

# **Growing Character and Academic Achievement**

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## **American Educational Research Association**

April 11, 2005

Montreal, Canada

Paper edited and formatted, 2 August 2011.

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## **Introduction**

Educators are perennially concerned with both academic achievement and student character, although there is often disagreement in how best to characterize the relationship between the two. In the resource-restricted atmosphere in which many educators operate (including shortage of time), these two concerns are sometimes seen as competing for the same attention and organizational resources, and thus “feeding one may feel like starving the other.” In this paper, we describe what we see as the interdependent relationship between character development and student achievement within a school community. We summarize the literature on school climate and its contribution to student achievement, and characterize perspectives on the optimal school climate. We will show how the combined elements of climate and culture in a school have direct impact on teacher performance, student achievement, and the level of disruptive and anti-social behavior. We then present data relating climate variables to student achievement from 40 randomly selected schools.

The study reported in this paper is part of a larger, experimental four-year federally funded study on the efficacy of the St. Louis Caring School Community<sup>®</sup> (CSC) program (U.S. Department of Education Grant R215S020232). Forty schools were stratified and randomly selected for participation in the project.

## School Climate

The St. Louis Caring School Community<sup>®</sup> (CSC) model is currently being tested under a federal grant in 40 randomly selected schools in St. Louis, Missouri. This implementation model impacts many aspects of school life: organizational assumptions and institutional processes, classroom practice, group identity, the warmth and tone of interpersonal relationships, and opportunities for new relationships among students with teachers, between teachers, and with staff and administrators. If successful, the effects of the program will be reflected in a number of elements that are conceptually part of a larger dynamic variously called school climate or school culture, sometimes referred to as a school's social atmosphere, character or personality.

School climate has been called the heart and soul of a school (Freiberg & Stein 1999), that quality of a school that helps individuals feel personal worth, dignity, and importance, partly through their sense of belonging to the school community. *School climate* is sometimes compared and contrasted with a related term, *school culture*. Hoy, Tarter, and Kottkamp (1991) highlight that the discourse on school or organizational *climate* comes from the discipline of psychology, especially social psychology, whereas school or organizational *culture* comes from anthropological and sociological perspectives. Climate is seen as the behavior in the organization and the stakeholders' perceptions of that behavior; while culture is thought to represent the values, norms, and shared assumptions and orientations that give an organization a distinctive identity and ideology (Anderson, 1982; Creemers & Reezigt, 1999; Hoy, 1990; Hoy & Feldman, 1999). While the terms are not interchangeable, there is a good deal of overlap, and some writers suggest that for convenience we should subsume culture under climate (Creemers & Reezigt, 1999; Freiberg, 1999).

It could be argued that *climate* is really a measure of school *culture* in this place at this time, with climate being a measure of how well the espoused values of culture are actually being lived out in the life of the organization. Interventions often approach changing students' views of the school, their sense of connection and desire to learn, for example, through changing the school's practices – discipline practices, classroom activities, and patterns of communication. In those cases, the changes in climate and culture seem so intertwined that meaningful distinctions in practice become difficult. We need to be able to discuss policy, organizational structure, and implementation steps as well as identity, sense of community, interpersonal connection, and

satisfaction with current arrangements. In this paper, we will refer to the dynamic interaction of *all* of these elements as **school climate**.

Sustaining school climate is an on-going endeavor because the school community is not static. New students, new teachers, and changes in administrators all require the continuous renewal of a school community's intentional creation of a caring community. While Freiberg and Stein (1999) delineate a range of perspectives on school climate from quasi-factory models using the language of input and outputs, to those advancing caring community dynamics, we will be discussing school climate as a measure of success in achieving a caring school community.

### **Characteristics of Positive School Climate**

Positive school climate has been described variously: as an environment of support and encouragement, warmth, and acceptance; as a place where students are valued and have a sense of safety and belongingness; and as a school where teachers and students form relationships of genuine trust, respect, caring, and appreciation (Berkowitz, Sherblom, Bier & Battistich, 2005; Hansen & Childs, 1998; Lightfoot, 1983).

