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School Climate and Building Highly Effective Schools: How Student Perception of School Structure and Supportive Learning Environments Affect Their Enjoyment of School

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SCHOOL CLIMATE AND BUILDING HIGHLY EFFECTIVE SCHOOLS:
HOW STUDENT PERCEPTION OF SCHOOL STRUCTURE AND SUPPORTIVE
LEARNING ENVIRONMENTS AFFECT THEIR ENJOYMENT OF SCHOOL

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Administration

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ABSTRACT

Education reformers have long sought to apply scientific framework analysis to engineer the ideal system in which both students and teachers are highly successful. Grounded in the evidence based theoretical framework of Social and Emotional Learning (SEL), many academicians and practitioners are now focusing on determinants of school structure and supportive learning environments to bolster students' enjoyment of school, which supports increased positive outcomes. The Abbreviated School Climate Survey (Student Version) (Ding, Liu and Berkowitz, 2011) instrument was designed to explore student perspective of school climate as an indicator of student outcomes based on seven variables. The purpose of this study was to determine how the construct of "Structured Supportive Environment" correlates to students' enjoyment of school, using the seven-factor variables of the Abbreviated School Climate Survey, in a sample of two (2) traditional and two (2) charter public middle schools in Missouri (N=729). Using Structured Equation Modeling, the analysis demonstrated a strong positive correlation of the measured factors on enjoyment of school, thus supporting the reliability and validity of the Abbreviated School Climate Survey in measuring and predicting the effect of students' perceptions of school climate factors on outcomes. Given the strong correlation of these school climate factors—both organizational and socioemotional—on student outcomes, it should be these factors, rather than discrete standardized test scores, that should drive education policy and assessment of school quality. Future studies could use this instrument to measure the effect of school climate factors on student outcomes, including academic, social and economic aspects.

Keywords: school climate, effective schools, student perception, enjoyment of school, Abbreviated School Climate Survey

DEDICATION & ACKNOWLEDGEMENTS

I dedicate my dissertation to the family and friends that have supported me along this intense journey. Making the transition from Corporate America to the American public education system seemed like a nearly impossible feat; but, with the support I have received, I now have the foundation and courage to go forth and do my best to make a positive impact in the lives of students and their families. I want to especially thank my husband, Kenneth, whom without his boundless support for the past several years I would have never made it to this point. I thank you and love you with all my heart! I also thank my dear parents, Andre and Halcyone, and sister, Heather, who have always seen the potential for greatness in me even when it was not so clear to me. I also thank the teachers I had throughout my K-12 experience who serve as my inspiration to carry on their spirit of dedication and pursuit of excellence as I build my charter school network.

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CHAPTER 1: INTRODUCTION

School Climate and Building Highly Effective Schools: Student How Student's Perception of School Structure and Supportive Learning Environments Affect Their Enjoyment of School

The National Commission on Excellence in Education (1983) presented a bleak assessment of the state of American public education, beginning its now famous *A Nation at Risk: The Imperative for Education Reform* as follows:

Our Nation is at risk. [...] If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen to ourselves. We have even squandered the gains in student achievement made in the wake of the Sputnik challenge. Moreover, we have dismantled essential support systems which helped make those gains possible. We have, in effect, been committing an act of unthinking, unilateral educational disarmament (p. 9).

Since the publishing of this report to the present, the debate on school reform has been the central theme for educators, policy makers and concerned constituents representing the gamut of public education stakeholders in the United States. This characterization of achievement deterioration in combat terms reflects the real slip in student outcomes of American students in relation to both OECD and non-OECD countries, as well as the collective fear that American schools are not producing the results necessary to maintain economic, political and social dominance in the world. These fears are not totally unfounded, as the latest report from the U.S. Department of Education, National Center for Education Statistics (2011) notes that the mathematics and science literacy of American students lags behind other developed and emerging nations, according to 2007 results from the Trends in International Mathematics and

Science Study (TIMSS) assessment of fourth and eighth-graders. For fourth graders, American student mathematics achievement trails eight major geographies, namely: Chinese Taipei, England, Hong Kong SAR, Japan, Kazakhstan, Latvia, the Russian Federation, and Singapore. For eighth graders, mathematics achievement followed that of five geographies: Chinese Taipei, Hong Kong SAR, Japan, the Republic of Korea, and Singapore. Similarly, for science achievement, American fourth grade achievement was surpassed by four geographies: Chinese Taipei, Hong Kong SAR, Japan, and Singapore. American eighth graders were eclipsed by the achievement in nine countries: Chinese Taipei, the Czech Republic, England, Hungary, Japan, the Republic of Korea, the Russian Federation, Slovenia, and Singapore. Reading literacy rates of 15-year olds, as measured by the 2009 Program for International Student Assessment (PISA) showed further deficiencies of students in the United States. While the reasons for these disparities are complex, education pundits mainly focus on the scored outcomes themselves. Not unnoticed is the fact that the consistent high performers are countries in Asia and the former Soviet Union, nations that have historically been characterized as the political and economic enemies of the United States. Thus, it is no accident that the National Commission on Excellence in Education chose to use a bellicose tone to present the critical nature of the public education crisis we face in America.

This rhetoric reflects a real political climate of fear of a global power shift away from the United States to emerging markets, as these international achievement comparisons seem to reveal a draining of the brain trust of American students. Thus, to a large extent public education has become tantamount to national security across dimensions of politics, economics and social well-being. So, the quest for school reformists—including educators, researchers, policy makers and business leaders—has been to identify the composition of “excellent schools.” The body of

effective schools research identifies the correlates most evident in highly successful schools, as defined as schools with high academic output and positive social environments. Some of the most frequently cited correlates include: safe and orderly environment, a shared faculty commitment to improve achievement, orientation focused on identifying and solving problems, high faculty cohesion, collaboration and collegiality, high faculty input in decision making, and school-wide emphasis on recognizing positive performance (Levine and Lezotte, 1995). The debate among reformist stakeholders stems from divergent philosophies on *how* to build schools that effectively integrate these aspects to create systems of order, academic rigor and social responsiveness. Two major theoretical frameworks for this debate are that of organizational theory and social and emotional learning.

Organizational Theory Approach to School Effectiveness

Educational researchers grounded in various disciplines have sought to address these decades-long deficiencies by attempting to isolate the necessary elements to build effective schools, where high levels of student achievement are attained in environments of administrative and instructional excellence. Going as far back as the Industrial Revolution and organizational industrialists at the turn of the twentieth century, education reformers have tried to engineer school climate in order to increase performance. One example of this trend can be seen in Frederick Taylor's *Principles of Scientific Management* (1911), which helped create the context of organizational and operational efficiency that permeated business practice in the United States at the turn of the century. While the impetus for creating the concept of "scientific management" was borne from the need to increase efficiencies in the industrial world, it was not long before this framework was applied to other aspects of society. Callahan (1962) comments on the scope of influence of this newly minted framework noting that "in the flood of enthusiasm, an attempt

was made to apply the principles of scientific management to many aspects of American life, including the army and navy, the legal profession, the home, the family, the household, the church, and last but not least, to education” (p. 23). It is with this last application that various schools of thought regarding organizational effectiveness in schools began to emerge.

Out of the school of organizational and systems theory, two constructs—namely school climate and school culture—became germane to the analysis of effective school organizations in the 1950s and 1960s. To address the complexities of organizational behavior, Jacob Getzels and Egon Guba (1957) created a model of an organization as a social system. This model combines the gestalt-orientation of the human behavior movement with the scientific model (mathematical) of classical organizational theory. In their research, the organization is often an “institution,” which possesses its own set of expectations and values. Also, they understood that individuals are multifaceted and bring a variety of perspectives, experiences and expectations to any context. Thus, in the construction of their model they were careful to include intrinsic factors and extrinsic constructs. Getzels and Guba (1957) describe their view as follows:

We conceive of the social system as involving two major classes of phenomena, which are at once conceptually independent and phenomenally interactive. [...] to understand the behavior of specific role incumbents in an institution, we must know both the role expectations and the need-dispositions.[...] social behavior results as the individual attempts to cope with the environment composed of patterns of expectations for his behavior in ways consistent with his own independent pattern of needs.” (p. 423-41)

A graphical depiction of the Getzels-Guba model is shown below:

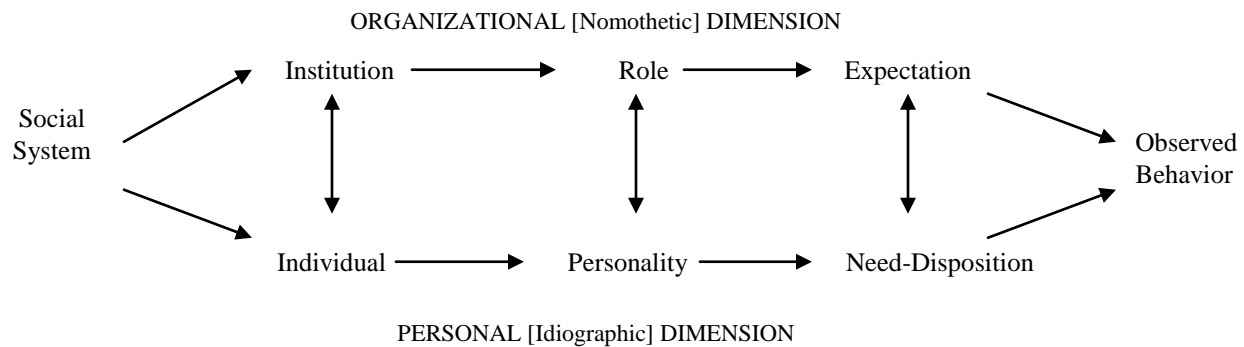


Figure 1 Model of the organization as a social system ("Getzels-Guba model")

The mathematical representation of the model is expressed as:

$$B = f(R \times P),$$

Where, B = observed behavior,

R = institutional role, and

P = personality of the role incumbent.¹

Specific to schools, Getzels and Thelen (1960) added dimensions that pull from different sciences, namely, anthropology, biology and social psychology, to demonstrate the uniqueness of school environments. For instance, the anthropological dimension of this particular model includes the factors of ethos, mores and values—elements that not only involve human behavior, but are also influenced by the factor of time (static) and change over time (dynamic). Likewise, the sociopsychological dimensions of belongingness, identification and rationality are inserted to provide a more complete measure of the interaction of the individual with each level of the system—individual, group, organization and environment. Notably, the “output” of this revised model is “goal behavior,” as opposed to mere observed behavior. The point for this change is to

¹ Jacob W. Getzels, “Administration as a Social Process,” in *Administrative Theory in Education*, ed. Andrew W. Halpin (Chicago: Midwest Administration Center, University of Chicago, 1958), p. 157.

illustrate that manipulation of the nomothetic (organizational), idiographic (personal) and environmental factors can be intentionally focused to result in an expected, measurable change.

