

BUILDING SCHOOL COMMUNITIES AND MAKING SCHOOLS SAFER

by

ROBERT M. GLADDEN

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Date

Michelle Fine, PhD
Chair of Examining Committee

Date

Joseph Glick, PhD
Executive Officer

Professor Suzanne Ouellette

John Easton, PhD

Professor Linda Pruitt

Professor David Rindskopf
Supervisory Committee

THE CITY UNIVERSITY OF NEW YORK

Abstract

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Robert M. Gladden

Adviser: Professor Michelle Fine

Four characteristics of school climate were hypothesized to foster safer school environments: a commitment by school staff to teach non-violence, high levels of social capital (i.e., respectful relationships) among and between students and teachers, effective instruction, and responsiveness to students' culture and community. These hypotheses were evaluated by examining surveys of Chicago Public School (CPS) eighth graders conducted in 1997 and 1999 and by conducting fieldwork in two urban schools. Analyses of survey data found that teaching non-violence, trusting relationships between staff and students, and an academically challenging curriculum predicted CPS eighth graders feeling safer and fighting less at school in 1997 and improvements in eighth graders' reports of safety and fighting between 1997 and 1999. These cross-sectional and longitudinal relationships persisted even after controlling for violence in students' neighborhoods, students' reports about how connected and safe they felt in their neighborhoods, and students' ability to navigate conflicts. The fieldwork highlighted the need to expand the conceptualization of effective instruction to include the idea of academic mentorship and recognize the importance of including a problem-solving component into a schools' discipline policy. Academic mentorship involves helping students overcome episodes of academic failure or behavioral problems and assisting

youth graduate from junior high or high schools with skills they will need to succeed in the next step of their lives. Together these findings establish the ability of schools to inhibit student violence by constructing a strong school climate. Consequently, initiatives to reduce school violence which currently tend to rely on either behavioral or cognitive interventions or stricter discipline policies need to consider how the operation of schools can be modified to make schools safer. The study ends by outlining the processes through which schools can work to build a sense of community that combines high academic and behavioral expectations with support for students academically struggling.

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MAKING SCHOOLS SAFER BY CHANGING SCHOOL CLIMATE

We also know that in too many American schools there is a lawlessness where there should be learning...Make no mistake, this is a threat not to our classroom, but to America's public school system and, indeed, to the strength and vitality of our nation (President Clinton cited in Astor, Meyer, and Behre, 1999, p. 4)

In the late 1990s, school shootings such as Columbine, Colorado highlighted and raised parents', educators', and students' concern over school violence. Schools responded with a range of initiatives such as implementing anger-management curriculum, instituting stricter discipline policies, and increasing school security staff or installing security equipment (Gottfredson et al., 2000). The majority of these programs assume that school violence is primarily the result of student and community problems. Thus, many efforts aimed to either improve students' anger management and conflict-negotiation skills or better control students by screening them for weapons and punishing them more harshly. The possibility, however, that the organization and environment of schools influence the occurrence of violence has only begun to be explored (Fine and Smith, 2001).

In an effort to expand existing research on violence prevention, this project investigated the links between school climate and student violence by conducting a literature review, analyzing longitudinal student and teacher survey data collected from the Chicago Public School in 1997 and 1999, and conducting fieldwork in two small schools in Chicago. Because research on school climate has been criticized for being vague and atheoretical (Baker, 1998), a theoretical model explaining linkages between school climate and violence was derived from a review of pertinent research. The

literature suggests that school violence is related to four elements of school environment: school staff's responsiveness to students' culture and community, a school's commitment to teaching non-violence, the strength of relationships among and between staff and students, and the effectiveness of a school's instructional programs (Gladden, 2002). After delineating the reasons why these four elements of school climate may influence school violence, the extent and nature of these linkages were investigated using data from two large surveys of eighth graders attending Chicago Public Schools in 1997 and 1999 and fieldwork conducted in two small Chicago schools, one middle school and one high school.

The Problem of School Violence

In May, 1999, a national poll found that 52 percent of parents feared for their children's safety at school (Brooks, Schiraldi, and Ziedenberg, 2000). Many misperceptions, however, exist about the nature and scope of school violence (Brooks et al., 2000, Schiraldi and Ziedenberg, 2001). Although gruesome images of multiple school shootings in Columbine, Colorado, Santana, California, and Jonesboro, Arkansas have inspired widespread fear of school shootings, only one percent of youth homicides were committed at school during the 1998-99 school year (Kaufman et al., 2001). Also, serious violent crimes such as aggravated assault and rape are less likely to occur in schools than outside of schools. In 1998-1999, about 30 percent of serious violent crimes reported by twelve to eighteen year olds occurred on school property or while going to school. Homicides are extremely rare in schools and serious violent crimes are less likely to occur inside of schools (Kaufman et al., 2001).

Media representations of school violence contribute to the discrepancy between

public perception and documented occurrence of school homicides. Over the last decade, the media has increased coverage of violence by 240 percent (Brooks et al., 2000, Schiraldi and Ziedenberg, 2001). The majority of youth appearances on the evening news are connected with violence even though less than one half of a percent of juveniles were arrested for a violent crime in 2000. This skewed coverage of youth fuels misconceptions; Americans think youth are responsible for 43 percent of homicides, when they actually only perpetrate nine percent (Schiraldi and Ziedenberg, 2001). A more accurate and balanced portrayal of youth in the media is needed.

Although homicides are extremely rare in America's schools, schools are deeply troubled by harassment and bullying. A 2001 national survey found that 38 percent of parents, 26 percent of teachers, and 32 percent of eighth graders thought bullying and harassment was a very or somewhat serious problem in their high school (Johnson, Duffett, Farkas, and Collins, 2002). Sometimes bullying and harassment are ignored in schools because it is perceived as "boys being boys" or part of the high school experience (Aronson, 2000, Casella, 2001). This type of attitude is harmful because incidents of disrespect, bullying, and harassment often trigger physical fights and more serious violence (Casella, 2001, Devine, 1996, Noguera, 2001, Skiba and Peterson, 2000). Bullying that met the legal definitions of harassment in the workplace played a major role in a number of school shootings over the last twenty years (Vossekuil, Reddy, Fein, Borum, and Modzeleski, 2000).

Fighting is also a significant problem in our schools. In 1999, 14 percent of high school students reported being involved in a fistfight on school property (Kaufman et al., 2001). Unlike serious violent crime, simple assaults among twelve and eighteen year olds

were slightly more likely to occur in schools in 1999. Simple assaults occurred in schools at the rate of 26 per 1000 eighth graders versus 21 per 1000 outside of school (Kaufman et al., 2001).

The interaction of frequent fist fights, eighth graders carrying weapons, and the occurrence of a few serious violent incidents in schools justifies and fuels fear of fatal school violence even though its occurrence is extremely rare. In 1999, seven percent of high school students and eighth graders reported carrying weapons on school property in the last 30 days (Kaufman et al., 2001) and five percent of seniors reported being injured with a weapon at school in the last twelve months in 1996 (National Center for Education Statistics, 1998). Because weapons are in schools, teachers and students may fear that each scuffle or argument has the potential to escalate into a serious incident. Middle schools and high schools experience enough serious violent incidents (7 per 1000 students) to justify fear of serious violence. A survey of school social workers in 1996 found that seventy-one percent reported the occurrence of at least one potentially fatal assault in their school during the last academic year. In high poverty inner city communities, this number jumped to eighty-seven percent (Astor, Behre, Fravil and Wallace, 1997). Although public fears of school shootings are inflated by media representations, high levels of fighting punctuated by a few very serious assaults justify concern over school violence.

Responses to School Violence

Responding to public concern over school violence, the vast majority of American high schools have implemented social-cognitive programs that teach students social skills such as anger management and conflict resolution. They have also revised discipline

policies to make them more consistent and implemented zero tolerance policies that suspend or expel students for carrying a weapon or fighting in school (Gottfredson et al., 2000, Small et al., 2001). Prevention programs address students' behavioral problems by training them in social-cognitive skills (Astor, Meyer, and Behre, 1999). Discipline strategies try to reduce the opportunity for violence by increasing surveillance, deter violence through harsh punishments, and exclude students who engage in violent behavior through suspensions or expulsions. Although some of these initiatives do reduce school violence, inconsistent results and implementation problems have highlighted the need for improved theories and approaches to school violence (Gottfredson et al., 2000, Gottfredson, 2001, Office of the Surgeon General, 2001).

The vast majority of violence prevention programs assume that school violence emerges from students' aggressive impulses and problems outside of school (Baker, 1998, Gottfredson, 2001, Sandler, Wong, Morales, and Patel, 2000). The high level of violence in America supports this assertion. Comparison of homicide rates of countries across the world reveals that, "the United States is the most violent of developed nations and one of the most violent of all nations" (Short, 1997, p. 12). Also, fighting is part of many adolescents' experiences, especially among males. Forty-four and 27 percent of high school aged males and females reported being involved in a physical fight over the last 12 months in 1999, respectively (Kaufman et al., 2001). A Phi Delta Kappa Study of over 22,000 elementary and high school students found that between 25 and 35 percent of "typical" students experience disruptive or traumatic events such as sexual abuse, attend three or more schools over a five year period, live with a family member who used drugs, or misbehave in school to a severe enough degree to be suspended (Frymier and

Gansneder, 1989). These experiences are likely to impact students' chances of misbehaving at school. However, "most young people exposed to multiple risks will not become violent" (Office of Surgeon General, 2001, p. 77). Efforts to identify risk factors for student violence need to be cautious and avoid reinforcing or creating stereotypes of intrinsically violent youth.

While the responsibility for classroom management and safety is that of teachers, the safety of public spaces in schools is often seen as the responsibility of administrators, security staff, and students' family (Astor et al., 1999, Devine, 1996). Ethnographic research inside high schools has found that few adults feel responsible for the public spaces in schools (Astor et al., 1999). A survey of teachers also found that teachers believed regulating student behavior was primarily the responsibility of parents and students.

Teachers accepted responsibility for helping eighth graders learn in the areas of reading, writing, mathematics, and higher-order thinking skills. But they thought that parents and students were responsible for students' daily attendance, listening, attitude toward school, completion of homework, general behavior in school and attention in class (Frymier and Gansneder, 1989, p. 145)

As a result of these assumptions, responses to school violence have often been added to schools as separate supplemental programs instead of being integrated into its operation. For instance, the vast majority of prevention programs are operated as an extra class or session (Gottfredson et al., 2000). The division of responsibility for students' behavior substantiates the belief that the size and training of schools' prevention, counseling, and security staff determines how effectively it responds to violence.

Specialists can make schools safer by recommending best practices, providing intensive interventions, and defusing violent situations. School prevention programs that were designed in consultation with outside specialists include more practices that have been shown to reduce school violence (Gottfredson et al., 2000). Since a small percent of students typically cause a disproportionate number of problems and engage in a high number of physical conflicts (Dwyer and Osher, 2000, Skiba, 2000), students displaying these types of behavior may benefit from focused intensive interventions (Dwyer and Osher, 2000). Finally, schools need personnel trained in diffusing potentially dangerous physical conflicts. This may be especially true when schools are struggling with weapons and gang violence.

School safety, however, does not depend solely on the activities specialists. Establishing a safe school environment requires the efforts and involvement of all school staff (Dwyer and Osher, 2000, Learning First Alliance, 2001). Prevention programs are more successful when staff is broadly involved with shaping the program (Thorton et al., 2000, Gottfredson et al., 2000). Moreover, an over-reliance on specialists may actually increase problems by inadvertently encouraging teachers and school staff to distance themselves from high school students (Devine, 1996). Also, teachers may feel a diminished sense of responsibility to keep public spaces safe (Astor et al., 1999). The finding that broad participation in prevention programs enhances program effectiveness highlights the need to better understand the extent to which school climate influence efforts to make schools safer.

Links between School Climate and School Safety

Insufficient attention has been paid by educational researchers to the quality of

human interactions that occur between children and adults at schools. A healthy school climate supports children's healthy development and facilitates their acquisition of the effective social and intellectual skills they need to survive and thrive. An unhealthy one leads to conflict between children, parents, and school personnel and makes children's social and intellectual development difficult, if at all possible (Haynes, 1996, p.309)

The most successful violence prevention approaches combine social-cognitive programs with efforts to improve students' school or home environment (Office of the Surgeon General, 2001). More generally, outside of the realm of school, alternative juvenile justice programs that address individual's problems through supervision and counseling while helping them to reshape their environment by providing academic assistance and access to jobs or community service have produced significantly lower recidivism rates than imprisonment (Mendel, 2001). Because violent behavior emerges from an interaction between people's personality and environment (Loeber and Stouthamer-Loeber, 1998, Tolan, Guerra, and Kendall, 1995), prevention initiatives need to address both components simultaneously. For instance, strong relationships among school staff as well as efforts to increase these relationships predict lower levels of school violence and reductions in violence over time (Learning First Alliance, 2001, Gottfredson, 2001). Moreover, two reviews of violence prevention programs found that broader initiatives targeting school climate may have a larger impact on school violence than student-focused efforts such as social- cognitive programs (Gottfredson, 2001, Office of the Surgeon General, 2001).

Although survey and quasi-experimental research have established that school

climate and violence are related, much of the research is atheoretical and relies on cross-sectional data (Baker, 1998). A review of the literature identified four elements of school climate that may reduce school violence: the quality of relationships between and among staff and students, teaching non-violence, effective instruction, and responsiveness to eighth graders' culture and community (Gladden, 2002). These four elements are explored below. The remainder of this paper then uses surveys and fieldwork to evaluate these theories.

Social Capital: Relationships as a Resource

Positive relationships between people and membership in groups such as families, churches, and civic organizations can produce positive benefits for both individuals and groups (Coleman, 1988, Sullivan and Transue, 1999). Just as financial capital helps people and communities accomplish goals, strong social relationships among people constitute a type of "social capital" that has visible benefits for a community.

If physical capital is wholly, tangible, being embodied in observed material form, and human capital is less tangible, being embodied in the skills and knowledge acquired by an individual, social capital is less tangible yet, for it exists in the relations among persons...For example, a group within which there is extensive trustworthiness...is able to accomplish much more than a comparable group without the trustworthiness (Coleman, 1988, p.S100)

Two types of social capital in schools are hypothesized to influence the occurrence of school violence: the quality of relationships among school staff and the quality of relationships between teachers and students. The mechanisms through which these two types of relationships influence school violence are believed to be distinct.

Relationships among School Staff

In a cross-sectional study of crime in Chicago, crime was less prevalent in communities where adults trusted one another and were willing to intervene in conflicts occurring outside their homes (Sampson, Raudenbush, and Earls, 1997). Similarly, a variety of cross-sectional studies have found that schools with strong professional relationships among adult staff members are safer (Bryk and Driscoll, 1988, Gottfredson, 2001, Noguera, 2001, Sebring et al., 1996). Quasi-experimental research and fieldwork suggests that improving professional relationships among educators causally reduces school violence (Gottfredson, 2001, Office of the Surgeon General, 2001, Zane, 1994).

Strong professional relationships among adults may lead to reductions in school crime by improving the implementation quality of prevention programs, increasing the consistency of discipline, and enhancing the ability of school staff to effectively intervene in public spaces (Gladden, 2002). One national study of high school prevention programs found that only 20 percent were well-implemented (Gottfredson et al., 2000). In order for a program to be well-implemented, a large percent of students need to be involved in programs for enough time to induce behavioral change. The sustained involvement of students in prevention programs is partially dependent on school staff supporting and feeling invested in the program. Generally, strong professional relationships among and between school staff and parents enable greater organizational improvements during periods of school reform (Bryk, Sebring, Kerbow, Rollow, & Easton, 1998, Sebring et al., 1995). Consequently, strong professional relationships among staff may facilitate more widespread buy-in and involvement in prevention programs that are viewed as effective. Indeed, the strength of professional relationships among faculty predicts the proportion of

students who are involved in a prevention program and their extent of involvement (Gottfredson et al., 2000).

A consensus exists that safer schools possess and fairly enforce clear expectations for student behavior (Dwyer & Osher, 2000, Learning First Alliance, 2001, National Institute of Education, 1978, Verdugo & Schneider, 1999). Substantial organizational effort is required to translate rules into consistent expectation and practices. Although nearly all high schools have written discipline policies, a national survey revealed that only half are consistent in how they enforce these policies (Gottfredson et al., 2000). Just as strong professional relationships may support better implementation of prevention programs; strong professional community may support more consistent discipline policies by increasing teachers' investment in policies, facilitating communication among teachers about the meaning and application of the policies, and providing mutual support and a sense of accountability among teachers. Indeed, strong relationships among teachers, administrators, and parents predict higher levels of consistency in schools' discipline policies (Gottfredson et al., 2000, Verdugo & Schneider, 1999).

Finally, strong relationships among adults may enhance their willingness to intervene and feel ownership of public spaces. For example, in Chicago, neighborhoods characterized by strong relationships among neighbors were more likely to confront a truant youth or a person disturbing a public space (i.e., exert social control). In turn, neighborhoods where residents exerted high levels of social control experienced lower levels of violence (Sampson, 1997, Sampson et al., 1997).

The willingness of local residents to intervene for the common good depends in large part on conditions of mutual trust and solidarity among neighbors. Indeed,

one is unlikely to intervene in a neighborhood context in which rules are unclear and people mistrust or fear one another. It follows that socially cohesive neighborhoods will prove the most fertile contexts for the realization of informal social control (Sampson et al., 1997, p. 919)

Applying this argument to schools suggests that schools characterized by strong relationships among staff may be safer because adults are more able to effectively prevent and defuse student misbehavior. Also, strong relationships among the school staff enable them to garner support in dealing with problems. “In a community where there is an extensive set of expectations and obligations connecting the adults, each adult can use his drawing account with other adults to help supervise and control his children” (Coleman, 1990, p. 318).

Relationships between Students and Teachers

The quality of relationships between students and teachers may influence school violence by reducing student alienation, defusing minor misbehavior, and making discipline more effective. High levels of student alienation make school violence more likely (Learning First Alliance, 2001, National Institute of Education, 1978, Newmann, 1981, Sebring et al., 1996). By strengthening relationships between adults and students in schools, schools can directly address students’ sense of alienation and lower the likelihood of violence. Students who report being attached to an adult in school are less likely to become involved in violence (Blum & Rinehart, 1997, Thornton et al., 2000). Although the power of single relationships should not be overestimated, strong relationships between students and teachers can powerfully influence students.

Most disciplinary problems are relatively minor disruptions, originate in

classrooms, and are interpersonal in nature (Reston et al., 1996). Fostering trust between students and teachers may help them resolve misunderstandings better and enable teachers to defuse negative behavior more effectively. For instance, disciplinary incidents and problems have been shown to be less frequent when students report liking their teacher (Reston et al., 1996).

Moreover, the effectiveness of punishment partially depends on students' interpretation of the punishments. Specifically, the effectiveness of sanctions in reducing violent behavior depends on the sanction being delivered fairly, people's attachment to the institution or person delivering the punishment, and the reintegration of people back into their community after the punishment (Sherman, 1993, Short, 1997). This research suggests that school punishments have a better chance of preventing further problems if students feel connected to their teachers and school.

Teaching Non-Violence

Safe schools are more likely to emerge when teachers and other adults in schools view teaching respectful behavior as part of their job. For instance, differences between Catholic and public schools in classroom orderliness and cutting are partially explained by the tendency of Catholic schools to operate as a community. A sense of community grows from teachers believing that their job includes guiding students ethically (Bryk, Lee, and Holland, 1993). Disciplinary incidents are seen as an opportunity to provide guidance and reaffirm students' membership in the community. In fact, an "ethic of caring" and teacher roles that include interactions with students outside the classroom are associated with students being more committed to school and less likely to become involved in violence in public schools (Astor et al., 1999, Bryk and Driscoll, 1988, First

Learning Alliance, 2001, Noddings, 1988, Zane, 1994). In this type of environment, school officials actively try to prevent disrespectful behavior among students from occurring or escalating into higher levels of violence. Moreover, faculty often specifically tries to cultivate respectful relationships, instead of just aiming to prevent problems. Fostering respectful relationships and addressing student arguments may be critical elements in making a school safer.

For many students, being disrespected was considered the crucial ingredient that led to serious violence, including weapon violence in schools. To deal with weapon violence or fights without dealing with issues of respect sets the stage for, at best, a quick fix with a short life span (Casella, 2001, p. 33).

Effective Instruction

Boredom and lack of academic challenge increase the likelihood of disruptive behavior. Administrators agreed that if students are academically challenged in class, they are less likely to misbehave (Browne, 2001, p. 190)

Efforts to reduce school violence must be closely intertwined with efforts to improve academic achievement and engagement because academic failure and discipline problems are strongly linked (McEnvoy and Welker, 2000). Also, a strong academic focus prevents behavior and discipline from becoming the primary focus of schools. In some schools, discipline problems and discussions of discipline problems overshadow the academic mission of schools (Zane, 1994). The focus becomes controlling instead of educating students. For instance, Browne's (2001) study of four similar schools in Dade County found low out-of-school suspension rates in schools that viewed their mission as educating all students and high suspension rates in the school that were primarily focused

on demonstrating an intolerance of misbehavior.

Conversely, schools may sacrifice academic rigor in order to create a caring environment. In a national study, the achievement of students was lower in schools serving low-income students when the students reported a caring environment, but low academic expectations (Shouse, 1995). Only when a caring environment was coupled with high academic expectations was students' learning higher than average. A study of Chicago middle schools also found that schools with high academic expectations and strong relationships between students and teachers achieve the largest academic gains for its students (Lee, Smith, Perry, and Smylie, 1999). Phillips (1997) voices the important concern that prioritizing caring relationship over academic rigor can lead to liberal patronizing and low expectations especially for minority and low-income students.

Responsiveness to Students' Culture and Community

One major problem with contemporary discipline policies is that minority students are disproportionately suspended even after controlling for socio-economic status and the behavior of students in school (Skiba et al., 2000). A wide body of research documents how different cultural expectations, communication styles, and stereotypes collide to diminish academic opportunities of minority students and increase confrontations and punishment (Anyon, 1995, Cummins, 1986, Mc Dermott, 1977, Reston, Sheets, and Gay, 1996, Shwartz, 2001, Townsend, 2000). This research suggests a variety of approaches to minimize cultural conflicts in schools such as monitoring of discipline practices for bias, including students' culture in the curriculum, fostering better communication strategies between teachers and students, and establishing high academic expectations. In order to establish effective discipline practices, schools need to confront and work to reduce

discriminatory discipline policies.

It is not enough, however, to have discipline policies free of racial bias. Engaging students requires connecting with them through their own experiences and culture. Curriculum and classes that interweave student's background and identities may enhance student engagement and further contribute to a safe school environment.

Testing and Expanding Research on School Climate

This study seeks to rigorously investigate the relationship between school environment and safety. Schools located in more violent communities tend to be less safe (National Educational Association, 1996, Sebring et al., 1996). This finding raises the possibility that community violence instead of school climate may be driving rates of school violence. Consequently, the relationship between school climate and safety may be spurious and occur because schools located in violent communities have difficulty maintaining a safe environment and establishing a positive school environment. In order to examine this possibility, the relationship between school climate and safety is examined after controlling for the relationship between community violence and school safety. Even with extensive community controls, school climate is expected to be significantly related to school safety.

Students' social skills such as their ability to cope with anger or their ability to negotiate conflict predict levels of school violence (Office of the Surgeon General, 2001). Consequently, the relationship between school climate and school safety may result from schools serving students possessing strong social skills having a better school climate and a safer environment than schools that serve students with weaker social skills. In order to control for this possibility, a measurement of students' social skills was entered as a

control variable in statistical models. Assessing the relationship between conflict negotiation and school safety is also important because a large percent of prevention programs are predicated on the belief that enhancing students' social skills reduces school violence.

Although the relationship between school climate and school safety is expected to persist after entering students' social skills, the relationship between school environment and school safety may be partially mediated by students' social skills because a positive school climate may foster safer schools by enhancing students' use of social skills. For instance, teachers' commitment to teach non-violence might make teachers more likely to help students resolve disputes. In addition to defusing potential conflicts, teachers' involvement in resolving disputes may enhance students' own skills because adolescents tend to learn social skills and behavior by seeing it modeled (Aronson, 2000; Thorton et al., 2000).

Most research connecting school environment and school safety is cross-sectional and fails to provide insight on the extent to which school environment predicts changes in school safety over time (Gladden, 2002). In this study, longitudinal analyses address this gap in research by exploring the extent to which school climate and changes in school climate predict changes in school safety between 1997 and 1999. If the relationship between school environment and safety is robust, school environment should predict changes in school safety as well as predicting its level at a point in time.

Although the relationship between school environment and school safety has been established in past research, the process through which school environment may influence school safety is less understood. In this study, analyses move beyond testing for the

relationship between school climate and safety to explore two factors, the ability of teachers to resolve conflicts among students and students' classroom behaviors, which might explain or mediate this relationship. Teachers' ability to resolve students' conflicts is anticipated to partially mediate the relationship between teachers' commitment to teach non-violence and school safety. Teachers' commitment to teach non-violence is expected to be expressed by their willingness and ability to assist students in resolving disputes before they become violent. By defusing a higher percentage of student conflicts, teachers are expected to foster safer schools. A critical step in establishing safe schools is creating classrooms where students treat teachers and each other with respect. Establishing trusting relationship among and between students and teachers, committing to teaching non-violence, teaching effectively, and responding to students' culture and community are anticipated to foster more orderly and respectful classrooms and consequently make schools safer.

In conjunction with the quantitative analyses, fieldwork in two schools (one middle school and one high school) explored how school climate and school violence were linked. Fieldwork also provided insight into possible interpretations and limitations of the quantitative findings.

IDENTIFYING LINKS BETWEEN SCHOOL CLIMATE AND SCHOOL SAFETY WITH SURVEYS OF CHICAGO PUBLIC ELEMENTARY SCHOOLS

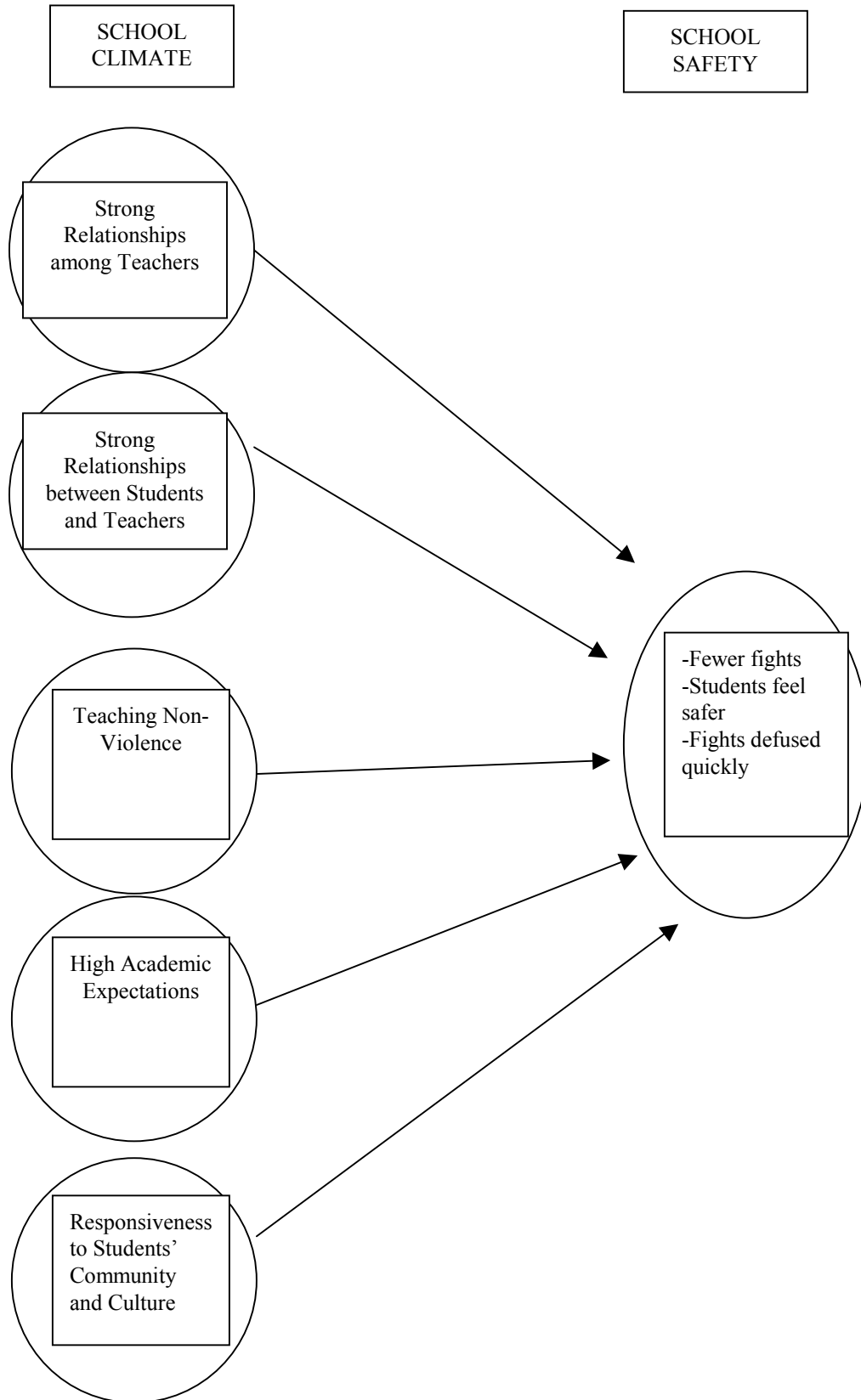
This section empirically evaluates the theoretical model linking school environment to school safety, outlined in the introduction, with teacher and student surveys collected from Chicago Public Schools (CPS) elementary schools by the Consortium on Chicago School Research (CCSR) in 1997 and 1999. Specifically, five aspects of school climate, strong relationships among teachers, strong relationships between teachers and students, a commitment to teach non-violence, effective instructions, and responsiveness to students' culture, are expected to both make students feel safer and become involved in fewer fights (See Figure 1).

