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Amrit Thapa, Jonathan Cohen, Shawn Guffey and Ann Higgins-D'Alessandro
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A Review of School Climate Research

Amrit Thapa, Jonathan Cohen
National School Climate Center

Shawn Guffey, Ann Higgins-D'Alessandro
Fordham University

For more than a century, there has been a growing interest in school climate. Recently, the U.S. Department of Education, Center for Disease Control and Prevention, Institute for Educational Sciences, a growing number of State Departments of Education, foreign educational ministries, and UNICEF have focused on school climate reform as an evidence-based school improvement strategy that supports students, parents/guardians, and school personnel learning and working together to create ever safer, more supportive and engaging K–12 schools. This work presents an integrative review on school climate research. The 206 citations used in this review include experimental studies, correlational studies, literature reviews, and other descriptive studies. The review focuses on five essential dimensions of school climate: Safety, Relationships, Teaching and Learning, Institutional Environment, and the School Improvement Process. We conclude with a critique of the field and a series of recommendations for school climate researchers and policymakers.

KEYWORDS: school climate, school improvement, socio-emotional learning, prosocial education, bullying.

Over the past three decades, researchers and educators have increasingly recognized the importance of K–12 school climate. In the United States and around the world, there is a growing interest in school climate reform and an appreciation that this is a viable, data-driven school improvement strategy that promotes safer, more supportive, and more civil K–12 schools. The Centers for Disease Control and Prevention (2009) recommends school climate reform as a data-driven strategy that promotes healthy relationships, school connectedness, and dropout prevention. The Institute for Educational Sciences includes school climate as a sound strategy for dropout prevention (Dynarski et al., 2008). The U.S. Department of Education (2007) has invested in the Safe and Supportive Schools (S3) grant program to support statewide school climate measurement and the study of school climate improvement efforts. A growing number of State Departments of Education are focusing on school climate reform as an essential component of school improvement and/or bully prevention. Additionally, an increasing number of

educational ministries from around the world and the United Nations' Children's Fund are invested in supporting school climate reform efforts (Shaeffer, 1999).

The National School Climate Council (2007) recommends that *school climate* and a *positive and sustained school climate* be defined in the following ways:

School climate is based on patterns of people's experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.

A sustainable, positive school climate fosters youth development and learning necessary for a productive, contributive, and satisfying life in a democratic society. This climate includes norms, values, and expectations that support people feeling socially, emotionally and physically safe. People are engaged and respected. Students, families and educators work together to develop, live, and contribute to a shared school vision. Educators model and nurture an attitude that emphasizes the benefits of, and satisfaction from, learning. Each person contributes to the operations of the school as well as the care of the physical environment. (p. 4)

Although early educational reformers such as Perry (1908), Dewey (1916), and Durkheim (1961) recognized that the distinctive culture of a school affects the life and learning of its students, the rise of systematic, empirical study of school climate grew out of industrial/organizational research coupled with the observation that school-specific processes accounted for a great deal of variation in student achievement (Anderson, 1982; Kreft, 1993; Purkey & Smith, 1983). Ever since, the research in school climate has been growing systematically, and in recent years many countries are showing a keen interest in this area. Literature in this field suggests that there is empirical evidence being documented on various aspects of school climate in several languages (for a summary, see Benbenisty & Astor, 2005; Cohen, McCabe, Michelli, & Pickeral, 2009, in English; Debarbieux, 1996; Janosz, Georges, & Parent, 1998, in French; and Del Rey, Ortega, & Ferial, 2009, in Spanish). This summary builds on previous school climate reviews (Cohen et al., 2009; Cohen & Geier, 2010) and details how school climate is associated with and/or promotes safety, healthy relationships, engaged learning and teaching, and school improvement efforts.

Method

In this review, we address five essential areas of focus, which we call the five dimensions of school climate: (a) Safety (e.g., rules and norms, physical safety, social-emotional safety), (b) Relationships (e.g., respect for diversity, school connectedness/engagement, social support, leadership, and students' race/ethnicity and their perceptions of school climate), (c) Teaching and Learning (e.g., social, emotional, ethical, and civic learning; service learning; support for academic learning; support for professional relationships; teachers' and students' perceptions of school climate), (d) Institutional Environment (e.g., physical surrounding, resources, supplies), and (e) the School Improvement Process.¹ Although there is not yet a consensus about which dimensions are essential to measuring school climate validly, we believe that empirical reviews such as these will help to refine and focus our understanding of the aspects of school climate that can and need to

be assessed. In recent years, there has been a growing number of independent reviews of school climate measures generated and used in the United States (e.g., Clifford, Menon, Condon, & Hornung, 2012; Gangi, 2010; Haggerty, Elgin, & Woodley, 2010).

To conduct this literature review we adopted the following method. First, we consulted a group of experts in the field² of school climate research and gathered their feedback on dimensions and subdimensions on which this review should be grounded. As a result, we finalized five dimensions of school climate listed previously. Second, with helpful feedback from those experts, we collected all papers, books, and reports they recommended that relate to school climate research from 1970 to date. Once we had a list of these resources, we examined all the citations used in those studies and then compiled a list of studies that were relevant to school climate research. In addition, we also focused on literature reviews and meta-analyses on school climate research and cross-examined them for relevant citations. Third, we conducted a comprehensive search for papers, articles, and reports on school climate on Google Scholar. This search was conducted for (a) school climate in general, (b) each of the five major dimensions of school climate listed previously, and (c) other related areas of school climate. To conclude, we then finalized a list of more than 200 references relevant for this review. Out of these citations, approximately 5% are experimental studies, 45% are correlational studies, 25% are literature reviews, and 25% are other descriptive studies, including qualitative studies, mostly published in peer-reviewed journals.