Building on this organizational framework, the constructs of climate and culture, terms that are often used interchangeably, were outlined by Tagiuri (1968) who asserted that climate encompasses four general dimensions: (1) the physical environment, (2) the characteristics of individuals and groups within the organization, (3) the social system or relationship between individuals and groups in the organization, and (4) the culture—beliefs, values, meanings and cognitive structures. To measure these dimensions in school organizations, a series of instruments have been developed over the years. Van Houtte and Van Maele (2011) trace the development of these instruments starting with the Organizational Climate Description Questionnaire (OCDQ) developed by Halpin and Croft in 1962. The purpose of this early instrument was to explore the social interaction between teachers and school leaders. Later, they outline how researchers used this tool as a launching point to explore further dimensions of school climate from different perspectives within the school community. For example, Finlayson (1973) added a Pupil Questionnaire to the OCDQ. Anderson and Walberg (1968) developed the Learning Environment Inventory (LEI), and Moos and Trickett (1974) developed the Classroom Environment Scale (CES) to assess the climate of junior and senior high school classrooms, respectively. In the past 25 years, more sophisticated instruments have been developed to assess school climate with particular emphasis on the socioemotional dimensions of this construct, to the exclusion of the effect of physical environment.

Social Emotional Learning approach to School Effectiveness

Intuitively, one would expect that a positive perception of school climate by students would result in strong academic outcomes for several reasons. The dimensions of school climate

measured by the Abbreviated School Climate Survey align with the social processes described by the body of research termed Social Emotional Learning (Elias, M.J., Zins, J.E., Weissberg, R.P., Frey, K.S., Greenberg, M.T., Haynes, N.M., Kessler, R., Schwab-Stone, M.E. & Shriver, T.P., 1997). The core competencies of Social Emotional Learning are self-awareness, social awareness, self-management, relationship skills and responsible decision making.

As the school is as much a physical entity as a social process, it is reasonable to conclude that adeptness in these core competencies will aid students in maintaining a level of social regulation that allows them to focus their energy on academic learning which, when unhindered, should result in higher academic achievement. Cohen, Pickeral and McCloskey (2009) describe this multidimensional process as a comprehensive approach to school climate whereas attention is given to four major areas, namely, safety, relationships, teaching and learning, and the institutional environment:

It addresses the areas of safety (rules and norms, physical safety, social and emotional security), teaching and learning (support for learning, social and civic learning), interpersonal relationships (respect for diversity, social support—adults, social support—students), and institutional environment (school connectedness/engagement, physical surroundings) (Cohen et al., 2009).

Adelman and Taylor (2000) support this assertion in their argument that schools focused solely on classroom instruction and classroom and school management techniques to bolster achievement often find themselves falling short of their target of academic excellence. Zins et al. (2004) assert that when students develop socioemotional strategies to help them self-regulate behavior, set goals and solve problems, they are able to apply these skills to academic learning

domains and improve their achievement levels. In this current era of high stakes testing under No Child Left Behind, and increasing academic failures across the nation at all socioeconomic levels, it is important to broaden the scope of consideration for what elements are fundamental to building effective schools. Amongst these elements must be the inclusion of the student voice, as student outcomes reflect the effects of the organizational, pedagogical and social systems imposed in the school. Therefore, it is reasonable to conclude that student perspectives on their school's effectiveness, with particular assessment of school climate, can inform instructional practice and socialization processes that best support strong academic outcomes. The implications of these results should have a bearing on education reform policy.

Correlation of Student Perspective of School Climate to Academic Achievement

The Developmental Studies Center (DSC) has been a leader in school climate research and instrument development. One of their commissioned projects, the Child Development Project, has produced a number of assessments that have been used in school districts across the nation. One of these instruments, the School Climate Survey (Solomon, D, Battistich, V., Watson, M., Schaps, E., & Lewis, C., 2000), included 100 items to assess school climate from students' perspectives following eleven factors, namely: Enjoyment of Class, Safety at School, Trust in and Respect for Teachers, Autonomy and Influence, School Norm/Rules, Classroom and School Supportiveness, Liking for School, Task orientation toward learning, Concern for Others, School Cohesion, and Positive and Negative Behavior. Yet, recent research collaboration between the authors of this instrument and researchers from the University of Missouri, St. Louis, has caused the reliability of this instrument to come into question (Ding, C., Liu, Y., & Berkowitz, M., 2011), as they examined the variation in student responses to questions measuring the same scale, yet differing in their positioning. For example, the scale Concern for

Others yielded variable results depending on how the question was worded—negatively worded items receiving one type of response, with those positively worded items for the same scale being answered differently. Another issue that compromised the reliability of the responses was the fact that teachers shared that the length of the instrument negatively impacted the students' motivation to complete the survey. Thus, these researchers created the Abbreviated School Climate Survey (Student Version).

The Abbreviated School Climate Survey (Student Version) (Ding, C., Liu, Y., & Berkowitz, M., 2011) is a tool designed to explore student perspectives of school climate based on seven variables, namely: Positive Behavior (PB), Negative Behavior (NB), Classroom and School Supportiveness (CS), Autonomy and Influence (SA), Safety at School (SS), Enjoyment of Class/School Liking (ES) and School Norms and Rules (SN). This instrument preserves the essential scales from the DSC survey, while reducing the number of items from 100 to 34. The reliability of this shortened scale was tested by implementing it in the same population where the original instrument was given (Ding et al., 2011).

Statement of the Problem

The purpose of this study was to determine if the Abbreviated School Climate Survey is a reliable predictor of student outcomes, specifically on students' attitudes toward school, by determining the nature of the correlation among six factor variables of this instrument and the responses of students from a random sample of two (2) traditional public schools and two (2) charter public schools in Missouri. Using analytical approach of structured equation modeling (SEM), the following hypotheses are being tested:

- H₁: The factors of School Safety (SS), School Rules/Norms (SN), Positive Behavior (PB), Student Autonomy (SA) and Classroom Supportiveness (CS) indicate the latent

value "Structured Supportive Environment"; while the factor Enjoyment of School (ES) indicates the latent value of "Likelihood to Continue."

- H₀: "Structured Supportive Environment" positively correlates to "Likelihood to Continue."
- H_a: There exist no latent factors or correlations between such.

Note: The factor Negative Behavior (NB) is expected to negatively correlate to "Structured Supportive Environment", yet the reliability of this factor is in question as the items to which it loads are essentially negatively phrased statements of the items loading to Positive Behavior (PB). Therefore, this factor has not been included in the hypothesized structured equation model.

Significance of this Research in the Literature

The relationship between school climate and student outcomes is of particular interest as the researcher is developing a nonprofit charter school management organization. The goal of the organization is to design a highly effective school that has a strong culture of achievement, community and safety. Students attending these managed schools will cultivate a love of learning while developing leadership skills and self-efficacy. Thus, the primary purpose of analyzing the relationship among the scales measured by the Abbreviated School Climate Survey is to see if these factors significantly correlate with strong student achievement scores, therefore serving as fundamental elements to developing a strong climate of this planned school network.

Interestingly, much of the research on social and emotional learning and school climate is applied to interventions and professional development of the adults interacting within the school framework; yet, the measure of school effectiveness from a policy perspective is overwhelmingly focused on academic outcomes with less significance given to the value of

educating the “whole child.” Yet, effective schools research highlights the need to create a foundation of social and emotional well-being in students in order to create an environment that supports the achievement of high academic outcomes. Therefore, the secondary focus of this research is to explore the implications of social and emotional dimensions on academic achievement. If this research demonstrates a significant correlation between students’ perceived school climate and their academic achievement (based on standardized test scores reported for the schools involved in the study), then it can be postulated that an expanded measure of highly effective schools must be defined at a national and state policy level.

Unquestionably, highly effective schools possess more positive characteristics than strong academic achievement of students. This study adds to the literature by limiting analysis of the effect of school climate correlates on the single dimension of academic achievement, since much of the literature demonstrates the effect of these correlates on related or indirect measures such as decreased school incidents, increased tolerance and respect for others, satisfactory and fulfilling work environments and positive school-family-community relations. Yet, even with this narrow focus, the implications of the seven correlates measured with this instrument, and their impact on the effectiveness of a school and creating a school climate that fosters a positive learning community, must be seriously considered in the national dialogue of education reform—particularly as it relates to seeing students as active agents in creating highly effective learning environments.

CHAPTER TWO: LITERATURE REVIEW

The quest for building highly effective public schools in the United States has its roots in many disciplines and exists in various contexts. Going as far back in American history to the founding fathers, education was viewed as a vehicle to support and expand democratic ideals. In his Report of the Commissioners for the University of Virginia in 1818, Thomas Jefferson deftly outlines the perceived role of education in American society. In part he stated:

These objects are to give every citizen the information he needs for the transaction of his own business; to enable him to calculate for himself, and to express and preserve his ideas, his contracts and accounts, in writing; to improve by reading, his morals and faculties; to understand his duties to his neighbors and country, [...] and, in general, to observe with intelligence and faithfulness all the social relations under which he shall be placed. (Peterson, 1984, p. 459).

This characterization of education highlights the multiple contexts in which the American public school was derived. The political context of creating loyal citizens is fundamental to Jefferson's argument. Economic context is referenced as education would give "every citizen the information he needs for the transaction of his own business". Yet, Jefferson's argument goes beyond macro factors of politics and business to influence intrinsic factors of individuals to promote a social contract "to understand his duties to his neighbors and country" by improving "his morals and faculties", thus illustrating the social, ethical and even legal contexts in which schools exist. All of these dispositions influenced the tenets of the Common Schools movement of the 1840s, during which time the modern American public school system was developed.

The following literature review will provide insights into some of the major theoretical frameworks contributing to the body of research on effective schools. As foreshadowed by

Jefferson's words, these dispositions are grounded in a variety of disciplines--from systems theory and business, to behavioral science and educational psychology. Particular focus will be given to the concept of social and emotional learning, as this is the framework in which the correlates of the Abbreviated School Climate Survey (Student version) are grounded. The goal of this review is to illustrate the variety of elements needed to build effective schools. Furthermore, this presentation of theoretical paradigms will serve to demonstrate the complexity of building effective schools--that no one framework is sufficient to characterize highly effective schools, as it may seem with current educational policy which tends towards organizational theory or business principles; but rather, that by creating a highly engaged environment that fosters and develops the social and emotional learning of students, the entire school community is strengthened to build and sustain strong outcomes at all levels, including academic achievement.

Classical Organizational Theory Framework for Effective School Systems

Analyzed as a "system", systems or organizational theory has been applied to school structure and process since its inception. At the dawn of the 20th century, classical organizational theory shaped the design of public schools. Grounded in Frederick Taylor's (1911) concept of *scientific management*, the view that clearly defined laws, rules and principles can be applied to all human activities, classical organizational theorists exerted great influence on the structure of public schools--particularly in the domains of administration and bureaucracy. For example, French industrialist, Henri Fayol, one of Taylor's contemporaries, was instrumental in adding the administrative perspective. Unlike Taylor, who focused on the productivity and efficiency of workers to improve outcomes, Fayol's view centered on the role of management to produce increased efficiency. As the managing director of a major French mining company for thirty years (1888-1918), Fayol understood that efficiency must be planned from the top-down in an

organization, and administration cannot be decoupled from the work process as a whole. Fayol (1916) authored *General and Industrial Management* (Administration Industrielle et Générale), wherein he presents fourteen principles of management—several of which are imbedded in education administration today, including: division of work, authority and responsibility, unity of command and the scalar chain. According to Fayol, proficiency in Administration “can and should be acquired in the same way as technical ability, first at school, later in the workshop” (p. 14). With this work, Fayol is often credited as the first modern organizational theorist. Yet, the rigidity of application to organizations which both Taylor and Fayol sought to apply their theory, often fell short of the realities of industrial and social organizations alike—inasmuch as politics and conflicting agendas frequently impede the progression toward efficiency. To resolve this gap in position, German sociologist, Max Weber (1864-1920), offered an alternative framework, that of Bureaucracy. Hall (1963) outlines Weber’s theory of bureaucracy intended to present the ideal organizational system which would result in optimum effectiveness, by maintaining impartiality and predictability at all levels. The guiding principles of the ideal bureaucracy would include:

1. A division of labor based on functional specialization;
2. A well-defined hierarchy of authority;
3. A system of rules covering the rights and duties of employees;
4. A system of procedures for dealing with work conditions;
5. Impersonality and interpersonal relations;
6. Selection and promotion based only on technical competence (p. 33).