The analyses were designed to address three major issues. The documented relationship between school climate and safety may be driven by the level of community violence in the neighborhood surrounding the school. In other words, establishing a strong school environment, such as implementing effective instruction, and maintaining a safe school environment may both be more difficult in communities struggling with violence. Consequently, the relationship between school climate and school safety may diminish or disappear after accounting for the effect of community violence. In order to examine this possibility, the relationship between school climate and school safety was examined after statistically controlling for the level of violent crime in students' and schools' neighborhoods. Also, students' perceptions of social resources in their communities were measured. The relationship between school environment and school safety is hypothesized to persist even after controlling for community violence and social resources.

Safe school environment may nurture improvements in school culture instead of school culture fostering improvements in school safety. In order to evaluate this possibility, changes in students' reports of safety and fighting between 1997 and 1999 were measured. If the cross-sectional relationship between school safety and climate is driven by improvements in school safety fostering improvements in school climate, 1997 measures of school climate should not predict 1999 levels of school safety after 1997 levels of school safety are entered as a statistical control. In contrast, if the 1997 measures of school climate predict changes in school safety between 1997 and 1999, this finding would be consistent with the hypothesis that improvements in school climate foster improvements in school safety. The measures of school climate in 1997 are expected to predict changes in school safety between 1997 and 1999.

The processes through which school environment influences school safety are not well understood. In an effort to better understand how school climate and safety are related, the study investigates the extent to which the relationship between school environment and school safety is mediated by students' social skills, students' classroom behavior, and teachers' ability to resolve student conflicts.

Figure 1: Theorized Relationship between School Climate and School Safety



Methods

Databases and Samples

In order to conduct the analyses, four different types of information were integrated: 1) CPS elementary school surveys conducted in 1997 and 1999 by CCSR, 2) CPS student administrative information, 3) population and housing information from the 2000 United States Census, and 4) reported crimes in Chicago during 1996 and 1998. The CCSR survey measures students' perceptions of their schools, such as the extent to which the school is safe, and asked students to describe their behavior in school, such as how often they were involved in fights. The survey also measures teachers' perceptions of their school such as how well teachers' collaborate. The CPS administrative database provides demographic information on students and details their progress in school (e.g., were students retained in the same grade). The 2000 census information and the 1996 and 1998 crime information provide contextual information on the neighborhoods where CPS students live and CPS schools are located.

CCSR Student and Teacher Surveys

CCSR conducted citywide surveys of all Chicago Public Schools in 1997 and 1999. In 1997, CPS sixth, eighth, and tenth graders were asked to participate in the survey and sixth through tenth graders were sent surveys in 1999. All elementary and high school teachers were asked to complete the survey.

Elementary school data was used instead of high school data because the large number of elementary schools that participated in the survey (422 participated in either the teacher or student survey in 1997 and 378 participated in either the teacher or student survey in 1999) provided more statistical power to detect significant relationships.

Analyses focused on eighth graders because a significant portion of eighth graders report fighting at school (See Results), youth involvement in serious violence tends to begin between the ages of 12 and 20 (Office of Surgeon General, 2001) and broader survey information was available for eighth graders compared to sixth graders in 1997. In contrast, all elementary teachers' responses were included in assessments of school climate in order to produce stable estimates.

In both 1997 and 1999, the schools responding to the CCSR survey were similar to schools that choose not to participate across three dimensions: racial composition, percent of students receiving a free or reduced lunch, and percent of students achieving at/or above national norms on the Iowa Test of Basic Skills in 1996 and 1998. This suggests that schools who responded to the survey were demographically representative of the population of Chicago Public Schools (See Bilcer, 1997 and the CCSR, 2000 for a detailed discussion of the CCSR surveys).

In responding schools, teacher response rates were moderate and student response rates were high. CCSR created a representative analytical sample in order to estimate citywide averages. The response rates for elementary school teachers in schools included in the analytic sample was moderate, with 63 and 52 percent responding in 1997 and 1999 respectively. The response rates for elementary students enrolled in schools in the analytic sample were high (78 percent in 1997 and 79 percent in 1999) (Bilcer, 1997, Consortium on Chicago School Research, 2000).

A small number of elementary schools that participated in the CCSR surveys were excluded from analyses. Specifically, schools with low student response rates, alternative schools, and high schools serving seventh and eighth graders were excluded. Schools

were excluded from analyses if less than fifteen eighth graders responded to the dependent variable of interest. These schools were excluded in order to eliminate unreliable school estimates and to prevent schools that may have implemented the CCSR surveys poorly from influencing results. Alternative and special education schools were also excluded since they operate under different guidelines than general education schools, serve students with special needs, and possess faculties whose size and training differs from that of general education schools.

Finally, schools that served sixth through twelfth grade students were excluded because a sizable percentage of these schools were selective enrollment high schools, which also served middle school students. Also, the experiences of eighth graders in these schools are judged to be qualitatively different from the experiences of eighth graders enrolled in traditional elementary schools that serve first through eighth graders. For instance, preliminary investigation of survey responses revealed that eighth graders attending high schools felt significantly less safe in school than other eighth graders. The mixing of eighth graders with older more mature students in the high schools may explain this finding. After applying the preceding selective criteria to the 1997 data, 323 elementary schools, or 68 percent of all eligible elementary schools in Chicago¹, and over 17,700 eighth graders were included in analyses.

In addition to meeting the selective criteria previously described, schools were only included in the longitudinal analyses that tracked changes in eighth graders' perceptions of school safety between 1997 and 1999 if their schools participated in the 1999 CCSR surveys. This resulted in 283 schools, or about 57 percent of all elementary

schools, and over 15,000 students being included in the longitudinal analyses.

CPS Administrative Data

At the beginning and end of every school year, CPS collects information on the grade, school, and home address of enrolled students. Demographic information on birthday, race, and assignment to special education is also recorded. Finally, the administrative data tracks the reasons students left CPS (i.e., left the city, graduated, or dropped out of high school). This database includes over a million and quarter students who were enrolled in CPS between September 1991 and September 2002.

2000 United States Population and Housing Census

Information from the 2000 census was linked to students' home addresses and the addresses of elementary schools in order to better understand the economic condition of the neighborhoods in which students lived and went to school. Students were linked to the census information of the census block group in which they lived. Similarly, schools were linked to the census block group in which they were located. A census block group generally contains about 250 and 550 housing units.

Reported Crime Rates in Chicago

The Chicago Police Department supplied the study with all reported crime in 1996 and 1998. The Federal Bureau of Investigation, FBI, guidelines and categories² were used to categorize crimes and create a measure of violent crime. Specifically, a violent crime rates for each census tract in Chicago was derived by dividing the number of

¹ 74 percent of the eighth graders in these 323 schools replied to the CCSR survey.

² The Federal Bureau of Investigation (FBI) measures violent crime nationally using a violent crime index. The index sums murder, aggravated assault and battery, robbery, and sexual assault and then calculates a violent crime rate by dividing the preceding sum by the population of the area under study, in this case Chicago.

violent crimes that occurred in a census tract during the course of a year by the population in that census tract, estimated by combining the 1990 and 2000 census information. This violent crime rate was then linked to CPS students and schools based on students' home addresses and the location of the school.

Measure Development

In order to test the relationship between school climate and safety, measures of school safety and violence, school climate, and community violence were constructed. Except for school safety and teachers' ability to resolve student conflicts, all measures included multiple CCSR survey items.

Creating Student and Teacher Measures with Rasch Models

Measures were created using Rasch models, a latent trait model that estimates item difficulty and person ability (Bilcer, 1997, Wright and Mok, 2000). Item difficulty is the log odds that respondents will endorse a specific item. Person ability is the log odds that an individual will respond affirmatively to the set of items included in the measure. Consequently, the interaction between person ability and item difficulty predicts the log odds that an individual will endorse a specific question.

The simplest Rasch model, a Rasch model that creates a measure by combining i dichotomous items, is mathematically represented with the following equation.

$$\ln(P_{ni}/(1-P_{ni}))=B_n-D_i$$

P_{ni} is the probability of person n with ability B_n succeeding on item i which has difficulty level D_i . In the case of one trial, P_{ni} is the expectation (abstraction) of the observed (concretization) x_{ni} (Wright and Mok, p. 94).

This equation also can be extended to include information from rating scales, such as those used in the CCSR survey (See Wright and Mok, 2000 for extended discussion).

Also, Rasch models calculate a fit statistic for each item and person by comparing the observed responses of a person or item to the prediction of the Rasch model derived from analyzing the full sample of persons and items. The discrepancy between the observed and predicted response for a person on an item, Y_{ni} , can be mathematically expressed with the following equation, $Y_{ni} = x_{ni} - P_{ni}$. A large difference between the observation and model prediction indicate that the observation diverges from the model. A small difference,

...implies that the abstraction is robust with respect to the experience and thus by inference to similar future experiences. Since each trial is a Bernoulli experiment, the variance of the x_{ni} is given by $P_{ni}(1 - P_{ni})$, so it is possible to evaluate the significance of a discrepancy by computing a chi-square with approximately one degree of freedom for each x_{ni} ” (Wright and Mok, p. 94).

Mathematically, this is captured by the equation,

$$z_{ni}^2 = y^2 / P_{ni}(1 - P_{ni}) \sim \chi_1^2$$

The residuals, calculated above, are used to calculate the outlier sensitive mean square residual goodness of fit statistic, or Outfit Mean Square. The item Outfit Mean Square, u_1 , is calculated by taking the sum of the squared residuals averaged over the total number of persons, N , responding the item (See Wright and Mok, 2000, p. 95).

$$u_1 = \sum_{n=1}^N z_{ni}^2 / N$$

The person Outfit Mean Square is calculated in a similar manner. The only difference is that the sum of the squared residuals is averaged over the total number of items, L , instead of people (See Wright and Mok, 2000, p. 95).

$$u_n = \sum_{i=1}^L z_{ni}^2 / L$$

Because the Outfit Mean Square can be inflated by unexpected responses made by people for whom the items are either extremely easy or exceedingly difficult, another technique has been designed to assess the fit between predicted and observed responses. The information weighted mean square residual goodness of fit statistic, or Infit Mean Square, “is calculated by taking the weighted average of squared residuals so that remote responses are given less weight than proximal responses” (Wright and Mok, 2000, p. 96). During the creation of the measures, both infit and outfit statistics were examined in order to evaluate the extent to which each item fit the scale (See Smith, 2000 for in-depth discussion).

Rasch models also calculate standard errors for each respondent replying to the survey (Smith, 2001). A high standard error for a respondent indicates that their responses to the scale disagree substantially with the predictions made by the Rasch model. For instance, a respondent who tended to endorse a high difficulty item, such as “sometimes I get so interested in work in math class I don’t want to stop”, while simultaneously not endorsing a low difficulty item on the same scale, such as “the topics we are studying in math class are interesting and challenging”, would be assigned a high standard error³. Calculating a standard error for respondents is useful because they can be used to weigh data in analyses (Bilcer, 1997). In other words, individual responses that are less reliable will receive less weight when performing analyses than individual responses that are more reliable.

In addition to assessing the fit of a Rasch measure, one may also want to assess its reliability. Reliability in the context of Rasch models is calculated through a three-step process (See Smith, 2001 for complete discussion). First, the Rasch model calculates the mean square measurement error, MSE_p . The mean square error is the sum of the squares of the standard error for each person divided by the total number of respondents or,

$$MSE_p = \sum_{n=1}^N S_n^2 / N$$

MSE_p is the mean square measurement error for all people in the sample

S_n is the standard error for each person measure

N is the total number of persons or respondents

In the next step, the MSE_p is subtracted from the observed variance among person, or the standard deviation squared (SD_p^2), to yield an estimate of the variance in person measures adjusted for measurement error (SA_p^2), or referred to as ‘true’ variance, in the person measures (Smith, 2001). In the final step, the person reliability is derived by calculating the ratio of the adjusted variance to the observed variance (see Smith, 2001),

$$R_p = SA_p^2 / SD_p^2$$

R_p is the reliability estimate.

SA_p^2 is the person variance that is adjusted for measurement error, or ‘true’ variance.

SD_p^2 is the observed variance among persons.

Scales created with Rasch can be equated across time and samples. For instance, a measure of parental involvement collected in 1999 can be placed on the exact same scale as the measure collected in 1997, even if new items were introduced in 1999 or if 1997 items were deleted. In this study, the 1999 measures were anchored on the item difficulties and step measures used to create the 1997 measures in order to make both

³ Example items extracted from a measure of academic engagement created by CCSR.

scales comparable. This procedure ensures that measures have consistent meanings across time (Wright and Masters, 1982).

Except for one measure, all the measures used in this study were created by CCSR using Rasch models (See Bilcer (1997) for detailed descriptions of 1997 scales and Consortium on Chicago School Research (2000) for detailed description of 1999 scales). A measure of school responsibility was created by the investigator and is described below.

Creating School Means with Hierarchical Linear Modeling

Each student measure was aggregated to the school level because analyses assessed the relationships among the predictors and school safety at both the student and school levels. The 1997 and 1999 CCSR survey data have a nested structure where eighth graders are nested in the school they attended at the time they took the survey. Hierarchical Linear Modeling (HLM) is the most appropriate technique to analyze nested data because it derives correct standard errors for higher level predictors (i.e., in this instance, school level predictors such as racial composition). In contrast, OLS regression produces biased standard errors under these circumstances. HLM also assesses the extent to which the influence of student characteristics, such as achievement level, varies across school characteristic (e.g., the presence of excellent tutoring programs) (Raudenbush and Bryk, 2002).

A third advantage of HLM is that it distinguishes individual effects from organizational effects. Individual effects assess whether individuals who score higher on a scale are less or more likely to score high on the dependent variable. For instance, eighth graders who trust their teachers to treat them respectfully may be less likely to

become involved in fights regardless of the school they attend. Organizational effects assess the extent to which clustering of students who either score high or low on a measure in schools influences outcomes above and beyond the individual effect (See Raudenbush and Bryk, 2002). This is referred to as a contextual or compositional effect. In the above example, the contextual effect would be the expected difference in the responses of two students who both reported the same level of student-teacher trust, but were enrolled in two schools whose average level of student-teacher varied by a one unit.

Instead of using the arithmetic mean of schools (i.e., averaging the responses of eighth graders or teachers in the school) to create school-level predictors, HLM was used to calculate the empirical Bayes (EB) estimates for every school-level predictor. Unlike the arithmetic mean, EB estimates use both information from respondents in the school (i.e., the school mean) and all eighth graders or teachers who responded to the scale (i.e., the grand mean) when calculating the school mean. If the school mean was measured reliably, the EB estimate would approach the school mean. In contrast, the EB estimate for a school would approach, or shrink, towards the grand mean for the whole school system to the extent that the school mean was measured unreliably. The EB estimate has the advantages of being more predictive than arithmetic means and eliminates outliers caused by poor measurement (See Raudenbush and Bryk, 2002).

If the measure was created using Rasch techniques, a three-level HLM was used to calculate the school-level EB estimates (Jacob, Stone, and Roderick, 2004, Raudenbush & Bryk, 2002). The first-level was the measurement level, the second-level was the student level, and the third-level was the school level. Measures created with Rasch models produce standard errors (See Measurement Development for explanation)

for each student or teacher who responded to a scale. The measurement level adjusts for the heteroscedasticity of errors among students (i.e., each student has his or her own measurement of error) and enables the analysis to predict the latent measure (i.e., the measure adjusted for measurement error) instead of the observed measure (See Raudenbush and Bryk, 2002 for extended discussion). Because the purpose of these analyses was to produce unadjusted mean scores for each school, no predictors were entered at either the student or school level of the HLM. The EB estimates were extracted from the school, or third, level of the analysis. Finally, the EB estimates were standardized in order to facilitate comparisons across school-level variables and calculate interpretable effect sizes.

The mathematic equations associated with each of the three levels of the HLM are now presented. Each Rasch measure is a random variable, comprised of a latent, or true, measure and random measurement error. This is expressed mathematically by the following equation,

$$Y_{ij} = \pi_{ij} + e_{ij}$$

$$Y_{ij} \sim N(\pi_{ij}, \sigma_{ij}^2)$$

Y_{ij} is the observed outcome for student i in school j

π_{ij} is the latent measure for student i in school j

e_{ij} is the measurement error associated with Y_{ij}

Ordinarily, the errors at level one of an HLM have a constant variance. This is not true for this model because each person possesses his or her own measurement error, calculated in the Rasch analysis. In order to correct for this heteroscedasticity, both sides of the level one HLM equation are multiplied by the inverse standard error ($1/se_{ij}$), where se_{ij} is the standard error of measurement for student i in school j , on a given measure

(Jacob, Stone, and Roderick, 2004, Raudenbush & Bryk, 2002). After applying this transformation, the equation for the measurement, or first, HLM level is:

$$Y_{ij}^* = \pi_{ij}^* (1/ se_{ij}) + e_{ij}^*$$

Y_{ij}^* is the observation divided by its standard error

π_{ij}^* is the latent measure adjusted for measurement error

$e_{ij}^* \sim N(0,1)$ The Level 1 error is now distributed standard normal. The π_{ij}^* is the latent measure adjusted for measurement error and comes down to become the outcome at the student, or second, level.

At the student, or second level, of the HLM, the outcome of interest adjusted for measurement error is analyzed instead of the observed outcome. Adjusting for measurement error should provide a more accurate measure of the outcome at both the student and school level. No predictors were entered at the student level because the purpose of the analysis was to derive an unadjusted EB estimate for each elementary school. The student, or second, level of the HLM analysis can be summarized by following equation:

$$\pi_{ij}^* = \beta_{0j} + r_{ij}$$

π_{ij}^* is the outcome of interest adjusted for measurement error.

β_{0j} is the mean of the adjusted outcome in school j

At the school, or third level, of the HLM, the mean of the adjusted outcome in each school, or β_{0j} , is analyzed. No predictors were entered at the school level because the purpose of the analysis was to derive an unadjusted EB estimate for each elementary school. An EB estimate for each school is extracted from this level and used in subsequent analyses. The equation at the school, or third, level is:

$$\beta_{0j} = \gamma_{00} + v_{0j}$$

γ_{00} represents the mean level of β_{0j} district wide and the error term, v_{0j} , quantifies the extent to which each school's mean deviates from the district wide average.

The preceding three-level HLM model also estimates the extent to which the latent measure, or π_{ij}^* , varies among students (σ^2 represents the variance in r_{ij} , or students) and varies among schools (τ_{00} symbolizes the variance in v_{0j} , or schools). With this information, the proportion of the total variance in the measure that occurs between schools can be calculated. This quantity is referred to as the intraclass correlation coefficient, or ρ , and assists in understanding the extent to which the measure varies within versus between schools. The intraclass correlation coefficient is calculated by dividing the variance at level two by the sum of the variances at level one and level two, or $\rho = \tau_{00} / (\sigma^2 + \tau_{00})$ (Raudenbush & Bryk, 2002).

The reliability (the parameter variance divided by the sum of the parameter variance and error variance) at the school level was also extracted from the HLM in order to assess the extent to which the school means of a measure were precisely measured. Because the sample size and the variance in students' responses differed across schools, each school possessed a different reliability estimate. In order to calculate the overall reliability of the measure across schools, all the school-level estimates were mathematically combined (See Raudenbush & Bryk, 2002 for extended discussion of how HLM calculates reliability).

The preceding three-level HLM model is only appropriate if the outcome was a measure produced with Rasch because Rasch produces a standard error for each person. In a few cases, a construct was measured with a single item. In these cases, the measurement, or first, level described above is inappropriate because an error of measurement cannot be calculated for a single item. As a result, the EB estimates for

these single item measures were calculating using a two-level HLM, where students composed the first level and the second level contained schools. This model is identical to the three-level HLM previously described except for the fact that the measurement, or first, level is omitted. As a consequence, the EB estimate is of the observed responses for the single item instead of the responses adjusted for measurement error.

Measures

This section describes the items that composed each measure, reports the reliability of each measure at the student and school level, and calculates the intraclass correlation coefficient for each measure with HLM.

Dependent Variable: School Safety and Fighting

Three items on the 1997 and 1999 eighth grade survey asked students how safe they felt at school. Specifically, students were asked how safe they felt in school classrooms, school hallways/bathrooms, and outside and around school. Measuring the extent to which students feel safe at school is important because students should be ensured a safe learning environment. Also, students may skip school if they feel threatened at school. In 1999, 5 percent of students reported missing one or more days of school during the preceding 30 days because they felt too unsafe to go to school (Centers for Disease Control and Prevention, 2002). A fourth item asked eighth graders about the number of fights they were involved in at school during the school year. Quantifying the number of fights that occur in schools is important because each fight poses a risk to the health of students and disrupts school activities. For instance, students attending high schools with moderate or high levels of violence are less likely to graduate from high school or attend a 4-year college, even after a range of student and school characteristics

have been controlled (Grogger, 1997).

One approach to measuring school safety is to create a composite measure that combines the three school safety items with the item measuring students' involvement in fights. This approach was rejected on empirical and theoretical grounds. Students' involvement in fights was weakly negatively correlated with their reports of school safety (i.e., phi coefficients for chi-squares ranged only from .11 to .14) and consequently combining fighting with safety was not empirically justified. As a result, the fighting item was analyzed separately.

The fighting item possessed four response categories: never, 1 to 2 times, 3 to 5 times, and more than 5 times. The response categories were collapsed into two categories, ever involved in a fight at school during the school year and not involved in fight, because only 5.5 percent of eighth graders reported being involved in a fight three or more times. In contrast, around 20 percent of students reported being involved in one or two physical fights during the school year (See Table 1). Consequently, very little information was lost when students involved in multiple fights was merged with students involved in only one or two fights.

Table 1: Eighth Graders' Involvement in Fights at School in 1997

Item	Never	1 to 2 Times	3 to 5 Times	More than 5 Times
Gotten into a physical fight with another student at school	75%	20%	3%	2%

The three measures of school safety-safety outside of school, safety in school hallway and bathrooms, and safety in school classrooms-were also not combined. Students' reports of safety outside of school were correlated more strongly with their

reports of safety in school hallways than with their reports of safety in school classrooms (See Table 2). Also, the correlation between students' perceptions of hallways safety and classroom safety was stronger than the correlation between students' perceptions of safety outside the school and either hallway or classroom safety. A possible explanation of this pattern of correlations is that schools exert tremendous effort to ensure students' safety inside schools and these efforts are most intense at the classroom level. Consequently, some students who may feel unsafe outside of school may feel safe in school. Indeed, many more students in CPS report feeling safe in their classrooms than outside of school (See Table 3). Classroom safety and outside safety, however, remain correlated because youth who are fearful outside of school will tend to be also fearful inside school.

The above pattern of correlations raises the concern that combining students' perceptions of safety inside their school with their perceptions of safety around the school will diminish the relationship between school characteristics and school safety because school characteristics that may intensely influence classroom behavior, such as the effective use of conflict resolution techniques by teachers, may have little to no influence on students' perceptions and behaviors outside the school. The finding that characteristics of schools, such as high academic expectations or academic press, are more strongly correlated to students' reports of classroom safety than students' reports of safety outside the school (See Table 2) demonstrates that the preceding concern is empirically warranted. Responding to this concern, the item assessing students' perceptions of safety outside the school was not included in the study because a different set of factors are believed to influence how safe students feel outside of school. Also, the fieldwork focused on perceptions and behavior inside schools and subsequently provided no insight

into factors that influence students' perceptions of safety around and outside the school.

Although students' perceptions of classroom and hallway safety are highly correlated, at the .60 level, the two items were analyzed separately for theoretical reasons. Fieldwork in schools revealed that securing school hallways pose unique challenges. For instance, in focus groups, students who reported feeling safe in classrooms because they had built strong relationships with teachers also reported feeling unsafe when they passed through school hallways. In recognition of this fact, schools use a variety of strategies to keep hallways safe such as hallway sweeps, cleaning graffiti from lockers, and security patrols that are not used in classrooms. Astor, Meyer, and Behre (1999) explain the unique challenges involved in securing hallways and bathrooms, found that most violent incidents at school occurred in public spaces, and question whether strong relationships between teachers and students in classrooms make public spaces in schools such as hallways safer. Since keeping school hallways and bathrooms safe poses unique challenges to school staff, the item measuring students' perception of hallway/bathroom safety was analyzed separately from the item measuring classroom safety.

Eighth graders' responses to the classroom and hallway/bathroom safety items were recorded on a four point scale-not safe, somewhat safe, mostly safe, and very safe. The strong negative skew of eighth graders' responses, especially regarding classroom safety, supported treating the data categorically (See Table 3). Very few students reported feeling not safe in school classrooms or school hallways/bathrooms. As a result, students who reported feeling not safe at school were grouped together with students who responded that they felt somewhat safe at school. Collapsing these two categories created three response categories-somewhat safe, mostly safe, and very safe. Factors that

move eighth graders from feeling mostly safe to very safe are believed to be different and of less theoretical interest than factors that make eighth graders feel mostly or very safe instead of only somewhat safe. Consequently, responses in the mostly and very safe categories were combined. Future research may want to explore factors that make students feel very safe instead of mostly safe at school.

Table 2: Correlations between Items Measuring Students' Perceptions of School Safety

Items	Classroom Safety	Hallway/Bathroom Safety	Outside Safety	Academic Press
Classroom Safety	1.0			
Hallway/Bathroom Safety	.60	1.0		
Outside Safety	.36	.48	1.0	
Academic Press	.19	.16	.11	1.0

Table 3: Most Eighth Graders Reported Feeling Safe at School, Especially in Classrooms in 1997

Survey Item	Not Safe	Somewhat Safe	Mostly Safe	Very Safe	N
How Safe do you feel:					
Outside and around the school?	16%	32%	35%	18%	17,808
In the hallways and bathrooms of the school?	6%	12%	30%	52%	17,729
In your class?	3%	7%	22%	68%	17,743

School Climate

The 1997 and 1999 CCSR student and teacher surveys were used to measure the four elements of school climate-the quality of relationships among and between teachers and students, effective instruction, a commitment by school staff to teach non-violent behavior, and staff responsiveness to students' culture and community-hypothesized to influence school safety and violence.

Social Capital: Quality of Relationships among Students and Teachers. Two

CCSR measures were used to assess the quality of relationships among and between staff and students because the quality of the relationships among school staff was expected to influence school safety in a different manner than the quality of relationships that existed between students and teachers (See Introduction). Relationships among school staff were appraised using a CCSR measure referred to as *teacher-teacher trust*. Teacher-teacher trust measures the extent to which teachers trusted and respected other teachers in their school. The Rasch reliability of this measure was very high, .82, and the school-level reliability produced by the HLM analysis was moderate, .66 (See Table 8). A sizable portion of the variance in this measure, 17 percent, occurred between schools. In order to gain insight into the school environments that existed in schools scoring low and high on the teacher-teacher trust measure, a representative item from the teacher-teacher trust scale (“Teachers in this school trust each other”) was selected and teachers’ responses in each type of school were averaged. Schools were then grouped into quartiles based on their school-level teacher-teacher trust measure (i.e., the school-level EB estimate). Differences in the average school responses across quartiles were then inspected (See Table 4). Teachers’ response to the trust item in schools in the bottom quartile on teacher-teacher trust contrasted sharply with the reports of teachers in top quartile schools. Specifically, on average, nearly 88 percent of faculty in the top quartile schools agreed or strongly agreed with the statement, “Teachers in this school trust each other”. In contrast, only 45 percent of teachers in the bottom quartile schools agreed or strongly agreed with the item. Consequently, the variance among schools on the teacher-teacher measure captures practical as well as statistically significant differences between schools.

