

Validity and Reliability for the CSCI

Empirical testing of the CSCI was conducted via a pilot test of 64 schools (39 high schools, 25 middle schools), which yielded roughly 27,000 observations. Testing addressed internal structuring, scale reliability and convergent validity.

Confirmatory Factor Analysis

We ran confirmatory models in LISREL for high school and middle school samples based on a ten-factor structure derived from exploratory factor analysis. Factor loadings for each question on their respective factor, as well as each factor on the larger “climate” scale are statistically significant. Additionally, the fit statistics for both the high school and middle school models are very strong, with Comparative Fit Indices of .97 for the high school model and .98 for the middle school model.

Scale/Subscale Reliability Analysis

Reliability was ascertained from alpha scores for each subscale. The results of this analysis are below:

Table 2. Scale Reliability for CSCI subscales

Subscale	Alpha		Number of Items
	Middle Schools	High Schools	
Safety-Rules and Norms	0.826	0.819	6
Sense of Physical Security	0.733	0.722	5
Sense of Social-Emotional Security	0.671	0.644	4
Support for Learning	0.842	0.864	10
Social & Civic Learning	0.873	0.883	9
Respect for Diversity	0.704	0.743	4
Social Support – Adults	0.871	0.869	8
Social Support – Students	0.624	0.660	4
School Connectedness/Engagement	0.830	0.826	8
Physical Surroundings	0.763	0.768	6
Climate – Unified Scale	0.961	0.960	64

Validity & Reliability as a School-Level Measure

ANOVA and MANOVA analysis, as well as HLM models show that the unified climate scale and the sub scales significantly discriminate among schools.

Convergent Validity

We ran correlations between the ten factor scales, as well as the unified climate scale, on a measure of non-academic risk. All but one of the correlations were statistically significant, and 8 out of the ten scale scores (as well as the unified scale score) have correlations above .60. Additionally, the unified climate scale was significantly correlated with an index of academic performance, as well as graduation rates for high schools.