Thus, Weber theorized that implementation of these principles would create a strong, productive organizational environment where the interpersonal relationships of both administration and

workers would follow clear rules of engagement, hence resulting in achieving the greatest efficiency possible.

When considering these early theories related to organizational behavior, foundational principles of modern education administration and school organization begin to surface, especially given that the predominant modern view of public education in the United States is that it directly supports workforce preparedness and economic dominance on a global scale. Vestiges of the “Taylor system” are inherent in present day theories of accountability in K-12 public schools, to the extent that performance metrics on standardized tests directly affect public funding to such schools. This, in turn, incentivizes school administrators to focus on engineering the ideal curricular and social program that will result in both increased teacher effectiveness and strong student outcomes. Evidence of this focus is manifested in the shift of the number of hours dedicated to core curricular subjects—especially math and language arts, as well as the implementation of Foucault-esque (1975) disciplinary technologies for both students and teachers, with the goal of creating the optimal system which maintains social and operational “order” to produce optimum performance. Fayol and Weber’s theories on administration, both as a functional role and as a framework for school structure, are also present in the modern school organization. Traditional public school systems have hierarchical organizational structures, have codes of conduct and policies that clearly delineate roles and responsibilities of administrators, faculty, staff and students, and follow routines that minimize the frequency of exceptional decision making. Public school district administrations, of which Superintendents serve as the head, typically embody principles of classical organizational theory. These examples present undeniable proof that classic organizational theory serves as a buttress to modern education administration and school organization—both of which contribute to school culture. Yet, there is

one factor that is notably absent from the classical, “scientific management” model—the effect of the individual on and within the organization.

Human Relations and Organizational Behavior Paradigms of School Organizations

The Human Relations Movement has its roots in the classic Hawthorne Studies at Western Electric Company (Western Electric Company Hawthorne Studies Collection, Baker Library, Harvard Business School). The first phase of studies (1924-1927) sought to observe the relationship between illumination levels in the factory to worker productivity—a correlation that should have been positive according to Taylor’s principles of scientific management. However, the results showed weak correlation between these factors, which prompted a team of researchers from Harvard University Graduate School of Business to conduct further research to understand the phenomena of uneven worker productivity they observed. The hope was to uncover a correlation between physical working conditions and productivity, to other possible contributing factors such as home life, background, diet and other “human” factors. Based on these studies, a new lexicon in organizational theory began to emerge. Concepts such as morale, group dynamics, democratic supervision, personnel relations and behavioral concepts of motivation could now be used to better characterize the nature of an organization (Owen, 1981, p.17). This paradigm shift represents a shift in the nature of organizational research from a consideration of external factors that can be manipulated to shape a particular system, to a focus on determining the pattern of interrelation of individuals and factors within a system. During this period, gestalt (constructs based on individual perception) frameworks of organizations revealed that the ‘whole (organization) is not necessarily a mere sum of its parts’, but is rather a dynamic interplay of internal and external factors that may be greatly affected with the addition or omission of certain individuals.

This theoretical orientation was eagerly embraced and developed by social psychologists and behavioral scientists in the 1930s. One notable figure in this movement was Jacob Moreno. Moreno's research focused on the structure of interpersonal relationships. He wanted to understand not only what triggers attraction or rejection among individuals in a group, but also observe the patterns of such as they occur in group dynamics. The gestalt-orientation of his research led to his creating "sociometrics", which are diagrams of the structural features of 'social configurations' (Scott, 2000, p.9). Scott describes Moreno's social configurations as "the result of the concrete patterns of interpersonal choice, attraction, repulsion, friendship, and other relations in which people are involved, and they are the basis upon which large-scale 'social aggregates', such as the economy and the state, are sustained and reproduced over time" (p. 9). The graphical representations of these patterns were called 'sociograms'—with individuals represented as points and the relationships between individuals as lines—similar to modern-day graphical representations of social networks.

A second major contributor to the body of work in the human relations movement was Kurt Lewin. Lewin contributed to the body of work of the gestalt-oriented psychologists with his field theory. He theorized that behavior is determined by the totality of an individual's situation, which involves not only the constructs of 'reality' of the individual, but also the 'field' or context in which he is interacting (Smith, 2001). Extending his theory on the individual response to the group dynamic as a whole, Lewin suggests that groups form based on two driving factors: interdependence of fate and task interdependence. Brown (1989) summarizes the impact of Lewin's principles on group dynamics as follows:

These implications can be positive or negative. In the former case one person's success either directly facilitates others' success of, in the strongest case, is actually necessary for

those others to succeed also...In negative interdependence—known more usually as competition—one person's success is another's failure (p. 30).

Lewin rejected the concept of static dispositions of individuals at any given time, but rather wanted to show that it is the interaction of the individual, group and situation that determine which choices an individual will make in playing his/her role within the group. His body of work laid the groundwork for subsequent researchers in the field of social psychology and group dynamic.

One such researcher was Robert Bales, who took group analysis a step further to better understand the interaction process individuals in a group. Using similar data collection methods to Moreno's, Bales analyzed discussions of group members—who talked with whom, which discussions were between two individuals versus those among the entire group, and what was the intent of these discussions. Like Moreno, Bales was able to identify patterns of behavior amongst small groups. From there he was able to create models of successful groups and was one of the first researchers to document characteristics fundamental to successful group dynamics, namely, that there must be at least two key roles: someone (or persons) that focus on accomplishing the task at hand (task orientation), and others that help maintain positive group interrelations (maintenance orientation) (Owens, 1981, p.19). These role designations continue to be used in analysis of group dynamics.

The body of research of the Human Relations Movement, which is grounded in sociology, psychology and social psychology, has had the most impact in education at the supervisory level—such as with building principals. These supervisors are closest to the line workers, the teachers, and are responsible for their individual professional development and the development of the organization (school) as a whole. In fact, the concept of organizational

development is rooted in Lewin's 'basic skill training groups', or T-groups. Lewin's theory of the impact of conducting basic skills training as a dialectic experience (using standards as a base for conducting evaluative discussion between coach/observer and practitioner), was so strong that after his death the National Training Laboratory in Group Development was established based on his research. Reid (1981) describes the experience of what happened at the very first National Training Laboratory in Group Development held at Gould Academy in Bethel, Maine in the summer of 1947 as follows:

A central feature of the laboratory was "basic skills training, [...] The skills to be achieved were intended to help an individual function in the role of "change agent." [...] He was also to be a paragon who was aware of the need for change, could diagnose the problems involved, and could plan for change, implement the plans, and evaluate the results (p. 153).

At the school building level, principals serve as the "change agents" of the organization. While they must attend to a certain degree to administrative issues, most of their time is spent on managing and developing their human capital. Akin to this organizational development is the notion of leadership development. Bales included research on the dynamic of leadership selection within groups in his work (Owens, 1981, p. 19). The process of identifying and managing potential leaders, apparent detractors and all dispositions between these two orientations can be linked to Moreno's sociometrics.

The Human Relations Movement can be characterized as an analysis of individuals without the "organization"; whereas, Classical Organizational Theory looks at the structure of the organization as a whole without specific attribution to the impact of individuals. Both frameworks provide valid contexts in which organizations can be analyzed and their cultures

assessed, but alone they still do not provide enough detail to fully describe the construct of an “organization”. The theory of organizational behavior serves to fill this gap.

Organizational Behavior, as a discipline, serves as the link between classical theory and human relations theory, as it seeks to describe, understand, and predict human behaviors within the environment of the organization (Owen, 1981, p.23). Owen summarizes the distinctive contribution of this discipline to the body of work in organizational thought in two important points: 1) organizations create internal contextual settings, or environments, that have great influence on the behavior of the individuals within them, and 2) to some extent the internal environment is influenced by greater contexts (political, social, legal, economic, etc.) in which the organization exists (p. 23). This multilayered construct is best described as a “system”. Thus, general and social systems theories become central to the organizational behavior movement. General systems theory is generally credited to a biologist, Ludwig von Bertalanffy (1968), who describes the necessity for creating General Systems Theory in this way:

Its subject matter is the formulation and derivation of those principles which are valid for 'systems' in general. [...] There are general system laws which apply to any system of a certain type, irrespective of the particular properties of the system and of the elements involved. General System Theory, therefore, is a general science of 'wholeness' (Passages from General System Theory, paragraphs 1 & 8).

As von Bertalanffy postulates, the study of “wholeness” of any given system—the components, the interactions of components and environment in which interactions occur—must be defined, measured and modeled to truly understand the nature of the system. Borrowing this notion, Social Systems Theory examines the dynamic of organizational behavior at both the subsystem

level (individuals and groups), as well as the interrelations of these subsystems to each other and with the environment. Typically, social systems are described as either “open” or “closed”. Since no “real world” social system is truly closed, or in isolation from intrinsic factors from the individuals or extrinsic factors from the environment, “closed” social systems characterize scenarios in which feedback does not alter behavior. A simple approach to apply social systems theory is the “linear model”, which: 1) identifies *inputs* (environmental forces, intrinsic values/goals), 2) examines the *process*, or interaction of the inputs on the individuals within the organization, and 3) measures the *outputs* back into the environment. In open systems, feedback based on the outputs would loop to become part of the new set of inputs. Already, it is clear that this model is too simple to capture the nuances of “organizational behavior”. One must have a way to define, examine and measure the “organization” and the human “behavior” as both separate and correlated entities that have causality properties.

To address the complexities of organizational behavior, Jacob Getzels and Egon Guba (1957) created a model of an organization as a social system. This model marries the gestalt-orientation of the human behavior movement with the scientific model (mathematical) of classical organizational theory. In their research, the organization is often an “institution”, which possesses its own set of expectations and values. Also, they understood that individuals are multifaceted and bring a variety of perspectives, experiences and expectations to any context. Thus, in the construction of their model they were careful to include intrinsic factors and extrinsic constructs. Getzels and Guba (1957) describe their view as follows:

There are, first, the institutions with certain roles and expectations that will fulfill the goals of the system. Second, inhabiting the system there are the individuals with certain personalities and need-dispositions, whose interactions comprise what we generally call

"social behavior."[...] which together constitute the nomothetic, or normative, dimension of activity in a social system; and individual, personality, and need-disposition, which together constitute the idiographic, or personal, dimension of activity in a social system (p. 424)

Specific to schools, Getzels and Thelen (1960) added dimensions that pull from different sciences, namely, anthropology, biology and social psychology, to demonstrate the uniqueness of school environments. For instance, the anthropological dimension of this particular model includes the factors of ethos, mores and values—elements that not only involve human behavior, but are also influenced by the factor of time (static) and change over time (dynamic). Likewise, the socio-psychological dimensions of belongingness, identification and rationality are inserted to provide a more complete measure of the interaction of the individual with each level of the system—individual, group, organization and environment. Notably, the “output” of this revised model is “goal behavior”, as opposed to mere observed behavior. The point for this change is to illustrate that manipulation of the nomothetic (organizational), idiographic (personal) and environmental factors can intentionally focused to result in an expected, measurable change.