As detailed in the following, the ever-growing body of research on school climate continuously attests to its importance in a variety of overlapping ways, including social, emotional, intellectual, and physical safety; positive youth development, mental health, and healthy relationships; higher graduation rates; school connectedness and engagement; academic achievement; social, emotional, and civic learning; teacher retention; and effective school reform. Furthermore, it must be understood that both the effects of school climate and the conditions that give rise to them are deeply interconnected, growing out of the shared experience of a dynamic ecological system (Bronfenbrenner, 1979; L. Ma, Phelps, Lerner, & Lerner, 2009). Thus, information in one section may relate to another dimension as well. Before we review the literature on the aforementioned five dimensions, it is worthwhile to discuss research on outcomes associated with overall school climate.

Outcomes Associated With Positive School Climate

There is extensive research that shows that school climate has a profound impact on students' mental and physical health. School climate has been shown to affect middle school students' self-esteem (Hoge, Smit, & Hanson, 1990), mitigate the negative effects of self-criticism (Kuperminic, Leadbeater, & Blatt, 2001), and affect a wide range of emotional and mental health outcomes (Kuperminic, Leadbeater, Emmons, & Blatt, 1997; Payton et al., 2008; Power, Higgins, & Kohlberg, 1989; Shochet, Dadds, Ham, & Montague, 2006; Way, Reddy, & Rhodes, 2007). Research has also revealed a positive correlation between school climate and student self-concept (Cairns, 1987; Heal, 1978; Reynolds, Jones, Leger, & Murgatroyd, 1980; Rutter, Maughan, Mortimore, & Ouston, 1979).

A positive and sound socio-emotional climate of a school is also related to the frequency of its students' substance abuse and psychiatric problems (Kasen,

Johnson, & Cohen, 1990; LaRusso, Romer, & Selman, 2008; Ruus et al., 2007; Shochet et al., 2006). More specifically, a positive school climate is linked to lower levels of drug use as well as fewer self-reports of psychiatric problems among high school students (LaRusso et al., 2008). In early adolescence, a positive school climate is predictive of better psychological well-being (Ruus et al., 2007; Shochet et al., 2006; Virtanen et al., 2009).

Moreover, a series of studies revealed that a positive school climate is correlated with decreased student absenteeism in middle school and high school (deJung & Duckworth, 1986; Gottfredson & Gottfredson, 1989; Purkey & Smith, 1983; Reid, 1982; Rumberger, 1987; Sommer, 1985) and lower rates of student suspension in high school (T. Lee, Cornell, Gregory, & Fan, 2011; Wu, Pink, Crain, & Moles, 1982). Furthermore, a growing body of research has indicated that positive school climate is critical to effective risk prevention (Berkowitz & Bier, 2006; Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002; Greenberg et al., 2003) and health promotion efforts (Cohen, 2001; Najaka, Gottfredson, & Wilson, 2002; RAND Corporation, 2004; M. C. Wang, Haertel, & Walberg, 1993).

Overall, there seems to be an abundant literature on school climate from different parts of the world that documents a positive school climate: (a) having a powerful influence on the motivation to learn (Eccles et al., 1993); (b) mitigating the negative impact of the socioeconomic context on academic success (Astor, Benbenisty, & Estrada, 2009); (c) contributing to less aggression and violence (Gregory et al., 2010; Karcher, 2002a), less harassment (Blaya, 2006; Kosciw & Elizabeth, 2006), and less sexual harassment (Attar-Schwartz, 2009); and (d) acting as a protective factor for the learning and positive life development of young people (Ortega, Sanchez, & Viejo, 2011). In addition to these areas, studies around the world also indicate that quality of the school climate contributes to academic outcomes as well as the personal development and well-being of pupils (e.g., Haahr, Nielsen, Hansen, & Jakobsen, 2005; OECD, 2009). Studies on the evidence of the relationship between school climate and academic outcomes will be discussed in more detail in the “Teaching and Learning” section.

Results

Safety

Feeling safe—socially, emotionally, intellectually, and physically—is a fundamental human need (Maslow, 1943). Feeling safe in school powerfully promotes student learning and healthy development (Devine & Cohen, 2007). However, there is a great deal of research that has shown that many students do not feel physically and emotionally safe in schools, largely as a result of breakdowns in the interpersonal and contextual variables that define a school’s climate. In schools without supportive norms, structures, and relationships, students are more likely to experience violence, peer victimization, and punitive disciplinary actions, often accompanied by high levels of absenteeism and reduced academic achievement (Astor, Guerra, & Van Acker, 2010). Studies have also shown that students feel less safe in large schools and that verbal bullying is more likely to occur at such schools (Lleras, 2008). The National School Climate Center’s school climate assessment work with thousands of schools across the United States has shown that the adults in the school community, such as school personnel and parents/guardians, typically believe that bullying and social violence are a

“mild” to “moderately severe” problem whereas students consistently report that these are “severe” problems (Cohen, 2006). Cornell, Sheras, Gregory, and Fan (2009) explored the usefulness of threat assessment in targeting violence through a study in which ninth-grade students from 280 Virginia public high schools were compared based on their use of the Virginia threat assessment guidelines, locally developed threat assessment procedures, or no threat assessment approach (Cornell & Sheras, 2006). The authors found that in schools where threat assessment guidelines were followed students reported less bullying, felt more comfortable seeking help, and possessed more positive perceptions of school climate. In addition, these schools had fewer long-term suspensions. Likewise, in another study, Gregory et al. (2010), using hierarchical linear modeling and a statewide sample of over 7,300 ninth-grade students and 2,900 teachers randomly selected from 290 high schools, showed that consistent enforcement of school discipline and availability of caring adults were associated with school safety. Klein, Cornell, and Konold (2012), using a sample of 3,687 high school students who completed the School Climate Bullying Survey and questions about risk behavior from the Youth Risk Behavior Surveillance Survey (Centers for Disease Control and Prevention, 2010), found that positive school climate was associated with lower student risk behavior.

