Validating a Measure Assessing Implementation of District PBIS Systems

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INTRODUCTION

District leadership teams are critical for building organizational systems (Figure 1) and supportive contexts to implement Positive Behavioral Interventions and Supports (PBIS) with strong implementation fidelity in schools (George et al., 2018).

Unfortunately, few validated measures exist for assessing implementation of district PBIS systems. Therefore, the current study aimed to evaluate whether the District Systems Fidelity Inventory (DSFI; Center on PBIS, 2020) exhibited evidence of (a) structural validity and (b) convergent validity.

METHOD

Samples: 183 school districts in 18 U.S. states completed the DSFI during the 2018-19 and/or 2019-20 school year and 760 schools within those districts were implementing PBIS.

Measures: The DSFI is a 56-item measure divided across 9 subscales. The measure was developed by researchers from the University of Missouri-Columbia (MU) Center for SW-PBS through an iterative process using the Tiered Fidelity Inventory (TFI; Algozzine et al., 2014) and PBIS Implementer's Blueprint Self-Assessment Tool as references.

The TFI is a 45-item measure divided across 3 subscales (Tiers 1, 2, 3).

Procedures: DSFI data were collected from a national survey of district teams participating in a 3-year, IES-funded study (PI: McIntosh). TFI data were extracted from PBIS Assessment (www.pbisapps.org).

Analytic plan: Evaluated structural validity of the DSFI by conducting (a) exploratory factor analysis (EFA) of DSFIs completed in 2018-19 and (b) confirmatory factor analysis (CFA) of DSFIs completed in 2019-20.