The Getzels models are typical of the plurality of dimensions that researchers during the Organizational Behavior Movement sought to capture when observing phenomena occurring within organizations. Getzels, along with many other researchers, focused particular attention on schools as the environment (society, politics, economy, etc.) in which schools functioned was drastically changing. During the period from 1950-1975, the United States was involved in three major wars, experienced major social and economic shift as a result of the civil rights movement, and contended with economic recession. Just prior to this period, the atrocities uncovered during the infamous Nuremberg trials forever changed the nature of research using human subjects. It is

no wonder, then, that extremely detailed research models, particularly when seeking to define culture of schools and school systems, were prolific during the Organizational Behavior Movement.

Today, the orientation towards organizational behavior still shapes public school organization and culture. For superintendents, this most affects their decision-making process. No longer can the district be viewed as an isolated system, but rather as an entity that functions within greater social, political, legal and economic contexts. For building principles, this enhanced perspective of organizations provides them with more tools with which to evaluate, respond and coach their teachers, as well as create an environment of inclusion for all students, parents and the community-at-large. More focus is given to providing appropriate social service and behavioral support to students and faculty at the school. Instructional methods have become more student-centered and incorporate the social and emotional aspects of learning to educate the “whole child”, which has led to theory development and organizational modeling that draws from child development theory, anthropology, psychology, biology and other sciences, with the goal of creating grounded, educated citizens.

Current organizational thought, while not necessarily a departure from earlier notions, does present a narrowed scope of analysis. In other words, whereas previous theoretical frameworks sought to define organizational systems as a whole, present trends launch inquiry into the “strata” of social systems. Weick (1976) describes this approach as exploring “middle-range theories”, suggesting that there are a variety of theories that can be used to explain behavior in organizations. One way of studying organizations is the “garbage can model” made popular by Cohen, March and Olsen (1972). This approach expects organizations to be “described as a loose collection of ideas than as a coherent structure; [the organization] discovers

preferences through action more than it acts on the basis of preference” (Cohen et al., 1972).

This orientation presents the organization as a structure containing managed chaos, whose management must be dynamic, yet predictable in order to maintain order. To reach equilibrium in the system, contingency theory must be introduced. Owens (1981) summarizes this as follows:

A contingency approach to organization takes a different view: although there is no one best way to organize and manage people in all circumstances, there are certain designs of organizational structure and describable management methods that can be identified as being most effective under specific situational contingencies (p. 95).

Owens (1981) applies the notion of contingency theory to organizational behavior in education, summarizing these in three basic propositions:

1. There is no one best universal way to organize and administer school districts and/or schools;
2. Not all ways of organizing and administering are equally effective in a given situation: effectiveness is contingent upon appropriateness of the design or style to the situation;
3. The selection of organizational design and administrative style should be based upon careful analysis of significant contingencies in the situation.

This organizational leadership style is the touchstone for effective leadership strategies for administrators at all levels in the school system. Subsequently, the hierarchy within highly effective schools takes on a more matrix-style in the sense that decision-making, accountability and execution become shared responsibilities down, up and across the school organization. This departure from classical organizational structure, when implemented appropriately, has led to positive school culture and stronger student outcomes.

In this review of the role organizational theory has played in the design of schools, it becomes evident that vestige of the command-control paradigm introduced by Taylor's scientific management system continue to be manifest in many public schools today. While the infusion of social and behavioral theories have served to highlight the need to further dissect the organizational frame to address the system at a componential level (i.e. individual teachers and students) in order to build opportunities for increased effectiveness, the systems or organizational theory framework lacks the "how-to" guidance for creating necessary change to the system itself. This guidance did emerge, again from the business world, with a redefinition of quality organizations.

Total Quality Management--the Business Effect on Schools

The fact that the buzzwords used for school evaluation are typically related to the concept of "quality" is no mere coincidence. Prior to the publication of "A Nation at Risk", the American economic and political landscape was severely tested. During the period from 1950-1975, the United States was involved in three major wars, experienced major social shift as a result of the civil rights movement, and contended with economic recession. At this same time, an international phenomenon, the "Japanese Miracle" was underway. This is a term commonly used to characterize the seemingly quantum leap forward of the Japanese economy after World War II as they staked their claim as the paragon of excellence in manufacturing and electronics. Interesting, a major catalyst for this economic growth is credited to an American--Dr. W. Edwards Deming. Lal (2008) reports that Deming, who was a statistician for the US Government, was sent to work in Japan as General MacArthur's Advisor in the 1950s where he was instrumental in proving Japanese industrial leaders training in his concept of total quality management (TQM). TQM has three basic tenets: 1. It is TOTAL involving all

departments/groups in an organization at all levels; 2. It relates to QUALITY in the broader sense of organizational excellence, and does not just refer to product quality; and 3. It is a MANAGEMENT function and is not just confined to a technical discipline (Lal, 2008, p. 110). Thus, the key to a successful implementation of TQM in an organization is the integrity with which each individual at all levels embrace and implement outlined practices. TQM, and its related off-shoots including Lean Manufacturing, Six-Sigma analysis, and Just-in-Time management revolutionized the business world on a global scale.

With all of its success in the business world, it was not long before the tenets of TQM began to be applied to school settings. The fundamental elements of Deming's philosophy are summed up in his 14 Principles:

1. Create constancy of purpose for improvement of products and services;
2. Adopt the new philosophy;
3. Cease dependence on mass inspection;
4. End awarding business on price;
5. Improve constantly and forever on the system of production and service;
6. Institute training;
7. Institute leadership;
8. Drive out fear;
9. Break down barriers between departments;
10. Eliminate slogans, exhortations and numerical targets for the workforce;
11. Eliminate numerical quotas or work standards;
12. Remove barriers to taking pride in workmanship;
13. Institute a vigorous program of education; and

14. Take action to accomplish the transformation (Deming, 1982).

By substituting the business jargon for the vocabulary of education--such as "numerical quotas" becoming "grades"--the essence of these principles characterize Deming's view of how to improve schools at the process (management) and outcomes (products/services) levels. Bonstingl (1992) is a leading proponent of applying TQM principles to education. Using his framework of the Four Pillars of Total Quality Management, Bonstingl correlates the essence of Deming's principles to schools:

1. The organization must focus, first and foremost, on its suppliers and customers.
2. Everyone in the organization must be dedicated to continuous improvement, personally and collectively.
3. The organization must be viewed as a system, and the work people do within the system must be seen as ongoing process.
4. The success of Total Quality Management is the responsibility of top management.

In applying this framework, Bonstingl (1992) makes the point that in a school all individuals play the role of both supplier and customer--school systems, administrators and teachers are "suppliers" of education to their primary "customers", the students. Likewise, students' performance, interaction between the school and parents/community members could be characterized as "products" delivered to the various stakeholders of the school community. Thus, his first tenet highlights the importance of recognizing the value each individual brings to the school and necessity for all stakeholders to have a passion for providing the best "customer experience". For administrators, this would mean taking an active role in ensuring that teachers are equipped with the resources needed to provide the highest quality educational experience possible, while removing the bureaucratic obstacles that keep them from focusing on teaching.

Teachers, in turn, would strive to teach engaging, differentiated lessons so that all students master the content. Likewise, students would apply their best effort in the completion of all assignments, while supporting the learning of their peers.

Reaching this ‘nirvana’ in a school is not something that happens overnight, thus, Bonstingl’s second and third tenets come into play. Success is a planned event, but the plan must be developed, owned and implemented by all of the stakeholders. There will be mistakes made and roadblocks to avoid, but if TQM principles are fully adopted, then there will be room to experiment and adopt processes and instructional methods to best meet the needs of the school community. Part of this ongoing process improvement must be to change the paradigm in which success and quality are currently measured—the main elements being grades and standardized tests. Deming was vehemently opposed to using these elements in schools, as he boldly described President Clinton’s Goals 2000 as “a horrible example of numerical goals, tests, rewards, but not method” (Deming, 1993.) Holt (1994) proffers that Deming would have also rejected outcome-based education, another component of the Goals 2000 model, as he rejected the “bogus scientism of student assessment, staff appraisal, and projected targets, emphasizing instead those elements that foster collegiality and shared understanding—sense of purpose, investment in training, leaders who help rather than judge, elimination of the fear generated by hierarchies, and teamwork at all levels.” This is not to say that proponents of total quality management repudiate all data—the contrary is true. Rather, it is how this data is used that serves as the key difference that runs counter to the dominant policy of standardized measures used as a system of ‘reward and punishment’ present in almost all public schools.

Finally, Bonstingl’s last tenet illustrates Deming’s view of the centrality of accountability from the top of the organization as the linchpin the successful implementation of a TQM process

as an organizational and personal philosophy, not as a mere exercise fulfilling a professional development requirement that could easily be replaced with the next seminar. Specifically discussing the matter of training, he further makes the point that total quality is a long-term commitment to a different way of perceiving, thinking and acting; and, focus on quality must become a guiding principle in all domains of life (Bonstingl, 1992). In contrast to Kohn's (1993) critique of applying Deming's model to school based on his stance that any business model is inappropriate for education settings, Bonstingl demonstrates how to adapt Deming's principles to education, rather than adopt the concepts wholesale from the business context (Schmocker, M. & Wilson, R., 1993).

Total quality principles do attempt to go a step further than organizational theory precepts to provide tactical orientation as to the "how" effective schools can be designed. Yet, the radical departure from the procedural, organizational and—by extension—curricular status quo that this model offers, proves to be difficult to implement in most traditional public schools. While some elements can be and have been adopted by highly effective schools, such as those processes contributing to the correlates of creating a sense of enjoyment at school and shared sense of community, the "organization" in the form of process is the main focus. Individuals are at the core of all organizations. Therefore, any effort to create sustainable change and significant reform must treat the "people" of the school organization as central to the process and, perhaps more importantly, prioritize focus on the most vulnerable members of the school community—the students. Hence, an overview of the social and emotional learning framework now becomes germane to the review of literature on building effective schools.

Social and Emotional Learning Framework—Giving Students the Tools for Success

“My dad enforced one rule with an iron hand: Children are to be seen and not heard. I grew up learning not to argue, protest or offer an opinion. [...]Some of my teachers imposed the same rule. They expected me and my classmates to sit still, pay attention, and not make a sound. They didn’t resort to paddling, but I remember getting demerits and detention—and lower grades—for whispering in class” (Black, 2005).