Table 4: Average Responses of Teachers to the Question, "Teachers in this school trust each other?", by School Quartile on Teacher-Teacher Trust

School Quartiles on Teacher-Teacher Trust	Number of Schools	Strongly Disagree	Disagree	Agree	Strongly Agree
Bottom Quartile	80	14.4%	40.1%	41.7%	3.7%
Second Quartile	81	5.8%	31.3%	55.0%	8.0%
Third Quartile	81	4.1%	20.8%	58.7%	16.3%
Top Quartile	81	1.3%	11.0%	57.3%	30.4%

The strength of student-teacher relationships was measured with a CCSR scale, referred to as *student-teacher trust*, that assesses the extent to which students perceive their teachers treating them respectfully and fairly (See Table 8). This measure had a Rasch reliability of .75 and a high school-level reliability of .85. To better understand the extent to which students' responses on the measure varied among students, the distribution of students' responses to a representative item ("My teachers always try to be fair") was inspected. Although the majority of eighth graders either agreed, 54 percent, or strongly agreed with the item, 24 percent, over a fifth of students either disagreed, 15 percent, or strongly disagreed, 6 percent, with the item.

Only a small portion of the variance in the student-teacher trust measure, around 7 percent, occurred between schools. This indicates that the quality of student-teacher relationships varies to a much greater extent inside schools than between elementary schools. To better understand the differences between schools that were high and low on the measure, students' responses to the item ("My teachers always try to be fair") were aggregated to the school level. The extent to which these school averages varied across the bottom quartile, second quartile, third quartile, and top quartile of the school-level student-teacher trust measure (i.e., the school-level EB estimate) was assessed (See Table 5). Even though a small portion of the variance in student-teacher trust was between

schools, important differences existed between schools in the top and bottom quartiles. For instance, on average, almost 85 percent of students in top quartile schools agreed or strongly agreed that their teachers always treated them fairly. In contrast, around 72 percent of students enrolled in the bottom quartile schools tended to agree that their teachers always treated them fairly. Even though the between-school differences found for the student-teacher measure are more moderate than those documented for the teacher-teacher measure, important differences existed between schools scoring high and low on the scale.

Table 5: Average Responses of Eighth Graders to the Question, “My teachers always try to be fair?”, by School Quartile on Student-Teacher Trust

School Quartiles on Student-Teacher Trust	Number of Schools	Strongly Disagree	Disagree	Agree	Strongly Agree
Bottom Quartile	80	9.7%	18.6%	52.1%	19.6%
Second Quartile	81	6.7%	16.6%	54.7%	22.0%
Third Quartile	81	5.3%	14.2%	54.1%	26.4%
Top Quartile	81	4.2%	11.3%	53.6%	30.9%

A variety of factors may explain the large within-school variance on the student-teacher trust measure. Even in the same classroom, students’ relationships with their teachers vary because a teacher may be better at relating and teaching students who are either academically high or low achievers. Also, classroom problems such as poor achievement, attendance, or misbehavior may alter the relationship between an individual student and teacher. Finally, large differences between classes inside schools inflate the within-school variance. The large variance in students’ reports of student-teacher trust highlights the need to analyze the variable at both the student and school level. Just analyzing the variable at the school level would ignore potentially important within school relationships. At the school level, a high proportion of students in a school

trusting their teachers may foster higher levels of safety and lower levels of fighting by establishing a social norm of respect and trust.

A limitation of the student-teacher trust measure is that it fails to assess the extent to which students are willing to approach teachers with problems when they are academically or personally struggling. Additional research is needed to more broadly explore the extent to which other facets of student-teacher relationships may relate to students' perceptions of safety and involvement in fights.

Effective Instruction. A key component of effective instruction is establishing high academic expectations for students and demanding students complete their work. A CCSR measure, referred to as *academic press*, assessed the extent to which eighth graders felt their teachers expected them to complete their work to the best of their ability. Academic expectations were evaluated using students' survey responses instead of teachers' survey responses because students' perceptions are more likely to impact their behavior. If students believe they are held to high academic standards and expected to succeed, students may value school more and consequently be more hesitant to misbehave in school. Although academic press assessed students' perceptions of academic expectations, academic press did not measure the extent to which students found their school work either interesting or challenging.

The Rasch reliability of the academic press measures was moderate, .66. The school-level reliability produced by the HLM analysis was slightly higher, .77 (See Table 8). To better understand the extent to which students' responses on the measure varied among students, the distribution of students' responses to a representative item ("My

teacher cares if I don't do my work in this class") was inspected⁴. Although the majority of eighth graders either agreed, 44 percent, or strongly agreed with the item, 26 percent, around 30 percent of students either disagreed, 17 percent, or strongly disagreed, 12 percent, with the item. Not only do these responses indicate substantial variation in students' responses, the responses indicate that nearly a third of eighth graders believe their teachers do not care whether they complete their class work.

Similar to the measure of student-teacher trust, the variance in academic press primarily occurs within schools. Only 6 percent of the variance in the measure occurred between schools. To better understand the differences between schools with high and low levels of academic press, students' responses to the item ("My teacher cares if I don't do my work in this class") were aggregated to the school level. The extent to which these school averages varied across the bottom quartile, second quartile, third quartile, and top quartile of school-level academic press (i.e., the school-level EB estimate) was assessed (See Table 6). Even though a small portion of the variance in student-teacher trust was between schools, moderate differences existed between schools in the top and bottom quartiles on academic press. For instance, on average, almost 34 percent of students enrolled in the top quartile schools strongly agreed with the item. In contrast, around 21 percent of students enrolled in bottom quartile schools strongly agreed with the item. These differences were sufficient to conduct school-level analyses.

⁴ Students were either asked this question about their English teacher or math teacher. For this analysis, the responses from the two items were combined. If a student ignored the survey skip pattern and responded to both items, the English item was used.

Table 6: Eighth Graders' Responses to the Question, "My teacher cares if I don't do my work in class"?, by School Quartile on Academic Press

School Quartiles on Academic Press	Number of Schools	Strongly Disagree	Disagree	Agree	Strongly Agree
Bottom Quartile	80	12.3%	20.3%	46.8%	20.5%
Second Quartile	81	12.9%	19.0%	42.9%	25.2%
Third Quartile	81	12.8%	16.8%	42.4%	28.0%
Top Quartile	81	12.3%	13.7%	40.4%	33.6%

The large variance in students' reports of academic press indicates that students' in the same school perceive the academic expectations of their teachers differently. This finding could be explained by a variety of factors. If the curriculum is perceived as too easy by students, students may feel the teacher is giving them busy work that is unimportant. Alternatively, if the curriculum is considered too hard, students may believe that the teacher does not believe or care if they complete the work. Also, the academic expectation of teachers in the same school could vary widely. Regardless of the cause, the large variance in students' reports of academic press indicated the need to analyze academic press at the student level or risk obscuring important within-school relationships. At the school level, a higher proportion of students reporting high academic expectations may foster a general belief among students that misbehaving in school is wrong because it disrupts the valuable process of learning.

Although a key component of effective instruction, effective instruction is much more complex than establishing and maintaining high academic expectations. Future work needs to explore the extent to which other components of instruction, such as students' evaluation of the difficulty of their school work, students' engagement and interest in their school work, and teacher' instructional approach (i.e., lecture versus group project), relate to school safety and violence.

Teaching Non-Violence. Teachers' commitment to teaching non-violence was

appraised by combining eight and six CCSR student survey items in 1997 and 1999, respectively. This scale is referred to as *school responsibility* because it combines teachers' willingness to take responsibility for teaching students social skills with the extent teachers feel responsible for their whole school as well as their classroom. The degree that teachers take broader responsibility for the school is included in the measure because safety in public spaces is related with the extent faculty feel responsible for those spaces and students outside the classroom (Astor et al., 1999). Thus, teachers' willingness to help each other and take responsibility for school improvement is expected to influence the extent adults participate in keeping the public spaces in their school safe. The strong point-biserial correlations⁵ of items included in the school responsibility scale, correlations ranged from .46 to .70, empirically justified combining the items into scale (See Table 9). Also, the reliability of the scale was high, .82, and the outfit measures of the items indicated that all the items should be retained in the scale (See "Creating Student and Teacher Measures with Rasch Models" for description of outfit).

The school-level reliability of school responsibility was moderate, around .69. A sizable portion of the variance in the measure, about a fifth, occurred between schools (See Table 8). In order to gain insight into the environment that existed in schools scoring low and high on the school responsibility measure, a representative item from the school responsibility scale ("How many teachers in this school feel responsible for helping students develop self-control") was selected and teachers' responses in each school were averaged. These averages were then grouped into quartiles based on the

⁵ The point-biserial correlation cited in Rasch analysis is the correlation between an individual item in a scale and the total scale score with the item excluded (Linacre & Wright, 1991). The formula for the point biserial correlation is $r_{pbis} = (\sum(x-x)(y-y)) / (\sqrt{\sum(x-x)^2 \sum(y-y)^2})$

level of school responsibility (i.e., the school-level EB estimate) in the school (See Table 7). Teachers' responses to the item in schools in the bottom quartile on school responsibility contrasted sharply with the reports of teachers in top quartile schools. On average, over 39 percent of faculty in the top quartile schools reported that nearly all of the teachers in their school feel responsible for helping students develop self-control compared to only 12 percent of teachers in the bottom quartile schools. Consequently, the variance among schools in school responsibility captures practical as well as statistically significant differences between schools.

Table 7: Average Responses of Elementary School Teachers to the Question, "How many teachers in this school feel responsible for helping students develop self-control?", by School Quartile on Academic Press

School Quartiles on School Responsibility	Number of Schools	None or Some Teachers	About Half of Teachers	Most Teachers	Nearly All Teachers
Bottom Quartile	80	35.1%	21.7%	30.9%	12.4%
Second Quartile	81	25.4%	16.2%	39.5%	18.9%
Third Quartile	81	16.2%	15.4%	42.4%	26.1%
Top Quartile	81	8.1%	7.6%	45.1%	39.2%

Teachers' Responsiveness to Students' Culture and Community. Teachers' responsiveness to eighth graders' culture and community was not included in the analysis because the CCSR eighth grade survey did not address this issue. The CCSR teacher survey, however, asked teachers the extent to which they talked to eighth graders about their community and culture. These questions were not used because eighth graders' perceptions of teachers' cultural sensitivity could diverge from teachers' perceptions. This is problematic because eighth graders' perceptions of teachers' behavior is believed to be the key factor that will influence their behaviors.

Table 8: Measures of School Climate

Theoretical Construct	Consortium Measure	# of Items in Scale in 1999	Example Items	1999 Rasch Reliability at the Student/Teacher Level	1999 HLM School Reliability	Intraclass Correlation Coefficient in 1999
Social Capital Among Teachers	<i>Teacher-Teacher Trust</i> measures the extent to which teachers in a school respect each other*	6	Teachers in this school trust each other? To what extent do you feel respected by other teachers?	.82	.65	.17
Social Capital Between Students and Teachers	<i>Student-Teacher Trust</i> focuses on the quality of relations between students and teachers*	10	My teachers punish kids without even knowing what happened? My teachers always try to be fair?	.75	.85	.07
High Academic Standards	<i>Press Toward Academic Achievement</i> gauges whether eighth graders felt their teachers challenge them to reach high levels of academic performance*	18	How much do you agree with the following statements about your English class? -Cares if I don't do my work in class -Expects me to do my best all the time	.66	.76	.06
Teaching Non-Violence	<i>School Responsibility</i> measures the extent to which teachers feel responsible for teaching students social skills	6	How many teachers in this school: -Help maintain discipline in the entire school -Feel responsible for helping eighth graders develop self-control	.82	.69	.20

* Existing CCSR scales. Definitions of each measure are copied from Bilcer (1997).

Table 9: Point-Biserial Correlations of Items Included in the School Responsibility Scale

Items	Point-biserial correlation for items	Outfit
This school really works at developing students' social skills.	.46	1.11
How many teachers in this school help maintain discipline in the entire school, not just their classroom?	.60	.91
How many teachers in the school feel responsible for helping students develop self-control?	.68	.68
How many teachers in the school feel responsible to help each other do their best?	.64	.76
How many teachers in this school take responsibility for improving the school?	.70	.59
The principal, teachers, and staff collaborate to make this school run effectively?	.52	1.03

Mediating Variables

The relationship between school climate and school safety may be mediated by students' social skills, the ability of teachers to resolve student conflicts, or the classroom behavior of students. These three constructs were measured either with CCSR scales or a single item selected by the investigator.

Effective Conflict Resolution. Many contemporary violence prevention programs try to make schools safer by increasing youth's ability to negotiate conflict. Eighth graders' conflict negotiation skills were measured using a CCSR scale referred to as *social competence*. Social competence measures the extent to which students listen to other students, work well with other students, and feel they can help find ways for people to end arguments. This scale had moderate reliability at the student level, .69, and school level, .72 (See Table 10). Surprisingly, almost all of the variance in the scale occurred within schools; only 3 percent of the variance was between schools. This finding is surprising because fostering social skills in students is a critical component of many

violence prevention programs. Thus, differences were expected to be found between schools possessing social-skills training programs and schools without social-skills programs. The large variance in students' reports in the same school indicated the need to enter the measure of social competence at both the student and school level of analyses. Also, the limited variance in the measure at the school level inhibited its ability to predict the outcome at the school level.

A limitation of the social competence measure is that it is based on students' self-evaluation and as a result may be biased. Ideally, multiple respondents, such as parents, teachers, and other students, would be used to assess youth's social skills.

Classroom Behavior. Students' classroom behavior was quantified using the *classroom behavior* CCSR scale. The classroom behavior measure asked students if their classmates treat each other with respect, help each other learn, disrupt class, and put each other down. Although the reliability of this measure at the student level, .61, was slightly lower than the other measures used in the study, the reliability at the school level was very high, .89 (See Table 10). The lower reliability at the student level may result from the questions in the scale asking students about the behavior of their classmates instead of their own behavior. Even though the measure asked about students' perceptions of their classmates behavior, classroom behavior was entered at the student level because the treatment of individual students by their peers may vary (i.e., certain student may be targeted for bullying) in ways that impact a students' perceptions of safety. A sizable portion of the variance in the classroom measure, 15 percent, occurred between schools. At the school level, a high proportion of students reporting positive classroom behavior may indicate a norm of respectful and positive classroom relationships.

Teachers' Ability to Resolve Student Arguments. Teachers' ability to resolve student arguments may also make schools safer by defusing student arguments before they become violent and role modeling effective conflict negotiation (Gladden, 2002). Students were asked how often teachers when observing a dispute between students help the students resolve their argument. The four category response was collapsed into two categories, likely and unlikely to help students resolve arguments. The majority of eighth graders', 59 percent, reported that teachers were likely to very likely to help them resolve a dispute. A significant percent of students, however, reported that teachers did not help them resolve disputes. The moderate reliability of this measure at the school level, .61, was sufficient for analyses and may be lower than the other measures in the study because the item is based on a single item (See Table 10).

The measure was entered at both the student and school level. At the student level, teachers may be better able to assist some students resolve disputes. Also, some students may be more resistant to teacher intervention. Consequently, measuring variance in students' responses is important. At the school level, schools in which a high percentage of students believe their teachers are proficient at resolving student conflicts may be safer because students may generally trust in teachers' ability to defuse conflicts.

Table 10: Measures of Effective Conflict Resolution, Student Alienation, and Parent Involvement

Theoretical Construct	Consortium Measure	# of Items in Scale in 1999	Example Items	1999 Rasch Reliability at the Student/Teacher Level	1999 HLM School Reliability	Intraclass Correlation Coefficient in 1999 (HLM Model)
Students' Conflict Resolution Skills	<i>Social Competence</i> examines whether students feel they can help end arguments; listen carefully to what others say; and work well with other students*	7	I can always find a way to help people end arguments I'm very good at working with other students	.69	.72	.03
Classroom Behavior	<i>Classroom Behavior</i> asks students if their classmates treat each other with respect, work together well, disrupt class, and like to put others down,*	15	Most students in this class: Just look out for themselves Most students in this class: Treat each other with respect	.61	.89	.15
Teachers assisting students resolve conflicts	Students report how likely adults at the school are to help them resolve conflicts with other students	1	If adults at this school see a verbal argument among students, how likely are they to help students' resolve the argument?	NA	.61 [^]	.03 [^]

*Existing CCSR scales. Definitions of each measure are copied from Bilcer (1997).

[^]The question was only asked in 1997 and thus the 1997 school reliability and intraclass correlation coefficient are reported.

Control Variables

Community Violence and Social Cohesion. Previous research linking school climate and safety rarely control for violence in the neighborhoods around schools. In order to control for school violence, FBI violent crime indices were calculated in 1996 and 1998 for the census tracts in Chicago. The FBI violent crime index was calculated by summing murders, aggravated batteries and assaults, robbery, and sexual assaults that occurred in a census tract during the calendar year and dividing it by the estimated population of the census tract in 1996 and 1998. The 1996 and 1998 census tract populations were estimated using both the 1990 and 2000 census. Linear population change was assumed between the two censuses and thus the 1996 population was the 1990 population added to six times the yearly change in population between 1990 and 2000.

The measure of neighborhood violent crime was integrated into the analysis at both the student and school level. In analyses of violent crime, each student was assigned the rate of violent crime in the census tract of their home. This estimates the extent to which the student is exposed to violent crime in their neighborhood. This exposure may impact students' perceptions of safety at school. Entering this measure at the student level is statistically problematic because the analyses fails to account for the fact that students are nested within communities and consequently the standard errors for the coefficient will be biased. This problem cannot be addressed by adding another level to the HLM analysis because students do not always live in the census tract in which their school is located. Recognizing these statistical problems, the decision was made to enter the variable at the student level because the primary purpose of including neighborhood

violence was to control for its possible confounding effects and entering the variable at the student level accomplishes this goal. The significance of the coefficient, however, needs to be interpreted cautiously. Future research should try to directly measure students' exposure to neighborhood violence or use cross-nested models to explore the extent to which community and school factors influence students' perceptions of violence and safety.

At the school level, the crime rate of the census tract around the school was combined with the average crime rate of the neighborhoods in which their students lived. The two measures of school crime were combined because they were highly correlated, .94 in 1997, and most elementary students in CPS attend neighborhood schools.

Although the violent crime measure provides a general measure of community violence, it does not measure how safe an eighth grader feels in his community. Within the same neighborhood (i.e., census tract), eighth graders' perceptions of safety could greatly vary. In an effort to capture these differences, analyses included a CCSR scale, referred to as *social resources*, which measured eighth graders' perceptions of human and social resources in their community. Social resources was reliability measured at the student level, .75, and included students' perceptions of safety (e.g., during the day, it is safe for children to play in the local park or playgrounds), perceived connection to adults in the neighborhood (e.g., no one in this neighborhood cares much about what happens here), and trustworthiness of people. A student who scores high on this scale feels very safe in their community and believes adults are trustworthy and care about their community. This measure was also measured reliably at the school level, .85. The high correlation of this measure at the school level with community violence around the

school, -.59, suggests its detecting important differences among communities.

Demographic and Socio-Economic Measures. Demographic variables at both the student and school level were entered into the analyses to statistically control for confounding relationships. A description of the measures also provides a broader context for the analysis. No hypotheses about their relationship with school safety were made.

The Chicago public school system is extremely racially segregated due to the high levels of residential segregation in Chicago and the enrollment of a large percent of white student in private schools. In response to this fact, the racial composition of schools were categorized into five groups and not measured as a set of linear variables. Forty-five percent of the schools in the 1997 survey sample were predominantly African-American schools, 85 percent or more of their students were African-American. Slightly less than 11 percent of schools in the 1997 survey sample were predominantly Latino, 85 percent or more of the students were Latino. Nearly 11 percent of schools were multiple minorities, 85 percent or more of their students are ethnic minorities. Almost 11 percent of schools were partly racially integrated, between 15 and 30 percent of their students were white. Almost 24 percent of schools were considered racially integrated; over 30 percent of the students were white.

In education research, the poverty level of schools is routinely measured by calculating the percent of students who receive a free or reduced price lunch under the Federal lunch program. At the student level, two dummy variables were entered to indicate whether the student receives a free or reduced price lunch. The free and reduced price lunch variables, however, does not distinguish well between students or schools in Chicago because the vast majority of students in Chicago receive a free lunch, 72 percent

of eighth graders in 1997, or a reduced price lunch, 8 percent of eighth graders in 1997.

At the school level, 92 percent or more of students received a free or reduced price lunch in 50 percent of elementary schools in the 1997 sample.

In order to better measure variability in student and school socio-economic status, a socio-economic indicator called social status was created from the 2000 U.S. Census. Social status assessed the level of affluence in neighborhoods by combining the average level of education (e.g., college degree) achieved by adults in the census block group with the standardized log of the percent of workers in managerial positions. A measure of poverty was not included because poverty was found to be highly correlated with the measure of community violence previously presented. At the student level, each student was assigned the value of the census block group in which they lived. This coefficient has to be interpreted with caution because the analyses does not account for the nesting of students within communities and consequently the standard error associated with the coefficient is biased (See above discussion about community violence at the student level). At the school level, the social status of the school's location was combined with the average social status of the census block groups in which students enrolled in the school lived.

A criticism of this measure is that it may overestimate the socio-economic status of students attending public schools because more highly educated and higher income families tend to send their kids to private school. Although a valid concern, this problem is minimal. The vast majority of schools are located in census block groups where a high percentage of children attend public schools. For instance, according to the 2000 census,

90 percent of the school age youth⁶ living in a census block group which contains a general elementary school enroll in a public elementary school. Also, 75 percent of general elementary schools are located in census tracts where 83 percent or more of school age youth enroll in public schools. A similar pattern emerges among CPS students. Seventy-five percent of CPS elementary students live in census block groups where 83 percent or more of school age students enroll in a public school. Although the measure will slightly overestimate the affluence of families attending the local public school, the bias will be slight because most schools and CPS students are located and live in census block groups where the vast majority of school age students attend public school.

Also, the free and reduced price lunch indicators may overestimate the affluence of CPS students. In Chicago, elementary schools have a strong incentive to enroll students eligible for a free or reduced price lunch because the amount of discretionary spending money the school receives is heavily dependent on the percent of its students receiving a free or reduced price lunch. Even with this incentive, the percent of CPS students in the free and reduced price lunch program declines as students get older and collecting necessary financial information from students gets more difficult. For instance, 72 percent of eighth graders received a free lunch in May, 1997 compared to around 80 percent of first through sixth graders. The drop in the percent of junior high students receiving a free lunch is most likely not due to changes in the poverty level of older CPS students, but relates to the increasing difficulty of enrolling older students in the free lunch program. Consequently, the free lunch and reduced price lunch indicators do not

⁶ Median reported because distribution is negatively skewed.

offer a substantial advantage of the census measure of affluence and poverty.

Other Confounding Variables

Other possible confounding variables were the size of the school, students' progress through school, and parents' academic support of their youth. Control variables were created to measure each of these characteristics and included in subsequent analyses in order to statistically control for their possible confounding effect. Smaller schools may be safer than larger schools because they are easier to regulate and enable students and teachers to know one another better (Gladden, 1998). Previous research in Chicago has found that small elementary schools, defined as schools serving less than 350 students, have a qualitatively better school climate than other elementary schools (Sebring et al., 1995, Sebring et al., 1996). These findings indicate that the most appropriate method for measuring school size is to divide schools into school size categories. Using a coding scheme developed by the CCSR (See Sebring et al., 1995, Sebring et al., 1996), school size was coded into three categories: small (350 students or under), medium (351 students to 700 students), and large (over 700 students). In the 1997 sample of schools of 323, 9 percent were classified as small schools, 42 percent were classified as medium, and 50 percent were classified as large.

Since behavioral problems and poor achievement are strongly intertwined, it is important to assess whether eighth graders were progressing normally through elementary school or had been retained in a grade. Students moving into a new school may also feel less secure because they lack connections to other youth at the school. The following set of control variables were entered for each student into statistical analyses: old for grade, retained in the same grade they were in the previous year, changed schools during the

school year, and placement in special education.

Parents' academic support of their son or daughter may influence students' general feeling towards school. A CCSR measure that assessed students' perceptions of their parents support for their school work (Rasch reliability of .82) was entered to ensure that eighth graders' perceptions of school academic press were driven by school experiences instead of parental support and values.

Analysis Plan

Before conducting analyses, the correlations among school climate, community violence, social resources, and incidence of disciplinary incidents were explored to identify problems with multi-collinearity. Also, the correlations assessed the extent to which school climate was distinct from community context in Chicago. In addition, a close examination of the measure of school safety and fighting were conducted to determine the absolute level of safety problems in CPS schools and the extent to which they varied between schools. After conducting these preliminary analyses, the relationship of school climate with school safety and fighting in 1997 was analyzed using a two-level HLM. Finally, a Hierarchical Multivariate Linear Model (HMLM) was used to examine whether improvements in school climate between 1997 and 1999 were related to improvements in students' reports about safety and fighting during the same time period.

Predicting School Safety and Fighting in 1997

Two-level Bernoulli HLMs were used to examine the relationship between school climate and the three outcome measures-classroom safety, hallway/bathroom safety, and students' involvement in fights in schools. In these HLM analyses, student characteristics

were entered at level one, or the student level, and school characteristics were entered at level two, or the school level. Eight two-level HLMs were conducted for each of the three outcomes in order to incrementally enter different types of predictors. Entering predictors in a stepwise fashion helps identify mediating relationships among predictors, uncover problems with multi-collinearity, and calculate the extent to which predictor(s) improve the amount of variance explained in the outcomes.

Instead of using listwise deletion to handle students who were missing a value on any of the predictors, dummy codes were created for each measure that had missing values. A one on the dummy code indicated that a student or school was missing a value on a particular measure. For instance, some eighth graders who responded to the item measuring their involvement in fights did not respond to items about the classroom behavior of their peers. In this instance, a dummy code was created where the value of one on the dummy code indicates a student did not respond to the classroom behavior measure. After creating the dummy variable, the missing values in a measure were changed to the mean value of the measure if the measure was continuous, such as classroom behavior, or the most frequent response category if the measure was categorical, such as students' ethnicity. The missing dummy code for each measure was entered into the analysis on the same step that the predictor was entered into the analysis. A significant relationship between the dummy code representing a missing value for a measure and the outcome indicates that students who choose not to respond to a measure were more or less likely to feel safe at school or become involved in a fight at school.

The student and school level predictors entered into each of the eight two-level HLM models and the mathematical equations associated with each HLM model are now

described.

Community Context (HLM Models One and Two). The first two HLM models examined the extent to which demographic and community characteristics predicted school safety and fighting. In the first model, demographic predictors such as ethnicity and socio-economic status were entered at the student and school level (See Table 11 for a full list of student and school predictors entered into each of the eight HLM models). By measuring the relationship between demographic characteristics and the outcome in model one, the analysis investigates the extent to which demographic variables were related to each of the three outcomes and controls for possible confounding effects in subsequent models. In model two, community violence was entered at the student and school level. Controlling for community violence is important because community violence could drive the relationship between school climate and safety and is rarely controlled for in previous research.

Two-level Bernoulli HLM analyses were used to compute the relationship between demographic characteristics and school safety and between community violence and school safety. Bernoulli models were required to analyze school safety-classroom safety, hallway/bathroom safety, and fighting-because the three school safety outcomes were binary; consequently, linear analyses were inappropriate (Raudenbush & Bryk, 2002). In order to analyze the data, a logit link function that converts binary data into a log odd metric was required. The logit link function is mathematically represented by the following equation:

$$\eta_{ij} = \log(\varphi_{ij}/(1 - \varphi_{ij}))$$

η_{ij} is the log of the odds of an eighth grader reporting being involved in a fight at school

during the school year. In the analyses of classroom safety, η_{ij} is the log odds of an eighth grader reporting that she feels somewhat or not safe in her school classroom. In the analysis of hallway/bathroom safety, η_{ij} is the log odds of an eighth grader reporting that he feels somewhat or not safe in his school hallways/bathrooms. ϕ_{ij} is the probability of success and consequently $(\phi_{ij}/(1-\phi_{ij}))$ is the odds of success.

Because the analyses were interested in predicting the percent of youth who felt unsafe at school, the log odds of youth feeling unsafe in school bathrooms/hallways or school classrooms was predicted,⁷ instead of the log odds of youth feeling safe in their school hallways/bathrooms and classrooms.