Although many urban and economically disadvantaged schools are plagued by physical violence, most students are not exposed to physical violence (Mayer & Furlong, 2010). Unfortunately, this is not the case for social, emotional, and intellectual violence. In fact, bully-victim behavior is a serious public health problem. Research from the Health Resources and Services Administration’s (HRSA) National Bullying Campaign showed that up to 25% of the U.S. students are bullied each year (Melton et al., 1998). As many as 160,000 students may stay home from school on any given day because they are afraid of being bullied (Nansel et al., 2001). The growing trend of cyber bullying penetrates the home via computers and cellular phones. School bullying and harassment have moved to the virtual school, which is comprised of the social media that groups or individual students use to harass their peers (Campbell, 2005). At least one out of three adolescents reports being seriously threatened online, and 60% of teens say they have participated in online bullying. A growing body of research has underscored that bully-victim behavior is toxic; it undermines K–12 students’ capacity to learn and develop in healthy ways. When students bully and/or are victimized repeatedly, it dramatically increases the likelihood that they will develop significant psychosocial problems over time (Wolke, Woods, Bloomfield, & Karstadt, 2000). Additionally, bullying affects student engagement and lowers students’ commitment to schoolwork. Bullying seems to adversely affect the witnesses too. For example, a recent study of more than 2,000 students of ages 12 to 16 found that those who witnessed bullying reported more feelings of depression, anxiety, hostility, and inferiority than either the bullies or victims themselves (Rivers, Potat, Noret, & Ashurst, 2009).

Homophobia is one of the most common causes of bully-victim behavior (Birkett, Espelage, & Koenig, 2009). A recent school climate survey of 6,209 middle school and high school students revealed that roughly 9 out of 10 lesbian, gay, bisexual, and transgender (LGBT) students (86.2%) experienced harassment at school in the previous year (Kosciw, Diaz, & Greytak, 2008). In general, differences such as race, gender, sexual identity, disability, socioeconomic, and/or

cultural differences are a common focus for bullying. McGuire, Anderson, Toomey, and Russell (2010) found that school harassment due to transgender identity was pervasive and negatively associated with feelings of safety.

Recent research suggests that positive school climate is associated with reduced aggression and violence (Brookmeyer, Fanti, & Henrich, 2006; Goldstein, Young, & Boyd, 2008; Gregory et al., 2010; Karcher, 2002b), reduced bullying behavior (Birkett et al., 2009; Kosciw & Elizabeth, 2006; Meraviglia, Becker, Rosenbluth, Sanchez, & Robertson, 2003; Meyer-Adams & Conner, 2008; Yoneyama & Rigby, 2006), and reduced sexual harassment, regardless of sexual orientation (Attar-Schwartz, 2009). However, this relationship has not been fully elucidated. One study revealed that the association between school climate and level of aggression and victimization is dependent upon each student's feelings of connectedness to the school (D. Wilson, 2004). Because the bullying of any one person is unacceptable and because violence in schools is documented as a real problem, future research needs to critically examine the complex set of individual, group, and organizational factors that shape and predict violent behavior in schools in order to better prevent it.

What is clear is that comprehensive, ecologically informed violence prevention efforts provide the essential foundation for improvement. Recent reviews of effective school discipline and bully prevention efforts have underscored that we need to recognize and target individual, peer, school, family, and community processes (Gregory & Cornell, 2009; Osher, Bear, Sprague, & Doyle, 2010; Swearer, Espelage, Vallancourt, & Hymel, 2010).

There is growing evidence that educators also feel unsafe in schools. A significant number of teachers are threatened and/or assaulted by students every year (Dworkin, Haney, & Telschow, 1998; Novotney, 2009). Gregory, Cornell, and Fan (2012), using regression analyses in a statewide sample of 280 high schools and controlling for school and neighborhood demographic differences, showed that both structure (measured by student- and teacher-reported clarity of school rules) and support (measured by teacher-reported help seeking) were associated with less teacher victimization. The authors also found that lower levels of student support were a consistent predictor of school records of more threats against faculty.

Rules and Norms

Another important safety-related dimension is rules and norms. Research underscores the importance of school rules and perceived fairness in regard to dealing with students' behavior. There is evidence that schools in which rules are effectively enforced or schools with better discipline management have lower rates of student victimization and student delinquency (Gottfredson, Gottfredson, Payne, & Gottfredson, 2005). One of the most important explicit or implicit norms in schools relates to "witness-related" behaviors: either being a passive bystander who, knowingly or not, colludes with and supports bully-victim behavior or being an upstander who, directly or indirectly, says "no" to bully-victim behavior. Twemlow and his colleagues have been involved with a bully prevention program that focuses on promoting upstander behavior (Fonagy, Twemlow, Vernberg, Sacco, & Little, 2005; Twemlow, Fonagy, Gies, Evans, & Ewbank, 2001). A recent cluster-level randomized controlled trial with stratified restricted allocation for 1,345 third to fifth graders in nine elementary schools in a medium-sized

Midwestern city found that the teacher-implemented schoolwide intervention that did not focus on disturbed children substantially reduced aggression and improved classroom behavior (Fonagy et al., 2009). The bully prevention/pro-upstander effort was also associated with pronounced improvements in elementary students' achievement test scores (Fonagy et al., 2005).