So begins an article written by education consultant, Susan Black, as she parallels her experience in school to that of many students who decided to drop out due to a feeling of disconnectedness and marginalization at school. The primary function of the school organization is to educate students; but, if the students’ voice is disregarded or underdeveloped, one must question if proper “education” is occurring at all. Social and Emotional Learning is a comprehensive, evidenced-based intervention program designed to help develop social and emotional competencies for success both inside and outside the school setting. CASEL (Collaborative for Academic, Social and Emotional Learning), a consortium of scholars, practitioners and policymakers, is the premier entity providing programming guidelines and research demonstrating the empirical link between social and emotional learning with academic outcomes. According to the CASEL Guide (2013), SEL programming is based on the premise that the highest level of learning emerges in supportive contexts in which learning is academically challenging, engaging, and meaningful (p. 9). While this type of educational programming helps students develop strong citizenship skills and reduce the inclination to engage in risky behaviors, it also has been shown to provide a foundation for better academic performance as reflected in more positive social behaviors and relationships, less emotional distress, and improved grades and test scores (Durlak, J., Weissberg, R., Dymnicki, A., Taylor, R., & Schellinger, K., 2011). Social and Emotional

Learning (SEL) is based on five interrelated sets of cognitive, affective, and behavioral competencies:

- **Self-awareness:** The ability to accurately recognize one's emotions and thoughts and their influence on behavior;
- **Self-management:** The ability to regulate one's emotions, thoughts, and behaviors effectively in different situations;
- **Social awareness:** The ability to take the perspective of and empathize with others from diverse backgrounds and cultures, to understand social and ethical norms for behavior, and to recognize family, school, and community resources and supports;
- **Relationship skills:** The ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups; and
- **Responsible decision making:** The ability to make constructive and respectful choices about personal behavior and social interactions based on consideration of ethical standards, safety concerns, social norms, the realistic evaluation of consequences of various actions, and the well-being of self and others (CASEL Guide 2013, p. 9).

In a meta-analysis of school-based interventions, Durlak et al. (2011) found that in a national survey of 148,189 sixth to twelfth graders, only 25%-45% of students surveyed reported having social competencies such as empathy, decision making, and conflict resolution skills, and only 29% indicated that their school provided a caring, encouraging environment (Benson, 2006). By high school nearly 40%-60% of students become chronically disengaged from school (Dryfoos, 1997; Eaton, D., Kann, L., Kinchen, S., Shanklin, S., Ross, J., & Hawkins, J., et al., 2008).

The following table developed by Durlak et al. (2011) demonstrates the measured overall mean effect size of SEL programming on student outcomes based the meta-analysis of 213 studies involving a total of 270,034 students. Of note in these finding is the effect size on academic performance:

Table 1 Comparing current effect sizes to previous meta-analytic findings for school-age populations

Outcomes	<u>Mean Posteffects</u>	
	Current Review	Other Reviews
Skills	0.57	0.40 ^a
Attitudes	0.23	0.09 ^b
Positive Social Behaviors	0.24	0.39 ^a , 0.37 ^c , 0.15 ^d
Conduct Problems	0.22	0.26 ^a , 0.28 ^c , 0.21 ^d , 0.17 ^e , 0.30 ^f
Emotional Distress	0.24	0.21 ^b , 0.24 ^c , 0.17 ^g
Academic Performance	0.27	0.29 ^b , 0.11 ^d , 0.30 ^f , 0.24 ^h
<i>Note. Results from other meta-analyses are from outcome categories most comparable to those in the current review, and values are drawn from weighted random effects analyses whenever possible.</i>		
^a Lösel and Beelman (2003). ^b Haney and Durlak (1998). ^c Wilson and Lipsey (2007). ^d DuBois et al. (2002). ^e Wilson et al. (2001).		
^f Durlak and Wells (1997). ^g Horowitz and Garber (2007). ^h Hill et al. (2007).		

The researchers explain that the mean effect size of 0.27 in this meta-analysis of SEL programming is comparable to an analysis of 76 studies of the effect size of strictly educational interventions (Hill et al., 2007); thus demonstrating the strength of effect on academic learning

when social and emotional learning is developed and practiced. Wang, Haertel, and Walberg (1997) conducted a similar analysis of the content of 179 handbook chapters and review and 91 research syntheses, along with surveying 61 educational researchers, to better understand which correlates most significantly influence learning. Based on the examination of 28 categories of influence, they found 8 factors involving social-emotional influences in the top 11 categories, namely: classroom management, parental support, student-teacher social interactions, social-behavioral attributes, motivational-affective attributes, the peer group, school culture, and classroom climate. Other factors, such as geographical location, organizational structure, demographics, and curriculum and instruction had less of an effect (Greenberg, M., Weissberg, R., O'Brien, M., Zins, J., Fredericks, L., Resnik, H., Elias, M., 2003). Wang et al. (1997) concluded that "direct intervention in the psychological determinants of learning promise the most effective avenues of reform" (p. 210).

Summary

Of the theoretical frameworks covered in this literature review, social and emotional learning is the most comprehensive. Graczyk, Domitrovich, Small and Zins (2006) place SEL programs in the category of Empirically Based Interventions (EBIs). Of these interventions, comprehensive SEL programs touch dimensions of the individual, physical environment, organizational structure and system (context). The implementation of such programs involves engagement at four progressive levels of scope: classroom level, school level, district level and community level. The classroom level most directly involves development of the social and emotional competencies at the individual level--influencing the areas of self-efficacy, behavioral regulation, peer relations and student-teacher interaction. It is at this level that character building blocks are being laid for students' moral development. Benninga, Berkowitz, Kuehn and Smith

(2006) point out that character education encompasses both relationship and self-oriented virtues, both domains of which have been shown in the literature to have a positive bearing on student outcomes. Widening the scope, the school and district levels involve organizational modification, thus readily draws on organizational theory. Finally, the broadest level--community--involves understanding navigating the context in which the school functions. The interaction effects of all of the factors at each level, when combined, define the construct of school climate. Therefore, measuring school climate--with particular focus on correlates of highly effective schools--is an appropriate means of analysis of school outcomes, such as student achievement.

This study will analyze the effect size of school climate correlates on student achievement from the student perspective. While this may be most appropriate, as the desire is to discover the "student voice" in identifying characteristics of highly effective schools, there are limitations to this approach--particularly when it comes to younger children. Wigelsworth, Humphrey, Kalambouka, and Lendrum (2010) clearly outline some of these limitations, such as the developmental trajectory of self-awareness and perception of young children, as well as the desire of young children to give socially acceptable answers or answers governed by recency of action, rather than reflection. For that reason, a random sample of sixth-eighth grade students will respond the Abbreviated School Climate Survey being validated in this study. Beyond analyzing the reliability and validity of this instrument, the greater objective of this study is to draw conclusions from the literature--particularly that of social and emotional learning framework--to illustrate the implications of the research on current educational policy, and offer alternative dispositions for future policy development.

CHAPTER THREE: METHODOLOGY

This quantitative study was concerned with the nature of the correlation among seven factor variables of students' perception of school climate and student achievement outcomes. These seven factors, namely: Positive Behavior (PB), Negative Behavior (NB), Classroom and School Supportiveness (CS), Autonomy and Influence (SA), Safety at School (SS), Enjoyment of Class/School Liking (ES) and School Norms and Rules (SN) were derived from the Abbreviated School Climate Survey—Student Version (Ding, et al, 2011). Structural regression modeling was used, as this method allows for both the analysis of multiple indicators and tests of hypotheses of causal effect. Predicated on the four-step modeling method (Mulaik & Millsap, 2000), this analytic-synthetic framework starts with the underlying assumption that the researcher has previously determined a set of variables to study and wishes to test a hypothesis about the causal relationship among these factors. Mulaik and Millsap (2000) posit that this four-step procedure allows a researcher to separate the respective constraints within a structural equation model, and then systematically test them in a natural order that is implied by the structure of the model, thereby allowing one to isolate factors that contribute to lack of fit among the constraints of the model. Using this framework, the following hypotheses were tested:

- H₁: The factors of School Safety (SS), School Rules/Norms (SN), Positive Behavior (PB), Student Autonomy (SA) and Classroom Supportiveness (CS) indicate the latent value "Structured Supportive Environment"; while the factor Enjoyment of School (ES) indicates the latent value of "Likelihood to Continue."
- H₀: "Structured Supportive Environment" positively correlates to "Likelihood to Continue."
- H_a: There exist no latent factors or correlations between such.

Note: The factor Negative Behavior (NB) was expected to negatively correlate to "Structured Supportive Environment", yet the reliability of this factor was in question as the items to which it loads are essentially negatively phrased statements of the items loading to Positive Behavior (PB). Therefore, this factor was not included in the hypothesized structured equation model.

Using path analysis, the hypothesized correlation of the endogenous latent values of "Structured Supportive Environment" and "Likelihood to Continue" as indicated by the observed factors of the measurement portion of the model, was tested. IBM SPSS AMOS 21 was used for modeling and SAS Analytics was used for the data analysis processes. The following model depicts the synthesis of these hypotheses:

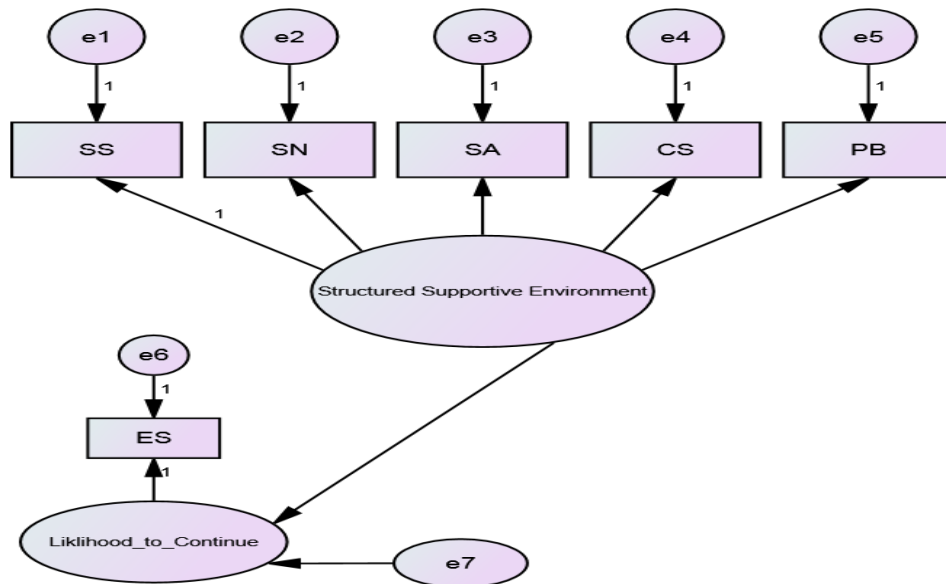


Figure 2. SEM Model depicting correlation between Structured Supportive Environment and Likelihood to Continue in school.

There may equivalent models to explain the correlations of these factors. Nonetheless, model fit was assessed using four approximate fit indexes: Chi-square – (Barrett, 2007), Goodness of Fit Index (GFI; Joreskog-Sorbom, 1982), Steiger-Lind root mean square error of approximation (RMSEA; Steiger, 1990), and Bentler Comparative Fit Index (CFI; Bentler, 1990).

Participants

Middle school students (6-8th grades) from a sample of two (2) traditional public schools and two (2) charter public schools in Missouri were asked to complete the Abbreviated School Climate Survey—Student Version. The selected schools were stratified for size, SES, ethnic distribution, percent English language learners and AYP. Both traditional and public charter schools were selected to see if there was a significant difference in the responses from students in these school types. Permission from the participating districts and selected middle schools was obtained. Appropriate scheduling for the administration of the survey was coordinated with the school principals and classroom teachers. A letter describing the nature of the research and assurance of no-harm was sent home to parents of all potential study participants. Students were informed that completion of the survey in part or in whole will imply consent. As the school administrations wished the teachers to proctor the instrument, a set of explicit instructions was provided by the researcher to help ensure the integrity of data collected.