In models one and two, the logit, or log odds of students becoming involved in a fight or reporting feeling somewhat safe in school classrooms or hallways, is entered as the dependent variable at the student, or first, level of the HLM analysis. Also, students' demographic information, the level of violence in students' neighborhoods, and dummy codes indicating missing demographic or violence information are entered at the student level. Because the HLM models used to analyze the three safety outcomes were identical, only the HLM models for students' involvement in fist fights are described in detail. The student portion of the HLM analysis is summarized by the following equation:

$$\eta_{ij} = \beta_{0j} + \sum_{q=1}^q \beta_{qj} Z_{qij} + \sum_{z=1}^z \beta_{zj} P_{zij} + r_{ij}$$

η_{ij} is the log of the odds of students being involved in at least one fight at school.

β_{0j} is the average log odds that students enrolled in school j were involved in at least one fight.

\mathbf{Z} is a vector of student level demographic predictors and a measure of violent crime in students' neighborhood. In model one, only the demographic predictors are entered and in model two the demographic predictors and a measure of neighborhood violent crime is entered. All predictors entered into models one through five are included in all subsequent models (e.g., all student predictors entered into model one are included in models two through eight). Table 11 provides a comprehensive list of student level

⁷ Youth were considered to feel unsafe in school hallways or classrooms if they reported feeling "not safe" or "somewhat safe" in these places.

demographic predictors included in model one and two.

β_{qj} is the coefficient for predictor q in vector Z . All of the q predictors were grand-mean centered because the analyses wanted to adjust the log odds of fighting in each school, β_{0j} , for the relationship between each student-level predictor and the outcome. The analyses was not interested in disentangling the within and between group effects associated with this set of predictors.

P is a vector of dummy codes that indicate whether variables in vector Z are missing data. Some variables shared the same dummy code because the same students missed data on two or more variables. For instance, the same set of students had no ethnicity and gender information.

β_{zj} is the coefficient for a missing dummy code z in vector P . A significant coefficient indicates that students who failed to respond to the measure associated with the dummy code tended to score higher or lower on the outcome

At the school, or second, level, the average log odds of fighting for each school statistically adjusted for the student level predictors, or β_{0j} , is analyzed. At this level, school level demographics and neighborhood violence around schools are entered as predictors of the adjusted school mean. The coefficients associated with all other student level predictors, β_{qj} , are set as fixed at the school level, or assumed to not vary across schools. The school level analysis is captured by the following equations:

$$\beta_{0j} = \gamma_{00} + \sum_{s=1}^s \gamma_{0s} X_{sj} + \sum_{z=1}^z \gamma_{0z} M_{zj} + v_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

.

.

$$\beta_{zj} = \gamma_{z0}$$

γ_{00} represents the mean level of the β_{0j} district wide and the error term, v_{0j} , represents the extent to which each school mean deviates from the district wide average.

γ_{10} is the mean level of β_{1j} , or the relationship between the first student level predictor and the log odds of fighting, and is assumed to not vary across schools.

X is a vector of school level demographic and neighborhood violence predictors, such as a schools' racial composition. In model one, only demographic predictors are entered. In model two, demographic predictors and a measure of neighborhood violence are entered. All school level predictors were grand-mean centered in order to make the intercept more meaningful. Table 11 contains a description of the school-level predictors included in model one and model two.

γ_{0s} is the relationship between predictor s in vector X and the average log odds of students

fighting in schools.

\mathbf{M} is a vector of dummy variables indicating that a measure in vector \mathbf{X} had missing values.

γ_{0z} is the relationship between predictor z in vector \mathbf{M} and the average log odds that students in schools were involved in a fight. A significant relationship indicates that schools missing information on a variable tended to have significantly lower or higher log odds of students fighting.

Social Resources (Model 3). In the third model, a measure of social resources was entered at the student and school level. The measure of social resources has substantial advantages over the measure of community violence because it directly assesses students' perceptions of how safe they feel in their community. The strength of the relationship between social resources and school safety may vary across schools. For instance, students who feel unsafe in their communities may disproportionately benefit from a school's efforts to keep public school spaces safe. In this type of school, students' perceptions of school safety and involvement in fights may be similar regardless of their experiences outside of school (i.e., social resources is uncorrelated with school safety) because concerted school efforts affords all students a general sense of security. In contrast, students reporting high levels of fear in their community may import this fear into schools characterized by weak relationships and possessing few violence prevention initiatives (i.e., social resources is strongly correlated with school safety). In order to explore the possibility that the relationship between social resources and school safety varies across characteristics of schools, the analyses assessed the extent to which the relationship between social resources and the school safety outcomes varied across CPS elementary school schools.

Because this model is almost identical to HLM model one and two, described earlier, explanations will focus on the social resources variable. The student, or first

level, equations for model three are:

$$\eta_{ij} = \beta_{0j} + \beta_{1j}(\text{Social Resources}) + \sum_{q=2}^q \beta_{qj} Z_{qij} + \sum_{z=q+1}^z \beta_{zj} P_{zij} + r_{ij}$$

β_{1j} is the relationship between social resources and the log odds of students fighting. The social resources measure is group-mean centered. By group-mean centering the social resources variable at the student level, the coefficient associated with social resources, or β_{1j} , assesses the relationship between social resources and the log odds of students fighting within individual schools net of any group membership effects. Group-mean centering is the most appropriate centering method to use when a variable is allowed to vary at a higher level (Raudenbush & Bryk, 2002). In contrast to grand-mean centering, group-mean centering results in the intercept, β_{0j} , not being adjusted for the relationship between social resources and the log odds of students fighting. The school mean of fighting, however, can be adjusted for the effect of social resources by entering the mean value of social resources at the school level of the analysis. The EB estimate of social resources is entered at the school level (See school, or second, level model below) and consequently the school means for student fighting, or β_{0j} , are adjusted for the effect of social resources. If the relationship between social resources and school safety was found to not significantly vary across schools, the model was re-run with social resources grand-mean centered. Even when social resources was grand-mean centered, the student-level relationship between social resources and the log odds of fighting, β_{1j} , can be interpreted as the within-school effect net of group membership because the EB average of social resources is entered at the school level of the analysis (See Raudenbush and Bryk, 2002 for in-depth discussion of centering).

The school, or second, level of model 3 is described by the following equation.

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Social Resources}) + \sum_{s=2}^s \gamma_{0s} X_{sj} + \sum_{z=s+1}^z \gamma_{0z} M_{zj} + v_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{Social Resources}) + \sum_{s=2}^s \gamma_{1s} X_{sj} + \sum_{z=s+1}^z \gamma_{1z} M_{zj} + v_{1j}$$

.

.

$$\beta_{zj} = \gamma_{z0}$$

γ_{01} is the relationship between the school-level EB estimate of social resources and the log odds of students fighting averaged to the school level. If social resources is group-mean centered at the student level, this coefficient represents the between school relationship between fighting and social resources. If social resources is grand mean centered at the student level, this coefficient represents the contextual effect (i.e., the effect of group membership net the within school effect) of social resources.

γ_{10} is the mean level of β_{1j} (i.e., the relationship between social resources and the outcome within a school) district wide and the error term, v_{1j} , represent the extent to which each school mean deviates from the district wide average.

γ_{1s} is the relationship between predictor s in vector X and variance in the within-school relationship between social resources and student fighting across schools.

γ_{1z} is the relationship between missing dummy variable z in vector M and variance in the within-school relationship between social resources and fighting across schools.

γ_{11} is the relationship between the school-level EB estimate of social resources and the variance in the within-school relationship between social resources and fighting.

Academic Press and Student-Teacher Trust (Model Four). Academic press and student-teacher trust were entered into a fourth HLM model at both the student and school level (See Table 11). These measures were entered into the model at the same time because they both measure the quality of classroom environments in schools.

Consequently, they were expected to have stronger relationships with classroom safety than with hallway/bathroom safety or students' involvement in fights. Students' who are very academically disengaged are much more likely to misbehave and become involved in violent behavior in school (McEnvoy and Welker, 2000). This finding suggests that academic press may have a nonlinear relationship with fighting and students' reports of

safety. The possibility that academic press or student-teacher trust was related to school safety in a nonlinear fashion was statistically assessed by entering a square term for academic press and a square term for student-teacher trust into the HLM model at both the school and student level. The squared term was only retained in the model if the term was statistically significant.

Caring relationships between teachers and students coupled with high academic standards have been found to produce the strongest academic gains among students (Lee, Smith, Perry, and Smylie, 1999). Similarly, high academic expectations coupled with respectful student and teacher relationship may combine to increase students' attachment to school and consequently decrease their chance of misbehaving at school. In order to assess this possibility, a linear interaction term was entered into the HLM models. The interaction term was created by multiplying academic press by student-teacher trust. Higher order interactions (e.g., the interaction between academic press squared and student-teacher trust squared) were not entered into the model because there was no theoretical reason to expect these interactions. Also, the moderate correlation between academic press and student-teacher trust at the student level, .43 correlation, and school level, .52 correlation, results in high correlations among the measure, its square, and higher order interaction terms. Aiken and West (1991) explain,

We thus caution researchers against routinely including higher order terms not expected from theory on two grounds. As we have just seen, such terms may introduce high interpredictor correlations that cause instability of regression coefficients and anomalous results, even with centered predictors. In addition, the inclusion of extraneous terms lowers the statistical power of the tests of all terms

in the equation (Aiken and West, 1991, p. 95)

Variables assessing a nonlinear relationship (i.e., the squared academic press term and the squared student-teacher trust term) and the interaction variable were only retained if they were statistically significant.

The student-level HLM equation for model four was:

$$\eta_{ij} = \beta_{0j} + \beta_{1j}(\text{Social Resources}) + \beta_{2j}(\text{Academic Press}) + \beta_{3j}(\text{Academic Press Squared}) + \beta_{4j}(\text{Student-Teacher Trust}) + \beta_{5j}(\text{Student-Teacher Trust Squared}) + \beta_{6j}(\text{Academic Press} \times \text{Student-Teacher Trust}) + \sum_{q=7}^q \beta_{qj} Z_{qij} + \sum_{z=1}^z \beta_{zj} P_{zij} + r_{ij}$$

β_{2j} is the linear relationship between academic press and the log odds of an eighth grader becoming involved in a fight. The variable is grand-mean centered. Because the EB school average of academic press is entered into the equation at the school, or second, level, β_{2j} measures the within-school relationship between academic press and fighting net of group membership.

β_{3j} is a quadratic term that measures the extent to which the relationship between academic press and fighting curves or is nonlinear. The coefficient also indicates whether the relationship between the two variables curves positively or negatively.

β_{4j} is the linear relationship between student-teacher trust and the log odds of an eighth grader becoming involved in a fight. The variable is grand-mean centered. Because the EB school average of student-teacher trust is entered into the equation at the school level, the coefficient assesses the within-school relationship between student-teacher trust and fighting net of group membership.

β_{5j} is a quadratic term that measures the extent to which the relationship between student-teacher trust and fighting curves or is nonlinear.

β_{6j} measures the extent to which the strength of the linear relationship between student-teacher trust and fighting is dependent on the level of student-teacher trust.

The school-level HLM equations for model four were:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Social Resources}) + \gamma_{02}(\text{Academic Press}) + \gamma_{03}(\text{Academic Press Squared}) + \gamma_{04}(\text{Student-Teacher Trust}) + \gamma_{05}(\text{Student-Teacher Trust Squared}) + \gamma_{06}(\text{Academic Press} \times \text{Student-Teacher Trust}) + \sum_{s=7}^s \gamma_{0s} X_{sj} + \sum_{m=1}^m \gamma_{0z} M_{mj} + v_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{Social Resources}) + \gamma_{12}(\text{Academic Press}) + \gamma_{13}(\text{Academic Press Squared}) + \gamma_{14}(\text{Student-Teacher Trust}) + \gamma_{15}(\text{Student-Teacher Trust Squared}) + \gamma_{16}(\text{Academic Press} \times \text{Student-Teacher Trust}) + \sum_{s=7}^s \gamma_{1s} X_{sj} + \sum_{m=1}^m \gamma_{1m} M_{mj} + v_{1j}$$

$$\beta_{zj} = \gamma_{z0}$$

γ_{02} is the linear relationship between the EB school-level estimate of academic press and the school-level log odds of students in the school fighting. Because academic press is grand-mean centered at the student level, this coefficient captures the contextual effect, or the relationship between schools net the within-school effect.

γ_{03} assesses the extent to which the relationship between the EB school-level estimate of academic press and school-level fighting is curved or nonlinear.

γ_{04} is the linear relationship between the EB school-level estimate of student-teacher trust and the school-level log odds of students in the school fighting. Because student-teacher trust is grand-mean centered at the student level, this coefficient captures the contextual effect, or the relationship between schools net the within-school effect.

γ_{05} assesses the extent to which the relationship between the EB school-level estimate of student-teacher trust and school-level fighting is curved or nonlinear.

γ_{06} measures whether the strength of the linear relationship between the EB school level-estimate of academic press and school-level fighting is dependent or changes across the values of the EB school-level estimate of student-teacher trust.

γ_{12} is the linear relationship between the EB school-level estimate of academic press and the variance in the within-school relationship between social resources and fighting across schools.

γ_{13} detects whether the relationship between school-level academic press and the variance in the within school-relationship between social resources and fighting across schools is nonlinear.

γ_{14} is the linear relationship between the EB school-level estimate of student-teacher trust and the variance in the within-school relationship between social resources and fighting across schools.

γ_{15} detects whether the relationship between school-level student-teacher trust and the variance in the within-school relationship between social resources and fighting across schools is nonlinear.

γ_{16} measures whether the strength of the linear relationship between school-level academic press and the variance in the within-school relationship between social resources and fighting across schools is dependent on the value of the school-level student-teacher trust measure.

School Responsibility and Teacher-Teacher Trust (Model 5). In model five, school responsibility and teacher-teacher trust were entered at the school level. The measures were only entered at the school level because they were derived from the teacher surveys and consequently could not be entered into the student, or first, level of the HLM. School responsibility and teacher-teacher trust were entered together because they measure the

quality of adult interactions in the school and were expected to influence perceptions of safety throughout the school by improving discipline and making public spaces safer. In order to impact students' perceptions of safety and fighting, schools may have to establish moderate to strong collegial relationships and a deep commitment to teaching students' social skills. Consequently, schools with very low and low levels of collegiality or school responsibility may show little differences in students' reports of student safety and fighting. In order to detect nonlinear relationships, a term derived by squaring school responsibility and a term calculated by squaring teacher-teacher trust were also entered. These terms were only included in the final analyses if they were found to be statistically significant.

The student level of model five is identical to the student level of model four and therefore is not displayed. The additions to the school level model are displayed below:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Social Resources}) + \gamma_{02}(\text{Academic Press}) + \gamma_{03}(\text{Academic Press Squared}) + \gamma_{04}(\text{Student-Teacher Trust}) + \gamma_{05}(\text{Student-Teacher Trust Squared}) + \gamma_{06}(\text{Academic Press} \times \text{Student-Teacher Trust}) + \gamma_{07}(\text{School Responsibility}) + \gamma_{08}(\text{School Responsibility Squared}) + \gamma_{09}(\text{Teacher-Teacher Trust}) + \gamma_{010}(\text{Teacher-Teacher Trust Squared})$$

$$+ \sum_{s=11}^s \gamma_{0s} X_{sj} + \sum_{s=1}^m \gamma_{0z} M_{mj} + v_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{Social Resources}) + \gamma_{12}(\text{Academic Press}) + \gamma_{13}(\text{Academic Press Squared}) + \gamma_{14}(\text{Student-Teacher Trust}) + \gamma_{15}(\text{Student-Teacher Trust Squared}) + \gamma_{16}(\text{Academic Press} \times \text{Student-Teacher Trust}) + \gamma_{17}(\text{School Responsibility}) + \gamma_{18}(\text{School Responsibility Squared}) + \gamma_{19}(\text{Teacher-Teacher Trust}) + \gamma_{110}(\text{Teacher-Teacher Trust Squared})$$

$$+ \sum_{s=11}^s \gamma_{1s} X_{sj} + \sum_{s=1}^m \gamma_{1m} M_{mj} + v_{1j}$$

.

$$\beta_{zj} = \gamma_{z1}$$

γ_{07} is the linear relationship between school responsibility and school-level fighting.

γ_{08} detects the extent to which the relationship between school responsibility and school-level fighting is nonlinear.

γ_{09} is the linear relationship between teacher-teacher trust and school-level fighting.

γ_{010} detects the extent to which the relationship between teacher-teacher trust and school-level fighting is nonlinear.

γ_{17} is the linear relationship between school responsibility and the variance in the within-school relationship of social resources and fighting across schools.

γ_{18} measures the extent to which the relationship between school responsibility and the variance in the within-school relationship of social resources across schools is nonlinear.

γ_{19} is the linear relationship between teacher-teacher trust and the variance in the within-school relationship of social resources and fighting across schools.

γ_{110} measures the extent to which the relationship between school responsibility and the variance in the within-school relationship of social resources across schools is nonlinear.

Mediating Variables (Models Six through Eight). In the final stage of the analysis, the ability of three variables—students' social competence, classroom behavior, and teachers' response to student conflict—to explain or mediate the relationship between school climate and school safety was assessed. In order to establish mediation, four criteria have to be met (See Kenny, 2003). First, a significant relationship between the measures of school climate and school safety must be established. The HLM analyses conducted in model five will assess the significance and size of these relationships. If no relationship between school climate and school safety exists, mediation cannot occur. If school climate predicts school safety, the next requirement of mediation is a significant relationship between school environment and the mediating variable (e.g., classroom behavior). This is analyzed by calculating the correlation between each of the measures of school climate and the three mediators listed above.

The third requirement of mediation is a significant relationship between the mediating variable and school safety when the measures of school climate are also included as predictors in the HLM model. In model six, social competence will be entered as a predictor at the student and school level along with measures of school climate. A significant relationship between social competence and school safety indicates

mediation is possible. If the three above criteria are satisfied, complete mediation occurs if the previous significant relationship between school climate and school safety, observed in model five, becomes zero when the mediator is entered as a predictor in subsequent models. Partial mediation occurs if the relationship between school environment and school safety weakens after the mediating variable is entered. The amount of mediation is defined as the reduction of the initial effect of school climate on the school safety observed when the mediators are entered individually in models six through eight (Kenny, 2003). In other words, the difference in the coefficient size of a school climate measure in model five and model six assesses the size of the mediation effect of social competence. Although meeting these four criteria is consistent with a mediating relationship, other explanations can explain this pattern of relationships (Kenny, 2003).

Until this point, every model included predictors entered in the previous models. For instance, all the predictors in model three were included in model four and five. Model six predictors, however, are not included in model seven and eight. Similarly, model seven predictors are not included in model eight because the analysis is designed to observe the unique effect of each mediating variable. The HLM model for social competence is displayed and explained below. The HLM models for classroom behavior and teachers' response to conflict are identical to this model.

In model six, social competence is entered at the student and school level and the student-level model is represented by the following equations:

$$\eta_{ij} = \beta_{0j} + \beta_{1j}(\text{Social Resources}) + \beta_{2j}(\text{Academic Press}) + \beta_{3j}(\text{Academic Press Squared}) + \beta_{4j}(\text{Student-Teacher Trust}) + \beta_{5j}(\text{Student-Teacher Trust Squared}) + \beta_{6j}(\text{Academic Press} \times \text{Student-Teacher Trust}) + \beta_{7j}(\text{Social Competence})$$

$$+ \sum_{q=8}^q \beta_{qj} Z_{qij} + \sum_{z=q}^z \beta_{zj} P_{zij} + r_{ij}$$

Analysis of the student-level model focuses on three coefficients—the coefficient associated with social competence, the coefficient associated with academic press, and the coefficient associated with student-teacher trust. In order for mediation to occur, social competence needs to significantly predict the outcome, or β_{7j} needs to be significant. If social competence significantly predicts the outcome, the coefficients for academic press, or β_{2j} , and student-teacher trust, or β_{4j} , are compared to their student-level coefficients in model five. As long as the other criteria for mediation are met, described earlier, the difference between the coefficients in model six and model five is the extent to which the measures are mediated by social competence. If the coefficient for either academic press or student-teacher trust approaches zero after social competence is entered into the model, the relationship is considered completely mediated by social competence.

The school level of the analysis is described by the following equation:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Social Resources}) + \gamma_{02}(\text{Academic Press}) + \gamma_{03}(\text{Academic Press Squared}) + \gamma_{04}(\text{Student-Teacher Trust}) + \gamma_{05}(\text{Student-Teacher Trust Squared}) + \gamma_{06}(\text{Academic Press} \times \text{Student-Teacher Trust}) + \gamma_{07}(\text{School Responsibility}) + \gamma_{08}(\text{School Responsibility Squared}) + \gamma_{09}(\text{Teacher-Teacher Trust}) + \gamma_{010}(\text{Teacher-Teacher Trust Squared}) + \gamma_{011}(\text{Social Competence}) + \sum_{s=12}^s \gamma_{0s} X_{sj} + \sum_{s=1}^m \gamma_{0z} M_{mj} v_{0j}$$

$$\beta_{(z+1)j} = \gamma_{10} + \gamma_{11}(\text{Social Resources}) + \gamma_{12}(\text{Academic Press}) + \gamma_{13}(\text{Academic Press Squared}) + \gamma_{14}(\text{Student-Teacher Trust}) + \gamma_{15}(\text{Student-Teacher Trust Squared}) + \gamma_{16}(\text{Academic Press} \times \text{Student-Teacher Trust}) + \gamma_{17}(\text{School Responsibility}) + \gamma_{18}(\text{School Responsibility Squared}) + \gamma_{19}(\text{Teacher-Teacher Trust}) + \gamma_{110}(\text{Teacher-Teacher Trust$$

$$\text{Squared}) + \gamma_{111}(\text{Social Competence}) + \sum_{s=12}^s \gamma_{1s} X_{sj} + \sum_{s=1}^m \gamma_{1m} M_{mj} v_{(z+1)j}$$

$$\beta_{zj} = \gamma_{z0}$$

Mediation effects at the school level are assessed in the same manner as described for the student level. In addition to examining the extent the coefficients for academic press and student-teacher trust changed from model five, the analyses at this level will examine the extent to which the coefficients for school responsibility and teacher-teacher trust change from model five. At the school level, social competence has the potential to mediate two relationships, the relationships between school climate and school safety and the relationship between school climate and variance in the strength of the within-school relationship of social resources with school safety across schools.

Table 11: Variables and Models Used in the 1997 HLM Analysis

Models	HLM Level One Variables or Student Level Variables	HLM Level Two Variables or School Level Variables
Community Context		
Model 1 Demographic Variables	<ul style="list-style-type: none"> • Dummy variable indicating a male youth. • Social status of neighborhood in which a student lives. • A dummy variable indicating that a student was eligible for a free lunch under federal programs. • A dummy variable indicating that a youth was eligible for a reduced price lunch under federal programs. • A dummy variable indicating a student was repeating the same grade in school. • A dummy variable indicating that a student was old for their grade. Marked as zero if the student was repeating the same grade in order to prevent the repeat grade dummy variable from being a subset of the old for grade dummy variable. • A set of dummy codes indicating the ethnicity (White, Asian, Latino/a, African-American) of the student. The omitted category was African-American. • A dummy code indicating the student has been placed in special education. • A dummy code indicating that the student had entered CPS during the 1996-1997 school year. • A dummy code indicating that the student had attended two or more schools during the 1996-1997 school year. 	<ul style="list-style-type: none"> • Average social status of the school • A dummy code indicating the school is a magnet school or a school with a selective enrollment policy. • A set of dummy codes indicating the size of the school (small, medium, large). Medium school size is the omitted category. • A set of dummy codes indicating the racial composition of the school. (racially integrated, racially diverse, multiple minorities, predominantly African-American, predominantly Latino). The omitted category is predominantly African-American.
Model 2 Neighborhood Violent Crime	<ul style="list-style-type: none"> • Rate of violent crime in the neighborhood in which the student lives. 	<ul style="list-style-type: none"> • An average of violent crime in the neighborhood of the school and the neighborhoods in which students attending the school live.
Model 3 Social Resources	<ul style="list-style-type: none"> • CCSR measure of social resources. 	<ul style="list-style-type: none"> • EB school-level estimate of social resources produced by a three-level HLM analyses of students' reports of social resources.

Table 11: Variables and Models Used in the 1997 HLM Analysis (Continued)

Models	HLM Level One Variables or Student Level Variables	HLM Level Two Variables or School Level Variables
School Climate		
Model 4 Academic Press and Student- Teacher Trust	<ul style="list-style-type: none"> • CCSR measure of academic press • CCSR measure of student-teacher trust 	<ul style="list-style-type: none"> • EB school-level estimate of academic press produced by a three-level HLM analysis of students' reports of academic press. • EB school-level estimate of student-teacher trust produced by a three-level HLM analysis of students' reports of student-teacher trust
Model 5 School Responsibility and Teacher- Teacher Trust	<ul style="list-style-type: none"> • None entered 	<ul style="list-style-type: none"> • EB school-level estimate of school responsibility produced by a three-level HLM analysis of teachers' reports of school responsibility. • EB school-level estimate of teacher-teacher trust produced by a three-level HLM analysis of teachers' reports of teacher-teacher trust
Mediating Variables		
Model 6 Social competence	<ul style="list-style-type: none"> • CCSR measure of social competence 	<ul style="list-style-type: none"> • EB school-level estimate of social competence produced by a three-level HLM analysis of students' reports of social competence
Model 7 Classroom behavior	<ul style="list-style-type: none"> • CCSR measure of classroom behavior 	<ul style="list-style-type: none"> • EB school-level estimate of classroom behavior produced by a three-level HLM analysis of students' reports of classroom behavior
Model 8 Teachers' response to student conflicts	<ul style="list-style-type: none"> • A single item measuring teachers' response to student conflicts 	<ul style="list-style-type: none"> • EB school-level estimate of teachers' response to student conflicts produced by a two-level HLM analysis of students' reports of teachers' response to student conflicts.

Predicting Changes in School Safety and Fighting between 1997 and 1999

A limitation of the preceding cross-sectional analysis is that a significant

relationship between school climate and school safety may be driven by high levels of perceived safety and low levels of fighting fostering a strong school climate instead of a strong school climate fostering a safe school environment. Another strategy to evaluate the hypothesis that a strong school climate facilitates high levels of safety and low levels of fighting in schools is to examine whether 1997 levels of school climate predicts improvements in school safety and fighting between 1997 and 1999. If a strong school climate fosters a safe school environment, schools with a strong school climate in 1997 are expected to experience better than average improvements in students' reports of safety and fighting between 1997 and 1999. In contrast, if the cross-sectional relationship between school climate and safety is primarily explained by a safer school environment fostering improvements in school climate, the relationship between 1997 levels of school climate and 1999 levels of school safety and violence should become non-significant when 1997 levels of school safety and fighting are entered as statistical controls. Also, improvements in school climate between 1997 and 1999 are hypothesized to predict improvements in school safety and fighting because improvements in school climate are expected to trigger improvements in school safety and decreases in school fighting.

One method for performing this longitudinal analysis entails combining students' 1997 and 1999 responses to the CCSR survey into one dataset and then running a two-level Bernoulli HLM analysis, where level one is composed of the student information and level two is composed of school information. At the student, or first level, a dummy code indicating whether the student's response occurred in 1997 or 1999 is entered. At the school, or second level, this coefficient would be allowed to vary and represent the change in students' reports of safety between 1997 and 1999 in each school. For

illustrative purposes, the equations for the two-level model are briefly described and no predictors are entered at the student level and the school level in order to keep the explanation simple.

At the student level, the logit, or log odds of success on the outcome, such as involvement in a school fight, is entered as the dependent variable (See earlier HLM model for description of the logit link function). Also, a dummy code is entered that indicates whether the eighth grader responded to the question in 1997 or 1999. The following equation summarizes the person level:

$$\eta_{ij} = \beta_{0j} + \beta_{1j}(\text{Dummy Code for 1999}) + r_{ij}$$

η_{ij} is the log of the odds of success.

β_{0j} is the mean log odds of success in school j in 1997.

β_{1j} is the change in students' reports of the outcome, η_{ij} , between 1997 and 1999 in school j

At the school, or second level, β_{1j} is allowed to vary and a model with no school level predictors is described by the following equations:

$$\beta_{0j} = \gamma_{01} + v_{0j}$$

$$\beta_{1j} = \gamma_{11} + v_{1j}$$

γ_{01} represents the mean level of the β_{0j} , or 1997 level of the outcome, district wide and the error term, v_{0j} , represents the extent to which each school mean deviates from the district wide average.