How rules are enforced, meaning the extent to which they are consistently and fairly enforced, is another factor that shapes how safe people feel in school. Consistent enforcement of school rules and availability of caring adults have been referred to as "structure and support" (Gregory et al., 2010). Studies have shown that structure and support are linked to lower suspension rates and more student willingness to seek help in bullying situations (Eliot, Cornell, Gregory, & Fan, 2010; Gregory et al., 2011). Nesdale and Lawson's (2011) study on a total of 383 children's (7- and 10-year-old) intergroup attitudes indicated that children's out-group attitudes reflected their group's norm, but with increasing age, they liked their in-group less and the out-group more if the in-group had an exclusion norm. These results and those of studies just reviewed indicate that the late elementary grades seem to be a natural window of opportunity for anti-bullying and upstander interventions as 10-year-olds readily make prosocial, ethical judgments about peer behavior and their own group's norms. Preference for inclusion indicates early uses of the ideas of equality and equity, the building blocks of positive school climate.

Relationships

The process of teaching and learning is fundamentally relational. The patterns of norms, goals, values, and interactions that shape relationships in schools provide an essential area of school climate. One of the most important aspects of relationships in schools is how connected people feel to one another. From a psychological point of view, relationships refer not only to relations with others but relations with ourselves—how we feel about and take care of ourselves. Safe, caring, participatory, and responsive school climates tend to foster a greater attachment to school and provide the optimal foundation for social, emotional, and academic learning for middle school and high school students (Blum, McNeely, & Rinehart, 2002; Goodenow & Grady, 1993; V. E. Lee, Smith, Perry, & Smylie, 1999; Osterman, 2000; Wentzel, 1997).

Research has shown that in schools where students perceive a better structured school, fair discipline practices, and more positive student-teacher relationships, the "probability and frequency of subsequent behavioral problems" is lower (Gregory & Cornell, 2009; Power et al., 1989; M. C. Wang, Selman, Dishion, & Stormshak, 2010). Furthermore, it was found for both Chinese and American students that when students perceived teacher-student support and student-student support, these perceptions were positively associated with self-esteem and grade point average and negatively associated with depressive symptoms (Jia et al., 2009).

If a teacher-student relationship is negative and conflictual in kindergarten, it is more likely that the student will have behavioral and academic problems in later grades (Hamre & Pianta, 2001). Also, teachers' interactions with students can directly affect students' behavioral and emotional engagement in the classroom (E. Skinner & Belmont, 1993). When teachers support and interact positively with

students, then students are more likely to be engaged and behave appropriately (E. Skinner & Belmont, 1993). Another study on the effects of the 4Rs program (Reading, Writing, Respect, and Resolution), using a cluster randomized controlled trial design, suggested positive effects of teachers' perceived emotional ability on classroom quality (J. L. Brown, Jones, LaRusso, & Aber, 2010).

Research has also shown that teachers' work environment, peer relationships, and feelings of inclusion and respect are important aspects of positive school climate. In a study of 12 middle schools, Guo (2012) found that the teachers' work environment, which may be considered an indicator of teachers' relationships with each other and school administrators, fully mediated the path from a whole school character intervention to school climate change. This indicates the critical foundational role of positive adult relationships for a positive school climate. In the same schools, Higgins-D'Alessandro and Sakwarawich (2011) demonstrated that students with special needs, those who had Individual Education Plans (IEPs), were only able to benefit from the positive school climate if they felt included and respected by other students, indicating the critical role of peer relationships in the well-being of students with differences.

The literature also provides evidence that racial school climate is associated with student achievement as well as other outcomes. For example, Mattison and Aber (2007), using data from 382 African American and 1,456 European American students, showed that positive perceptions of the racial climate were associated with higher student achievement and fewer discipline problems. The study found that racial differences in students' grades and discipline outcomes were associated. Likewise, negative racial climate is also found to be an inhibiting factor in college preparation (Griffin & Allen, 2006). Furthermore, results from a study by Hallinan, Kubitschek, and Liu (2009), using a large sample of elementary and secondary schools in a major urban school district, showed that positive interracial interactions contributed to students' sense of school community whereas negative interracial interactions inhibited that sense. Research also documents that race and ethnicity are significant predictors in explaining variance in discipline referrals (Shirley & Cornell, 2012).

Students' Race and Ethnicity and Their Perceptions of School Climate

Research has shown that race itself is a significant factor in explaining the variation in perceptions of school climate (Koth, Bradshaw, & Leaf, 2008; J. Wilson, Pentecoste, & Bailey, 1984). Positive school climate has been considered important for racial minority and poor students (Booker, 2006; Haynes, Emmons, & Ben-Avie, 1997). According to a study by Watkins and Aber (2009) that used quantitative survey data from 842 African American and White middle school students, African American, poor, and female students perceived the racial climate in more negative terms than did their White, non-poor, and male counterparts, respectively. A study by Schneider and Duran (2010) that used data from 2,500 randomly selected middle school students found that responses of Hispanic/Latino students varied considerably from those of White and Asian students. The study showed that Hispanic/Latino students considered personal relationships with teachers as more important than modeling of positive behaviors—contrasting with the preference of White and Asian students. Slaughter-Defoe and Carlson (1996) investigated 1,000 African American and 260 Latino third graders' perceptions of

school climate in an evaluation of the Chicago Comer School Development Program. Their results indicated that African American children regarded teacher-child relations as the most important dimension of school climate whereas Latino children emphasized teacher fairness, caring, praise of effort, and the importance of moral order. The contrary results of these two studies highlight the complex interactions of both race/ethnicity and age with student perceptions of school climate.

These studies confirm that race/ethnicity is an important predictor in explaining perceptions of school climate. The findings reiterate the fact that it is important for school leaders and researchers to have the most complete understanding possible of what a positive school climate would look and feel like for students who identify as belonging to specific races, ethnicities, or cultures in order to improve school climate for all (Schneider & Duran, 2010). Research also suggests that proactive approaches are more successful in promoting positive intergroup interactions rather than passive and reactive approaches (Soukamneuth, 2004).