Data collection

This survey was administered to students by their classroom teachers via hard copies. Students completed the survey in the classroom during a non-instructional or homeroom period so as to not interfere with instructional time. This method provided access to the survey tool to the greatest number of students, as well as kept students in a familiar environment to mitigate any anxiety that may occur by participating in a research study. The proctors of the survey were

the students' teachers. A detailed script with survey administration procedures was provided to all teacher proctors to help ensure that the instrument is administered properly. Limited demographic data was requested from each participant, namely, age, grade, race and gender. A code was used for each school location to group participant responses correctly. Raw data from the survey was exported to SPSS. Data was password protected on a designated external drive and on the network drive of the researcher at the University of Missouri—St. Louis.

Instrumentation

The Abbreviated School Climate Survey—Student Version (Ding et al., 2011) is a 34-item instrument based on the School Climate Survey that was utilized in a national, multi-district study evaluating the Child Development Project developed by the Developmental Studies Center (California) (Solomon, Battistich, Watson, Schaps & Lewis, 2000). The DSC School Climate Survey instrument measured students' perception of the school as a caring community defined by five major areas: school environment; academic attitudes and motives; personal attitudes, motives and feelings; social attitudes, motives and behavior; and cognitive academic performance. The Abbreviated School Climate Survey—Student Version is based on a derivative of the DSC instrument, specifically, a set of subscales resulting in a 100-item survey used in the Pathways to Character program (www.epicforchildren.org), a comprehensive character education program facilitated by EPIC, for use in the Buffalo (NY) Public Schools. Implementation and evaluation of this program occurred over the four-year period from 2006-2010. The instrument used in the Pathways to Character program was coauthored by members of the DSC research team, including Victor Battistich and directors of the Center for Character and Citizenship at the University of Missouri—St. Louis, namely Marvin Berkowitz, PhD and Wolfgang Althof, PhD, and leaders from EPIC and Buffalo Public Schools. This instrument measured student perception

of school climate on the same 11-factors of the original DSC instrument, namely: Enjoyment of Class, Safety at School, Trust in and Respect for Teachers, Autonomy and Influence, School Norm/Rules, Classroom and School Supportiveness, Liking for School, Task Orientation toward Learning, Concern for Others, School Cohesion, and Positive and Negative Behavior.

During the evaluation of the data using the DSC instrument, Ding et al. (2011) noticed that the reliability of some of the scales were questionable, thus challenging the reliability of the 11-factor structure. One example of observed ambiguity was with the scale Concern for Others. Responses to the items related to this scale showed variance due to the wording of the related items—resulting in distinct responses if the item was worded either positively or negatively. Similar variance was observed for other factors in which the items were worded negatively. To ensure that this phenomenon was not a statistical artifact, analysis of the data was conducted for the Pathways to Character data sets from 2007, 2008 and 2009. These variances were observed in all data sets, which led the Ding et al. team to reexamine the factor structure of the instrument, and the number of related items, with the goal of creating a shorter instrument that would maintain the core factor structure of the original instrument. The first step to creating the abbreviated survey was to eliminate the items causing the irregularity in the data. To that end, a panel of experts was assembled to rate each survey item with respect to specificity, content clarity, recency and relevancy. After this evaluation, 30 items were eliminated. The research team then performed a statistical analysis on the remaining 70 items—exploratory factor analysis and confirmatory factor analysis—which resulted in the 34-item Abbreviated School Climate Survey—Student Version. The new instrument was then tested with the data from the Pathways project from 2007 ($N=5914$), 2008 ($N=5874$) and 2009 ($N=5149$). Model fit of the 7-factor structure of this new instrument was assessed using various indices, including: χ^2 , Comparative

Fit Index (CFI), Non-Normed Fit Index (NNFI), Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Residuals (SRMR). Temporal invariance was maintained across the three years of data analyzed. Thus, by performing exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), the resulting 34-item instrument was demonstrated to be reliable and valid.

Data Analysis

The Abbreviated School Climate Survey—Student Version contains 34-items which map to seven factors (see Appendix). The items are rated using a Likert scale of five choices from Disagree Strongly to Agree Strongly. Participants recorded their reaction to each of the items. Using IBM SPSS 21, descriptive statistics (mean and standard deviation) of the measured factors of the instrument was calculated and disaggregated to the extent possible based on the data collected. Analysis using disaggregation (i.e. charter v. traditional public school, grade level, gender, SES, etc.) would demonstrate if any significant differences occur among groups of respondents. The hypothesized structured equation model was created using IBM AMOS 21, whereas the model fit was tested using SAS analytics software. The model fit analysis demonstrated the power of effect and test the hypothesized correlation of the included factors.

Ethical Considerations

As the respondents targeted for this study were minor students, care and attention was given to ensure that no psychological or emotional harm will occur during their participation in the study. To that end, as previously noted, written communication to all parents of students at participating schools describing the scope and purpose of this study was provided. This followed the approval and permission granted by the school district and appropriate school personnel to conduct the study on these sites. Before answering any questions, a simplified explanation of the

purpose of the study was communicated to the students by the proctor, along with the explanation of the option to opt-out of participation. Included in this explanation was the statement indicating that answering of any questions denotes the student's willing consent to participate in the study. To prevent cross-contamination, testing protocols were clearly communicated to all proctors, dictating that each student is to complete his or her own survey silently while in the classroom. Participants' teachers served as the proctors, thus providing further protection to students' emotional well-being as participants in the study. Finally, as the student respondents are reporting on perceptions of their respective school climates, aggregated results will be communicated back to the appropriate school personnel once this research project is complete, as these findings may be useful for school climate building initiatives and professional development of teachers and staff.

Limitations

The generalizability of this study is limited, as the sample is taken from a selection of public schools in Missouri. However, the inclusion of both traditional and public charter schools may give some insights as to the effect of school type on student perception of climate and subsequent student achievement scores. Also, some participants did not respond to part or all of the survey due to absences, failure to complete all items or refusal to participate. There was also the issue of some proctors' compliance to the outlined survey protocols being compromised, thus resulting in fewer levels of data stratification during the data analysis process. Model fit only demonstrates one possible explanation of causal relationships among the factors, as there may be equivalent models that also fit.

This survey was administered during one school year; thus, the results are a reflection of one moment in time. In the future, longitudinal data of student cohorts may be more appropriate

to provide stronger results. Also, the factors in the model are only loaded against each other-- which provide a limited view of factors contributing to school climate. To better understand school effectiveness, future studies should be done to examine school climate correlates on socioemotional indicators, student values/beliefs and other behavioral factors, as well as on student outcome data--such as academic achievement, graduation rates and matriculation through two-and four-year colleges.

	N	729	729	729	729	729	729	729
	Pearson Correlation	.404**	-.242**	.600**	.411**	.567**	.507**	1
SN	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	729	729	729	729	729	729	729

** . Correlation is significant at the 0.01 level (2-tailed).

As demonstrated by this matrix, the correlation among the five measured factors included in the hypothesized structured equation model is positive, thereby giving a strong indication that these factors may reasonably be accepted to point to a latent value, in this study that of "Supportive Structured Environment." Of note are the coefficients of these parameters, which demonstrate the power of the correlations. The coefficients for the factors most directly related to perceived classroom supportiveness, structure and enjoyment of school (CS=.416, SN=.404, and ES=.446) have the strongest positive correlations, thus indicating support of the hypothesized relationship of these factors.

The following output demonstrates the results of the analysis of the hypothesized model fit to the data used in this study. SAS statistics software was used to analyze the model previously illustrated by the SPSS AMOS 21 drawing, where School Safety (SS), School Norms/Rules (SN), Positive Behavior (PB), Student Autonomy (SA), and Classroom Supportiveness (CS) load to a latent variable, namely, "Structured Supportive Environment"; and Enjoyment of School (ES) loads to the latent variable, "Likelihood to Continue".

Table 4 SAS Model Parameter Input

```

Variables in the Model
  Endogenous Manifest  CS ES PB SA SN SS      Latent  F2
  Exogenous Manifest                                     Latent  F1
  Number of Endogenous Variables = 7           Number of Exogenous Variables = 1
  
```

```

Initial Estimates for PATH List
-----Path----- Parameter Estimate
SS <--- F1  _Parm1      .
SN <--- F1  _Parm2      .
PB <--- F1  _Parm3      .
SA <--- F1  _Parm4      .
CS <--- F1  _Parm5      .
ES <--- F2  _Parm6      .
F2 <--- F1  _Parm7      .
  
```

To test the fit of structured equation models, the default analysis is the Maximum Likelihood Estimation, which is best estimated using the covariance, rather than correlation structure of the data. As shown in Table 5, the mean values of the factors in the covariance structure mirror those of the correlation matrix analysis previously reported. Using these values, the model was run as indicated to test for fit.

Table 5 Descriptive Statistics of Covariance Structure

Covariance Structure Analysis: Descriptive Statistics

Simple Statistics		
Variable	Mean	Std Dev
PB	3.99000	1.00000
CS	3.22000	1.00000
SA	2.81000	1.00000
ES	3.53000	1.00000
SS	3.89000	1.00000
SN	3.98000	1.00000

To test the fit of structured equation models, the default analysis is the Maximum Likelihood Estimation, which is best estimated using the covariance, rather than correlation structure of the data. Further, to test the path assumptions, the parameter of Enjoyment of School (ES) was constrained to a value of 1. The following analysis will consider the appropriateness of the parameter estimates and overall model fit.

Analysis of Parameter Estimates

Byrne (2001) indicates that parameter estimates must be assessed for feasibility, appropriateness of standard errors and statistical significance (p. 75). Thus, parameter estimates should support the hypotheses. Poor model fit is typically indicated by excessively large or small standard errors. While no definite criteria of "small" and "large" have been established, these errors should not be extremely high, indicating that the parameter cannot be determined (Joreskog, K.G. & Sorbom, D., 1989), or likewise not approach zero, which also indicates the

parameter cannot be defined (Bentler, 1995). For this study, the parameter estimates, which are illustrated by the path coefficients, should be positive. Also, based on the previously reported correlation parameter statistics of the factors Classroom Supportiveness (CS) and School Norms/Rules (SN), it is expected that these paths have the strongest power in relation to loading against the latent value "Structured Supportive Environment" (F1).

Table 6 reports the maximum likelihood estimation of the hypothesized parameter structure for this study. The five measured factors of School Safety (SS), School Norms/Rules (SN), Positive Behavior (PB), Student Autonomy (SA) and Classroom Supportiveness (CS), positively correlate to the latent factor (F1), "Supportive Structured Environment." Of these factors, Classroom Supportiveness (CS) and School Norms/Rules (SN) represent the strongest power on the latent factor. Further, the strong positive parameter estimate of the causal path of the latent factor relationship, namely, "Structured Supportive Environment" causing increased "Likelihood to Continue" in school is also supported by the data. Table 7 further supports the fit of the model as the standard errors of the observed factors and residual for the latent factor, "Likelihood to Continue" (F2) are reasonable.