γ_{11} is the mean level of β_{1j} , or the change in eighth graders' reports of the outcome between 1997 and 1999, and the error term, v_{0j} , represents the extent to which each school mean deviates from the district wide average.

A different analytical approach was selected because a substantial number of schools did not participate in both the 1997 and 1999 CCSR student surveys and consequently would be excluded from the previous analysis. Specifically, seventeen percent, or 48 schools, of the two hundred and eighty-three general elementary schools

that responded to the 1999 CCSR student survey in a sufficient manner to be included in the analysis did not participate in the 1997 CCSSR survey. Substantial information and statistical power is lost if these schools are excluded from analyses.

An alternative analytical strategy involves treating the 48 schools that did not respond to the 1997 survey as a missing data problem that can be addressed with HMLM, or a Hierarchical Multivariate Linear Model. An advantage of this method is that it would increase the power of the analysis by integrating information from CPS schools that did not participate in the 1997 CCSR survey, but participated in the 1999 CCSR survey. A weakness of this approach is that the HMLM analysis includes only school-level information and excludes student-level information. In this instance, excluding student information is not problematic because changes in students' reports of safety and violence between 1997 and 1999 could not be tracked because different cohorts of eighth graders responded to the 1997 and 1999 CCSR survey. Consequently, the primary focus of the analyses was on understanding changes in school-level reports of safety and violence between 1997 and 1999.

Before discussing the HMLM model in detail, the extensive data preparation required for the HMLM model is delineated. First, EB estimates for every predictor and outcome for each school in both 1997 and 1999 was calculated using three-level HLMs, when the variable was created with a Rasch model, and two-level HLMs, when the variable was measured with a single item (See Creating School Means with Hierarchical Linear Modeling section for a detailed description of the HLM models). In both the two and three-level HLMs, no predictors were entered at the student or school level because unadjusted estimates of the school means were required for the analysis. For instance,

two three-level HLMs were run to acquire EB estimates of academic press at the school level in 1997 and 1999.

Next, the predictors and outcomes are entered into a latent variable HMLM where level one constitutes measurement occasions and the second level is schools (See Raudenbush & Bryk, 2002). Only schools that participated in the 1999 CCSR survey were included in the analysis because the outcome of interest (i.e., eighth graders reports of school safety and fighting) occurred in 1999. Before beginning the analysis, the measures for each school had to be stacked together and combined into a single variable, referred to as the measure variable, irrespective of whether it occurred in 1997 or 1999. For instance, if the analysis predicts classroom safety in 1999 with academic press in 1997, academic press in 1999, and classroom safety in 1997, each school would have four cases associated with it at level one, or measurement occasions model (See Table 12).

After creating the stacked dataset, a dummy code is created for each measure where one indicates the measure and zero indicates any other measure. For instance, in the example displayed in Table 12, D_1 is assigned a one whenever a measure of classroom safety in 1997 occurs. Otherwise, D_1 is assigned the value of zero. If a school is missing a measure, information for that school on that measure is not included in the analysis. In this example, school 2 did not participate in the 1997 CCSR student survey, but participated in the 1999 CCSR student survey. Thus, instead of four cases being entered for school 2, information on only the two 1999 CCSR student measures are entered (See Table 12). A full list of measures included in the longitudinal analysis can be found in Table 13.

Table 12: Coding of Dataset for HLM Longitudinal Analysis*

School Name	Measure	Value of Measure	Dummy for Classroom Safety 1997 (D ₁)	Dummy for Classroom Safety 1999 (D ₂)	Dummy for Academic Press 1997 (D ₃)	Dummy for Academic Press 1999 (D ₄)
School 1	Classroom Safety 1997	5.1	1	0	0	0
School 1	Classroom Safety 1999	6.2	0	1	0	0
School 1	Academic Press 1997	4.3	0	0	1	0
School 1	Academic Press 1999	5.8	0	0	0	1
School 2	Classroom Safety 1999	3.3	0	1	0	0
School 2	Academic Press 1999	5.7	0	0	0	1
School 3	Classroom Safety 1997	5.6	1	0	0	0
School 3	Classroom Safety 1999	5.7	0	1	0	0
School 3	Academic Press 1997	5.8	0	0	1	0
School 3	Academic Press 1999	4.2	0	0	0	1

*All the information listed in the table including the names of the schools and their scores on the measures are hypothetical.

After constructing the measurement database, the two-level HMLM analysis was performed. All three outcomes-1999 levels of classroom safety, 1999 levels of hallway/bathroom safety, and 1999 prevalence of fighting-were included in the model because all data is used in estimate missing values for measures and therefore it is important to include all measures that are associated with a measure that has missing data. The first level of the analysis (measurement occasions) predicted the values contained in the measure variable (See Table 12) with a statistical model that included dummy codes for each measure and no intercept. The equation used at the measurement

occasion, or first, level is:

$$Y_{ij} = D_{1ij}Z_{1j} + D_{2ij}X_{2j} + D_{3ij}X_{3j} + D_{4ij}X_{4j} + D_{5ij}X_{5j} + D_{6ij}X_{6j} + \sum_s D_{sij}X_{sj}$$

Y_{ij} = Is Measure i for school j

D_{1ij} = A dummy code where one indicates that the measure for school j is the school-level EB estimate of students' reports of classroom safety in 1999

D_{2ij} = A dummy code where one indicates that the measure for school j is the school-level EB estimate of students' reports of hallway safety in 1999

D_{3ij} = A dummy code where one indicates that the measure for school j is the school-level EB estimate of students' reports of fighting in 1999

D_{4ij} = A dummy code where one indicates that the measure for school j is the school-level EB estimate of students' reports of classroom safety in 1997

D_{5ij} = A dummy code where one indicates that the measure for school j is the school-level EB estimate of students' reports of hallway safety in 1997

D_{6ij} = A dummy code where one indicates that the measure for school j is the school-level EB estimate of students' reports of fighting in 1997

D_{sij} = Is a vector of dummy codes for all predictors subsequently used to predict students' reports of safety and fighting. The predictors include demographic information as well as measures of school climate. The 1997 values of the measures were entered because the analysis aimed to measure the extent to which measures predicted changes in student reports of safety and fighting over time. If a measure could significantly change between 1997 and 1999, an additional predictor measuring the change in the measure from 1997 to 1999 was entered into the equation. Because the 1997 and 1999 Rasch measures for a construct were on the same scale, changes in a scale could be calculated simply by subtracting the 1997 school-level EBD estimate for a scale from the 1999 EB school-level estimate for the same school. A full list of predictors entered into the model is provided in Table 13.

The level one model also can be described by the following matrix equation (See Raudenbush & Bryk, 2002, p. 343-344):

$$Y_j = D_j Y_j^*$$

Y_j is the n_j by 1 vector of observed values.

D_j is the matrix of dummy variables indicating which elements of the complete data have been observed.

Y_j^* is the vector of complete values for each measure. These complete data become outcomes as level 2.

“While the level-1 model represents the incomplete data as a function of the complete latent data, the level-2 model describes the distribution of the complete data”

(Raudenbush and Bryk, 2002, p. 343). The level-two, or latent school, model is described

by the following equations:

$$Z_{1j} = \gamma_1 + u_{1j}$$

$$X_{2j} = \gamma_2 + u_{2j}$$

$$X_{3j} = \gamma_3 + u_{3j}$$

$$X_{4j} = \gamma_4 + u_{4j}$$

$$X_{5j} = \gamma_5 + u_{5j}$$

$$X_{6j} = \gamma_6 + u_{6j}$$

.

.

$$X_{sj} = \gamma_s + u_{sj}$$

Z_{1j} is the latent measure of classroom safety of school j in 1999 and γ_1 is the mean value of classroom safety across all CPS schools surveyed in 1999. All schools now have a value on the measure.

X_{2j} is the latent measure of hallway safety of school j in 1999 and γ_2 is the mean value of hallway safety across all CPS schools surveyed in 1999. All schools now have a value on the measure.

X_{3j} is the latent measure of the EB estimate of the log odds of student fighting in school j in 1999 and γ_3 is the mean value of fighting across all CPS schools surveyed in 1999. All schools now have a value on the measure.

X_{4j} is the latent measure of classroom safety of school j in 1997 and γ_4 is the mean value of classroom safety across all CPS schools surveyed in 1997. All schools now have a value on the measure

X_{5j} is the latent measure of hallway safety of school j in 1997 and γ_5 is the mean value of hallway safety across all CPS schools surveyed in 1997. All schools now have a value on the measure.

X_{6j} is the latent measure of the EB estimate of the log odds of student fighting in school j in 1997 and γ_6 is the mean value of fighting across all CPS schools surveyed in 1997. All schools now have a value on the measure.

X_{sj} is the latent measure of predictor s for school i . All schools now have a value on each measure.

Once the school-level model was calculated, analyses of the three safety outcomes were performed using the latent variable function of HMLM. The latent variable function of HMLM enables the user to predict any latent variable at level-2, or the school level, with any set of level-2 latent variables. The statistical model used to predict average reports of classroom safety is provided below.

$$Z_{1j} = \gamma_1 + \gamma_{14} X_{4j} + \sum_s \gamma_{1s} X_{sj} + u_{1j}$$

Z_{1j} is the latent measure of classroom safety of school j in 1999

γ_{14} is the relationship of the latent school measure of classroom safety in 1997 with the latent school measure of classroom safety in 1999 after controlling for the other predictors

γ_{1s} is the relationship between predictor s in vector X and the latent school measure of classroom safety in 1999 after controlling for the other predictors and the 1997 latent measure of classroom safety.

Eight separate HMLM models were used to analyze each of the three school safety outcomes. The eight steps of the analysis are identical to the eight steps described earlier for the cross-sectional two-level analysis. The variables entered into each of the eight HMLM models are listed in Table 13. Unlike the cross-sectional analyses, preliminary analyses found no interactions or nonlinear effects and thus none were entered into the final analyses. Predictors entered into earlier models are included in subsequent models, or models with higher numbers, except variables entered in models 6 and 7. Variables in model 6 and model 7 assess mediating effects and are not included in subsequent models because each mediation effect needs to be individually measured.

The statistical models used to predict hallway safety and student fighting are identical to the model for classroom safety except for the fact that the 1997 and 1999 latent measures for hallway safety and fighting are used as a predictor and the outcome, respectively, instead of the latent measures of classroom safety in 1997 and 1999.

Table 13: Predictors Included in Longitudinal Analysis of 1999 Levels of Classroom Safety

Measure	Description of Measure	Number of Model Variable Entered
Demographic Predictors		
Small Elementary School	A dummy code indicating a school that enrolled 350 or fewer students	1
Large Elementary School	A dummy code indicating a school that enrolled 700 or more students	1
Magnet Elementary School	A dummy code indicating an elementary school that possesses a selective enrollment policy	1
Predominantly Latino	A dummy code indicating that 85% or more of the students enrolled in the school were Latino	1
Multiple Minority	A dummy code indicating that 85% or more of the students enrolled in the school are ethnic minorities. Also, a school is only coded in this category if fewer than 85% of its students are Latino, fewer than 85% of its students are African-American, and fewer than 15% of its students are white.	1
Racially Diverse	A dummy code indicating that between 15 and 30% of the students enrolled in the school are white.	1
Racially Integrated	A dummy code indicating that over 30% of the students enrolled in the school are white.	1
School Stability in 1997	Percent of elementary students who were consistently enrolled in the school between September 1996 and May 1997	1
Change in School Stability between 1997 and 1999	Percent of elementary students who were consistently enrolled in the school between September 1998 and May 1999 subtracted from the percent of elementary students who were consistently enrolled in the school between September 1996 and May 1997.	1
School Average Social Status in 1997	Averages the social status, derived from the 2000 census, of the neighborhoods in which elementary students enrolled in each school lived in 1997.	1
Change in School Social Status between 1997 and 1999	The extent to which a school's average social status changed between 1997 and 1999.	1
School Average of Community Violence in 1997	A measure that combines the rate of violent crime in the neighborhood around the school with the average rate of violent crime in the neighborhoods from which elementary students enrolled in the school live.	2
Change in Community Violence between 1997 and 1999	The extent to which the school measure of community violence changed from 1997 to 1999	2
School-Level EB Estimate of Students' Reports of Human Resources in 1997	Students' reports of the human resources in their community in 1997 aggregated to the school level with a three-level HLM.	3

Table 13: Predictors Included in Longitudinal Analysis of 1999 Levels of Classroom Safety (Continued)

Measure	Description of Measure	Number of Model Variable Entered
Change in Human Resources from 1997 to 1999	The extent to which a school's human resources changed from 1997 to 1999.	3
School Climate		
School-Level EB Estimate of Students' Reports of Academic Press and Student-Teacher Trust in 1997 [^]	A composite measure of academic press and student-teacher trust. First, students' reports of academic press in 1997 were aggregated to the school level using a three-level HLM. Second, a school-level measure of student-teacher trust in 1997 was calculated using a three-level HLM. The EB estimates for academic press and student-teacher trusts were then standardized and combined.	4
Change in Academic Press and Student-Teacher Trust from 1997 to 1999 [^]	The extent to which a school's academic press and student-teacher trust changed from 1997 to 1999.	4
School-Level EB Estimate of Teachers' Reports of School Responsibility in 1997	Averages teachers' reports of school responsibility in 1997 with a three-level HLM.	5
Change in School Responsibility from 1997 and 1999	The extent to which school responsibility changed from 1997 to 1999	5
Possible Mediators		
School-Level EB Estimate of Students' Reports of Social Competence in 1997	Averages students' reports of social competence in 1997 for each school with a three-level HLM.	6
Change in Social Competence between 1997 and 1999	The extent to which a school's social competence changed between 1997 and 1999.	6
School-Level EB Estimate of Students' Reports of Peer Relationships in 1997	Averages students' reports about their classroom environment in 1997 for each school with a three-level HLM.	7
Change in Peer Relationships from 1997 to 1999	The extent to which a school's classroom environment changed between 1997 and 1999.	7
School-Level EB Estimate of Students' Perceptions of Their Teachers' Responses to Student Conflicts in 1997	Averages students' reports about how teachers in their school respond to student conflicts in 1997 for each elementary school with a three-level HLM.	8
Change Teachers' Responses to Student Conflicts between 1997 and 1999	Measures changes in students' perceptions of their teachers' response to student conflict from 1997 to 1999.	8

[^]An explanation of why these measures were combined is provided in the results section.

Results

Correlations among School Climate and Neighborhood Context

Correlations among school climate, neighborhood violence, and social resources were examined at both the student and school level in order to assess the extent to which they were independent. Two of the school climate predictors, academic press and student trust, were created using students' responses to the CCSR surveys. At the student level, these two measures were moderately correlated in 1997, .43, but remained empirically and theoretically distinct. Moreover, eighth graders' reports about their school experiences were only weakly related to their reports about social resources in their communities, .21 for academic press and .26 for student-teacher trust. The weak correlations suggest that eighth graders' school experiences are distinct from their broader perceptions about their community.

In addition, student-teacher trust and academic press were not significantly related to reports of violent crime and measures of SES in their neighborhoods, correlations were .06 or less. These weak correlations, however, have to be interpreted cautiously because community SES and violent crime were calculated at the census block group or tract level, instead of the student level. One expects eighth graders in the same neighborhood, regardless of its level of violence or socio-demographic status, to have varying experiences at school. This in turn dilutes or weakens student level relationships.

At the school level, the correlations among the four school climate measures were assessed (See Table 14). Teacher-teacher trust was very strongly correlated with the measure of school responsibility, .84. Empirically, these two measures provided nearly

identical information about schools and could not be simultaneously entered into statistical models. Consequently, school responsibility was retained and teacher-teacher trust dropped. School responsibility was considered theoretically more relevant because it directly measures teachers' attitudes about monitoring student's behavior and teaching them social skills. Although the measures of school responsibility and teacher-teacher trust were not combined because they were considered theoretically distinct, interpretations need to consider that high levels of school responsibility existed almost exclusively in schools with high levels of teacher-teacher trust.

Measures of academic press and student-teacher trust were also strongly correlated at the school level, .52 (See Table 14). Although strongly correlated, the two constructs remained distinct and were entered into the HLM analyses separately. The strong relationship between academic press and student trust, however, became problematic when they were simultaneously used to predict changes in school safety and fighting between 1997 and 1999 using HMLM. In the HMLM analyses, changes in academic press and teacher trust between 1997 and 1999 were entered as well as the 1997 level of each measure. The latent correlations reported by the HMLM analyses among these four variables ranged in absolute strength from approximately .40 to .60 (See Table 15). The high correlations among these predictors made it difficult to determine the meaning of their coefficients in the HMLM. This problem was resolved by combining academic press and student-teacher trust for the HMLM analyses. The combined measure was created by averaging the standardized 1997 measure of academic press with the standardized 1997 measure of student-teacher trust. In addition, an average of the standardized changes in academic press and student trust between 1997 and 1999 was

calculated.

Table 14: School-Level Correlations between School Climate and Community Context in 1997

	Acad. Press	Student-Student Trust	Teacher-Teacher Trust	School Resp.	Social Resources	Violent Crime	Social Status
Academic Press	1						
Student-Teacher Trust	.52*	1					
Teacher-Teacher Trust	.29*	.15*	1				
School Responsibility	.27*	.16*	.84*	1			
Social Resources	.37*	.23*	.35*	.37*	1		
Violent Crime	-.12*	-.15*	-.29*	-.34*	-.59*	1	
Social Status	.37*	-.00	.08	.11*	.46*	-.29*	1

*p<.05

Table 15: Academic Press and Student-Teacher Trust Were Highly Correlated Over Time: HMLM Latent Correlations

	Student-Teacher Trust in 1997	Changes in Student Trust Between 1997 and 1999	Academic Press	Changes in Academic Press Between 1997 and 1999
Student-Teacher Trust in 1997	1			
Changes in Student-Teacher Trust Between 1997 and 1999	-.59	1		
Academic Press in 1997	.55	-.39	1	
Changes in Academic Press Between 1997 and 1999	-.34	.63	-.59	1

School Climate is Distinct from Reports of Disciplinary Incidents

A major concern is that school climate acts as a proxy for the occurrence and punishment of student disciplinary problems. Weak to moderate negative correlations between the occurrences of disciplinary incidents and school climate, however, suggest that school climate measures are distinct from disciplinary incidents (See Table 16). The

negative direction of the correlations suggests that greater disciplinary incidences are associated with a weaker school climate. Some schools, however, with high levels of disciplinary incidents also had strong relationship between and among eighth graders and teachers. This finding suggests students' interpretation of the fairness, purpose, and meaning of punishments shapes students' perceptions of their teachers and the schools.

Disciplinary incidents, however, were strongly correlated with social resources and community violence, $-.42$ and $.69$ respectively. A variety of explanations could be offered for this relationship. For instance, more disciplinary problems may occur in schools situated in violent communities because youth involved in violence outside the school may be more likely to display behavioral problems in school. Alternatively, schools may react more severely to a wider range of events in violent communities because they fear severe violence. The present study is unable to distinguish between alternative explanations and the meaning of the strong correlation between disciplinary incidents and community violence identifies a question for future research.

Table 16: School Climate is Weakly to Moderately Correlated With the Occurrence of Disciplinary Problems

	Occurrence of Disciplinary Problems
Academic Press	$-.17$
Eighth graders' Trust of Teachers	$-.22$
Trust Among Teachers	$-.27$
School Responsibility	$-.32$

School Safety and Fighting Varies Significantly Across CPS Schools

The extent to which eighth graders felt unsafe at school and their involvement in fights varied reliably and significantly across CPS schools. The school level reliabilities extracted from the two-level HLMs with no control variables were moderate for eighth graders' reports of feeling unsafe in school hallway/bathrooms, $.64$, and fighting, $.57$.

The school level reliability was lowest for eighth graders' reports about feeling unsafe in their classrooms, .53 (See Table 17).

In order to better assess the degree to which the measures varied, the intercept from each of the HLM analyses was transformed from log odds into the percentage of eighth graders who reporting feeling unsafe at school or being involved in at least one fight at school. Next, the percent of youth who reported feeling unsafe or involved in fights was estimated for five different CPS schools: the average CPS school (a school with a value of the intercept in the HLM), relatively safe or unsafe in CPS schools (schools that are one standard deviation from the average school, or mean school), and very unsafe or safe CPS schools (schools that are two standard deviations from the mean or average school). The reports from each type of school are graphed in Figure 2.

A review of Figure 2 reveals that eighth graders feel less safe in school hallways/bathrooms than they feel in school classrooms. In the average school, 16 percent of students reporting feeling only somewhat safe in school hallways or bathrooms compared to 9 percent of eighth graders who reported feeling somewhat safe in school classrooms. The increased supervision of eighth graders especially in classrooms appears to enhance eighth graders' sense of safety. Also, it is important to recognize that students reported feeling substantially safer inside schools, whether in hallways or classrooms, than they reported feeling outside or around school. Specifically, around 46 percent of students in the average elementary school reported feeling somewhat or not safe at or around schools compared to 16 percent of youth that report feeling unsafe or somewhat safe in school hallways/bathrooms (See Figure 2). This indicates that schools do provide many students a sense of safety not felt outside the school.

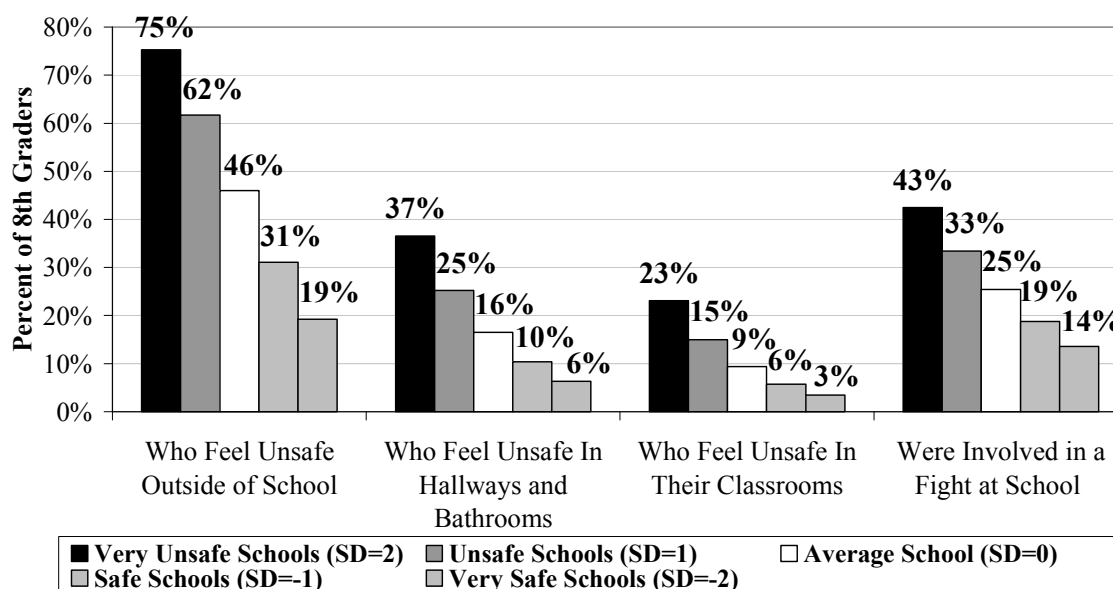
Eighth graders' perceptions of insecurity in school hallways/bathrooms and classrooms, substantially varies across schools (the standard deviations are .54 for hallway/bathroom safety and .53 for classroom safety) (See Table 17). For instance, 25 percent of eighth graders' attending an unsafe school, a school one standard deviation above the mean on hallway/bathroom insecurity, reported feeling unsafe in school hallways/bathrooms compared to only 10 percent of eighth graders attending a safer school, a school one standard deviation below the average CPS school. Similarly, only 6 percent of eighth graders reported feeling unsafe in classrooms in safe schools compared to 15 percent in unsafe schools. Although eighth graders feel safer inside of schools, a significant minority of eighth graders feel unsafe or only somewhat safe in school.

The incidence of student fights also varies across CPS schools. In unsafe schools, 33 percent of eighth graders reported being involved in at least one fight. In safe schools, 19 percent of eighth graders reported being involved in at least one fight (See Figure 2). Overall, the three measures of school safety and fighting varied to an extent that made predicting their differences empirically, theoretically, and pragmatically important.

Table 17: Safety and Fighting Varies Significantly Across Schools: Bernoulli HLMs of the Outcome Variables with No Control Variables Included

Description of Coefficient	Outcomes at the School Level		
	Feel Unsafe in the Hallway	Feel Unsafe in the Classroom	Involved in a Fight
Intercept (i.e., Occurrence in the average CPS school)	-1.62	-2.27	-1.08
Standard Deviation at the School Level	0.54	0.53	0.39
Reliability at the School Level	0.64	0.53	0.57

Figure 2: Eighth Graders' Perceptions of Safety and Involvement in Fights at School Varies to a Great Extent across Chicago Public Elementary Schools in 1997



The Relationship among Community Context, School Climate, and School Violence

The 1997 cross-sectional analysis and the 1997 to 1999 longitudinal analysis assessed students' involvement in fights and the extent to which students felt somewhat or not safe in their school hallway/bathrooms and school classrooms, referred to as school insecurity. Consequently, a negative coefficient indicates that a predictor was related to higher percentages of students feeling safer inside their schools and fewer students being involved in fights at school. For instance, the measure of academic press is expected to have a negative relationship with school fighting and school insecurity.

The complete results of the stepwise HLMs predicting students' perceptions of school insecurity and involvement in fights during the 1997 school year are displayed in appendixes one through three. Also, the full results of the stepwise HMLMs predicting changes in school safety between 1997 and 1999 are displayed in appendixes four through

six. Because the full statistical models include a large number of variables, many of which are control variables, the results from the HLM and HMLM analyses are integrated and presented in a manner that addressed the four major study questions:

- What is the relationship of social resources and neighborhood violent crime with students' feelings of school insecurity and involvement in fights at school?
- Does school climate predict school insecurity and fighting once neighborhood violence and social resources are empirically controlled?
- Do measures of school climate predict changes in school insecurity and fighting between 1997 and 1999?
- Is the relationship between school climate and school insecurity mediated by social competence, classroom behavior, or teachers' responses to student conflicts?

The section first discusses the relationships between neighborhood context and school insecurity. The empirical relationship between school climate and insecurity is then reviewed. Mediation effects are also discussed at this point. The section ends with a discussion of the relationship between school size and school insecurity that also emerged from the analysis.

Community Violence Predicted School Safety

Model two in the HLMs and HMLMs measured the relationship between community violence and the four insecurity outcomes after controlling for the demographic characteristics of students and schools (See Model 2 in Appendices one through six). Community violence significantly predicted eighth graders' reports of feeling unsafe and becoming involved in fights at the school level. Although weak

relationships were detected at the student level of the 1997 HLM analyses, violent crime was significantly and moderately related to all outcomes in 1997 at the school level and predicted changes in eighth graders' reports of their involvement in fights between 1997 and 1999.

Student-Level Violent Neighborhood Crime. At the student level in the 1997 HLMs, violent crime had a weak curvilinear relationship (i.e., the square of the student level variable was significant), ranging between $-.05$ and $-.06$, with eighth graders' reports of feeling unsafe in their classrooms and hallways/bathrooms (See Table 18). In other words, eighth graders living in high and low crime communities tended to report feeling safer than eighth graders in communities confronting average levels of violent crime. This relationship is extremely weak and significant only due to the large sample size of the study. Also, no theoretical explanation of this curvilinear relationship is readily available. Thus, no theoretical or practical significance is assigned to this finding.

The weak relationship between violent crime and school safety at the student level was not surprising because eighth graders' were assigned the level of violent crime of the census tract in which they lived. Eighth graders' diverse experiences within that census track may of diluted relationships with school safety. More precise measures of eighth graders' victimization and exposure to violence are expected to relate more strongly to their reports of feeling unsafe and being involved in fights.

School-Level Violent Neighborhood Crime. Violent crime in eighth graders' neighborhoods and the neighborhood around their schools predicted how unsafe they felt at school and their involvement in fights at the school level. The relationships were especially strong and consistent in the 1997 HLM analyses. Because violent crime in

students' neighborhoods was entered as a grand-mean centered variable in the HLM models at both the student and school level, the school-level coefficient measures the contextual effect. The contextual effect is defined as the expected difference in students' reports of feeling unsafe between two students who live in neighborhoods with the exact same level of violent crime, but who attend schools that are situated in neighborhoods whose violent crime rates differ by a standard deviation (See Raudenbush and Bryk, 2002, p. 141).