Climate factors at the school-wide level are an evaluation of the physical environment of the facilities, including classrooms, halls, cafeterias, and outdoor play-areas and schoolyards; the social systems, including relations between administration and teachers, among teachers, between school staff and parents, and between the adults in the building and the students; and the social expectations regarding behavior of all parties. Analogously, climate factors at the classroom level are the physical layout of the classroom, including its size, and location in the school; the social systems, including relations among students and their individual and collective relations with the teacher; and the expectations on the part of the teacher for student behavior and outcomes, and on the part of the students for teacher behavior and student outcomes (Creemers & Reezigt, 1999; Fleming & Bay, 2004). Orderliness is also often considered as an aspect of school climate, as are noise levels, heating, cooling, and lighting, the size of the school, and whether and how frequently teachers and students have opportunities to interact in small groups (Freiberg, 1998).

Halpin and Croft (1963) are widely cited as having created the first useful model of organizational climate. They described organizations as being somewhere on a continuum from open to closed, with a clear preference for open organizations. Miles (1969) introduced the metaphor of organizational health to examine the properties of schools, arguing that a healthy

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school is one that adapts and copes well in the long run, continually developing and expanding its coping abilities. Hoy and Feldman (1999) argue that researchers could not put into operation Miles' model with a set of reliable and valid measures. Other sources for conceptualizing school climate were Parsons, Bales, and Shils (1953); Parsons (1967); and Etzioni (1975), from which a healthy schools model was constructed (Hoy & Clover, 1986; Hoy & Feldman, 1999; Hoy, 1990). In this model, organizational health of schools is operationally defined by six interaction patterns whereby (a) the school staff have positive morale; (b) the school has an academic emphasis; (c) the principal has sufficient influence to support teachers and protect the school from outside interference; (d) the principal is open and friendly; (e) the principal is both achievement and task oriented; and (f) the principal is able to secure resource support.

Similarly, "effective schools" have been defined as sharing the traits of high academic expectation; effective administrative support; a shared mission among teachers and staff regarding the school's purpose; a commitment to appropriate assessments; students' sense of efficacy with respect to learning; and student perceptions of a safe environment in which to learn (McEvoy & Walker, 2000). Additionally, many effective schools share traits that make them *communal school organizations* (Bryk & Driscoll, 1988). These include having: 1) a common agenda to foster meaningful and caring social interactions linking them to the community and school tradition and 2) a visibly caring interactional style among the members. These factors are mutually reinforcing and create a *coherent organizational life* with powerful effects (Bryk & Driscoll, 1988).

Positive school climate, as described here, demands certain things for its support and maintenance. Marshall, Pritchard, and Gunderson (2003) assert that healthy schools need healthy districts and central administrations. Additionally, as schools develop a distinctive culture and climate, they may need to protect it by asking others to conform to their style. For example, Hansen and Childs (1998) report that a high school with a philosophy recognizing the importance of interpersonal relationships negotiated with a local university for student teachers to be placed at the school for a longer period of time. The expectation of school staff was that student interns would become involved in the school community and not remain as "strangers passing through."

### School Climate and Student Achievement

There are a number of ways positive school climate can enhance student academic

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performance. After reviewing the field of social-emotional learning and its relation to building academic success, Walberg, Zins, and Weissberg (2004) concluded that safe, caring, and orderly environments are conducive to learning; that caring relations between teachers and students foster a desire to learn and a connection to school; and that socially engaging teaching strategies focus students on their learning tasks. Pritchard and Marshall (2003) supported this link between environment and learning, reporting higher levels of achievement in writing at both the 8<sup>th</sup> and 11<sup>th</sup> grades for students in schools in healthy districts.

Programs that improve students' interpersonal capacities, whether through developing social-emotional awareness and self-reflection, practicing perspective taking, promoting empathy and compassion, or teaching conflict resolution, all foster an ability to get along with others and be a responsible member of a family, a classroom, and a school (Berkowitz, Sherblom, Bier & Battistich, 2005; CASEL, 2003; Zins, Weissberg, Wang & Wahlberg, 2004). Prevention programs fostering social-emotional learning improved schools' dropout rates and non-attendance, both important for school success. Schools are inherently social environments and learning is a social process. Pro-social behavior is linked with positive academic and intellectual outcomes and is predictive of scores on standardized achievement tests (Zins, Bloodworth, Weissberg & Wahlberg, 2004). Enhancing communication skills can provide students with the emotional vocabulary needed to identify and communicate their feelings and needs. Having this avenue of self-expression allows them to deal with some things that otherwise would have resulted in aggression and conflict (McEvoy & Walker, 2000). Additionally, academic interventions with antisocial students are likely to have pro-social effects if the intervention enhances bonds between teachers and students.