Table 6 ML Estimation Analysis of Path list
Covariance Structure Analysis: Maximum Likelihood Estimation

Standardized Results for PATH List

-----Path-----	Parameter	Standard Estimate	Error	t Value
SS <---	F1 _Parm1	0.64024	0.02553	25.08236
SN <---	F1 _Parm2	0.76827	0.01975	38.90529
PB <---	F1 _Parm3	0.52661	0.03015	17.46691
SA <---	F1 _Parm4	0.51817	0.03046	17.01063
CS <---	F1 _Parm5	0.79722	0.01849	43.12010
ES <---	F2 _Parm6	1.00000	1.2971E-17	7.70965E16
F2 <---	F1 _Parm7	0.73628	0.02119	34.75320

Table 7 ML Estimation of Variance (Error and Residual)
Standardized Results for Variance Parameters

Exogenous Variable	F1 Parameter	Standard Estimate	Error	t Value
			1.00000	
SS	e1	0.59009	0.03269	18.05380
SN	e2	0.40977	0.03034	13.50503
PB	e3	0.72268	0.03175	22.75945
SA	e4	0.73150	0.03157	23.17230
CS	e5	0.36443	0.02948	12.36249
ES	e6	0	0	.
F2	ef2	0.45790	0.03120	14.67757

Covariance Structure Analysis: Maximum Likelihood Estimation

Analysis of Overall Model Fit

Now that the parameter estimates have been found to be reasonably sound, an analysis of overall model fit must be completed. Model fit for structured equation modeling demonstrates how accurately the hypothesized model fits the sample data. As this analytical approach combines both measured (observed) and structured (latent values, path relationships), both the adequacy of the parameter estimates and the model as a whole must be analyzed for fit. Table 8 reports the summary of the model fit indices as calculated with SAS statistics software. For this study, the following indices will be considered: Chi-square (χ^2), the Goodness of Fit Index (GFI), the Steiger-Lind Root Mean Square Error of Approximation (RMSEA), and the Bentler Comparative Fit Index (CFI).

Table 8 Overall Model Fit Summary
Fit Summary

Modeling Info	N Observations	729
	N Variables	6
	N Moments	21
	N Parameters	13
	N Active Constraints	0
	Baseline Model Function Value	1.9946
	Baseline Model Chi-Square	1452.0384
	Baseline Model Chi-Square DF	15
	Pr > Baseline Model Chi-Square	<.0001
Absolute Index	Fit Function	0.0659
	Chi-Square	47.9743
	Chi-Square DF	8
	Pr > Chi-Square	<.0001

Z-Test of Wilson & Hilferty	5.0674	
Hoelter Critical N	236	
Root Mean Square Residual (RMSR)	0.0319	
Standardized RMSR (SRMSR)	0.0319	
Goodness of Fit Index (GFI)	0.9800	
Parsimony Index	Adjusted GFI (AGFI)	0.9474
Parsimonious GFI	0.5226	
RMSEA Estimate	0.0828	
RMSEA Lower 90% Confidence Limit	0.0612	
RMSEA Upper 90% Confidence Limit	0.1062	
Probability of Close Fit	0.0074	
ECVI Estimate	0.1020	
ECVI Lower 90% Confidence Limit	0.0769	
ECVI Upper 90% Confidence Limit	0.1374	
Akaike Information Criterion	73.9743	
Bozdogan CAIC	146.6661	
Schwarz Bayesian Criterion	133.6661	
McDonald Centrality	0.9730	
Incremental Index	Bentler Comparative Fit Index	0.9722
Bentler-Bonett NFI	0.9670	
Bentler-Bonett Non-normed Index	0.9478	
Bollen Normed Index Rho1	0.9381	
Bollen Non-normed Index Delta2	0.9723	
James et al. Parsimonious NFI	0.5157	

For structured equation modeling, the null hypothesis (H_0) postulates that the factor loadings, variances/covariances and error variances are true. Chi-square (χ^2) similarly tests the extent to which the null hypothesis is true (Byrne, 2001, p.79). The analysis of this model yielded a χ^2 value of 47.97, with 8 degrees of freedom and a probability of less than .0001 ($p < .0001$), thus suggesting that the fit of the data to the model is inadequate and the null hypothesis be rejected. However, further research examining the sensitivity of χ^2 in relation to sample size has led to the development and reliance on other indices to determine likelihood of model fit, as perfect fit--which is the aim of χ^2 --is an unrealistic outcome for most all real world data approximation (MacCallum, R.C., Browne, M.W. & Sugawara, H.M., 1996).

The Goodness of Fit Index (GFI; Joreskog-Sorbom, 1982) is measure of the relative amount of variance between the covariance matrices of the sample and population. Its calculation ($GFI = 1 - C_{res}/C_{tot}$), where C is the covariance matrix, postulates that the closer the value approaches 1, the better the fit of the model. In this study, the $GFI=0.98$, thus indicating that the postulated model indicates good fit to the data, thus supporting the null hypothesis. Further

support of the null hypothesis (H_0) is evidenced with the Steiger-Lind root mean square error of approximation (RMSEA). Browne and Cudeck (1993) postulate that this index considers the error of approximation in the population and seeks to determine how well the model would fit, with unknown but optimally chosen values, if the population covariance matrix was known (p. 137-138). This index is sensitive to the complexity of the model (i.e. number of estimated parameters); values less than .05 indicate good fit, and values up to as high as .08 represent reasonable errors of approximation in the population (Browne & Cudeck, 1993). The RMSEA value for this model is 0.0828, thus falling within the range of reasonableness of fit. Finally, the Bentler Comparative Fit Index (CFI; Bentler, 1990) is an incremental index of fit which tests the adequacy of the hypothesized model taking into account the sample size. This index should range from zero to 1.00, and values close to .95 are considered to be well-fitting for large sample sizes (Hu & Bentler, 1999). The model for this study yielded a CFI=0.9722, which indicates relative good fit.

Therefore, when evaluating the appropriateness of the parameter estimates and model fit for the hypothesized structured equation model, the null hypothesis holds true and cannot be rejected. Thus indicating the following:

- 1) The measured six factors of school climate are positive correlates;
- 2) Five of the six factors (SS, SN, SA, CS, PS), positively load to the latent factor of "Structured Supportive Environment", with School Norms/Rules (SN) and Classroom Supportiveness (CS) loading with the most power; and
- 3) "Structured Supportive Environment" yields a positive causal outcome of "Likelihood to Continue" in school as measured by Enjoyment of School (ES).

CHAPTER FIVE: DISCUSSION & CONCLUSION

The analysis conducted with this replication study indicates that students' perception of school climate is significant and potentially serves as a strong indicator of whether a student continues to matriculate through an academic program, as indicated by their enjoyment of school. These findings underscore the significant role school climate plays in overall school effectiveness. While not specifically evaluated in this research study, other researchers have demonstrated the impact of school climate on student outcomes, such as academic achievement. MacNeil (2009) points out that organizational structure undeniably affects outcomes, but the effect of school structure can be greatly mediated by perceived climate and culture. Hallinger and Heck (1998) indicate that the effects a strong school principal has on student learning are also correlated to these factors, and Watson (2001) further indicates that poor school climate leads to decreased student academic achievement. The reconciliation of school structure and school climate, as evidenced in the literature review, is the theoretical framework of Social and Emotional Learning.

Across the entire developmental spectrum of education, the development of social-emotional competence has resulted in significant improvements in academic outcomes. Ashdown and Bernard (2012) examined the effects of explicit instruction in social and emotional learning skills on the social-emotional development, well-being and academic achievement of young children in preparatory (Kindergarten) and grade 1 classes. In this analysis, the experimental group received structured lessons using the *You Can Do It! Early Childhood Education Program* (YCDI), an evidence-based social and emotional learning skills curriculum. In comparison with the control group of students, the results indicated statistically significant positive effects of this

explicit instruction on the students' social-emotional competency development, positive social-emotional well-being and total social skills levels, while showing a significant decrease in total problem behavior. Also, students receiving the YCDI structured lessons also showed gains in Reading levels over time (Ashdown, D. & Bernard, M., 2012). At the opposite end of the spectrum, Wang, Wilhite, Wyatt, Young and Bloemker (2012) explored the impact of explicit orientation in social and emotional learning on student learning outcomes for college freshman. The outcomes measured included both social and emotional competence and academic performance, as demonstrated through qualitative student analysis and grade point averages (GPAs). The results of this analysis suggest that students who were exposed to social and emotional seminars during the first semester of their freshman year of college not only tended to display greater social and emotional competencies than their peers, but also tended to have higher GPAs over the four semesters following the completion of this seminar versus their peers (Wang, N., Wilhite, S., Wyatt, J., Young, T., & Bloemker, G., 2012). Similarly, the results of the research conducted for this dissertation project focused on the effects of school climate, whose correlates are supported by the framework of social and emotional learning skills, on the positive attitude towards school of middle school students. Thus, it is indisputable that school climate really matters for all students--irrespective of age or developmental level.

Implications for Educational Assessment and Policy

Since the sounding of the alarm in 1983 with *A Nation at Risk*, education reformers, psychologists, healthcare professionals, and countless other professionals have promoted research and evidence-based solutions to the failings of American school children. Thapa, Cohen, Guffey and Higgins-D'Alessandro (2013) completed a review of 206 citations drawing from a variety of research studies and literature reviews to present an integrative review on

school climate research covering the past two decades. The solutions cited are grounded in studies from a broad range of historically disparate fields, including such as school reform and risk prevention, to character education and mental health, and have identified research-based school improvement guidelines that promote safe, caring, responsive, and participatory schools--all of which are hallmarks of effective schools (Benninga, J., Berkowitz, M., Kuehn, P., & Smith, K., 2003; Berkowitz, M. & Bier, M., 2006; Brown, P., Corrigan, M. & Higgins-D'Alessandro, A., 2012; Centers for Disease Control and Prevention, 2009; Cohen, J., 2012; Greenberg et al., 2003). Of note is their summary of research in the section titled, *The School Improvement Process*. The most comprehensive studies cited are the multiyear studies of schools in Chicago conducted by Bryk and colleagues. In the most recent summary of this research, Bryk, Sebring, Allensworth, Luppescu, and Easton (2010) detail four systems that interact in ways to support or undermine school improvement efforts: (a) professional capacity (i.e. teachers' knowledge and skills, support for teacher learning, and school-based learning communities); (b) order, safety, and norms (labeled as "school learning climate"); (c) parent-school-community ties; and (d) instructional guidance (i.e. curriculum alignment and the nature of academic demands). Their research repeatedly has shown that relational trust is the common factor supporting these four systems and is essential to effective school improvement planning (Bryk et al., 2010). This meta-analysis further accentuates the relationship of systems analysis, organizational structure and behavioral constructs--most successfully integrated through social and emotional learning development--on student outcomes in school and in life.

With so much evidence of the strong effect school climate and the social and emotional competencies of both the adults (administrators, teachers, parents) and students in school communities have on student outcomes, it is problematic to consider that current education

policy is disproportionately weighted on discrete standardized test performance. Likewise, the trend of most teacher evaluations being tied to a limited number of factors--again, primarily student academic performance outcomes without inclusion of sociometrics or school climate factors--further deteriorates the potential for creating and maintaining sustainable school improvement. If the goal truly is to close the achievement gap of American students, both among their sociodemographic groups and vis-à-vis students around the globe, explicit attention to and measurement of the organizational, social and emotional correlates of school climate must be integrated into the assessment of school performance. When this shift occurs, not only will student academic performance indicators improve, but the overall effectiveness of schools will be greatly enhanced.