Community violence was significantly related to the two measures of school insecurity-reports of feeling unsafe in school classrooms and hallway/bathroom-and marginally related to fighting at the school level in the 1997 analyses (See Table 18). These relationships were of moderate size. Effect sizes in two-level HLMs are calculated by dividing the coefficient by the standard deviation at the school, or second, level observed in a HLM model with no predictors (See Appendices one through three for the variance in school level responses reported for the base variance models⁸). Applying this formula, the effect sizes of violent crime are .46 and .43 for the measures of school hallways/bathrooms and classrooms insecurity, respectively. The effect sizes indicates that a school situated in neighborhoods with violent crime rates that are a standard deviation higher than another school are expected to have aggregate student reports about classroom safety that are .43 standard deviations worse than the other school (i.e., more students report feeling only somewhat or not safe in their classrooms).

The size of these effects can be better understood by examining the differences in the percent of eighth graders who report feeling somewhat or unsafe in schools located in

high and low crime communities, schools one standard deviation below or above the average for CPS. For classroom safety, 11 percent versus 7 percent of eighth graders reported feeling unsafe in classrooms in schools located in high versus low crime communities. For hallway insecurity, 20 percent versus 13 percent of eighth graders reported feeling unsafe in hallways/bathrooms in schools located in high versus low crime communities. These differences represent important as well as statistically significant differences.

In contrast to the 1997 HLM analyses that measured the contextual effect, the HMLM longitudinal analyses assessed the between-school effect because the student relationship with school safety was not assessed. The between-school effect is the expected difference between the means of two schools on school insecurity or fighting, which differ by one standard deviation in school neighborhood crime (Raudenbush and Bryk, 2002). Community violence in 1997 predicted significant increases in the percent of eighth graders involved in fights between 1997 and 1999 (See Table 18). Schools with high levels of community violence in 1997 experienced changes in student fighting that were .22 standard deviations greater than the average CPS school. Changes in eighth graders' reports of feeling unsafe in school classrooms and school hallway/bathrooms between 1997 and 1999, however, were unrelated to community violence in 1997. This finding suggests that institutional efforts by schools to maintain a safe environment may buffer them against yearly fluctuations in community violence.

Finally, changes in community violence in 1997 and 1999 were unrelated to changes in reports of school insecurity or fighting. The relative stability in rates of

⁸ Standard deviation can be calculated by taking the square root of the variance.

violent crime in Chicago between 1996 and 1998 may partially explain this finding.

Large changes in violent crime may need to occur before significant impacts on school safety are felt. Alternatively, the influences of changes in community violence may take time to influence the behavior occurring inside institutions.

Table 18: After Controlling for School Demographics, Violent Crime Predicts Reports of School Insecurity and Changes in Fighting

Outcome	Predictor (1997 or Change 1997 to 1999)	Type of Effect (Linear or Square)	1997 Student Effect (HLM)	1997 School Level Effect (HLM)	Change Between 1997 and 1999 (HMLM)
Classroom Insecurity	1997	Linear	-.04	.23*	-.03
	1997	Square	-.07*	--	--
	Change 1997-1999	Linear	--	--	.09
Hallway/Bathroom Insecurity	1997	Linear	.01	.24*	.09
	1997	Square	-.05*	--	--
	Change 1997-1999	Linear	--	--	-.00
Physical Fights	1997	Linear	.07	.11 [^]	.22*
	1997	Square	--	--	--
	Change 1997-1999	Linear	--	--	.02

*p<.05

[^]p<.10

Social Resources Predicted School Safety

Model three in the HLMs and HMLMs investigated the extent to which social resources predicted school insecurity and fighting even after statistically controlling for community violence and demographic characteristics of students and schools (See Appendixes one through six). At both the student and school level, social resources strongly predicted the chances that students felt unsafe in school classrooms and hallways/bathrooms (See Table 19). If eighth graders believe adults in their community care about them and work to keep their neighborhoods safe, eighth graders tended to feel safe at school. Moreover, schools with large percentages of eighth graders reporting high levels of social resources tended to be safer even after controlling for the strong

individual, or within-school effect, between social resources and safety (Table 19).

Finally, the strong relationship between social resources and school insecurity at the student level did not vary across schools.

The relationship between social resources and fighting, however, was weaker and sometimes not significant. The significant student-level relationship between social resources and fighting, however, did vary across schools in 1997.

Student-Level Social Resources. In the 1997 HLM models that assessed students' perceptions of feeling unsafe in school bathrooms and hallways, eighth graders' perceptions were grand-mean centered at the student level and also school averages of students' social resources reports were entered and grand-mean centered at the school level. Constructing the model in this manner results in the student-level social resources coefficient assessing the within-school effect of social resources. The within-school effect represents the expected difference in school insecurity between two students in the same school who differ by a standard deviation on social resources (Raudenbush and Bryk, 2002). A significant within-school effect was found. Eighth graders' reports of social resources were moderately to strongly related to eighth graders reports of feeling unsafe in their classrooms, $-.42$, and hallway/bathroom safety, $-.25$. Translating the social resources coefficient in the classroom model into percentages reveals that eighth graders reporting high levels of social resources (i.e., one standard deviation above the mean) were half as likely to report feeling unsafe in school classrooms, 6 percent versus 12 percent, than eighth graders reporting low levels of social resources (i.e., one standard deviation below the mean). Consequently, students' perceptions of their neighborhood strongly influenced whether they felt unsafe in their school classrooms.

A weak curvilinear relationship between social resources and hallway/bathroom insecurity was detected (i.e., the square of the human resources variable at the student level was significant-see Table 19). In order to understand this curvilinear relationship, the percentages of eighth graders reporting very low (i.e., two standard deviations below the mean), low (i.e., one standard deviation below the mean), average (i.e., the mean), high (i.e., one standard deviation above the mean), and very high social resources (i.e., two standard deviations above the mean) were calculated. Eighth graders reporting high and very high levels of social resources were about as equally likely to report feeling unsafe in hallways/bathrooms, 13 percent of eighth graders high on social resources versus 12 percent of eighth graders very high on social resources reported feeling unsafe in school hallways/bathrooms. Conversely, eighth graders reporting very low levels of social resources in their communities were much more likely than eighth graders reporting low levels of resources to report feeling unsafe in hallways and bathrooms, 27 versus 20 percent. In other words, eighth graders reporting low levels of social resources increasingly reported feeling unsafe in school hallways.

Eighth graders' reports of fighting were also related to their reports of social resources, $-.17$. This relationship, however, was weaker than the relationships between social resources and students' reports of feeling unsafe at school. The measure of social resources may have a stronger relationship with the insecurity measures because the social resources measure contains items that directly assess how safe eighth graders feel in their community. Thus, a measure capturing students' tendency to be involved in fights in their community would be expected to have a stronger relationship with their involvement in school fights.

The strong relationship between social resources and the two school insecurity measures did not significantly vary, or was constant, across schools in this sample. In contrast, the relationship between school social resources and fighting varies significantly between schools. Community context and climate measures were unrelated with these variations. More research is needed to identify factors that reduce or exacerbate the relationship between eighth graders' reports of social resources and fighting.

School-Level Social Resources. At the school level, the 1997 HLM analyses measured the contextual effect. The contextual effect is the expected difference in students feeling unsafe at school between two students who report the same level of social resources in their communities, but who attend schools differing in aggregate social resources by a standard deviation (Raudenbush and Bryk, 2002). A contextual effect may emerge because students' sense of insecurity at a school may be exacerbated if the majority of youth attending the school feel unsafe and distrustful of adults in the broader community. Inversely, if most students' enrolled in a school feel secure and generally supported by adults in the community, a student who enters the school feeling unsafe in his or her community may benefit from the general sense of security.

Moderately sized contextual effects⁹, the effect sizes were -.43 for classroom safety and -.44 for hallway safety, were found between school-level social resources and classroom safety and also between school-level social resources and hallway safety. These differences were of practical as well as statistical importance. Even after controlling for the within-school effect, 13 percent of students in schools high on social resources were expected to report feeling unsafe in hallways/bathrooms compared to 19

percent of students in schools low on social resources. Moreover, 7 percent of students enrolled in schools high on social resources were expected to report feeling unsafe in school classrooms compared to 10 percent of students in schools low on social resources.

Unlike the HLM analyses, the HMLM longitudinal analyses assessed the between-school relationship of social resources with school safety and fighting. The between-school effect combines the within and contextual effects and is the expected difference between the means of two schools on insecurity or fighting, whose average social resources differ by a standard deviation. School levels of social resources in 1997 predicted improvements in the school-level reports of classroom and bathroom/hallway insecurity between 1997 and 1999 (See Table 19). In other words, reports of classroom and bathroom/hallway insecurity tended to improve at a faster than average rate in schools with high levels of social resources. In addition, changes in the average level of social resources in schools between 1997 and 1999 predicted improvements in students' reports about hallway/bathroom insecurity over the same time period (See Table 19). Strong cross-sectional and longitudinal relationships linked social resources and school insecurity.

In contrast to the above finding, no significant school-level relationships were found between social resources and school-level reports of student fighting. Social resources may be more strongly related to students' reports of feeling unsafe at school because it includes items that measures how safe students feel in their community.

⁹ A description of how effect sizes are calculated is provided in the preceding section on community violence.

Table 19: After Controlling for School Demographics and Violent Crime, Community Social Resources Predicts School Insecurity

Outcome	Predictor (1997 or Change 1997 to 1999)	Type of Effect (Linear or Square)	1997 Student Effect (HLM)	1997 School Level Effect (HLM)	Change Between 1997 and 1999 (HMLM)
Classroom Insecurity	1997	Linear	-.42*	-.23*	-.25*
	1997	Square	--	--	--
	Change 1997-1999	Linear	--	--	-.10
Hallway/Bathroom Insecurity	1997	Linear	-.25*	-.23*	-.26*
	1997	Square	.04*	--	--
	Change 1997-1999	Linear	--	--	-.13*
Physical Fights	1997	Linear	-.17*	-.06 [^]	-.14
	1997	Square	--	--	--
	Change 1997-1999	Linear	--	--	-.10 [^]

*p<.05

[^]p<.10

School Climate

Analyses of school climate explored three major questions. First, the analyses investigated the extent to which school climate was related with school insecurity and fighting after controlling for community violence and social resources. This question was explored in models four and five in the HLM and HMLM analyses. Second, the study assessed the extent to which school climate predicted changes in school insecurity and fighting over time. Models four and five in the HMLM analyses addressed this question. Finally, possible explanations of the relationship of school climate with both school insecurity and fighting were explored. Models six, seven, and eight assessed the extent to which students' social competence, teachers' ability to resolve student conflicts, and students' classroom behavior, mediated the relationship between school climate and the indicators of school insecurity and fighting.

Higher Levels of Academic Press and Student-Teacher Trust Predict Students'

Feeling Safer in School and Fighting Less. The vast majority of the variance in the measures of academic press and student-teacher trust, over 90 percent, was found to occur within schools (i.e., the reports of students enrolled in the same school were different), instead of between schools (i.e., average reports across schools were different). In other words, students in the same school possess different perceptions of teachers' academic expectations and the extent to which teachers treat them fairly. This within-school variance may result from classroom experiences within schools varying to a great degree or students within the same classroom being treated differently by the teacher. Also, differences in students' reports may be driven by their academic success at school. For instance, a high achieving student may have more positive perceptions of their teachers than a student academically struggling.

Regardless of its cause, students' who reported higher levels of academic press and student-teacher trust felt safer at school and were involved in fewer fights. Also, a contextual effect (i.e., the school-level relationship of student-teacher trust with school insecurity net of the within-school effect) was found between school-level student-teacher trust and school-level reports of classroom safety. Schools with high levels of student-teacher trust also tended to have higher proportions of students reporting feeling safe in their classrooms.

In the HMLM longitudinal analyses of changes in school insecurity and fighting between 1997 and 1999, academic press and student-teacher trust were only measured at the school level and were combined into a composite variable because they were strongly correlated at the school level. The composite variable predicted changes in school insecurity and fighting between 1997 and 1999. The composite variable was more

strongly related to changes in classroom insecurity than changes in hallway insecurity or fighting.

Student-Level Academic Press and Student-Teacher Trust. At the student, or first, level of the 1997 HLM analyses, students' perceptions of academic press and student-teacher trust were grand-mean centered. Also, the EB school-level estimates of the two measures were entered at the school, or second, level. This model results in the student-level variables measuring the within-school relationship between the predictors (academic press and student trust) and the outcome (students' reports of school insecurity and fighting). The within-school effect assesses the expected difference in reports of school insecurity between two students in the same school who differ in their reports of academic press or student-teacher trust by one standard deviation.

Academic press and student-teacher trust were consistently and sometimes strongly related to school insecurity and fighting at the student level (See Table 20). The relationship of academic press and student-teacher trust with school insecurity and fighting was found to be nonlinear, or curvilinear, in the 1997 HLM analyses, as indicated by significant squared coefficients (See Table 20). Across analyses, the curvilinear effect indicated that the relationship of academic press and student-teacher trust with school insecurity and fighting got weaker as eighth graders' reports on these measures grew more positive. For instance, eighth graders who reported very high levels of academic press or student-teacher trust reported feeling only slightly safer than eighth graders who reported high levels of academic press and student-teacher trust. In contrast, the relationship of academic press and student-teacher trust with school insecurity and fighting grew stronger as eighth graders' reports grew more negative. Eighth graders who

reported very low levels of academic press or student-teacher trust felt significantly less safe than eighth graders who reported low levels of these variables. These results coincide with previous research findings that discipline problems often occur simultaneously with academic failure and disengagement (McEnvoy and Welker, 2000).

Also, the 1997 HLM analyses found that academic press and student-teacher trust interacted when predicting school insecurity (i.e., the product of student-trust trust and academic press significantly predicted both classroom and hallway/bathroom insecurity). Consequently, the strength of the relationship between academic press and school insecurity varies, or is dependent, on the levels of student-teacher trust. The earlier finding that a nonlinear relationships existed between academic press and school insecurity and also between student-teacher trust and school insecurity coupled with the interaction of academic press with student-teacher when predicting school insecurity makes interpreting the relationships among academic press, student-teacher trust, and school insecurity difficult

In order to understand these relationships, the percentage of eighth graders who reported feeling unsafe in classrooms and hallways when eighth graders reported very low, low, average, high, and very high levels¹⁰ of academic press and student-teacher trust is displayed in Table 21 and Table 22, respectively. In the two tables, the values for students who tended to report high or low levels of both academic press and student-teacher trust are bolded. The explanation focuses on these cells because academic press and student-teacher trust are moderately correlated and most eighth graders in our sample

¹⁰ The categories are based on standard deviations in the two predictors. High equals one standard deviation above the mean. Very high represents two standard deviations above the mean. Similarly, low equals one standard deviation below the mean and very low represents two standard deviations below the

fall within these cells¹¹.

Inspection of the tables reveals that the classroom and hallway insecurity reports of eighth graders who reported high and very high levels of student-teacher trust were similar when the levels of academic press were also average to very high (See Table 21 and Table 22). For instance, eight percent of students who reported an average level of student-teacher trust and an average level of academic press reported feeling unsafe in school classrooms. The percent of students who reported that they felt unsafe, when reports of academic press rose to high and reports of student-teacher trust remained average was 7 percent, or only a single percentage point lower than the rate for youth reporting average levels of academic press and student-teacher trust.. Slightly larger improvements, between one to three percentage points, are found in students' reports of classroom insecurity when levels of student-teacher trust move from average to very high and levels of academic press are constrained to average to very high. Moreover, eighth graders who report high levels of both academic press and student-teacher trust were only slightly less likely to report feeling unsafe. A similar pattern of results emerged for the hallway insecurity analyses (See Table 22).

Larger differences separated the insecurity reports of students' with average levels of student-teacher trust and academic press from the school insecurity reports of students who reported low to very low levels of academic press and/or student-teacher trust (See Table 21 & Table 22). For instance, 16 percent of students reported feeling unsafe in school classrooms when they had low levels of academic press and low levels of student-

mean.

¹¹ Although explanations focus on these cells, it is important to remember that academic press and student-teacher relationships are distinct experiences. For instance, a student may feel that she is held to high

teacher trust. This is eight percentage points higher than youth with average levels of academic press and student-teacher trust (See Table 21). Moreover, nearly 20 to 36 percent of students with very low levels of academic press reported feeling unsafe in classrooms. This is much higher than students reporting average levels of academic press and student-teacher trust. Students with very low levels of student-teacher trust were also much more likely to feel unsafe in school classrooms across levels of academic press (See Table 21). Similar patterns emerged for hallway insecurity (See Table 22). These results suggest that students with moderate to high levels of academic press and/or student-teacher trust feel about equally safe at school. In contrast, students feel increasingly insecure in school hallways and classrooms when their reports of academic press and student-teacher trust fall below average.

Academic press and student teacher-trust did not interact when predicting fighting. Curvilinear effects similar to those observed for classroom and hallway insecurity were found. The sizes of these effects, however, were significantly smaller than those observed for classroom and hallway safety (See Table 20).

School-Level Academic Press and Student-Teacher Trust. The design of the 1997 HLM models resulted in the school-level coefficients for academic press and student-teacher trust measuring contextual effects. A contextual effect is the expected differences in school insecurity between two students who have the same levels of student-teacher trust, but who attend schools differing in student-teacher trust by one standard deviation (Raudenbush and Bryk, 2002). Only one significant contextual effect was found.

School-level student-teacher trust predicted school-level classroom insecurity. The effect

expectations, but feel her teacher treats her unfairly and does not listen to her.

size of the relationship was relatively small, $-.18^{12}$. The effect indicates that students are more likely to feel safe in school classrooms when they attend schools with higher levels of student-teacher trust, irrespective of their own individual reports of student-teacher trust.

In contrast to the HLM analysis that measured the within-school effect at the student level and the contextual effect at the school level, the HMLM analyses assess the between-school effect. The between-school effect measures the expected difference between the means of two schools on the outcome that differ by one standard deviation on the school-level measure of academic press (Raudenbush and Bryk, 2002). The between-school effect is a combination of the within-school effect and the contextual effect. The strong correlations between the school-level measures of academic press and student-teacher trust in 1997 coupled with the strong correlations between changes in these two measures between 1997 to 1999 required that the measures be combined into a single composite variable for the HMLM analyses.

Levels of the composite variable in 1997 and changes in the composite variable from 1997 to 1999 predicted improvements in school insecurity and fighting in schools between 1997 and 1999 (See Table 23). The relationship between the combined measure and classroom insecurity was of moderate strength. Schools with high levels of the combined measure, one standard deviation above the mean, in 1997 were likely to show changes in classroom insecurity that were nearly a third of a standard deviation better than the average school (the standardized coefficient was $-.31$). Also, changes in the combined measures between 1997 and 1999 predicted improvements of over a quarter of

¹² See the community violence section for an explanation of how an effect size at the school level was

a standard deviation in classroom insecurity between 1997 and 1999 (the standardized coefficient was $-.28$).

The relationship between the 1997 levels of the combined measure and hallway insecurity was slightly weaker (the coefficient was $-.22$). The relationship between changes in the composite measure from 1997 and 1999 and hallway insecurity were also weaker than those observed for classroom insecurity. Finally, the relationship of the combined measure with fighting was significant but weak, the effects sizes were $-.15$ for the 1997 levels of the composite variable and $-.14$ for changes in the composite variable between 1997 and 1999 (See Table 23). These results suggest that schools with high levels of academic press and student-teacher trust are more likely to experience improvement in students' reports about school insecurity and declines in fighting. Improvements were especially strong for classroom insecurity.

Mediating Relationships. Models six, seven, and eight in the HLM and HMLM analyses examined the extent to which students' level of social competence, students' reports of teachers' ability to resolve students' disputes, and classroom behavior mediate the relationship between school climate and school insecurity. Review of the models found no instances of full mediation. Students' reports of teachers' ability to resolve students' disputes partially mediated the student-level relationships between student-teacher trust and classroom insecurity and between student-teacher trust and hallway insecurity.

In these two instances, the four requirements of mediation were satisfied. First, student-teacher trust significantly predicted students' reports of classroom insecurity

(coefficient was $-.40$) and hallway insecurity (coefficient was $-.22$). Second, student-teacher trust is correlated at the $.44$ level with students' reports of teachers' ability to resolve students' disputes. Third, students' perceptions of teachers' ability to resolve students' disputes significantly predicted classroom insecurity (coefficient was $-.28$) and hallway insecurity (coefficient was $-.23$), even with student-teacher trust entered as a predictor. Finally, in the models predicting classroom and hallway insecurity, the strength of the teacher-student trust coefficient decreased after teachers' ability to resolve students' disputes was entered as a predictor. The student-teacher trust coefficient associated with classroom insecurity dropped from $-.40$ to $-.34$. Similarly, the student-teacher trust coefficient associated with hallway safety dropped from $-.22$ to $-.17$. Although the drops in the coefficients are small, they suggest one explanation of why higher levels of student-teacher trust make students' feel safer.

Table 20: After Controlling for School Demographics, Violent Crime, and Community Social Resources, Academic Press and Student-Teacher Trust Predicts Reports of School Insecurity and Fighting

Outcome	Predictor	Type of Effect (Linear or Square)	1997 Student-Level Effect (HLM)
Classroom Insecurity	Academic Press	Linear	$-.28^*$
	Academic Press	Square	$.14^*$
	Student Trust	Linear	$-.40^*$
	Student Trust	Square	$.08^*$
	Interaction	Linear Interaction	$-.08^*$
Hallway/Bathroom Insecurity	Academic Press	Linear	$-.27^*$
	Academic Press	Square	$.09^*$
	Student Trust	Linear	$-.22^*$
	Student Trust	Square	$.06^*$
	Interaction	Linear Interaction	$-.06^*$
Physical Fights	Academic Press	Linear	$-.17^*$
	Academic Press	Square	$.03^*$
	Student Trust	Linear	$-.20^*$
	Student Trust	Square	$.03^*$
	Interaction	Linear Interaction	--

* $p < .05$

$\wedge p < .10$

Table 21: Percent of Eighth Graders Who Felt Unsafe in School Classrooms in 1997 by Student-Teacher Trust and Academic Press

		Student-Teacher Trust				
		Very Low	Low	Average	High	Very High
Academic Press	Very Low	36%	26%	20%	17%	17%
	Low	25%	16%	11%	9%	8%
	Average	20%	12%	8%	6%	5%
	High	20%	11%	7%	5%	4%
	Very High	25%	13%	7%	5%	4%

Table 22: Percent of Eighth Graders Who Felt Unsafe in School Hallways/Bathrooms in 1997 by Student-Teacher Trust and Academic Press

		Student Trust				
		Very Low	Low	Average	High	Very High
Academic Press	Very Low	41%	34%	31%	30%	32%
	Low	31%	24%	21%	19%	20%
	Average	27%	19%	15%	13%	13%
	High	26%	18%	13%	11%	10%
	Very High	28%	19%	13%	10%	9%

Table 23: After Controlling for School Demographics, Violent Crime, Community Social Resources, a Composite of Academic Press and Student-Teacher Trust Predicted Changes in School Insecurity and Fighting between 1997 and 1999

Outcome	Predictor (1997 or Change 1997 to 1999)	Change Between 1997 and 1999 (HMLM)
Classroom Insecurity	1997	-.31*
	Change 1997-199	-.28*
Hallway/Bathroom Insecurity	1997	-.22*
	Change 1997-1999	-.18*
Physical Fights	1997	-.15*
	Change 1997-1999	-.14*

*p<.05 ^p<.10

School Responsibility. Even after controlling for demographic characteristics, community violence, and social resources, school responsibility significantly or marginally significantly predicted students' reports of hallway/bathroom insecurity, classroom insecurity, and fights in 1997 (See Table 24). The strength of these relationships was modest. Converting the 1997 school responsibility linear coefficients

into effect sizes¹³ reveals an effect size of around .20 standard deviations across the three outcomes (-.21 for classroom insecurity, -.21 for hallway/bathroom insecurity, and -.17 for fighting). Additionally, school responsibility predicted changes in classroom insecurity, hallway/bathroom insecurity, and fighting between 1997 and 1999. The results were extracted from model five in both the HLM and HMLM analyses (See appendixes one through six).

In the 1997 HLM analyses of hallway/bathroom insecurity, the relationship between school responsibility and hallway/bathroom insecurity was nonlinear (i.e., the squared school responsibility term significantly predicted hallway insecurity). In order to interpret the nonlinear relationship between school responsibility and hallway/bathroom insecurity, the coefficients in the 1997 HLM equations were converted to estimates of the percent of eighth graders who felt unsafe at school or were involved in fights at school (See Figure 3). These estimates also display the extent to which higher levels of school responsibility make schools safer and reduce fighting. Inspection of Figure 3 indicates that about the same percentage of students felt unsafe in school hallways/bathrooms, between fifteen and sixteen percent, in schools that had average to very low levels of school responsibility. In contrast, students' reports of hallway/bathroom insecurity were lower in schools with high and very high levels of school responsibility. Around thirteen percent of students attending schools high on school responsibility reported feeling unsafe in school hallways/bathrooms and only eleven percent of students enrolled in schools very high on school responsibility reported feeling unsafe in school hallways. In addition to demonstrating that practical as well as statistically significant differences exist between

¹³ For a description of how the effect size was calculated see community violence section.

schools high on school responsibility and schools low on school responsibility, the results suggest that school responsibility has to reach a certain level in schools before it starts to substantially influence and improve how safe students feel in public spaces.

Students' reports of classroom insecurity and fighting were also slightly better in schools high on school responsibility versus schools low on school responsibility.

Around 24 percent of students in schools low on school responsibility reported being involved in a fight compared to around 22 percent of students in schools high on school responsibility. Similarly, 8.3 percent of students in schools low on school responsibility reported feeling unsafe in school classroom compared to 6.8 percent in schools high on school responsibility.

Levels of school responsibility in 1997 and changes in school responsibility between 1997 and 1999 were also associated with improvements in school insecurity and fighting between 1997 and 1999. School responsibility and changes in school responsibility were most strongly related with improvements in hallway/bathroom insecurity between 1997 and 1999. Schools with high levels of school responsibility in 1997 (i.e., one standard deviation above the mean) reports of hallway/bathroom insecurity were expected to decrease by .26 standard deviations more than the average school. A relationship of a similar size, -.23, was found between changes in fighting between 1997 and 1999 and 1997 levels of school responsibility. The relationship between changes in classroom insecurity between 1997 and 1999 and school responsibility, however, were weaker (the standardized coefficient was -.17). Also, improvements in school responsibility between 1997 and 1999 were significantly related to improvements in eighth graders reports of hallway insecurity (a .24 standard deviation improvement).

Changes in school responsibility between 1997 and 1999, however, only marginally predicted changes in fighting or classroom insecurity (See Table 24). The stronger relationship between school responsibility and improvements in reports of hallway safety is consistent with the prediction that school responsibility would be a key element in making public spaces in schools safer.

A review of models six, seven, and eight found that none of the mediating variables substantially explained or mediated the relationship between school responsibility and school safety.

