



Indicators of School Quality: The Link Between School Environment and Student Achievement

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Schools collect extensive data on student performance in an attempt to monitor school progress. Although these data provide a metric for measuring success, they often provide little information about the reasons for success. *Indicators of School Quality* (ISQ) is a comprehensive survey system for school administrators to evaluate the school learning environment. The purpose of this research was to examine how this measure of the school environment relates to academic achievement independent of other factors (e.g., socioeconomic status).

Methods



ISQ measures parent, teacher, and student perceptions of Parent Support, Teacher Excellence, Student Commitment, School Leadership, Instructional Quality, Resource Management, and School Safety.



The ISQ process attempts to gather responses from the entire school population. In almost all cases, response rates are high enough to place confidence in generalizing the results to non-respondents. Research data represent three consecutive years of ISQ responses from 173 schools (K-12) in Utah and surrounding states. These schools represent a broad sample of geographic settings, ethnic compositions, and socioeconomic statuses.

This research used standardized test scores to summarize the level of academic achievement for each school. Most of the schools used the SAT-9, while others used the ITBS. Tests were given to 3rd, 5th, 8th, and 11th graders and a composite battery median score was used as a single metric of academic achievement by school for each of the four grades. In the final sample there were 95, 88, 33, and 21 schools contributing to the 3rd, 5th, 8th, and 11th grade comparisons, respectively.

Results

Partial correlations were calculated with school environment (as measured by ISQ) as the independent variable, and standardized test scores as the dependent variable. The influence of the neighborhood socioeconomic status (as measured by ISQ) was statistically removed to expose the relationship between attributes of the school environment independent of risk and academic achievement in each school.

The table below summarizes these relationships with colors representing statistically significant positive relationships (blue), statistically significant negative relationships (red), and no relationships (white). The rows of the table represent the seven domains of the school environment measured by ISQ. The columns show the responding audiences (parents, teachers, and students) nested within the four tested grades. Positive relationships (blue dots) indicated that perceptions of a higher quality school environment related to higher test scores, independent of the type of neighborhood in which the school resided.

	3 rd Grade Academic Achievement			5 th Grade Academic Achievement			8 th Grade Academic Achievement			11 th Grade Academic Achievement		
	Parents	Teachers	Students	Parents	Teachers	Students	Parents	Teachers	Students	Parents	Teachers	Students
Parent Support	○	●	○	○	●	○	○	●	○	○	●	○
Teacher Excellence	●	○	●	●	○	○	○	○	○	○	○	○
Student Commitment	○	●	●	○	●	●	○	●	○	○	○	○
School Leadership	○	○	○	○	○	○	○	○	○	○	○	○
Instructional Quality	●	●	●	○	●	●	○	●	○	○	●	○
Resource Management	○	○	○	○	○	○	○	○	○	○	○	○
School Safety	●	●	●	●	●	●	○	○	○	○	○	○

Discussion

The reported partial correlations varied in strength and significance across the grades and audiences. However, of all possible computations, nearly 50% revealed strong positive relationships between ISQ and academic achievement. Furthermore, at all grade levels instructional quality and school safety revealed the most consistent positive relationships with academic achievement.

This analysis demonstrates that ISQ data were related to academic achievement without being redundant. All statistically significant partial correlations were positive (notice that there were no red dots), indicating that *perceptions of more positive school environments were related to higher achievement scores, independent of risk.*

Implications of this research are profound. *Schools can employ ISQ to accurately monitor the school environment in a way that is related to academic achievement.* The broader implication is that improvements in the school environment, as measured by ISQ, are likely to result in schoolwide academic gains.

References

1. Taylor, M. J. (2003). *Indicators of school progress: Annual report*. Center for the School of the Future, Logan, UT.