Student Climate Research and Future Applications

This academic investigation clearly demonstrates the importance of organizational, behavioral, social and cognitive factors on the development of students and—by extension—the design and development of highly effective school environments. The seven correlates of school climate as measured by the Abbreviated School Climate Survey (Student Version), taken as individual theoretical frames or as a composite model, can serve as launching points for research that goes beyond generalizable theory of organizational efficacy to help identify essential elements for specific school populations, thereby leading to more specific and nuanced lines of inquiry. For instance, a major problem addressed in current educational research is that of bridging the achievement gap between white students and other minority student subgroups. Effectively educating African American students, particularly in urban settings, is a specific area of research in which school climate research can have meaningful implications. Stewart (2008) used this theoretical frame in her research focused on academic achievement of African

American high school students. Building on Brofenbrenner's (1977) ecological theory of development, she examines the extent to which individual-level factors (i.e. student effort, parent-child discussion and association with positive peers) and school-level factors—particularly the sense of cohesion among students, teachers and administrators—influence academic achievement of a sample of African American sophomores. Interestingly she terms the school factors as “school climate.” The results of this research support the hypothesis that when the individual and school-level factors interact positively, the effect on the academic achievement of these students was significant. Further, she suggests that the implications of the effect of these factors on these students' academic achievement should be considered when creating policy and interventions aimed at supporting this student population. These results support the findings of the research conducted in this present study using the Abbreviated School Climate Survey (Student Version), as individual-level factors (namely, Positive Behavior, Student Autonomy and Classroom Supportiveness) and school-level factors (namely, School Rules and Norms and School Safety) interact to affect the students' enjoyment of school.

Another area of education research is that of academic intervention. One popular model is Schoolwide Positive Behavioral Support (SWPBS), which is a system-level intervention designed to decrease disruptive behavior and increase social competency. The body of research on the positive effects of effective SWPBS programs continues to grow. Sugai and Horner (2006) outline three foundational competencies of this system framework as: 1) identification of school outcomes for student learning and behavior, 2) development of organizational systems to effectively implement and maintain SWPBS strategies, and 3) use of data to monitor progress towards the achievement of goals set using this framework. Flannery, Frank, McGrath Kato, Doren and Fenning (2013) report that the universal (schoolwide) intervention provided though

SWPBS strategies are: a) designed for all students and staff, b) in place across all school environments, and c) are expected to support about 80% of the student population; whereas, the remaining 15% are provided further support through targeted intervention. Such intervention can include programs such as study and social skills groups and dropout prevention (Crone, Horner, & Hawken, 2004; Simonsen, Myers, & Briere, 2010; Weisz, Jensen, & McLeod, 2005).

Elements of the school climate correlates examined in this research study, complimented by the social and emotional learning (SEL) framework, are found in the Schoolwide Positive Behavior Support intervention model, thus reinforcing the significance of school climate in creating effective school environments that serve all students.

A third field of research in which student perception of school climate could provide meaningful insights is that of the exceptional child. Of the disability categories addressed by IDEA of 2004, one that is the focus of much debate is autism. An increasing number of students are being diagnosed with Autism Spectrum Disorder (ASD). When this disability interferes with the student's academic achievement—particularly when co-currently diagnosed with Emotional Behavioral Disorder (EBD)—school IEP teams work to create holistic supports to provide these students the appropriate problem-solving strategies to help them reach their full academic, social and emotional potential. Magyar and Pandolfi (2012) present a multi-tiered problem solving (MTPS) model of service delivery for students with Emotional Behavioral Disorder and Autism Spectrum Disorder, in which elements of the SEL framework and school climate correlates reinforce the protocols for standardized assessment, evidence-based intervention, professional development and model implementation monitoring. These tiers are outlined as follows:

- Tier 1: Classroom survival training skills & supports; functional communication and social skills supports; universal design for learning; classroom management system; schedules/visual supports; and strategies for generalization and maintenance;
- Tier 2: Coping skills training; social problem-solving training; self-regulation training; and social & functional communications training; and
- Tier 3: Individualized behavior support plan; emotional behavioral support services; and wraparound services (p. 978).

As illustrated by the description of each tier of intervention in the MTPS model, effectively leveraging school climate correlates supports the empirically-based intervention strategies necessary to provide supports for these exceptional students in the least restrictive educational environment. In schools with positive and supportive climates, students across the ability spectrum can be educated. Student insights on school climate—particularly those of exceptional students—can provide helpful insights for school leaders and policy makers in developing instructional, assessment and operational strategies for building effective schools.

Future research exploring the effects of school climate on student outcomes can follow an infinite number of inquiry paths. The three examples briefly discussed, namely academic achievement of ethnic minorities, system-wide intervention modeling and service delivery to the exceptional child, represent a subset of the literature currently existent in education research. Effective schools research has been in existence for nearly three decades. Adding the consideration of the student voice, through use of the Abbreviated School Climate Survey (Student Version), can and rich data to this body of research and provide grounding for the school improvement strategies and academic interventions that are certain to be developed in the future.

Conclusion

The purpose of this replication study was to add to the literature by testing the validity and reliability of the Abbreviated School Climate Survey (Student Version), while exploring the nature of the relationship of the school climate correlates posited in this instrument in a sample of middle school students attending both traditional and charter public schools. The goal of the researcher was to demonstrate the significance of organizational, social and emotional factors on individual student outcomes. The literature review provided an historical overview of the evolution of organizational theory, whose implications have had great bearing on the organization of school systems bureaucratically, administratively and politically. Vestiges of even the most classical organizational theories—such as the scientific model and gestalt-based systems models—are present in the modern educational system. Later theories began to incorporate the voice of agency of the individual as a means of feedback to the system structure. This led to the development of organizational frameworks grounded in humanistic and behavioral theory. Still, more granular examination of the nature of organizations had to be explored in order to fully understand the breadth of factors needed to create effective organizations. For schools, this logically led to research beyond that of system-level structures, to extend to instructional strategies and social paradigms—including: student-student, student-teacher, teacher-administrator and school-parent/community-at-large relationships. The tools provided through the social and emotional learning (SEL) framework help all school community members navigate and appropriately participate in these relational interactions within the school organization. School climate measures the effect of the interaction of these system and individual factors within the school.

Based on the results of the research conducted for this study, it is clear that a perceived structured supportive school environment leads to students' increased enjoyment of school, which logically supports students' likelihood to continue—as demonstrated both through matriculation through the school system to graduation, and individual demonstration of persistence and self-efficacy. To fully test these hypotheses, future studies using the Abbreviated School Climate Survey (Student Version) can be loaded against student academic achievement, socioemotional outcomes, behavioral factors and psychological measures. Evidence of the positive correlation of school climate factors to increased student outcomes was demonstrated in the survey of research applications related to minority student achievement, schoolwide positive behavior intervention strategies and service delivery support to students needing special education services.

The implications of this study seek to highlight the materiality of school climate and social and emotional factors on student outcomes, which should take greater precedence in the development of education policy. The current policy climate attempts to support the development and maintenance of highly effective schools by creating a bifurcated system that rewards and punishes schools based on standardized academic achievement measures. While achievement on academic test batteries is a valid measure of instructional and school effectiveness, it is only one measure. In isolation, this assessment of school effectiveness falls critically short of providing a holistic framework for highly effective schools. To achieve this goal, which is the professed goal of the American version of democratic education, many more factors must be included—not the least of which should include school climate factors. Even if individual schools are able to achieve the synergy at the nexus of positive school climate and socially and emotionally adept individuals, this would not be enough. The mark of excellence

will be achieved when education policy at all levels supports a system of highly effective schools. When this is achieved, no longer with the United States be characterized as “a nation at risk”, but rather as “a nation of security.” Reaching this goal is fraught with obstacles; but, continued research providing empirical models and strategies can result in the framework for access to highly effective schools for all American students.

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APPENDIX

An Abbreviated School Climate Survey (Student Version)

Rate your reaction to each statement by writing a number to the left of each statement showing that you:

1 = Disagree Strongly

2 = Disagree

3 = Neutral

4 = Agree

5 = Agree Strongly

- 1) ____ Students at this school are willing to go out of their way to help someone.
- 2) ____ I tried hard to do my best.
- 3) ____ The teacher lets me choose what I will work on.
- 4) ____ There are rules against shoving, hitting, or tripping people at my school.
- 5) ____ I feel safe on the playground and on the school grounds.
- 6) ____ I cheered up someone who was feeling sad.
- 7) ____ My school has rules against teasing, name-calling, or saying bad things about other people.
- 8) ____ I kept promises that I made to others.
- 9) ____ Students in my class help each other learn.
- 10) ____ I am glad to get back to School after summer vacation.
- 11) ____ I shared with other students.
- 12) ____ In my class the teacher and students decide together what the rules will be.
- 13) ____ Teachers at my school will stop someone from being teased or bullied if they see it happening.
- 14) ____ My classroom is a fun place to be.
- 15) ____ Students in my class work together to solve problems.

- 16) ___ I followed my teacher's rules.
 - 17) ___ I talked without raising my hand during classroom discussions.
 - 18) ___ I would be very sad if I had to go to a different school.
 - 19) ___ I play fair during games
 - 20) ___ I like my school.
 - 21) ___ The teacher in my class asks the students to help decide what the class should do.
 - 22) ___ I helped someone who was being picked on.
 - 23) ___ I laughed at another student's mistakes.
 - 24) ___ I told the truth about doing something wrong.
 - 25) ___ I made fun of another student.
 - 26) ___ Students in this school treat each other with respect.
 - 27) ___ Teachers and other adults make sure that everyone follows the rules against teasing or bullying people at this school.
 - 28) ___ I borrowed things without asking.
 - 29) ___ I did what I say I would do.
 - 30) ___ I helped another student clean up.
 - 31) ___ I bothered another student when the student was working.
 - 32) ___ The teachers here always try to be fair.
 - 33) ___ Students at this school really care about each other.
 - 34) ___ I feel safe in all areas of the school building.
-
-

Factor Structure of the Abbreviated School Climate Survey

Positive Behavior (10 items)

I play fair during games
I cheered up someone who was feeling sad.
I kept promises that I made to others.
I shared with other students.
I followed my teacher's rules.
I tried hard to do my best.
I did what I say I would do.
I helped another student clean up.
I helped someone who was being picked on.
I told the truth about doing something wrong.

Negative Behavior (5 items)

I borrowed things without asking.
I laughed at another student's mistakes.
I made fun of another student.
I bothered another student when the student was working.
I talked without raising my hand during classroom discussions.

Classroom and School Supportiveness (5 items)

Students in my class help each other learn.
Students at this school really care about each other.
Students in this school treat each other with respect.
Students at this school are willing to go out of their way to help someone.
Students in my class work together to solve problems.

Autonomy and Influence (3 items)

The teacher in my class asks the students to help decide what the class should do.
The teacher lets me choose what I will work on.
In my class the teacher and students decide together what the rules will be.

Safety at School (2 items)

I feel safe in all areas of the school building.
I feel safe on the playground and on the school grounds.

Enjoyment of School (4 items)

My classroom is a fun place to be.
I am glad to get back to School after summer vacation.

I like my school.

I would be very sad if I had to go to a different school.

School Norms and Rules (5 items)

My school has rules against teasing, name-calling, or saying bad things about other people.

There are rules against shoving, hitting, or tripping people at my school.

Teachers and other adults make sure that everyone follows the rules against teasing or bullying people at this school.

Teachers at my school will stop someone from being teased or bullied if they see it happening.

The teachers here always try to be fair.

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