The Child Development Project, which developed the CSC program, argued that schools need a three-pronged approach: emphasizing a sense of community, conveying high expectations of student achievement, and developing engaging opportunities to learn (Schaps, Battistich & Solomon, 2004). They assert that students' level of engagement with the school can best be understood in terms of whether and in what ways students' psychological needs are being met. Specifically, they highlighted students' needs for autonomy, belonging, and competence. Labeling these the ABCs of the Caring School Community<sup>®</sup> approach emphasizes the program's design to integrate the individual and the communal, the cognitive and the emotional, and the social-emotional and the academic. Their model argues that as students' basic social and

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psychological needs are met, they will become attached to the school community, just as they do with their families or other social groups. As students develop, both cognitively and in their understanding of their community's expectations and values, they come to identify with those values and expectations and develop an internal sense of allegiance and personal sense of obligation toward upholding them. One's values direct one's behavior, and so students in CSC schools tend to behave in ways that are socially congruent with the developing school culture of trust, engagement, and caring (Schaps, Battistich & Solomon, 2004). One interpretation is that CSC hooks students by offering them the social acceptance and sense of community they so desperately want, and in so doing opens them up to the academic gains that are to be had when students become connected to the school and teachers.

A positive sense of community requires four things (McMillan & Chavis, 1986): a feeling of membership; a sense that one matters; a sense that members' needs will be met by being a member; and a shared emotional connection. Positive peer associations and offenses by students are inversely related – the better the sense of belonging to a caring community, the less student disruption (Welsh, 2000). Part of that sense of connection to a caring community is that students perceive themselves to be respected by school personnel and believe that school rules are fair, both of which have been found to be inversely related to how likely it is that students will break those rules. Connection to community also involves a belief that the school community's rules and expectations are clear, and that students have influence over what those rules will be. Both of these factors contribute to students' perceptions of the school as a safe place (Welsh, 2000).

Schools with lower-than-average SES indicators tend to have a lower-than-average sense of school community. Independent of poverty, teacher warmth and supportiveness and classroom practices teaching cooperation are strongly related to students' sense of positive community (Zins, Weissberg, Wang & Wahlberg, 2004). Students who develop a positive sense of school community report feelings of enjoyment while attending school, which, in turn, make them more task-oriented. Students who develop a positive sense of school community internalize the school community's emphasis on learning and educational aspirations and are motivated to do well (Schaps, Battistich & Solomon, 2004). Brookover, Flood, Schweitzer, and Weisenbaker (1997) argued that teacher expectations for student performance influence student achievement through influencing the student's own perceptions of their capabilities. Parent and community involvement have also been found to positively influence academic achievement and

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school climate (Stevens & Sanchez, 1999). Lee and Smith (1999) argue, however, that without a clear emphasis on *academic press*, that is, a school wide cultural emphasis on academic excellence, then fostering a sense of community is not enough in itself to produce academic achievement gains among low-income, urban students. McEvoy and Walker (2000) submit that the success of prevention and intervention programs hinges on their ability to identify and modify school climates in which academic failure and antisocial behavior emerge. Research consistently supports a direct relationship between student time on task and student academic achievement, and so the elimination of disruptive behavior, allowing greater educational focus, should foster academic achievement (McEvoy & Walker, 2000).

## **Method**

This study is part of a larger experimental four-year federally funded study on the efficacy of the St. Louis Caring School Community<sup>®</sup> (CSC) program (U.S. Department of Education Grant R215S020232). Forty schools were stratified and randomly selected for participation in the project. The strata were based on school districts that were members of Cooperating School Districts of St. Louis and participated in the CHARACTER<sup>plus</sup><sup>®</sup> program during 2002-2003 (CSD, 1999). Districts in the greater St. Louis area that had a minimum of four elementary schools were identified. Districts were then randomly selected for inclusion in the study. For districts with four to seven elementary schools, four schools were randomly placed in the selected sample. For districts with eight or more elementary schools, eight schools were randomly placed in the selected sample.

Baseline data from student, staff, parent and implementation surveys were collected during February and early March 2003. Student and staff surveys were administered surveys by project-trained data collectors. The parent survey was mailed in school envelopes to random samples of 100 parents of 3<sup>rd</sup> and 4<sup>th</sup> grade students from each of the 40 schools.

The data-producing sample consisted of 5,750 students in 3<sup>rd</sup> and 4<sup>th</sup> grades who were administered the CSC Student Survey; 1,567 staff who were administered the Staff Survey; 1,955 parents who were mailed the Parent Survey; and 1,543 staff who were administered the CSC Implementation Survey. The student, staff and implementation surveys had nearly a 100% response rate. The parent survey had a 48% response rate.