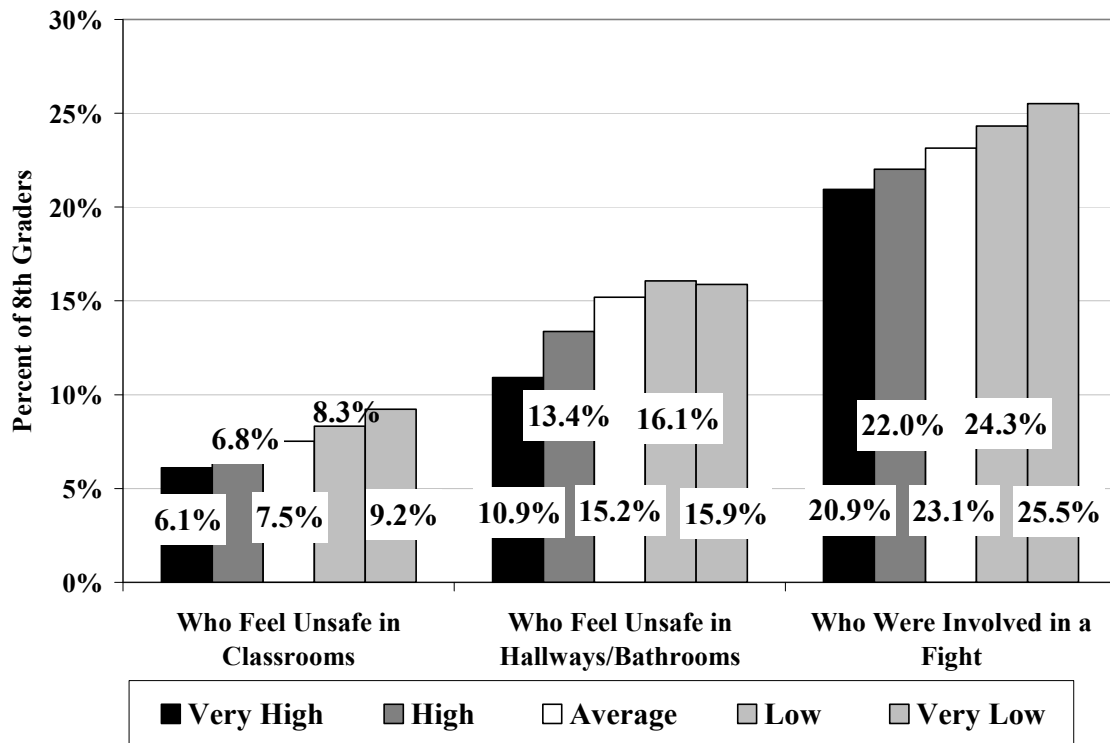
Table 24: After Controlling for School Demographics, Violent Crime, Social Resources, Academic Press, and Student-Teacher Trust, School Responsibility Predicted Changes in School Insecurity and Fighting

Outcome	Predictor (1997 or Change 1997 to 1999)	Type of Effect (Linear or Square)	1997 School-Level Effect (HLM)	Change Between 1997 and 1999 (HMLM)
Classroom Insecurity	1997	Linear	-.11*	-.17*
	1997	Square	--	--
	Change 1997-1999	Linear	--	-.13 [^]
Hallway/Bathroom Insecurity	1997	Linear	-.11*	-.26*
	1997	Square	-.04*	--
	Change 1997-1999	Linear	--	-.24*
Physical Fist Fights	1997	Linear	-.06*	-.23*
	1997	Square	--	--
	Change 1997-1999	Linear	--	-.11 [^]

*p<.05

[^]p<.10

Figure 3: Eighth Graders' Report Feeling Safer and Fighting Less in Schools with High Levels of School Responsibility



Behavioral Mediators. The relationship between school climate and school insecurity was hypothesized to be mediated by three factors, classroom behavior, students' social skills, and teachers' ability to resolve student conflicts. As previously discussed, teachers' ability to resolve student conflicts partially mediates the relationship connecting student-teacher trust to both classroom and hallway/bathroom insecurity in the 1997 cross-sectional analysis. Surprisingly, measures of classroom behavior and students' social skills were found not to mediate the relationship between school climate and violence. These two measures, however, did predict students' reports of classroom and hallway/bathroom insecurity and involvement in fights.

Classroom behavior predicted both cross-sectional levels of fighting and insecurity as well as changes in fighting and school insecurity over time. Youth who

reported more orderly classrooms tended to report feeling safer in both school classrooms and hallways/bathrooms and fighting less than students who reported more disruptive classrooms in the 1997 cross-sectional analysis. Also, a compositional effect was found. Schools with higher ratings of classroom behavior tended to be perceived as safer and experience fewer fights than other schools even after the student-level relationship between safety and students' reports of classroom behavior were statistically controlled. Also, better classroom behavior in 1997 at the school level was related with improvements in classroom insecurity and fighting between 1997 and 1999. Together, these results suggest that classroom behavior is an important predictor of school safety and more research needs to be done to understand what factors influence classroom behavior.

Similar to classroom behavior, social competence was associated with lower levels of fighting and higher reports of classroom and hallway/bathroom insecurity in the 1997 cross-sectional analysis. Moreover, higher levels of social competence at the school level in 1997 were associated with decreases in the number of fights between 1997 and 1999. These results align with previous research and suggest that higher levels of social skills enable youth to avoid fights and feel safer at school.

The failure to find mediating relationships with the social skills measures may result from measuring students' social skills with student self-reports. Measuring students' social skills more objectively may increase the strength of the relationship between social competence and school insecurity while better assessing the possibility that social competence mediates the relationship between school climate and school safety.

Although the mediating variables predicted school insecurity and fighting, only reports of teachers' ability to resolve conflict mediating the relationship between a measure of school climate and school insecurity. The inability to find mediating effects indicates the need to measure the mediating variables more accurately, especially in the case of social competence, and explore other variables that may explain or mediate the relationship between school climate and school safety.

Other Findings: Smaller Schools Tend to be Safer

Although school size was not part of the original model, students attending small schools, schools serving 350 or fewer students, reported feeling safer in school hallways/bathrooms and fighting less than students attending larger schools. This relationship continued even after controlling for school demographics, violent crime in the community, and students' reports of social resources (See Table 25 and Model 3 in the Appendix 1 through 6). Smaller school size may facilitate a safer school climate by fostering a more positive school climate. This supposition is supported by the finding that smaller schools are nearly .90 standard deviations higher on teachers' commitment to teach non-violent skills, .80 standard deviations higher on teacher-teacher trust, and .50 standard deviations higher on school-level reports of academic press. A smaller school size may foster stronger relationship among teachers and heighten their ability to monitor and become involved in their whole school as well as their classroom. The qualitative research presented in the next section further investigates the relationship between smaller school size and school climate.

Table 25: After Controlling for School Demographics, Violent Crime, and Community Social Resources, Smaller Schools Were Safer

Outcome	Analysis	Type of Effect (Linear or Square)	School Level Effect (HLM)
Classroom Safety	1997 HLM	Linear	-.35 ^
	Change 1997-1999 HMLM	Linear	-.27
Hallway/Bathroom Safety	1997 HLM	Linear	-.28 *
	Change 1997-1999 HMLM	Linear	-.31 *
Physical Fist Fights	1997 HLM	Linear	-.26 *
	Change 1997-1999 HMLM	Linear	-.20

*p<.05 ^p<.10

Summary of Major Findings

The quantitative analyses documented six major findings: the independence of school climate from a host of community variables, the tendency of students to report feeling much safer inside of schools than outside and around schools, the significant relationship of community crime and social resources with school insecurity and fighting, the relationship between smaller school size and school insecurity, the significant relationship of academic press and student-teacher trust with school insecurity and fighting, and the significant relationship of school responsibility with school insecurity and fighting. Measures of school climate are distinct from community violence, social resources, and the incidence of disciplinary problems. Although moderately related to some community characteristics, positive school climates emerged in many different community contexts.

A substantially higher percent of youth feel safer in school classrooms and hallways/bathrooms than outside and around the school. Although this finding highlights the need to redouble efforts to make the area around schools safer, the finding indicates

that the concerted efforts made by schools to create a safe school environment are having an effect and most students feel safe in school. The fact that nearly 10 percent of eighth graders still report feeling only somewhat safe in classrooms and 16 percent report feeling only somewhat safe in hallways/bathroom, however, indicates the need for improvement.

Both community violence and social resources predicted school insecurity and fighting in 1997 and changes in these measures between 1997 and 1999. In the 1997 analyses, within-school and contextual effects were found between social resources and classroom and hallway insecurity. Only a within-school relationship between social resources and students' involvement in fights was found. The generally stronger relationship between social resources and school insecurity may emerge because some items in the social resources scale directly assess how safe students feel in their community. The consistent relationship between social resources and school insecurity indicate that community-based initiatives that work to connect students to adults in their communities, increase students' sense of safety in their community, and reduce violent crime (average social resources in a school is correlated $-.59$ with violent crime in the school neighborhood and in students' neighborhoods) may also boost the extent to which youth feel safe inside schools and their tendency to get involved in fights. The finding that higher levels of social resources in a school in 1997 predicted better than average improvements in classroom and hallway/bathroom insecurity between 1997 and 1999 further support this argument.

Smaller schools, school severing less than 350 students, tended to be safer than larger schools. The stronger school climate of small schools may partially explain why they are safer. The faculty in small schools reported higher levels of trust among teachers

and a deeper commitment to teach students non-violence than faculty in larger schools.

Also, students in small schools reported higher levels of academic press than students in larger schools. These findings concord with other research that argues that small school size fosters positive relationships among students and teachers and reduces discipline problems by forcing people to interact more intensely (Zane, 1994). In turn, stronger relationships have been hypothesized to foster a safer school environment by enabling school staff to defuse incidents before they become violent, to respond more effectively to fights, and to institute more effective punishment (Bryk and Driscoll, 1998, Gladden, 2002, Gottfredson, 2001, Sebring et al., 1996). Understanding how smaller schools foster a more positive and safer school environment is explored in the fieldwork.

The vast majority of the variance in students' reports of student-teacher trust and academic press was within schools. This suggests that the subjective experience of students' varies widely within the same school. These variations were consistently related to students' reports of school insecurity and fighting in a nonlinear fashion. Specifically, the reports of classroom insecurity, hallway/bathroom insecurity, and fighting of students with average to high levels of academic press or student-teacher trust tended to improve only slightly as students' reports of academic press and student-teacher trust grew more positive. In contrast, students' reports of safety and fighting grew substantially more negative as students' reports of student-teacher trust and academic press fell below average. This relationship coincides with previous findings that students who are academically struggling and disengaged tended also to be involved in disruptive or violent behavior at school (McEnvoy and Welker, 2000). Broadly, these findings suggest that schools need to better academically engage students and construct relationships with

students who feel disconnected from school.

Because poor school behavior may be undermining students' reports of academic press and student-teacher trust, the interaction of academic press, student-teacher trust, and student behavior over time needs to be much better understood. Also, Devine's (1996) research on urban schools noted large differences among classrooms in the same school. One classroom had well-behaved academically engaged students, while another class struggled with behavior problems. Synthesizing these findings highlights the need for schools to try and maintain high academic expectations and respectful student-teacher relationships across all the classrooms in the whole school.

A portion of the relationship between student-teacher trust and student-level reports of classroom insecurity and between student-teacher trust and student-level reports of hallway/bathroom insecurity was explained by students' perceptions of their teachers' ability to resolve student conflicts. This suggests that teachers' ability to resolve student conflicts fosters a sense of security in schools. Also, resolving student conflicts over time may prevent more serious problems and role-model conflict resolution skills to youth.

Across the 1997 analyses, a contextual or school-level relationship was not found between academic press and school insecurity or student-teacher trust and school insecurity. The one exception to this trend is that aggregate levels of student-teacher trust predicted school-level reports of classroom insecurity, even after controlling for the within school effect of student-teacher trust and classroom insecurity. Thus, a student attending a school with high levels of student-teacher trust would be expected to report feeling safer in their classroom than another student who reports the same level of

student-teacher trust, but attends a school with average levels of student-teacher trust.

Fostering a school climate where most students feel respected may in turn create a school environment in which students feel safe.

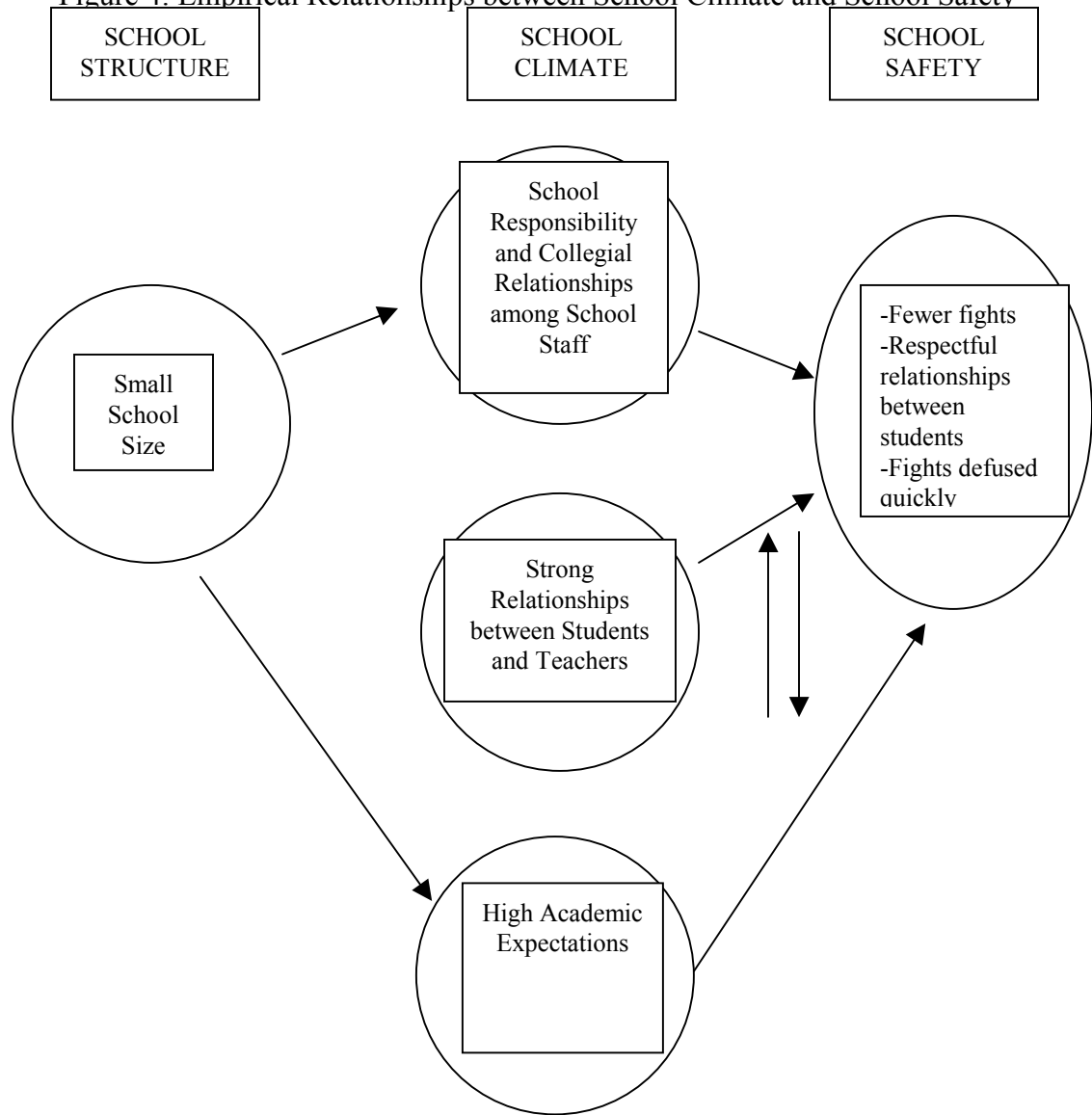
When predicting changes in school safety and fighting between 1997 and 1999, school-level measures of academic press and student-teacher trust were combined into a general measure of classroom environment. Schools that were higher in this general measure in 1997 and were able to improve this measure between 1997 and 1999 also tended to experience larger improvements in school insecurity and decreases in fighting than the average CPS school. These results support the hypothesis that improving the classroom climate of schools will also improve school safety and decrease fights.

School responsibility was related with reports of school insecurity and fighting in 1997 and changes in these measures between 1997 and 1999, even after controlling for community effects. School responsibility was most strongly related with reports about hallway/bathroom insecurity and fighting. This aligns with the hypotheses that strong relationships among adults and a broad commitment to teaching social skills are critical elements in making the public spaces of schools safer. In addition, a curvilinear relationship between school responsibility and hallway/bathroom insecurity was found. Schools with high to very high levels of school responsibility were increasingly safer than schools with moderate to low levels of school responsibility. This highlights the need for schools to institutionally support efforts to foster a sense of school responsibility among the majority of its staff.

In the beginning of this section, five aspects of school climate were hypothesized to foster feelings of safety among students as well as reduce fights (See Figure 1). One

aspect of this model, cultural responsiveness, was not included in statistical analyses because the construct could not be accurately measured with existing data. Also, measurements of the quality of relationships among school staff proved to be too highly correlated with measures of school responsibility for both constructs to be included independently in the model. Consequently, interpretations of the relationship between school responsibility and school insecurity need to account for the finding that school responsibility tends to only occur in schools where teachers have strong collegial relationships. The theory outlined in Figure 1 is revised to reflect the empirical findings presented in this section in Figure 4 about school climate. Also, small school size is included in the diagram to reflect the consistent relationship between smaller school size and school safety.

Figure 4: Empirical Relationships between School Climate and School Safety



BUILDING SAFE SCHOOLS: A LOOK AT TWO URBAN SCHOOLS

The quantitative results, discussed in the preceding section, suggest that heightening levels of school responsibility, student-teacher trust, and academic expectations foster improvements in students' perceptions of school safety and in some instances predict decreases in the number of fights among student (See Figure 4). Smaller school size also was found to relate to a stronger and safer school climate. Although the quantitative results suggest clear relationships between school climate and school safety, the fieldwork found that the preceding links among school structure, school climate, and school safety were tenuous, required substantial work to maintain, and were moderated by other influences. For instance, smaller school size did not guarantee strong collegial relationships among the staff. Small school size only provided a better opportunity for staff to construct strong professional relationships. This section begins by examining how two small schools used their size to establish positive and productive relationships among and between its staff and students.

Similarly, collegial relationships among staff, school responsibility, trusting relationships between students and teachers, and academic expectations are insufficient to make a school safer. Instead, schools are made safer when staff use strong collegial relationships to build a disciplinary policy that addresses, prevents, and responds to student misbehavior and conflicts. Also, strong relationships and academic expectations began to translate into improvements in safety when students recognize the value of their school experience and receive assistance when academically or socially struggling. The section ends by examining how teacher's efforts to educate their students and construct a

safe school environment fostered a sense of community among students that in turn made their schools safer. Before discussing the findings, the qualitative methods are presented. Also, a brief description of the two small schools that participated in the study is provided in order to provide a context for the findings.

Methods

Qualitative analyses were based on information collected by the Chicago Small Schools Study. Between 1997 and 2000, the Chicago Small Schools Study investigated an initiative to build small schools in the Chicago Public Schools (CPS). The study included intensive fieldwork in eight small schools (See Wasley et al., 2000 for details on the project and findings). In addition to field notes collected during monthly visits to the schools between 1998 and 1999, focus groups of students and teachers and individual interviews with all teachers were conducted in both years. This study analyzes information collected at two of the eight schools, one middle school and one high school. These two schools were targeted because both schools were actively trying to foster a positive school environment in the midst of high levels of community violence.

Interviews and focus groups conducted between 1998 and 1999 were transcribed and coded for major themes. Teacher and student quotations as well as anecdotes from the fieldwork were compared and contrasted against the theoretical framework relating school climate and violence delineated in the introduction. Specifically, discussions about school safety, student culture, relationships among and between students and teachers, teachers' academic expectations of students, and teachers' commitment to teaching non-violent attitudes were examined. Analysis of these themes focused on identifying weaknesses or gaps in current theory and exploring the nature of relationships

between school climate and violence. Since the fieldwork did not focus on school violence, the qualitative analyses was designed to highlight major issues, assist in interpreting quantitative findings, and lay the ground work for more in-depth work.

In order to protect the identity of teachers, the author sometimes changed the gender of teachers providing quotations. Also, all names of teachers or students in quotations have been made up by the author.

Description of Mandela and Menchu

In order to contextualize the findings, a brief description of the two schools is presented. This study included a junior high school, Menchu, which served sixth through eighth graders and a high school, Mandela, which served tenth through twelfth graders. Both schools were small, serving approximately one hundred students, almost all of which were African-American. The vast majority of students (over 90 percent in Menchu and nearly all students in Mandela) received a free or reduced price lunch under the Federal lunch program in 2000 because they lived in families struggling with poverty. Both schools were situated in communities grappling with violence and their students lived in similarly violent neighborhoods¹⁴. On average, around 40 violent index crimes were committed for every 1000 residents in the students' neighborhoods in 1998. This is well above the average rate of violent crime, 26 for every 1000 residents, found in the neighborhoods of CPS students. The high levels of violence in the two communities made establishing a safe school environment a high priority.

In 1996, teachers established Mandela and Menchu using grant money designed to support and create small schools in Chicago. The small schools that were funded with

this grant money did not always conform to the traditional notion of a school. Both Mandela and Menchu are housed inside larger schools and the principal of the larger schools retains authority over its small school and their funding. Mandela is housed inside Gullivar and Menchu is within Galli. Students in the small schools take gym, art, and a few other courses with students in the larger host schools. Although many of the administrative functions of Mandela or Menchu were handled by the larger schools hosting them, Mandela and Menchu maintain substantial control over their curriculum, create their own class schedule, and require their students to take core academic courses (e.g., Math and English) with small school teachers. The substantial control the teachers exerted over the curriculum and everyday learning of students resulted in Mandel and Menchu operating as independent and distinct schools. The history and missions of both schools is reviewed below.

The staff of Mandela was racially diverse with white, African-American, and Latina teachers on its staff. The six teachers in Mandela believed that the environment of Gullivar needed to be drastically altered. Mandela was established when Gullivar was struggling with chronically high dropout rates and very low achievement that resulted in Gullivar being perceived as a failing high school in Chicago. In the late 1990s, less than 10 percent of Gullivar freshman scored at or above national norms in reading. According to Chicago Public school statistics, the yearly dropout rate was approaching 30 percent. Mandela teachers argued that they could raise achievement and better engage students by adopting a strong vocational focus that would involve job experience. In an effort to create a positive school climate, Mandela was created. They reasoned that their smaller

¹⁴ A neighborhood was measured as a census tract. Also, see Methodology section for a description of

size would enhance their ability to professionally collaborate, monitor students, and identify and address students' academic needs. Mandela was not an honors program and enrollment in the school was open and not based on students' previous academic performance. An application process, however, was used to ensure that students and their parents wanted to move their student from Gullivar into Mandela. Although fewer students in Mandela were in special education compared to Gullivar (less than 10 in Mandela and over 20 percent in Gullivar) the eighth grade reading performance of Mandela's students was extremely low, and similar to that of Gullivar. In both Gullivar and Mandela, less than 10 percent of the students entered the school reading at or above national norms in reading.

A key structural feature of Mandela was that its teachers provided instruction to cohorts of approximately 35 students from their sophomore to their senior years. Students took almost all of their academic classes except gym, art, music, and advanced placement courses in the small school and they had the same teachers every year in their core academic subjects instead of changing teachers each year or semester. The teaming of teachers with the same students for three years produced a high school experience that sharply contrasted with that of Gullivar, or traditional high schools.

Mandela's curriculum strived to challenge students to analyze information and pushed them to acquire job experiences through vocational classes and job internships. Mandela implemented block scheduling and portfolio evaluations, and incorporated projects into their curriculum in an effort to get students to think critically. Furthermore, at the end of each year, Mandela students had to present their school work in portfolios,

which were then evaluated by a few teachers and a few adults from outside of the school.

Mandela also required a host of vocational classes and offered seniors and some of its juniors unique job internship opportunities. These requirements and opportunities were not available to students in Gullivar.

During the two years of the study, both Mandela and Gullivar underwent drastic changes. The high dropout rates and poor achievement of Gullivar resulted in the Chicago Board seizing control of the school and implementing a comprehensive restructuring strategy called 'reconstitution'. The reconstitution process included a host of mandated reforms including hiring a new principal, only retaining staff that were interviewed and positively evaluated, matching the school with an external partner to assist in its reform, and the establishment of monitoring systems. The process also brought additional money to the school to conduct substantial repairs to its building, which were plagued by broken lockers, and run down classrooms. Funding became available as well for academic reforms. Since Mandela was considered an exemplary program by the Chicago School Board, none of its teachers were fired during this process and its curriculum remained intact. Reconstitution, however, did cause substantial disruption. For example, Mandela teachers had to struggle to insure the survival of their school, fight to win the support of the new principal, and work to integrate school-wide reform initiatives, such as setting an hour aside for silent classroom reading. During this phase, Mandela staff also reported constantly struggling to balance demands from the larger school with their own needs to meet as a team and implement their own curriculum.

The structure and history of Menchu is similar to that of Mandela. Menchu was

housed in Galli, a large elementary school that served over 1000 students. The predominantly African-American staff at Menchu hoped to address the poor academic achievement in Galli, where in the middle 1990s, nearly 20 percent of its third through eighth graders scored at or above national norms. The pillars of their reform plan were an open enrollment policy, small school size, a focus on technology, and a curriculum built around group learning techniques. Like Mandela, Menchu was not an honors program and any sixth grade student in Galli could apply and enroll. The principal retained the right to assign student to Menchu and occasionally assigned students who were struggling in Galli because he believed Menchu, with its more personal environment, could better address their needs. The principal checked the enrollment of Menchu to ensure it was not attracting too many of the academically strong students from Galli. While the fifth grade achievement levels of students entering Menchu was higher than the junior high students enrolled in Galli in 1999 (over 20 percent of Menchu students scored at or above national norms in reading in fifth grade versus less than 10 percent of students in the larger school), the students attending Menchu were scoring, on average, a full grade level behind in reading when they entered the school.

In contrast to Galli, where students changed their homeroom teacher every year, students in Menchu took all of their core academic courses, such as English and Math with the same set of five teachers, between sixth and eighth grade. This structure enabled teachers in Menchu to get to know their students better than teachers in Galli. In order to prepare for high school, teachers in Mandela required their students change classes to get instruction in math, English, literature, and science from different faculty in Mandela.

In addition to securing the small school grant, the lead teacher in Menchu was

awarded a grant to develop technology in both Galli and Menchu. With a portion of this money, the Menchu staff purchased several computers for each of their four classrooms along with educational software for each computer. These technological purchases enabled the school to develop a curriculum that used technology to teach its students and challenged students to learn basic computer skills. Competence in computer skills was viewed by faculty as a critical skill students needed to compete for jobs in contemporary America.

The school's technology focus was coupled with a commitment to use group-learning techniques in a multi-age classroom setting. The Menchu faculty believed that students could learn better if classroom lectures were supported by assignments completed by groups of students. They believed that group learning had the dual advantages of providing struggling students extra support from their peers along with teaching students important social skills, such as navigating group disagreements. Academic mentoring among groups was further encouraged by mixing sixth through eighth graders in the same classroom instead of segregating them by grade level. By integrating younger and older students, the teachers hoped the older students could provide academic assistance and act as behavioral role models for the younger students. However, the multi-age grouping technique created a curricular challenge of how to expose students in multi-age groups to curriculum that was age and grade appropriate. This problem was most severe for eighth graders who already had been in the school for two years. In response, the school required older students to progressively complete harder and greater amounts of work on a subject. Even with these adjustments, the curriculum tended to focus on seventh graders and consequently raised concern that

eighth graders may not have been exposed to challenging work.

Menchu, having few books, struggled to acquire basic resources. Also, the school had trouble recruiting substitute teachers because they perceived the surrounding neighborhood dangerous. As a result, teachers' ability to pursue professional development was severely limited.

Complex Relationship between School Structure and Safety

Teachers in both school reported that the small size of their schools supported the creation of collegial relationships and facilitated the construction of trusting relationships with students. Staff, however, reported that substantial effort was required to transform the frequent interactions afforded by smaller size into positive relationships that improved the quality of their school. A common mission and the ability to engage in civil discourse over school problems were viewed as essential. Even with these elements, the schools struggled to integrate new staff.

Increased interactions between students and teachers pose unique problems as well as opportunities. Substantial curricular and disciplinary efforts were often required to address concerns and convert interactions into trusting relationships with students. For instance, teachers found that they needed to establish boundaries with students, prevent students from developing chronic negative relationships over time, and prevent academically stronger students from dominating the classroom discourse.

Relationships among Staff

The staff at both small schools reported strong personal and professional connections with their co-workers. A teacher at Menchu reflected, "I feel as though they are my sisters, instead of my co-workers". A teacher at Mandela echoed this comment,

“honest to God, I think we are just in a blessed situation because we...all really get along so well”. Moreover, teachers felt that the structure of the school was critical in fostering and supporting the stronger relationships among staff. In a focus group, two of the Mandela teachers argued that they would never go back to teaching in a large high school after teaching in a small school. One Menchu teacher described her experience in the small school as transformative.

The most powerful thing I learned is that I still enjoy teaching. I didn't my last couple of years (inside the larger school)...apathetic to the point that I took off the day of the class Christmas party...I was just tired, burned out...So I regained my joy of teaching (in the small school). I love coming to work

Although teachers' comments support the supposition that small school size fosters collaborative relationships, visits to other small schools, coupled with discussions with Mandela and Menchu staff, revealed that their collegiality was consciously built and faced numerous obstacles. Before selecting Mandela and Menchu for the small school study, around 20 small schools were visited and some of them struggled with serious personality and philosophical conflicts among their staff. For instance, one school had severe problems with teacher turnover because staff felt the lead teacher was domineering and not responsive to their feedback. In another school, the principal was committed to dividing their very large elementary school of over 1000 students into a number of small schools. One of the new small schools was composed of teachers skeptical of the reform and operated as independent classrooms where the teachers failed to agree on a common mission. These examples highlight that small size does not automatically enhance the collaboration among school staff and in some instances may foster intense conflicts and

teacher turnover.

