Correlations between average DBR score and SSRS standard scores by assessment period

DBR	Teacher	SSRS		
		Academic Competence	Social Skills	Problem Behaviors
Fall <sup>a</sup>				
Academic Engagement	AM	.47*	.85**	-.85**
	PM	.55*	.84**	-.87*
	Average AM/PM	.53*	.86**	-.88**
Disruptive Behavior	AM	-.42 <sup>+</sup>	-.81**	.80**
	PM	-.40 <sup>+</sup>	-.70**	.79**
	Average AM/PM	-.42 <sup>+</sup>	-.77**	.82**
Spring <sup>b</sup>				
Academic Engagement	AM	.00	.45 <sup>+</sup>	-.64**
	PM	.48*	.61**	-.52**
	Average AM/PM	.36	.64**	.65**
Disruptive Behavior	AM	.03	-.44 <sup>+</sup>	.61**
	PM	-.33	-.28	.57*
	Average AM/PM	-.18	-.42 <sup>+</sup>	.68**

Note. <sup>a</sup>N = 20, <sup>b</sup>N = 18. DBR is scored using a 0-10 scale whereas SSRS data are standard scores with M = 100, SD = 15. <sup>+</sup> p < .10, \* p < .05, \*\* p < .01

## Results

Figure 1. Daily DBR PM profiles of three students at-risk on at least two SSRS scales during the Fall assessment period. Solid lines represent overall means for Academic Engagement (M = 8.99) and Disruptive Behavior (M = 0.74) across all student participants.



## Summary and Conclusions

Results generally supported hypotheses in that predominantly significant correlations, in the expected directions, were found between single item DBR scales and SSRS scales.

- During Fall assessment, DBR of Academic Engagement and Disruptive Behavior was significantly correlated (in the expected direction) with **risk status** as measured by Social Skills and Problem Behaviors scales of the SSRS.
- During Fall assessment, DBR of Academic Engagement and Disruptive Behavior were significantly correlated (in the expected direction) with **continuously scored SSRS** data across all 3 scales (Social Skills, Problem Behaviors, Academic Competence).
- Overall, weaker associations were found in the Spring assessment period, and between the Academic Competence scale of the SSRS and both DBR scales.
- Visual profiles of DBR data for three "at-risk" students supports gradual improvement of behavior to a range more typical of the class, which may help explain restriction of range in data during Spring assessment.
- Attenuation also may be related to differences in the "directness" of rating procedures between the methods.
- Overall, results support need for careful consideration of what data are needed (i.e. formative v. summative, breadth v. depth) in measures used in behavioral screening.