Achievement data were drawn from the 2003 Missouri Assessment Program (MAP) in reading and math administered during the spring. The reading scores were determined from the communication arts test administered at the 3<sup>rd</sup> grade and the math scores were from the math test administered at the 4<sup>th</sup> grade.

### **Surveys**

Data were collected using the CSC Student Survey, CHARACTER<sup>plus</sup><sup>®</sup> Staff Survey, CHARACTER<sup>plus</sup><sup>®</sup> Parent Survey, and CSC Implementation Survey. The first three surveys were developed and piloted in earlier state and privately funded projects. The CSC Student Survey is a modification of the survey used by Developmental Studies Center in the original Child Development Project. The CSC Implementation Survey was developed specifically for the

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larger study. These surveys are optical scan instruments designed for effective data collection and capturing. The factors measured are:

- ***Student Survey*** – Sense of School as a Community, Sense of Classroom Autonomy and Influence, Self-Reported Altruistic Behavior, Sense of Well-Being at School, Trust and Respect for Teachers, Concern for Others, Liking for School, Commitment to Democratic Values, and Parent Involvement. Most of the reliabilities were in the .70s and .80s.
- ***Staff Survey*** – Students' Feelings of Belonging, School Expectations, Parent and Staff Relations, Staff Culture of Belonging, and School Leadership. The reliabilities were in the high .80s and .90s.
- ***Parent Survey*** – Students' Feelings of Belonging, School Expectations, Parent and Staff Relations, School Quality, and Parent Involvement. The reliabilities were in the .90s with the exception of Parent Involvement, which was .64.
- ***CSC Implementation Survey*** – The reliabilities were in the .70s and .80s.

*CONTEXT:* Learning Community, Leadership Support, Resources

*PROCESS:* Data Utilization, School Climate, Staff Collaboration

*CONTENT:* Application of Curriculum, Student Skills, Understanding

### **Achievement**

The MAP tests are administered each March with the scores posted on the Missouri Department of Elementary and Secondary Education Web site during September. The aggregate data for each of the schools in reading and math were obtained from the web site. The scores obtained were the percent of students in the lowest category of performance (usually viewed as unsatisfactory) and the percent of students in the highest category as defined by the state. A third category was calculated as the percent of students classified as satisfactory (100 – lowest category).

## **Results**

The aggregate data from the student, staff, parent, and implementation surveys were related to the reading and math achievement results using backwards stepwise regression. Two analyses were run for each achievement area. First was the relation between the school climate variables as measured by the four surveys and the percent of students in the highest category (identified here as proficient); second, the relation between the climate variables and the percent of students in all but the lowest category (identified here as satisfactory).

### **Simple Correlations**

The first step in the analysis was determination of the Pearson correlation coefficients. The 27 climate variables were correlated with the four achievement scores. Eighty-six of the 104 correlations were significant (see Table 1, next page) providing strong evidence of the relation between school climate and student achievement. The strongest relation with student achievement was with staff perceptions of belonging to a caring school community. This single variable accounted for over 50% of the variance among schools in three of the four analyses and nearly 50% of the variance in the fourth analysis.

Other variables with high (.50s or .60s) correlations with achievement were students' sense of the classroom as a community, feelings of well-being at school, trust and respect of teachers, concern for others, and liking school. What was not significant was parent involvement as reported by both the parents and students, parent perceptions of parent and staff relations, and parent rating of school quality.

### **Correlations**

The correlations among the math and reading scores were moderately high suggesting that schools demonstrating high achievement in math also tend to demonstrate it in reading. See Table 1 (next page).

### **Regression**

Backwards stepwise regression was used to determine the multiple relation between climate variables and student achievement. Four analyses were run using math and reading achievement at both the proficient and satisfactory levels as the dependent variables. The predictor variables were the 27 parent, staff, student, and implementation factors.

