



# RESEARCH BRIEF

## Research Services

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Vol. 0707  
May 2008

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## Achievement Gains and Staff Perception of School Climate

The importance of the beliefs and attitudes of teachers and building-level administrators in achieving school reform has come to be widely acknowledged. As University of Wisconsin professor Kent Peterson put it: “You can implement a good-quality improvement plan and knowledgeable, data-driven decision making, but if the [staff] doesn’t believe that things can be improved, it’s not going to implement [changes] with the same depth or energy or commitment” (Stover, 2005, p. 31). The most common way of tapping into those beliefs and attitudes has traditionally been the school climate survey. The Miami-Dade County Public School District (M-DCPS) has conducted school climate surveys of staff, parents, and students since the early 1990s. In recent years, elements of these surveys have come into extensive use by the district’s schools as a factor in their school improvement plans. The use of the survey results for purposes of school improvement has motivated this inquiry into discussing the relationship between M-DCPS staff survey results and student achievement, as measured by the percent of students, by school, making learning gains in reading on the FCAT.

### School Climate and Achievement

School climate has been described as characterizing the districtwide organization at the school building and classroom level:

*[School climate] refers to the ‘feel’ of a school and can vary from school to school within the same district . . . . School climate . . . is evident in the feelings and attitudes expressed by students, teachers, staff and parents—the way students and staff ‘feel’ about being at school each day. (School Climate and Learning, 2004, pp. 1, 2).*

School climate has long been linked to student achievement. Pallas (1988) observed that “school climate is thought to be linked to educational outcomes, especially achievement” (p. 581). Haynes, Emmons and Ben-Avie (1997) cited ten studies relating school climate to achievement. Similarly, other research by the Center for Social and Emotional Education has listed thirteen studies published between 1977 and 1999 that “have shown that school climate is directly related to academic achievement” (p. 2). Teacher attitudes in particular, as they are reflected in school climate surveys, have been found to vary directly with academic achievement. For example, Gottfredson and Gottfredson found that the teacher scales of their school climate instrument “were related to academic performance, especially in the elementary grades; to attendance; and to dropout in the middle schools and high schools. These correlations often persisted when statistical controls for student ethnic composition and economic status were applied” (1989, p. 1).

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The present study investigates the relationship between school staff perceptions reflected in the 2007 M-DCPS climate survey and a measure of achievement—the percent of students making learning gains on the 2006-07 FCAT reading test.

This research was based on the assumption that every teacher has a subjective but reasonably reliable impression of how her/his own students are performing academically, and that this impression is being constantly updated based upon observed performance. The aggregate of these responses over the school's full-time staff then reflects the majority opinion of the school. This aggregate, expressed as a percentage of agreement with the items on the survey instrument, summarizes the results in a form that is unambiguous and easy to understand and communicate.

### **Achievement and Staff Perceptions of School Climate at M-DCPS**

In this study, the percent of students making learning gains in reading for the school year 2006-07, as reported by school by the Florida Department of Education, is used as the measure of achievement.<sup>1</sup> The learning gains data are derived from FCAT scores for students with scores for the current and previous years, and as such represent changes in performance.

Each school year, M-DCPS school climate surveys are administered to gather information on the perceptions that the district's students, their parents, and school staffs hold concerning their school and its performance. The surveys have been regularly administered since the early 1990s, and from 1997-98 with the current instrument. Results have been stable and consistent.<sup>2</sup> The staff survey takes the form of soliciting from teachers, counselors and administrators, straightforward information about the school and the students, under conditions that insure anonymity. In 2006-2007, the survey was administered to approximately 25,400 staff districtwide.

The staff survey consists of 35 items. The last item, asking the respondent to "grade" the overall climate of the school, is omitted here. Each of the remaining 34 items was individually correlated with the learning gains across all schools.

### **School Climate Survey Ratings and Their Relationship to FCAT Reading Gains**

Taken together, the relationships of the individual items to reading gains form a comprehensive description of the relationship between the attitudes and opinions of the school staff and student achievement. The results, with the items sorted from the most positive to the most negative correlation coefficient, are given in Table 1.

The table shows that for every item, consistency of direction is maintained. That is, the positively stated items are positively correlated with reading gains, and the negatively stated items are negatively correlated. The items showing a correlation with reading gains of above +0.50 or below -0.50 are shaded, to indicate they reflect a reasonably strong relationship. The positively correlated items are those that one would expect to characterize high achievement: well prepared and disciplined students receiving a good education in a safe and positive environment taught by teachers satisfied with their professional status. Conversely, the items showing the most negative correlations were those that one would expect to occur with low achievement: poorly prepared students and less supportive parents in an environment perceived as unsafe and disorderly.