Teaching and Learning

Teaching and learning represents one of the most important dimensions of school climate. School leaders and teachers should strive to clearly define the sets of norms, goals, and values that shape the learning and teaching environment. Research supports the notion that a positive school climate promotes students' abilities to learn. A positive school climate promotes cooperative learning, group cohesion, respect, and mutual trust. These particular aspects have been shown to directly improve the learning environment (Finnan, Schnepel, & Anderson, 2003; Ghaith, 2003; Kerr, Ireland, Lopes, Craig, & Cleaver, 2004). For example, as also outlined in the "Relationships" section, research shows that the student-teacher relationship in kindergarten is related to later academic success and positive behavioral outcomes for students (Hamre & Pianta, 2001; Pianta, Steinberg, & Rollins, 1995).

Additionally, knowledge of an organizational culture and climate helps in "understanding individual as well as collective attitudes, behavior, and performance" (Ostroff, Kinicky, & Tamkins, 2003). A series of correlational studies have shown that school climate is directly related to academic achievement. Evidence found in the literature demonstrates that this is true for elementary schools (Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1977; Brookover et al., 1978; Brookover & Lezotte, 1979; Cook, Murphy, & Hunt, 2000; Freiberg, 1999; Griffith, 1995; Sherblom, Marshall, & Sherblom, 2006; Shipman, 1981; Sterbinksky, Ross, & Redfield, 2006), middle schools (Brand, Felner, Shim, Seitsinger, & Dumas, 2003; X. Ma & Klinger, 2000), high schools (V. E. Lee & Bryk, 1989; Power et al., 1989; Stewart, 2008), and all levels of schooling (Gottfredson & Gottfredson, 1989; MacNeil, Prater, & Busch, 2009). In this connection, studies also point out the need to identify and include a wide range of factors such as classroom and school processes and multiple school climate indicators when examining student outcomes (Fleming et al., 2005; Good & Weinstein, 1986; Madaus, Airasian, & Kellaghan, 1980; Rutter, 1983; Rutter et al., 1979). Moreover, there is also evidence that the effect of positive school climate not only contributes to immediate student achievement, but its effect seems to persist for years (Hoy, Hannum, & Tschannen-Moran, 1998). Researchers have also looked at the

relationship between school climate and academic achievement in relation to student classroom participation. Studies have shown that when students are encouraged to participate in academic learning, their potential for academic achievement increases (Ladd, Birch, & Buhs, 1999; Voelkl, 1995). Furthermore, research has shown that respect and shared expectations positively influence the engagement of students (Ennis, 1998).

Social, Emotional, Civic, and Ethical Education

The specific nature and goals of K–12 instruction impact academic achievement in a variety of ways. Educators like parents are always teaching social, emotional, civic, and ethical as well as intellectual lessons, intentionally or not (Higgins-D'Alessandro, 2012). Research shows that evidence-based character education programs lead to higher achievement scores for elementary school students (Benninga, Berkowitz, Kuehn, & Smith, 2003). Also, evidence-based socio-moral emotional learning programs have resulted in impressive gains in test scores and in increasing the academic emphasis of elementary and middle school students (Battistich, Schaps, & Wilson, 2004; Bradshaw, Koth, Thornton, & Leaf, 2009; Elias & Haynes, 2008). A meta-analysis of over 700 positive youth development, social emotional learning (SEL), and character education studies revealed that evidence-based SEL programs had many significant positive effects, including improving students' achievement test scores by 11 to 17 percentile points (Payton et al., 2008). Evidence also comes from another meta-analysis conducted on 213 school-based, universal social and emotional learning programs involving 270,034 kindergarten through high school students. This study suggested that socio emotional learning participants, compared to the control groups, demonstrated significantly improved social and emotional skills, attitudes, behavior, and academic performance as reflected by an 11 percentile point gain in achievement (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011).

Service Learning

Implementing learning activities beyond the classroom is an effective way to incorporate civic education into a school, and these activities in turn promote student learning. Encouraging active and collaborative learning through authentic projects is most effective in an environment with a civic mission that encourages trusting relationships between all members of the school community (Carnegie Corporation of New York & Center for Information and Research on Civic Learning and Education, 2003; R. Skinner & Chapman, 1999; Wentzel, 1997).

Service learning projects promote civic education because these activities teach students how to apply classroom material to real-life situations (Bandura, 2001; Morgan & Streb, 2001; Torney-Purta, Lehmann, Oswald, & Schulz, 2001). For example, activities like community service and debates about what kind of service to engage in enhance the learning environment by providing students opportunities to participate in and begin forming their own opinions of social and government systems (Torney-Purta, 2002; Youniss et al., 2002). Moreover, when these activities are presented in a collaborative environment, they encourage students to interact and build upon one another's ideas (Ghaith, 2003; Wentzel & Watkins, 2002). If students are given ownership and choice in their service learning projects, there

is evidence that their self-concept and tolerance for diversity will increase (Morgan & Streb, 2001).