**Table 1. Correlation of Survey Factors for CSC 40 Schools with MAP Scores 2003**

	Math		Reading	
	Proficient	Satisfactory	Proficient	Satisfactory
Feelings Belonging - Parent	.466(**)	.569(**)	.474(**)	.515(**)
School Expectations - Parent	.466(**)	.451(**)	.334(*)	.372(*)
Staff-Parent - Parent	.311	.394(*)	.300	.333(*)
School Quality - Parent	.253	.222	.381(*)	.222
Parent Involvement - Parent	.010	-.020	-.066	-.077
Feelings Belonging - Staff	.691(**)	.774(**)	.749(**)	.776(**)
School Expectations - Staff	.503(**)	.542(**)	.561(**)	.476(**)
Staff-Parent - Staff	.484(**)	.529(**)	.571(**)	.413(**)
Staff Culture - Staff	.348(*)	.301	.454(**)	.261
School Leadership - Staff	.491(**)	.513(**)	.652(**)	.484(**)
Classroom Community - Student	.471(**)	.546(**)	.662(**)	.640(**)
Autonomy-Influence - Student	.413(**)	.471(**)	.494(**)	.442(**)
Altruistic Behavior - Student	-.102	.083	.156	.145
Well Being at School - Student	.563(**)	.482(**)	.703(**)	.588(**)
Trust-Respect Teachers - Student	.459(**)	.557(**)	.691(**)	.683(**)
Concern for Others - Student	.437(**)	.507(**)	.630(**)	.643(**)
Liking for School - Student	.463(**)	.537(**)	.697(**)	.676(**)
Democratic Values - Student	.413(**)	.464(**)	.539(**)	.534(**)
Parent Involvement - Student	.199	.242	.162	.043
Learning Community - Implementation	.636(**)	.657(**)	.730(**)	.631(**)
Leadership Support - Implementation	.646(**)	.597(**)	.630(**)	.511(**)
Resources - Implementation	.490(**)	.450(**)	.572(**)	.370(*)
Data Utilization - Implementation	.391(*)	.350(*)	.499(**)	.317(*)
School Climate - Implementation	.607(**)	.582(**)	.680(**)	.562(**)
Staff Collaboration - Implementation	.297	.275	.483(**)	.257
Apply CSC Curriculum – Implement.	.577(**)	.564(**)	.560(**)	.469(**)
Student Skills - Implementation	.595(**)	.569(**)	.623(**)	.491(**)
Math Proficient		.866(**)	.726(**)	.736(**)
Math Satisfactory			.720(**)	.752(**)
Reading Proficient				.847(**)

\*  $p \leq .05$  \*\*  $p \leq .01$

**Percent of Students Proficient in Math** – The first analysis was for the multiple relation between the 27 climate variables and the percent of students who were proficient in math. The unit of analysis was the school. Results from the 21 steps in the regression model are presented in Table 2 (next page). The correlations were high ranging from .89 to .93. As variables were eliminated, there was little drop in correlation. The final result was that seven climate variables

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accounted for 80% of the variance in math achievement among the 40 schools. These variables were (simple correlations):

- Students’ Sense of Well Being at School (.567)
- Students’ Self-Reported Concern for Others (.437)
- Leadership Support for Implementation (.646)
- School Leadership (.491)
- Staff Collaboration (.348)
- Students’ Sense of the Classroom as a Community (.471)
- Staff Perceptions of School Climate (.607)

**Table 2. Backward Stepwise Regression Model Summary for Predicting Percent of Students Proficient in Math**

Step	R	R Square	Std. Error
1	.932	.868	12.42
2	.932	.868	11.94
3	.932	.868	11.50
4	.932	.868	11.12
5	.932	.868	10.77
6	.931	.868	10.46
7	.931	.867	10.18
8	.931	.866	9.94
9	.930	.865	9.73
10	.930	.864	9.54
11	.929	.862	9.38
12	.926	.858	9.31
13	.925	.856	9.19
14	.923	.853	9.10
15	.921	.848	9.06
16	.918	.842	9.07
17	.915	.837	9.06
18	.910	.828	9.12
19	.904	.816	9.28
20	.899	.808	9.33
21	.892	.796	9.46

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These factors overlapped with those identified through simple correlation with leadership support and staff perceptions of school climate having high simple correlations. A noted difference is the addition in this list of factors of staff collaboration which had a simple correlation of only .348 with student proficiency in math.

These factors were significant predictors of the percent of students proficient in math (see Table 3). The coefficients for multiple prediction are provided in Table 4. The negative coefficients reflect the overlap in the predictor variables.