Evaluated convergent validity using correlational models. DSFI overall, scale, and subscale mean scores and TFI mean scores across tiers were analyzed.
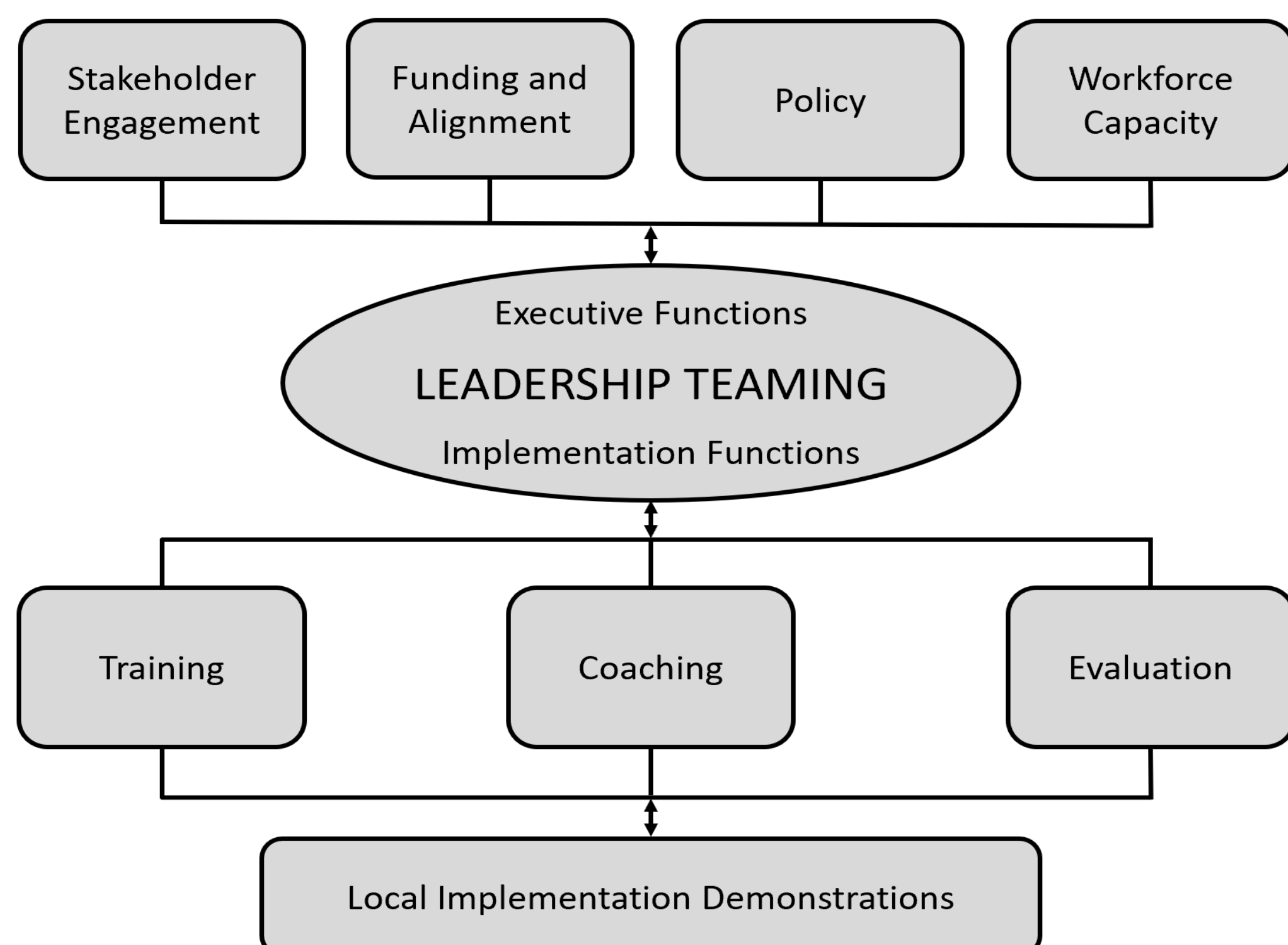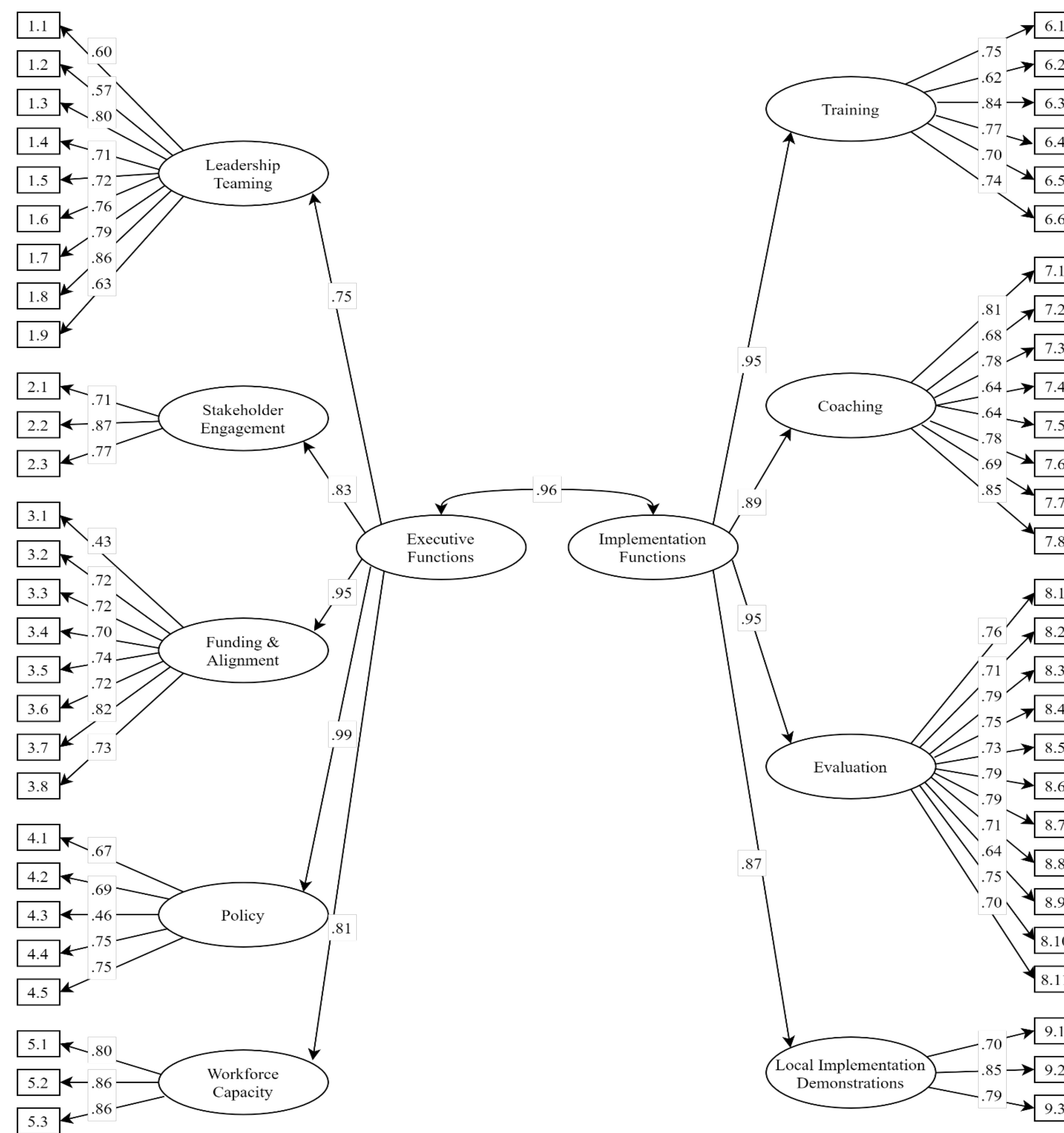