Teachers' and Students' Views of School Climate

Comparing teachers' perceptions to students' perceptions is also an important aspect to consider with regard to teaching and learning. When a study was conducted regarding student and teacher perceptions of overall school climate and academic emphasis, it was found that teachers' perceptions of school climate were more sensitive to classroom-level factors, such as "poor classroom management and proportion of students with disruptive behaviors," whereas students' perceptions were more sensitive to school-level factors, such as "student mobility, student-teacher relationships, and principal turnover" (Mitchell, Bradshaw, & Leaf, 2010). Moreover, studies have also demonstrated that individual-level predictors, such as having behavior problems at school, being held back a grade, coming from a single-parent family, lower level of parental education, gender, age, and students' ethnic background, play significant roles in student perceptions of school climate (Fan, Williams, & Corkin, 2011; Schneider & Duran, 2010). These differences show that it is important to assess both sets of perceptions in relation to school climate improvement. In a study by Johnson and Stevens (2006), teachers' perceptions of school climate in 59 elementary schools were assessed using a modified version of the School-Level Environment Questionnaire (SLEQ; Fraser & Rentoul, 1982). The authors found a positive relationship between school mean teachers' perceptions of school climate and school mean student achievement.

Literature indicates that when teachers feel supported by both the principal and their peers, teachers are more committed to their profession (Singh & Billingsley, 1998). A positive school climate is also associated with the development of teachers' beliefs that they can positively affect student learning (Guo & Higgins-D'Alessandro, 2011; Hoy & Woolfolk, 1993). The National Commission on Teaching and America's Future defines school climate in terms of a learning community and argues that school climate is an important contributing factor to teacher retention (Fulton, Yoon, & Lee, 2005). Furthermore, research has shown that school climate enhances or minimizes teacher/staff emotional exhaustion, depersonalization, and feelings of low personal accomplishment (Grayson & Alvarez, 2008; Higgins-D'Alessandro, 2002) as well as attrition (Miller, Brownell, & Smith, 1999).

Institutional Environment

This section includes studies on the institutional environment, which can be broadly categorized in two aspects: (a) school connectedness/engagement and (b) physical layout and surroundings of school as well as resources and supplies.

The Centers for Disease Control and Prevention (2009) defines school connectedness as "the belief by students that adults and peers in the school care about their learning as well as about them as individuals." There is a growing body of research that suggests that school connectedness is a powerful predictor of and/or is associated with adolescent health and academic outcomes (McNeely, Nonnemaker, & Blum, 2002; Resnick et al., 1997; Ruus et al., 2007; Whitlock, 2006). Studies have also shown that school connectedness is associated with violence prevention (Karcher, 2002a, 2002b; Skiba et al., 2004), student satisfaction,

and conduct problems (Loukas, Suzuki, & Horton, 2006). Moreover, school climate research has indicated that school connectedness is a protective factor against risky sexual violence and drug use behaviors (Catalano, Haggerty, Oesterie, Fleming, & Hawkins, 2004; Kirby, 2001; for a summary of this research, see Centers for Disease Control and Prevention, 2009).

Research on this topic has also investigated how smaller schools can greatly improve school climate and how the physical layout of the school can affect safety. Studies have shown that there are various benefits to smaller schools for student achievement, safety, and relationships among members of the school community. For example, a study by McNeely et al. (2002) found that the size of schools is negatively correlated with school connectedness. In addition, research has suggested that at the middle school level, smaller schools lead to better academic performance, though the picture is more complicated at the elementary and high school levels (Stevenson, 2006). However, reducing the school size is not the only way to improve the school environment. Instead, a school should strive to form smaller learning communities as a way to improve the learning environment (Cotton, 2001). On the other hand, Klein and Cornell (2010) found that while the total number of bullying incidents was higher, the rate of bullying offenses was in fact lower in larger schools. Given these conflicting ideas and findings on the effect of school size on school climate, the field needs more research to better inform this debate.

School space is another environmental dimension that impacts students' feelings about safety. Astor et al. (2010) demonstrated that students felt unsafe in unsupervised areas of the school building. In fact, there is a growing body of research that illuminates how environmental variables, such as classroom layout, activity schedules, and student-teacher interactions, can influence student behaviors and feelings of safety (Conroy & Fox, 1994; Van Acker, Grant, & Henry, 1996). The quality of school facilities has been found to affect student achievement through school climate as a mediator (Uline & Tschannen-Moran, 2008).

The School Improvement Process

School climate is an important factor in the successful implementation of school reform programs (Bulach & Malone, 1994; Dellar, 1998; Gittelsohn et al., 2003; Gregory, Henry, & Schoeny, 2007; Guffey, Higgins-D'Alessandro, & Cohen, 2011; Guo & Higgins-D'Alessandro, 2011). For example, teachers' perceptions of school climate influence their ability to implement school-based character and development programs (Beets et al., 2008; Guo, 2012). Studies about the implementation of character education programs have suggested that the most effective programs are those that are incorporated into the school curriculum and developed holistically with the school community (Kerr et al., 2004). For example, teachers are expected to positively influence children and youth, not only teaching them to read, write, and think in words and numbers, but also to help students develop their social and moral sensitivities, character, and sense of citizenship (Cohen, 2012; Higgins-D'Alessandro, 2002). The core characteristics of a liberal education, specifically the development of rational, critical, and imaginative thinking, rest on positive school climate (Higgins-D'Alessandro, 2011). There is a growing body of scientifically based research supporting the strong impact that enhanced socio-moral, civic, and emo-

tional behaviors can have on success in school and ultimately in life (Zins, Bloodworth, Weissberg, & Walberg, 2004).

Theoretically, school climate improvement efforts are grounded in ecological systems theories of child and youth development that recognize that characteristics of the individual, family, school, and other layers of the environment impact individual learning and behavior (Bronfenbrenner, 1979; Kohlberg & Mayer, 1972). Felner et al. (2001) argue, “whole school change efforts, when implemented comprehensively and with appropriate intensity and fidelity, may powerfully influence the prevention of socio-emotional, behavioral, and academic difficulties, as well as promotion of the acquisition of the full range of developmental competencies necessary for life success, well-being, and resilience” (p. 177). Some of the most important research that elucidates the relationship between school climate and school improvement efforts has emerged from a multiyear study of schools in Chicago. Bryk and his colleagues found evidence that schools with high relational trust, such as good social relationships among members of the school community, are more likely to make changes that improve student achievement (Bryk & Schneider, 2002). In their most recent summary of this work, Bryk, Sebring, Allensworth, Luppescu, and Easton (2010) have detailed how the following four systems interact in ways that support or undermine school improvement efforts: (a) professional capacity (e.g., 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 (e.g., curriculum alignment and the nature of academic demands). They underscored how their research has shown relational trust is the “glue” or the essential element that coordinates and supports these four processes, which are essential to effective school climate improvement (Bryk et al., 2010).