**Table 3. ANOVA for Regression Model at Step 21 for Predicting Percent of Students Proficient in Math**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	11203.53	7	1600.50	17.86	.000
Residual	2866.15	32	89.56		
Total	14069.69	39			

**Table 4. Regression Coefficients and t-tests for Climate Variables Predicting Percent of Students Proficient in Math**

Variable	Unstandardized Coefficient	Standardized Coefficient	B	t	Sig.
(Constant)	-142.312	49.193		-2.893	.007
School Leadership – Staff	-.618	.320	-.389	-1.929	.063
Classroom Community Student	-1.145	.463	-.429	-2.471	.019
Well Being at School – Student	1.887	.757	.284	2.495	.018
Concern for Others – Student	.878	.475	.288	1.849	.074
Leadership Support – Implementation	1.218	.265	.817	4.601	.000
School Climate – Implementation	1.989	.428	1.104	4.644	.000
Staff Collaboration – Implementation	-1.650	.301	-.992	-5.476	.000

**Percent of Students Satisfactory in Math** – The second analysis was for the multiple relation between the 27 climate variables and the percent of students who were satisfactory in math. The unit of analysis was the school. Results from the 24 steps in the regression model are presented in **Table 5**. The correlations were high ranging from .86 to .91. As variables were eliminated, there was little drop in correlation. The final result was that four climate variables accounted for 74% of the variance in math achievement among the 40 schools. These variables were (simple correlations):

- Student Perception of Parent Involvement (.242)
- Leadership Support (.646)
- Staff Perception of Students’ Feelings of Belonging (.774)
- Staff Collaboration (.275)

Leadership support for implementing change was the only variable that overlapped the two stepwise analyses for math. Staff perceptions of students’ feelings of belonging had the highest of the single order correlations. Most interesting in this analysis was the student perception of parent involvement and staff collaboration. While the literature highly supports both of these variables as major contributors to effective education, the simple correlations in these students showed them to have low level relations with math achievement (.242 and .275, respectively).

These factors were significant predictors of the percent of students proficient in math (see Table 6, next page). The coefficients for multiple prediction are provided in Table 7 (next page).

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**Table 5. Backward Stepwise Regression Model Summary for Predicting Percent of Students Satisfactory in Math**

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Step	R	R Square	Std. Error
1	.911	.830	8.86
2	.911	.830	8.52
3	.911	.830	8.21
4	.911	.830	7.93
5	.911	.830	7.68
6	.911	.830	7.46
7	.911	.830	7.25
8	.910	.829	7.07
9	.910	.828	6.90
10	.909	.827	6.76
11	.909	.826	6.62
12	.907	.822	6.55

**Table 5. Backward Stepwise Regression Model Summary for Predicting Percent of Students Satisfactory in Math**

Step	R	R Square	Std. Error
13	.903	.815	6.54
14	.898	.807	6.55
15	.893	.798	6.57
16	.889	.791	6.56
17	.887	.787	6.50
18	.883	.780	6.48
19	.881	.776	6.44
20	.878	.770	6.41
21	.875	.766	6.37
22	.872	.761	6.34
23	.868	.753	6.35
24	.862	.742	6.39

**Table 6. ANOVA for Regression Model at Step 24 Predicting Percent of Students Satisfactory in Math**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4125.36	4	1031.34	25.20	.000
Residual	1432.21	35	40.92		
Total	5557.57	39			

**Table 7. Regression Coefficients and t-tests for Climate Variables Predicting Percent of Students Satisfactory in Math**

Variable	Unstandardized Coefficient	Standardized Coefficient	B	t	Sig.
(Constant)	-11.488	25.189		-.456	.651
Feelings Belonging - Staff	.757	.125	.701	6.077	.000
Parent Involvement - Student	.782	.375	.195	2.083	.045
Leadership Support – Implementation	.491	.143	.524	3.436	.002
Staff Collaboration – Implementation	-.610	.148	-.583	-4.135	.000

**Percent of Students Proficient in Reading** - The third analysis was for the multiple relation between the 27 climate variables and the percent of students who were proficient in reading. The unit of analysis was the school. Results from the 18 steps in the regression model are presented in Table 8. The correlations were high ranging from .93 to .96. As variables were eliminated, there was little drop in correlation. The final result was that 10 climate variables accounted for 86% of the variance in reading achievement among the 40 schools. These variables were (simple correlations):

- Parent Perceptions of Their Involvement (-.066)
- Parent Rating of School Quality (.381)
- Students' Sense of Well Being at School (.703)
- Students' Self-Reported Concern for Others (.630)
- Students' Sense of Democratic Values (.539)
- Staff Perception of Students' Feelings of Belonging (.749)
- Parent Perceptions of Staff and Parent Relations (.300)
- School Leadership (.652)
- Parent Perceptions of Students' Feelings of Belonging (.474)
- Staff Perception of Resources for Implementing Change (.572)

Seven of the 10 factors identified were also supported with moderate to high simple correlations with reading achievement. The exceptions were parent perceptions of their involvement, which did not have a significant single order correlation, parent perception of staff and parent relations, and parent rating of school quality. The major factors relating to reading achievement in this analysis were reflecting students' feelings of belonging and caring at school (including caring for others and sense of democratic values) and staff perceptions of school leadership.