Figure 1. Functions of district teams.

RESULTS

Figure 2. Second-order CFA model for the DSFI.
Note. All factor loadings are statistically significant at p < .001.

Summary: EFA results indicated that either a 1-factor or 2-factor model may be optimal. CFA results indicated that the second-order model (Figure 2) fit better than the 2-factor model or 1-factor model (CFI = .96; RMSEA = .04; SRMR = .08).

Internal consistency was strong for the Overall score (α = .97), Executive Functions (α = .95) and Implementation Functions (α = .96) scale scores, and across the nine subscale scores (αs = .78 - .90).

Multiple DSFI scale and subscale scores were correlated with TFI scores across tiers (Table 1).

Learn more about the study

Model	DSFI score	Tier 1		Tier 2		Tier 3	
		r	SE	r	SE	r	SE
1 Factor							
	Overall	.49**	.15	.34*	.13	.32*	.15
2 Factors							
	Executive Functions	.50***	.14	.29*	.14	.27	.15
	Implementation Functions	.44**	.15	.36*	.12	.32*	.14
9 Subscales							
	Leadership Teaming	.28	.15	.07	.14	.10	.16
	Stakeholder Engagement	.38*	.15	.18	.14	.07	.17
	Funding and Alignment	.57***	.12	.42**	.13	.36*	.14
	Policy	.48***	.11	.34**	.13	.24	.15
	Workforce Capacity	.32*	.13	.25	.14	.11	.16
	Training	.35*	.14	.29*	.13	.29*	.14
	Coaching	.31*	.15	.41***	.11	.23	.15
	Evaluation	.42**	.15	.32**	.12	.26	.15
	Local Implementation Demonstrations	.34*	.13	.33**	.13	.40**	.14

Table 1. Sample sizes ranged from 610 schools (Tier 1) to 341 schools (Tier 3).
Note. *p < .05, **p < .01, ***p < .001

DISCUSSION

Results indicate that different scoring configurations of the DSFI could be useful for research and practice: Overall score, Executive and Implementation Functions scores, and nine subscale scores.

DSFI scores were significantly correlated with TFI scores across all three tiers, especially within the subscales of the Implementation Functions scale.

Implications: Provides empirical support for a district-level implementation measure that can be used to identify district factors predictive of PBIS implementation in schools.

District teams can use the validated measure to assess district implementation and identify areas for improvement. Using the DSFI and TFI, teams can assess (a) implementation of PBIS systems and (b) identify strategies to improve implementation efforts across district and school levels.

REFERENCES

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