Discussion

School climate—by definition—reflects students’, school personnel’s, and parents’ experiences of school life socially, emotionally, civically, and ethically as well as academically. Over the past two decades, research studies from a range of historically disparate fields such as school reform, risk prevention, health promotion, moral education, character education, mental health, and social-emotional learning have identified research-based school improvement guidelines that converge predictably to promote safe, caring, responsive, and participatory schools (Benninga et al., 2003; Berkowitz & Bier, 2006; P. M. Brown, Corrigan, & Higgins-D’Alessandro, 2012; Centers for Disease Control and Prevention, 2009; Cohen, 2012; Greenberg et al., 2003).

School climate matters. Sustained positive school climate is associated with positive child and youth development, effective risk prevention and health promotion efforts, student learning and academic achievement, increased student graduation rates, and teacher retention. These research findings have contributed to the U.S. Department of Education’s decision to examine ways to use school climate and culture as an organizing data-driven concept that recognizes the range of pro-social efforts including character and moral education, civic education, social emotional learning, developmental assets and community schools, and risk prevention/mental health promotion efforts that protect children and promote essential social, emotional, ethical, and civic learning (P. M. Brown et al., 2012;

Jennings, 2009). Specifically, the U.S. Department of Education has developed and funded the Safe and Supportive Schools project. This project supports states developing a statewide school climate assessment system and evaluating the school climate improvement process over several years to support understanding about “what works.”

There has been significant and growing interest in school climate reform efforts in recent years. Our understanding is that this is due to the following three factors. First, as this review underscores, there is a growing body of empirical research that supports the notion that context matters: Group trends, for example, norms, expectations, and belief systems shape individual experience and learning as well as influence all levels of relationships. Second, there is an increasing appreciation that school climate reform supports effective violence prevention in general and bullying prevention efforts in particular. The fact that 49 states have passed bullying prevention laws has powerfully intensified the state-level policymakers/shapers’ and district-level leaders’ interest in the question: “What really works?” Bullying prevention curriculum alone does not work, but school climate reform efforts do (Cohen, in press). As a result, local, state, and federal interest in school climate reform as an effective, data-driven, and evidence-based process is emerging. There are a range of reasons for this growing interest. Some district and/or state leaders are particularly concerned about violence prevention, some about dropout prevention, and others because school climate renewal efforts support research-based strategies such as school-home-community partnerships, youth engagement, prosocial education, and democratically informed schools. Third, there is growing interest in research-based prosocial educational efforts that include character education, social emotional learning, mental health promotion efforts, service learning and civic engagement, and others (see a compendium of the wide range of interventions in P. M. Brown et al., 2012). Furthermore, school climate reform is a process that necessarily focuses on and supports students, parents/guardians, and educators in considering how effective current prosocial educational efforts are and how we can strengthen these instructional and intervention efforts. In support of these recommendations and our focus on measurement as a necessary first step in systematic school climate improvement discussed in the following, P. M. Brown and Elias (2012) call for recognition by policymakers that prosocial education and school climate improvement and reform are integral to learning and teaching. They ask policymakers to recognize that school structure as expressed in well-defined norms and behavioral expectations for faculty, administrators, and students is foundational; that pedagogical methods to promote social and prosocial learning should be tied to measurable outcomes; and that the success of these suggestions lies with improving preservice preparation (P. M. Brown & Elias, 2012).

It must be said, however, that there are a number of very meaningful limitations that color current school climate research findings, related to problems with definitions, models, and experimental methodologies. In many ways, Anderson’s (1982) comprehensive review as well as Freiberg’s (1999) important collection of papers describing the field is still relevant today. They both underscored how defining school climate was complicated by the fact that practitioners and researchers used a wide range of school climate definitions as well as models that were often more implicit than explicit and that covered different aspects of an inherently multi-

mensional concept. Naturally, how we define school climate has implications for what we measure. There is not a national or international consensus about how to define *school climate*, a *positive and sustained school climate*, or the *school climate process* and the dimensions that need to be regularly measured in school climate research and improvement efforts. To some extent, this has stymied and continues to stymie the advancement of school climate research so necessary to inform school improvement efforts. In addition, it hampers the development of the field in general and measurement practices in particular. We suggest that the definition of *school climate* and *positive school climate* developed by the National School Climate Council (2007), noted at the beginning of this article, may be good starting points, buttressed by this review that used the four areas of school climate they defined.

We recommend that school climate measurement initially be conducted with the use of reliable and valid surveys and observational measures that assess how students, parents/guardians, school personnel, and community members perceive school life in four major areas: safety, relationships, teaching and learning, and the institutional environment, including its mission and norms. This suggestion overlaps with the U.S. Department of Education's model that focuses on safety, engagement, and the environment. Although the quality of teaching and learning is an implicit subarea of focus, the U.S. Department of Education does not recognize it as integral to school climate as we argue herein. Again, the lack of consensus about what always needs to be measured hampers the contributions that research regarding school climate can make to school practices and school improvement processes.