These factors were significant predictors of the percent of students proficient in reading (see Table 9, next page). The coefficients for multiple prediction are provided in Table 10 (next page). The negative coefficients reflect the overlap in the predictor variables.

**Table 8. Backward Stepwise Regression Model Summary for Predicting Percent of Students Proficient in Reading**

Step	R	R Square	Std. Error
1	.956	.914	7.30
2	.956	.914	7.01
3	.956	.914	6.76
4	.956	.914	6.53

**Table 8. Backward Stepwise Regression Model Summary for Predicting Percent of Students Proficient in Reading**

Step	R	R Square	Std. Error
5	.956	.914	6.32
6	.956	.914	6.14
7	.956	.914	5.98
8	.955	.912	5.87
9	.954	.910	5.79
10	.953	.908	5.73
11	.950	.902	5.76
12	.947	.897	5.79
13	.945	.894	5.74
14	.943	.889	5.75
15	.941	.885	5.75
16	.937	.878	5.80
17	.934	.873	5.81
18	.929	.864	5.92

**Table 9. ANOVA for Regression Model at Step 18 Predicting Percent of Students Proficient in Reading**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	6449.75	10	644.97	18.36	.000
Residual	1018.27	29	35.11		
Total	7468.03	39			

**Table 10. Regression Coefficients and t-tests for Climate Variables Predicting Percent of Students Proficient in Reading**

Variable	Unstandardized Coefficient	Standardized Coefficient	B	t	Sig.
(Constant)	-17.581	50.744		-.346	.732
Feelings Belonging - Parent	-1.551	.409	-.514	-3.788	.001
Staff-Parent - Parent	.662	.272	.377	2.432	.021
School Quality - Parent	.824	.212	.679	3.889	.001
Parent Involvement - Parent	-1.722	.544	-.321	-3.167	.004
Feelings Belonging - Staff	.663	.190	.530	3.486	.002
School Leadership - Staff	.379	.196	.328	1.936	.063

**Table 10. Regression Coefficients and t-tests for Climate Variables Predicting Percent of Students Proficient in Reading**

Variable	Unstandardized Coefficient	Standardized Coefficient	B	t	Sig.
Well Being at School – Student	2.930	.541	.606	5.414	.000
Concern for Others – Student	.612	.277	.276	2.211	.035
Democratic Values – Student	-1.179	.344	-.477	-3.426	.002
Resources - Implementation	-.499	.233	-.418	-2.143	.041

**Percent of Students Satisfactory in Reading** – The final analysis was for the multiple relation between the 27 climate variables and the percent of students who were satisfactory in reading. The unit of analysis was the school. Results from the 19 steps in the regression model are presented in Table 11 (next page). The correlations were high ranging from .90 to .93. As variables were eliminated, there was little drop in correlation. The final result was that nine climate variables accounted for 81% of the variance in reading achievement among the 40 schools. These variables were (simple correlations):

- Students’ Sense of Well Being at School (.588)
- Students’ Sense of Democratic Values (.543)
- Students’ Self-Reported Concern for Others (.643)
- Leadership Support (.510)
- Staff Feelings Belonging (.261)
- Staff Perceptions of Staff-Parent (.413)
- Staff Perception of School Climate (.562)
- Application of CSC Curriculum (.370)
- Staff Perception of Resources for Implementing Change (.370)

Five of the nine factors had moderate to high correlations in the .50s and .60s. The following four factors were common for the two reading analyses:

- Students’ Sense of Well Being at School
- Students’ Sense of Democratic Values
- Students’ Self-Reported Concern for Others
- Staff Perception of Resources for Implementing Change

**Table 11. Backward Stepwise Regression Model Summary for Predicting Percent of Students Satisfactory in Reading**

Step	R	R Square	Std. Error
1	.932	.869	9.26
2	.932	.869	8.90
3	.932	.869	8.57
4	.932	.869	8.29
5	.932	.869	8.04
6	.932	.868	7.81
7	.931	.867	7.64
8	.930	.865	7.48
9	.929	.864	7.33
10	.929	.862	7.19
11	.928	.861	7.06
12	.927	.860	6.93
13	.925	.856	6.87
14	.923	.853	6.81
15	.921	.847	6.80
16	.917	.840	6.82
17	.913	.834	6.84
18	.911	.829	6.81
19	.902	.814	6.99

The primary factors in this analysis indicated students’ feelings of belonging and caring and staff perceptions of school support through available resources.