These results demonstrate that both ends of the correlation spectrum reassuringly indicate that the survey instrument does indeed reflect the kind of climate that both research and common sense testify is identified with achievement. Equally interesting, however, are the items that fall in the middle of the table, those least correlated with reading gains. Many are items related to administrative leadership. Nine of the twelve items with correlation coefficients below an absolute value of 0.35 are items specifically related to the principal's leadership role. Despite the fact that much of the literature on school climate emphasizes leadership, administrative activities are not strongly linked to instructional staff perceptions of gains on the FCAT reading test.

There are four items from the Staff Survey in which the correlation coefficients differ by a value of nineteen or more points. These items represent topics of importance with respect to achievement.

**Table 1**  
**Correlations Between School Climate Survey Responses Provided by Staff**  
**and Percent of Students Making FCAT Reading Gains, 2006-2007**

Item #	Item Content	Corr*
24	Students generally come to my class at the beginning of the term prepared for the grade level or courses I teach.	0.61
33	I believe children attending my school are receiving a good education.	0.60
34	The overall climate or atmosphere at my school is positive and helps students learn.	0.53
25	I feel satisfied concerning how my career is progressing at this school.	0.52
1	At my school I feel safe and secure.	0.51
6	At my school adequate disciplinary measures are used to deal with disruptive behavior.	0.51
31	Annual teacher evaluations are used to improve teacher performance.	0.47
4	At my school administrators solve problems effectively.	0.45
3	At my school personnel work together as a team.	0.45
26	I have a feeling of job security in my present position.	0.44
5	At my school I feel that my ideas are listened to and considered.	0.43
28	Staff morale is high at my school.	0.43
27	I like working at my school.	0.36
30	Annual teacher evaluations are fair and reasonable.	0.36
2	At my school the building is kept clean and in good condition.	0.35
11	My principal responds in a reasonable time to my concerns.	0.34
10	My principal deals with conflict constructively.	0.32
13	My principal is receptive to constructive criticism.	0.32
7	My principal is an effective administrator.	0.31
14	My principal is supportive of teachers.	0.22
8	My principal represents the school in a positive manner.	0.20
12	My principal treats me with respect.	0.16
32	Inservice programs keep me informed of the latest educational strategies.	0.15
9	My principal demonstrates good interpersonal skills.	0.13
29	I frequently feel overloaded and overwhelmed while working at my school.	-0.10
18	My ability to do the best possible job at this school is limited by lack of concern/support from the principal.	-0.25
15	My ability to do the best possible job at this school is limited by too many students in each class.	-0.30
19	My ability to do the best possible job at this school is limited by lack of concern/support from the district administration.	-0.38
20	My ability to do the best possible job at this school is limited by insufficient resources (e.g., funds, books, equipment, supplies, etc.).	-0.47
22	My ability to do the best possible job at this school is limited by student gang activity.	-0.55
17	My ability to do the best possible job at this school is limited by lack of concern/support from parents.	-0.56
23	My ability to do the best possible job at this school is limited by student substance abuse.	-0.57
21	My ability to do the best possible job at this school is limited by school violence.	-0.59
16	My ability to do the best possible job at this school is limited by student deficiencies in basic academic skills.	-0.62

\* The values shown are Pearson correlation coefficients (-1.00 to +1.00), indicating the strength and direction of a linear relation-

**Table 2**  
**Correlations of Not-At-Risk and At-Risk Schools with Achievement**  
**that Differ by 19 or More Points on the Staff Survey**

Item #	Item content	Not-at-Risk Schools*	At-Risk Schools*	Absolute Difference
23	My ability to do the best possible job at this school is limited by student substance abuse.	-0.42	-0.67	0.25
15	My ability to do the best possible job at this school is limited by too many students in each class.	-0.29	-0.48	0.20
20	My ability to do the best possible job at this school is limited by insufficient resources (e. g., funds, books, equipment, supplies, etc.).	-0.33	-0.52	0.19
27	I like working at my school.	0.30	0.11	0.19

\* Values in these columns represent Pearson correlation coefficients. At-Risk schools include the Superintendent's Zone Schools and other schools characterized by similar academic performance.

Table 2 shows those four items, and their respective correlations with reading gains.