In Freiberg's (1999) edited volume about school climate, he noted that there had not been a significant advance in developing well-articulated and operationally definable school climate models, such as theories of change, road maps with operationally definable tasks and challenges, and specification of roles and responsibilities for sustainable efforts, since Anderson's (1982) review paper. Since 1999, many groups have made significant strides in articulating school climate models (Cohen, Thapa, & Ice, 2013). Moreover, Freiberg's orientation led to the oversight of robust qualitative longitudinal work describing how schools change over time. One such example is Power et al.'s (1989) book describing both qualitatively and quantitatively the development over four years of the climate of an alternative school, the Just Community School. They used Anderson's distinctions to define school culture (not climate) as the specific focus on relationships, norms, and values and showed that these became more inclusive, fair, and community-based with weekly democratic discussions among high school teachers and students.

The lack of well-defined and research-based models has also hampered process as well as outcome evaluation. As this review makes clear, the majority of studies do not examine the effects of school climate within multilevel/hierarchical frameworks, and very few examine school change over time, a key to understanding school improvement processes and efforts. Building on the important school improvement research that Bryk and his colleagues (2002, 2010) have conducted in Chicago, we suggest that more studies examine school climate from multiple perspectives, including experimental, quasi-experimental, and correlational, as well as case studies and qualitative analyses, and as much as possible integrate process and outcome concepts into time-sensitive analyses.

Clearly, the field is evolving and, as highlighted previously, calls for rigorous and empirically sound research that focuses on relating specific aspects and activities of interventions to changes in specific components of school climate and on how both interventions and climate affect specific socio-moral, emotional, civic, and cognitive development and the teaching and learning of both students and teachers. Understanding the interactions of these processes in the contexts of interventions will enable schools to successfully adapt interventions that have been shown to promote one or more of these positive outcomes. At the national and state levels, keys to great schools include smarter educational policies as well as changes at the school and district levels. On the other hand, the solutions for the low-performing schools lie in integrated approaches that emphasize including the whole school community in the planning process. Also, as discussed in the “School Improvement Process” section, for schools needing improvement, enhancing the relational trust in the school community is essential. This review demonstrates how school climate research can contribute to the development of smarter policies, which will enable and support good schools as well as help the unsuccessful ones. Research in this field also demonstrates the critical importance of individual and communities of educators in every school, as they always hold in their hands the power to create schools that substantially better the quality of the future lives of their students and future generations.

Notes

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¹The fifth area of focus (the School Improvement Process) is particularly relevant for the purpose of this review.

²The following is the list of experts consulted for this review (in alphabetical order, by last name): Howard Adelman (University of California, Los Angeles), Marvin Berkowitz (University of Missouri, St. Louis), Martin J. Blank (Institute for Educational Leadership), Philip M. Brown (Rutgers University), Matt J. Bundick (Quaglia Institute for Student Aspirations), James Comer (Yale University), Dewey Cornell (University of Virginia), Maurice Elias (Rutgers University), H. Jerome Freiberg (University of Houston), Gary A. Homana (College of Education Towson University), Nicholas Michelli (City University of New York), Randy Ross (Brown University), and Stuart Twemlow (Baylor College of Medicine and the Menninger’s Foundation).

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Authors

AMRIT THAPA, PhD, is research director at the National School Climate Center (NSCC), 341 W. 38th Street, 9th Floor, New York, NY 10018; e-mail: athapa@schoolclimate.org; and a representative to the United Nations for the Institute of Global Education (IGE), a nongovernmental organization that has consultative status with the Economic & Social Council of the United Nations. He received his bachelor's and master's degrees in economics from Sri Sathya Sai University, India, and a PhD in economics and education from Teachers College, Columbia University. His research focuses on school climate research, educational program evaluation, and international education. Dr. Thapa's empirical papers have been published in international journals such as *International Journal of Educational Development* and *Education Economics*.

JONATHAN COHEN, PhD, is an educator-clinician. He has worked with K–12 students, educators and parents since 1974. He is also the co-founder and president of the National School Climate Center: Educating Minds and Hearts Because the Three R's Are Not Enough, 341 W. 38th Street, 9th Floor, New York, NY 10018; e-mail: jonathancohen@schoolclimate.org; adjunct professor in psychology and education, Teachers College, Columbia University. He has consulted and continues to provide consultation to the schools, districts, State Departments of Education, President Obama's Federal Bully Prevention Partnership, foreign educational ministries and the UN Children's fund on social, emotional and civic learning, mental health/educational issues, bully prevention, student leadership and school climate improvement efforts.

SHAWN GUFFEY is a PhD student in applied developmental psychology at Fordham University in New York City, e-mail: sguffey@fordham.edu. His research focuses on the ways in which public institutions and policies foster (or inhibit) the social-cognitive development of adolescents and young adults. Most recently, he led a study examining the mediating influence of prosocial motivations on the growth of critical thinking skills and commitment to civic engagement among college students participating in a service-learning program. Prior to entering Fordham, Guffey taught at a high school in the Bronx section of New York City, where he served as president of the faculty.

ANN HIGGINS-D'ALESSANDRO, PhD, is professor of applied developmental psychology (ADP) at Fordham University, New York City, e-mail: ahiggins@fordham.edu; and Chair of the Advisory Board at Fordham Center for Community-Engaged Research (CCER). Her theoretical and empirical work focus on the study of schools and workplaces as contexts for adolescent and adult social-moral and identity development; the relationship of short-term skill learning to longer term development; school and institutional climate and culture, including instrument development of institutional climate, culture, and identity measures for research with schools, universities, and workplaces. Recent publications include "The Transdisciplinary Nature of Citizenship and Civic/Political Engagement Evaluation" and "Youth Civic Engagement: Normative Issues" in the *Handbook of Research on Civic Engagement in Youth* (Wiley: 2010).