These factors were significant predictors of the percent of students proficient in reading (see Table 12). The coefficients for multiple prediction are provided in Table 13 (next page). The negative coefficients reflect the overlap in the predictor variables.

**Table 12. ANOVA for Regression Model at Step 18 Predicting Percent of Students Satisfactory in Reading**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	6423.671	9	713.741	14.606	.000(s)
Residual	1466.023	30	48.867		
Total	7889.694	39			

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**Table 13. Regression Coefficients and t-tests for Climate Variables Predicting Percent of Students Satisfactory in Reading**

Variable	Unstandardized Coefficient	Standardized Coefficient	B	t	Sig.
(Constant)	14.846	45.041		.330	.744
Feelings Belonging - Staff	.965	.280	.750	3.451	.002
Staff-Parent - Staff	-.923	.405	-.392	-2.280	.030
Well Being at School - Student	1.148	.602	.231	1.908	.066
Concern for Others - Student	.674	.305	.296	2.212	.035
Democratic Values - Student	-1.140	.382	-.448	-2.982	.006
Leadership Support - Implementation	.535	.223	.479	2.400	.023
Resources - Implementation	-.932	.363	-.760	-2.568	.015
School Climate - Implementation	1.467	.534	1.087	2.746	.010
Apply CSC Curr. - Implementation	-.908	.406	-.570	-2.235	.033

## Discussion

Educators in our program schools rightly ask: Why should we try this program? Why buy into this school reform model? What evidence do you have that this is effective? This paper has outlined two sources of evidence in answer. First, as summarized above, the school research literature predicts a positive correlation between a caring school climate and student achievement, detailing how qualities of the former can influence the latter. It is this measure of influence that climate has that character education is attempting to leverage.

Second, beginning the study with a randomly selected sample of 40 schools, we found strong correlations between achievement (as reflected in standardized test scores) and those elements of school climate most emphasized by the St. Louis Model. This suggests that the dynamic between the two already exists in our project schools, indicating first that they are not unusual in this regard; and second, that we have reason to believe we may be able to leverage their school climate to positively impact their student achievement. We feel it is important to present educators this preliminary evidence because a lack of satisfactory answers to questions like these will likely impact teachers' answers to the following questions: why should I take the project you are doing seriously and why should I change my classroom practice to implement the project faithfully? Two questions that remain to be answered are how much the project schools are able to improve their climate, and what impact that has on their student achievement. These will not be answered before the completion of the project.

While school climate is assessed through perceptions of community members, this is not primarily a perceptual issue. The perceptions of students, staff, parents, and administrators are largely based on actual experience of interactions: of feeling welcomed or not, supported or not, respected or not, safe or not. Character education is not primarily about changing the mood of a school, to teach feel-good slogans, and develop a sense of school pride. Character education, as defined here, demands certain kinds of leadership, certain ways of relating (inclusive, respectful, collaborative, caring), and certain ways of engaging (staff buy-in, commitment, and initiative). The focus on improving community fundamentally shapes the tenor and content of communications among school staff, with families, and with students. When speaking about community, *the school* is a social unit – embodied in hundreds of interpersonal relationships – which, in turn, are embedded in a layered social context defining them: what it means to be teacher, student, principal, parent. Changing those relationships changes the school.

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Character education, as the intentional development of a school-wide caring community, requires reflection on these issues and attention to the quality of interactions at all levels, whether through policy, because of tradition, out of habit, or based on unquestioned assumptions. We believe that the evidence presented supports the contention that faithfully engaging in this kind of character education will improve the relationships within the school community, changing the experience and subsequently the perceptions of all members of the community. Those same community members will attune their behavior and expectations accordingly. With less distraction, disruption, and truancy and more time on task, the emotional stability and relational affirmation students will gain provides more optimal conditions under which to reach their full potential in character and academic achievement.

Paper reformatted and corrected, 13 July 2011.

References begin on next page.

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