In three of the four items in Table 2, even though the emphasis is in the same direction for both sets of schools, the relationship is substantially stronger in the At-Risk or low performing schools. As some might have predicted, the association between student substance abuse and achievement is much more negative in low performing schools. In other words, as FCAT performance gains decreased, the greater the likelihood teachers perceived substance abuse as a problem at their school. Second, staff in low-performing schools were much more sensitive to the number of students in the class; as FCAT performance gains decreased, teachers were more likely to indicate that classes are overcrowded. Third, achievement is more strongly related to teachers' perceptions of the availability of resources in low performing schools. Respondents were more likely to indicate that resources are more limited as FCAT performance gains fall. For these three items, the nature of the differences between Not-at-Risk and At-Risk schools reaffirms the face validity of the survey instrument; the responses are simply more pronounced in the low-performing schools. In the fourth, Item 27, the responses from the At-Risk schools are weaker than the responses of staff in Not-at-Risk schools. Responding positively to the item "I like working at my school" is more likely to be unrelated to FCAT performance in the At-Risk schools.

The foregoing results demonstrate that the staff climate instrument is a good indicator of the relationship between staff perceptions and student achievement at M-DCPS. Many items show a strong relationship (correlate greater than |0.50|) with the gain scores. This relationship is reasonably strong and uniform across all schools. There is an intimate relationship between the school staff's perceptions and the actual changes in achievement, and it is unlikely that a teacher will be far off in the estimates he/she makes of the direction those changes are apt to take.

### Discussion

There are those who claim that school climate is the most important indicator of achievement. University professor Clete Bulach, who specializes in school climate, believes that school climate "is probably the best predictor of whether a school will have high achievement—more so than the socioeconomic status of students or the school's past levels of achievement" (Stover, 2005, p. 30). Such views suggest that there is something more than a spurious correlation between the school climate perceptions of staff (that is, their informal assessments of their school's achievement gains) and that achievement itself; but what? Staff opinions do not "cause" student gains in reading. How is the relationship to be interpreted?

To get at this question, it is necessary to look more closely at what school climate represents. It is a reflection of a deeper underlying condition—school culture. The difference between climate and culture, as explained by Stover, is that "How students and

staff members feel about their school is climate. Why they feel the way they do is determined by culture—by the values and behaviors of those in the school” (2005, p. 31). Staff culture—as distinct from the more general school culture—consists of the work-related beliefs and knowledge teachers share, beliefs about appropriate ways of acting on the job and rewarding aspects of teaching, and about knowledge that enables teachers to do their work (Feiman-Nemser & Floden 1986).

There are at least two ways in which staff culture may influence students’ achievement. For one thing, teachers influence students’ motivation by setting standards for the proper level of performance internalized by the students (Kemper 1968; Wentzel 1999). More important for this discussion, however, are the surface manifestations of culture—the actual behavior of the teachers in the classroom. The staff culture encompasses shared expectations as a part of the shared beliefs. Teacher expectancy research dates back to the 1970s and earlier and, broadly described, it states that the teacher acts on the information he/she receives to identify students

who are expected to do well or poorly; this information creates expectations that students will perform consistently in the expected direction. These expectations are assumed to be related to the teacher’s behavior toward the students, and that behavior influences the students’ achievement, which in turn reinforces the teacher (e. g., Brophy & Good, 1986; Clifton et al. 1986; Finn 1972; Kester & Letchworth 1972; Page and Rosenthal 1990).

## **SUMMARY**

To sum up, a school’s climate is an indicator of the school’s culture, which determines the attitudes and behavior of the instructional staff, which then affects the performance of the school’s students. If, as the research literature tells us, school culture is an important determinant of achievement, then it follows that the place to start in assessing the culture of a school’s staff, and making any desired change in it, is to examine the perceptions of the instructional staff with respect to the school, its students, and their place in it. This is the function of the school climate survey.

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### **Notes**

- <sup>1</sup> Specifically, the source is the school grades page of the FDOE website: <http://schoolgrades.fldoe.org/>. The percent of students by school making learning gains is included as one part of the data included in the computation of school grades, and the individual school data are accessible by school district.
- <sup>2</sup> Corroborating telephone survey studies conducted in previous years by the Department of Research Services regarding similar procedures suggest that districtwide survey results are exceedingly reliable (Romanik and Froman 1992). Also, consistent patterns of response across similar items substantially contribute to the readers' confidence in the reported opinion percentages. In addition, it is reasonable to assume that whatever factors contribute to response bias, they are consistent from one year to the next, and the M-DCPS surveys have exhibited exceptional consistency over the years.