The concerns identified in these broader site visits were also voiced by the staff of Mandela and Menchu. They explained that their success arose from staff supporting a school mission and resolving disputes in a civil manner. A teacher in Menchu commented, “Make sure the teachers you are selecting really buy into the program”. When asked what advice she would give to others starting small schools, a teacher in Mandela shared, “Make sure everyone is on the same page in terms of philosophy before getting into something like this”. The impetus for forming both schools in the study came from teachers and this resulted in the teachers being more committed to the mission of their schools. Moreover, as discussed above, both schools had themes, Menchu focused on technology and group learning and Mandela provided vocational training and job experience, which made them distinct and further drew the staff together around the mission of their school.

Because both schools had limited input on hiring new staff, the hiring of a new staff member could generate tension as the new member learned and sometimes questioned the mission of the school. In Menchu, a new reading teacher joined the small school, but questioned the utility of their multi-age grouping techniques and was skeptical about the advantages of small school size. This staff member left the school after two years and stated her dissatisfaction with the small school experience as nothing special.

More generally, the pressures of operating a school could distract teachers from their mission. A teacher in Mandela cautioned,

You need to really create a vision and stay clear of that at all times which we have not really done. Sometimes, I think you just get caught up in the day-to-day

operation of things and you just fail to see the big picture and you got to keep bringing yourselves back to that. I think we are little by little we are coming back to that.

Maintaining collegial relationships required the staff to voice and resolve disputes civilly. Menchu teachers reported disagreements, some quite intense. A teacher at Menchu reflected, “It’s not all fairy tales. Oh, no, we have our differences. That’s how sisters and brothers are”. The strong relationships among the teachers, the willingness to occasionally accept a majority decision with which you disagree, and compromise were all cited as factors that enabled faculty to resolve disputes. Echoing these comments, a Mandela teacher added that honest and open discussion of disputes required that teachers respect each other,

Make sure you are working with a team of teachers you like, honest to God...I can’t imagine, it is hard enough communicating with people I know and respect, honest communication, open. Let alone having that with someone I do not know or don’t respect, I just quite honestly can’t imagine it.

Challenges to Student-Teacher Relationships in Small Schools

Consistent contact among teachers and students in small schools can exacerbate as well as diminish problems. A teacher in Mandela explained that a chronically misbehaving student becomes a more acute problem in a small school,

One person can bring everybody down. It happens everywhere...but in this situation it is magnified because you are with the person all day long...One student had a really bad attitude and was intimidating other students. She has come a long way, but what will you tolerate

Moreover, negative dynamics among students can occur as they grow to know one another over the course of a few years. For instance, the junior class at Mandela exhibited substantial behavior problems and consistently behaved and performed worse than the senior and sophomore classes. Teachers explained that the junior class behaved like “quarreling siblings”. The problems with the junior class were serious enough that the Mandela staff decided to place some of its students back in Gullivar to finish their senior year.

In contrast, the intense interactions between the sophomore and senior class were seen as bringing the students together in more supportive relationships. The sharp contrast between the behavior of the junior classes with the behavior of the sophomore and senior class highlighted a challenge of small schools. Building a sense of community among students required staff to respond to the unique needs and challenges of each class. A teacher vented her frustration that the activities enjoyed by and seen as effectively uniting the sophomores and seniors were not effective for the junior class.

Menchu teachers encountered a different problem. They worried that their academically stronger students were dominating their classrooms. A Menchu teacher explained,

One skill I’d say we need to develop is that there are very strong children that tend to dominate, just like in any family and the ones who are quiet or the ones who don’t volunteer a lot kind of get left out unless you remember well—we try to make a point of, well this person always gets to do it, so I’m going to choose this person. But then again, you tend to rely on the ones you know will get it done. So we have to work on making sure that all the students have an equal part in

developing to their potential

The tendency of a disruptive student to be more problematic in a smaller school, the possibility that students will fall into confrontational relationships over time and the concern that stronger students dominate classroom activity are issues that small schools grapple with as they work to establish trusting relationships among teachers and staff. Trusting relationships are not guaranteed in small schools, but require substantial work. A Mandela teacher explained,

You know it is more work, but like the comrade with the other teachers and certainly the relationship with the kids, hanging out with the same kids year after year. I think our kids, we still got our problems...we have more buy in from the kids and so you have stronger relationships with them

Although the two small schools did encounter difficulties building relationships with their students as noted above, interviews and observations of students predominantly encountered trusting and respectful relationships between students and teachers and a sense among students that their schools felt like a very safe community. The next two sections argue that two characteristics of the schools, their disciplinary policy and their broad commitment to students' academic progress, enabled the schools to minimize the problems discussed above and transform the personal contacts in the small school into a school environment characterized by trust and respect.

School Discipline

Moving beyond simply punishing students for misbehaving, the disciplinary policy of both schools aimed to resolve students' behavioral problems by discussing with students the roots of the problem. Both schools also used classroom techniques that

fostered respectful relationships among students and worked to prevent discipline problems by responding quickly to disruptive classroom behavior and students skipping classes. These combined efforts established an environment where students felt comfortable approaching teachers to discuss problems instead of acting out. Substantial effort, often beyond the confines of the normal school day, was required to implement this disciplinary policy. Specifically, the success of the disciplinary policy required that the faculty, as a group, commit to addressing and resolving student misbehavior. Also, the schools relied on teachers who were skilled in disciplinary matters to support faculty encountering problems and resolve difficult student problems. Although successful, the disciplinary policies of these schools faced challenges such as time constraints.

Teachers in both schools believed that confronting, discussing, and punishing students for misbehaving was critical in changing their behavior. A teacher at Menchu explained,

If there's some fight I bring the children in here, we sit down and discuss it. You take the time to do that. We don't look for suspension. We want to work with the children and have them change their behavior.

A Mandela teacher responded in a similar manner to a question about how teachers in his school respond to student problems,

You just have to talk to the kids. You can be pretty open with them...honest with them; because we know them so well...They know us and we know them it makes a huge difference.

Discussing disciplinary problems with students does not mean students escape punishments. Instead, Mandela shaped its disciplinary action to respond to students'

misbehavior and personality. Consequently, Mandela responded to misbehavior with a wide range of sanctions. For instance, teachers in Mandela elected one teacher as the designated student disciplinarian because she had high expectations for students' behavior and conducted an orderly classroom. She addressed misbehavior by first trying to understand from both the students and teachers why the misbehavior was occurring. After collecting the facts, she assigned punishments through a process her colleagues referred to as "creative discipline", which entailed minor punishments tailored to hold students responsible for minor misbehavior, including the use of inappropriate language or disrupting class. For instance, a common punishment of two student athletes involved running the stairs in the school. The tailoring of the punishment to the incident and the student fostered a sense among students that the punishments were fair.

In both schools, discipline efforts extended beyond punishing negative behavior and involved establishing clear behavioral standards. During their first year in Mandela, sophomores in Mandela were required to present a portfolio of their work to teachers and evaluate their own school performance along dimensions associated with success in the work place such as punctuality, attendance, and attitude. Students who listed weaknesses in these areas were pushed to derive specific solutions and goals for their behavior, often in separate one-on-one discussions with a teacher. For instance, a student who was chronically tardy was forced to come up with concrete steps to get to school on time such as waking up earlier or coming to school with a friend who arrives on time. These discussions were an example of a broader effort to establish concrete behavioral expectations in the school. The disciplinarian in Mandela commented, "They [Mandela students] won't tell you, but they like structure". The use of "creative discipline", the

discussion of behavioral problems in the context of job skills, and discussions with students about the reasons behind their misbehavior were seen by multiple teachers in Mandela as effective in fostering positive student behavior and preventing major incidents. The disciplinarian at Mandela commented that confronting misbehavior early helped prevent things from “blowing up” and thus reduced the numbers of fights and consequently the need to suspend students.

In a similar manner, Menchu strived to teach students how to negotiate conflict by using group learning techniques in the context of multi-age classrooms. Also, teachers at Menchu reported that they were able to challenge and diffuse some students’ disruptive classroom behavior by temporarily separating students from the rest of the class when they began to misbehave. This gave students the space to calm down, but did not reward their negative behavior with attention.

The use of group learning techniques and the willingness of teachers to work with students to resolve their misbehavior combined to foster the perception among students that their teachers were fair and working to help them. A student at Menchu confided, “They [teachers at Menchu] have more time for kids in this school and they teach us respect”. Another student explained why he felt his school was different, when he said, “I would tell them [other elementary students] about the teachers. Most of the teachers might be hard on you, but that’s tough love”.

Teachers in both schools believed listening to students and confronting students about negative behavior contrasted sharply with strategies used in the larger host schools. A Menchu teacher explained, “We listen...the other people in the building I know how they do it browbeat the kids and I don’t like that...I believe in trying to help the kid see

what they did and change their behavior realizing I cannot change it for them”. The disciplinarian in Mandela expressed similar sentiments and explained that administrative discipline in Gullivar involved a lot of paperwork that often led to few concrete consequences for students.

Teachers provided anecdotes to support their confidence in their disciplinary approach. For instance, a Menchu teacher relayed a story about a student named Anjali¹⁵,

We basically talk to them and listen to them. [Anjali] was a student here last year.

You could hear her screaming and hollering in the hallways. She would never stop and think about anything. This year, she doesn't get out of hand like she did last year. She thinks about how she's going to respond...Most kids are like that now-stop before they respond, instead of just blurting out or talking back

The lead teacher of Mandela explained that the behavior of students dramatically improved from their sophomore to senior years. When they entered the school sophomore year as strangers, students often bickered, bullied, and teased their peers. By the senior year, some of this behavior persisted, but lasting relationships and often caring relationships had been built among the students. She viewed this as a major accomplishment.

Student comments and fieldwork observations corresponded with teachers' perceptions. Students felt their schools were safe because they trusted not just their teachers but fellow students as well. A Mandela student observed, “There is no fighting in Mandela. We know each other since our freshman year so there is no fighting. Only fighting when we don't know each other”. Knowing each other meant that students in

many instances felt comfortable discussing their problems with teachers instead of misbehaving. A student at Menchu confided, “Most of the time when I was at [Galli, the larger school] I used to get into fights, almost every day. Here I don’t get in trouble...Cause I can go to a teacher and tell her my problem.”

Thus, the willingness of teachers’ in both schools to discuss and listen to students assisted teachers in preventing and defusing future incidents because the students resorted to talk instead of misbehaving. One Mandela student noted, “If a student is having problems, the teachers will help and they will work with other teachers to solve the problem”. One of the reasons the principal at Gullivar supported Mandela was the ability of Mandela’s teacher to effectively identify and address the problems of their students. He commented, “You know, kids [in Mandela] think that or know that you care, know there’s someone they can go talk to and the teachers are also able to talk about kids.” By establishing open lines of communication with students about their behavior, teachers were able to convince students that they were trying to help them control their behavior for their own good. A Menchu student explained how he believed his teachers were working in his best interest,

They (the teachers at Menchu) take our side. Sometimes the teachers in the regular school, you do something, they’ll automatically suspend you. But the teachers at Menchu, they’ll talk to you, give you chances and stuff. Talk you calm you down, so you won’t do it no more.

Collective Responsibility for Student Discipline

Implementing a disciplinary approach grounded in strong relationships between

¹⁵ Name is made-up.

teachers and students and proactive efforts to foster respect requires a tremendous amount of time and effort by the faculty. Consequently, a key component of its successful implementation was a broad commitment among teachers to support and assist each other in disciplining students. In other words, the staffs of both schools appeared extremely high in the measure of school responsibility discussed in the quantitative section. Support took the form of providing advice to each other and intervening with students misbehaving in other classrooms as well as their own. In both schools, teachers had weekly meetings where they discussed behavioral and academic problems of students.

Poor student behavior in a particular class or by a particular student was viewed as a school problem instead of as the problem of a particular teacher or student. One Mandela teacher commented, "Stuff doesn't stay in one room". For instance, in a weekly meeting at Mandela, it was discovered that a student had recently begun to routinely skip an early morning class even though he had good attendance in afternoon class which was later in the day. Responding to this information, the teacher in the afternoon class, with whom the student had a good relationship, confronted the student about the class skipping and stressed it was unacceptable to attend her class while consistently skipping another. She told the other teacher to inform her when the student was absent because she would go and pull him out of bed and bring him to class. In a separate interview, a Mandela teacher commented that it is hard to get away with cutting classes in Mandela because the teachers knew all the students and communicated weekly. A student concurred and described her experience getting caught skipping class, "Ms. Wilson taught a big lesson...I thought I could get away with a lot of stuff...she stopped me...and made me come to school". Communication among staff, coupled with their

commitment to assist each other with problems, enabled them to identify problems such as class-cutting and respond in a uniform and consistent manner.

Menchu teachers also addressed student problems as a group. Each teacher drew great strength from the knowledge that he or she did not have to confront and solve students' behavioral problems alone. A teacher confided, "They [Menchu students] have their problems, but you have the rest of the staff". For instance, a new teacher at Menchu was struggling with student behavior problems and managing her class. Another teacher, who was perceived to be the strongest disciplinarian in Menchu, provided extensive assistance to the new teacher, "[Tamela] is trying to help her with perceived major discipline problems. Discipline seen as complete faculty problem and not just one teacher".

The commitment by Menchu staff to establish a safe school environment was vividly displayed in their response to a serious fight between two seventh graders that resulted in one mother pressing criminal charges against one of the girls. The teachers felt the fight indicated a need to expand their efforts to discuss issues of respect and conflict resolution in their school. Major discipline incidents were seen as signs to increase their own efforts instead of solely blaming students for the problems.

The strong cooperation among faculty enabled both schools to draw upon the unique strengths of staff members as they tried to address student misbehavior. For instance, teachers in both schools reported turning to their lead teacher or to the teacher viewed as the best disciplinarian to assist in disciplinary problems. As noted above, Mandela designated a teacher as the primary disciplinarian because they respected her ability to get the full story from students and come up with creative ways of holding

students accountable. She was seen as a major asset because she provided other teachers substantial support with frustrating discipline problems.

In Menchu, one of the teachers was trained as a counselor and her ability to resolve fights among students was again seen as an invaluable resource. A Menchu teacher explained that after a fight between students, “I refer them to [Smith] or [Haith] because my temperament is not conducive...so I give them someone more patient who can get the whole story out. They end up talking to each other, and they’re not mad any more”. Having a strong disciplinarian to turn to who knew and taught their students provided teachers critical support in navigating tough situations and worked to extend positive behavior in one classroom to the whole school.

Challenges to Implementing Discipline Policy

Although successful in reducing violence and making students feel safe in their school, the disciplinary approach of these schools confronted challenges at times, such as time constraints and tensions over teachers’ role in the school. Addressing student conflicts by discussing them with the students takes a tremendous amount of time. Even more timely is trying to address root problems associated with the misbehavior such as poor academic performance. As a result, teachers continually mentioned that with a full course load they had insufficient time to address students’ misbehavior and were required to contribute personal time to be effective. The disciplinarian in Mandela joked “I don’t have time for a family, because I already have one”. Another teacher in Mandela questioned whether it was worthwhile to have all of the students in the school engage in portfolios and reviews of their work because the process was so timely and work intensive. The lead teacher in Menchu admitted that discipline often fell short of their

hopes. Organizational support for their discipline policy was absent, such as a lighter course load for the designated disciplinarian. Also, the teachers spent substantial time constructing their preventive activities from scratch and received little information or support about successful conflict-resolution and anger management techniques.

The tendency of teachers to take on different supportive roles in relation with students presented problems as well as opportunities. First, the perceived special abilities or roles of teachers sometimes resulted in an unequal distribution of work. A teacher in Mandela explained that extra tasks or problems in the school were assigned by teachers' perception of strength and personal comfort, "Essentially people selected areas whether they felt comfortable which they like". This assignment method, however, consistently produced longer lists of assignments for some teachers than others and in turn sparked feelings of resentment and overload. The close personal relationships among the teachers in the schools helped manage these feelings and inequities and exert pressure on teachers to divide work evenly. A teacher at Menchu commented, "When down, another one [teacher] is there to pick us up". Inequities in workload, however, persisted and specialization into certain roles may reduce teachers' opportunity and willingness to improve weaker skills. Finally, the intertwining of social and teaching roles made hiring and integrating new staff more difficult because a new teacher needed to find a social niche in the school. As a result, both schools encountered difficulty integrating new staff into the school.

Academic Press and Academic Mentoring

The disciplinary policies of the two schools were designed to prevent and effectively respond to inappropriate or violent student behavior. The success of these

policies, however, partially relied on students viewing their schools as valuable. Students who view their school experience positively are more likely to try to improve their behavior in order to insure inclusion in school activities. In contrast, if students view their school experience negatively or as irrelevant, a misbehaving student lacks strong incentives to modify their behavior. Consistent with this supposition, fewer discipline problems occur in schools where students are challenged in the classroom and academically engaged (Browne, 2001, McEnvoy and Welker, 2000).

The disciplinary policy of both schools was imbedded in an ambitious effort to improve the educational experiences of students. While students' engagement in school is tied to the quality of classroom instruction, fieldwork revealed that students' engagement was also tied to teachers' willingness to provide extra academic assistance. Academic assistance took the form of tutoring and academically mentoring students by preparing them for graduation and supporting them when they struggled academically. These efforts, combined with a challenging classroom environment, fostered feelings of respect and pride among students. Students' respect for their teachers and pride in their school in turn made honest conversations about discipline possible and reduced disciplinary incidents. Students valued their school and consequently sought to protect it.

Below, the process through which the two schools established challenging classrooms, provided extra assistance to their students, and academically mentored their students is discussed. The section then ends with a discussion about how these three factors fostered a sense of community among students that made them actively work to keep their schools safe.

Challenging Classroom Work

In both small schools, students reported that their teachers challenged them and demanded more work than teachers in the larger school. Teachers created a challenging and engaging classroom experience by working hard to improve their curriculum and through acquiring additional resources such as science equipment and novels. Although successful in creating a classroom environment that their students found challenging, the schools still struggled to expose their students to grade-level material.

Students in both schools felt their classroom work was challenging. A Menchu student remarked, “What I like about it [Menchu] is that we get harder work so that we can get to high school”. Another Menchu student added,

You get to know what other people think and their opinions. It’s challenging. I get work that is above me and that really helps. I like this school because we do more.

A student at Mandela echoed these sentiments when he said, “There is a higher level of learning [at Mandela]...It is more interesting”. The complaints voiced by other Mandela students about required extra work, such as portfolios or writing papers, indicated that students felt challenged and were held to higher expectations than students in Gullivar. A teacher discussed the higher expectations of Mandela,

...some of the teachers in the department, the...[subject] department [of Gullivar], don’t feel that the kids can do certain things, and I tell them, well, my kids were doing...[it]. I had kids that were...[doing it] at the beginning of the junior year or the end of freshman year...They should be able to do any...[work] that I give them.

In addition to demanding more challenging work, teachers worked diligently to

ensure that they learned the material. Two Menchu students described their classroom experiences,

Student 1: I think it's [Menchu school] different because the teachers all do special things for us, like if you don't understand something, they'll give you an example, and they'll talk you through it...If you say you got it, they'll give you one more example to see if you really got it. The other teachers [teachers in Galli], it's like they just read the directions and make us do it on our own.

Student 2: Yeah, they [Menchu teachers] different, because it's more teachers that help you learn. At [Galli], just trying to calm the class down.

Students' perceptions of their classroom as challenging and interesting arose from teachers' efforts to make the curriculum engaging and relevant. The teachers who founded the schools were committed to addressing curriculum problems they encountered in the past. Specifically, teachers in Menchu worked to make the curriculum more engaging by using group learning techniques, integrating computers into their classrooms, and using activities as well as lectures to teach lessons. Group learning techniques were extensively used in Menchu to supplement traditional lectures. These techniques entailed dividing the classrooms into small groups of four to five students who rotated around the classroom to perform five or six different academic tasks during the period. Other times the groups worked cooperatively on a single task. The teacher tended to move among the groups and provide assistance as students worked on the task. Fitting more than two or three activities in one classroom required more than single periods. Teachers in Menchu adopted a block schedule where students tended to stay with the same teacher for extended periods. In addition to making the classroom more engaging and interesting, the

group learning techniques were designed to teach students how to work cooperatively and resolve disputes productively.

Computers were an integral component of the curriculum at Menchu. Menchu strived to teach students to use computers to complete their own work. In order to accomplish this goal, students learned word processing programs such as Word and presentation programs such as Power Point. For instance, two students presented a research project using Power Point which included digital pictures. Computers were also used as a tool to teach students more effectively. Class lessons were supplemented and reinforced by educational software that enabled students to pursue academic work matched to their skill level. When the school had just started, Menchu teachers worked with a computer consultant to install educational software that could be used to teach students. Students perceived their schools' consistent use of computers as one of their strongest assets.

When asked about the assignments they found most interesting, many students at Menchu discussed activities or projects they had completed. For instance, students learned about graphing in math class by recording and then comparing how fast students in their class could run a short sprint or the distance they covered in a running jump. For this assignment, students had to perform the events outside of school, collect the information, and right up some conclusions about the information. Teachers in Menchu tried to teach information in multiple ways, using computers or working in groups, and worked to make learning more engaging by using more in-depth assignments in addition to traditional worksheets. A teacher in Menchu confided that she no longer had to "sneak around to be creative".

Teachers at Mandela also worked to construct a challenging curriculum. A teacher explained that their students were accustomed to and comfortable with completing worksheets that required little critical thinking. Challenging this predisposition, teachers assigned projects that pushed students to think critically. For instance, in English class, students had to work to create, script, and perform their own radio show modeled after the popular radio shows in the 1950s. Resistant at first to the assignment, students became engaged in the assignment after fifteen minutes and prodding by the teacher. In history class, the teachers discussed World War II using a curriculum called “Facing History” which asked students to discuss and argue about the causes and meaning of Fascism and the Holocaust. Gullivar possessed only one science laboratory and consequently, gaining access to the science lab was extremely difficult. In order to secure lab materials for his students, the science teacher made an agreement with a local community college to borrow their lab materials.

The staff’s commitment to promote critical thinking skills among students was also reflected in its implementation of portfolio examinations. In addition to requiring students to prepare and present their work, most students, especially seniors, presented their portfolios to a panel of adults composed of teachers and adults outside the school including business people, people working with foundations, or community members. By including adults external to the school on the portfolio panel, the school hoped to prepare students for college and job interviews and for approaching college professors for assistance.

As suggested by their initiative to pursue the small schools grant money offered by CPS, teachers in both schools continued to seek out additional resources to enhance

the quality of their students' education. In Menchu, a large technology grant enabled the teachers to secure a number of computers for each classroom and acquire educational software. Additionally, the teacher who taught literature won a grant to purchase a range of books that addressed the lack of literature available in the school. The teacher hoped that introducing students to a wide range of literature would enhance their interest in reading.

Similarly, teachers in Mandela worked to attract extra resources for their students. In an effort to strengthen their vocational focus, Mandela partnered with a large professional organization and arranged work internships for all of its seniors who maintained a C or greater average in school. On a smaller scale, the science teachers secured funds to build and monitor a school garden. The results of the work on the garden were then presented at the Museum of Natural History in Chicago. This effort was part of a larger effort to expose students to science labs described earlier. The commitment of teachers to transform the curriculum was reflected not only in changes they made in the curriculum, but in their efforts to attract additional resources to their schools.

Although teachers in both schools were successful in making classes that students found challenging, classroom observations highlighted that many students were not achieving or being exposed to curriculum that was grade level. For instance, the educational software on the computers in Menchu was not designed for junior high students, the grades served by Menchu, but for younger students in the elementary grades. This particular software was chosen because the teachers felt their students needed assistance with basic skills. While it is important to strengthen students' basic skills, the

school was struggling with pushing students' performance up to and beyond grade level. Recognizing these issues, four teachers in the school were trying to compensate for inadequate planning time and weaknesses in the curriculum by joining a night masters program together, in which they hoped to improve the quality and impact of their curriculum.

Similar struggles and debates about academic standards in Mandela existed. Although the teachers felt their small school had established much higher academic expectations than the host school, the teachers were concerned about the English and math skills of many of their graduating students. Seniors' performance on their portfolios highlighted these problems. For instance, one student who was very successful at her job internship provided an articulate presentation of her work and school experiences, but submitted a resume that was littered with spelling and grammatical problems. Instances like this one, prompted continuous debate about school improvements and triggered teachers' frustration about the academic preparation of some of their students. A teacher lamented that many of their students needed special reading instruction, for which she was not trained. The school was struggling with both providing academic remediation to students while trying to raise academic standards. The difficulty of this effort is beyond the scope of this paper. It is, however, important to understand that a class that is subjectively challenging to students does not automatically mean the students are being exposed to grade level work and high expectations.

Tutoring and Extra Academic Help

In both schools, teachers' support of students extended outside of the classroom to tutoring offered during lunch or after school. A teacher in Menchu commented, "They

[Menchu teachers] extent themselves beyond to help-cause they want to see the children going some place where they will succeed” For instance, the Menchu teacher with special education training provided extra assistance and tutoring to all students after school, not just the students in special education. A Menchu student appreciated the extra commitment, “You can count on the teachers. They will help with homework”

Similarly, teachers at Mandela routinely provided extra support to their students. When asked what was different about Mandela, a student offered, “The teachers, their attitudes towards the kids. Their attitudes are good. If you have problems, they will stay here to help you to 4:30 or 5:00.” Another student observed that teachers’ doors were open at lunch time so students could receive extra help. In an attempt to expand the tutoring resources available to students, one Mandela teacher recruited older students to help with after school tutoring. The teacher explained,

What I do after school, if they want to stay for a tutor or they need help from somebody, I find some of the kids who know how to do it, or some of the older kids, and I give points to the ones who come to get tutored.

The tutoring efforts in the schools resulted from teachers’ initiative and were not organizationally supported. Teachers did not receive extra compensation for tutoring. This reflected a deep commitment by the teachers to raise standards in the school and to personally support students to reach these standards. In turn, students perceived the extra support as evidence of teachers’ commitment and investment in their success.

Academic Mentoring

In these schools, teachers assumed a mentoring role where they pushed and supported students who were struggling academically and broadly invested in students’

progression through school, timely graduation, and success after graduation. Teachers' adoption of a broader mentoring role fostered higher levels of commitment, respect, and investment among their students. In turn, students' higher investment in their schools reduced the quantity and severity of behavioral incidents. Establishing and maintaining the mentoring roles with students, however, presented faculty with unique challenges.

Teachers in Menchu argued that establishing broader relationships with students in which students felt comfortable approaching teachers for assistance with academic problems, was a critical step in improving both student behavior and academic performance.

Kids want to learn. We have gotten kids poor study habits or gotten involved with certain things...when give papers back we reward them and punish them too and they know that we all will stay on them...kids generally that is what they want that the teacher cares about them and kids that were problems in the past some of them.-not to say we don't have our problems-but, I think the kids, the one that do, know they have a teacher they know that they can go to for help...I have kids come to me, [Mr. Early] can you help me I need to pass my Iowa test [the standardized test that Chicago uses to evaluate students] and I said sure.

Teachers were better positioned to form stronger relationships with students because they worked with them for three consecutive years. Working with students for an extended time period enabled teachers to build on positive interactions and successes over the years and be exposed to students' strengths as well as their weaknesses. This in turn fostered a higher level of effort from students and nurtured among staff a deep commitment to the success of all its students, even those with behavioral problems. A

Menchu teacher explained,

But you end up liking them [misbehaving students] and wanting to help them and they want someone to talk to because even some of the worst ones they come talk to [Mrs. Micheals] and all teachers and they feel a sense of belonging and that closeness and family and they like it even the ones who say they want to get out of Menchu...and in the end they want to stay here because they really like it

Just interacting with students for three years, however, is insufficient to establish trust. Teachers earned the trust of students by identifying and addressing issues hindering students' success in school. A Menchu teacher commented, "We contribute a lot to the student climate. We have a special bond between ourselves and the students". A range of problems such as health issues or quarrels with other students may impede students' progress in school or lead them to drop out at the high school level. While Menchu had one teacher who spent extra time disciplining students, the other teachers at Menchu spent extra time aiding students in negotiating other barriers to learning. The lead teachers at Menchu explained how the different skills of their teachers wove together to address their students' needs,

[Tracy], they respect her and know she is no nonsense...if they fall down and scratch their knee, they have [Elaine] to go to...she is going to mother them and wipe away their tears...If they are having a problem or argument with someone, they know if they go to [Peter] that it will be solved...and academically they go to [Tracy] and [James].

Teachers at Mandela also offered their students extra support. The principal commented that the teachers at Mandela are "able to talk about their kids to find out why

a kid is not performing and to motivate that kid to do well.” For instance, after a student became a mother, the science teacher personally tutored the girl to assist her in catching up with her school work and to prevent her from dropping out.

Many other Mandela students shared stories of teachers providing them extra assistance when they were struggling with school. Before graduation, Mandela’s first class of seniors gathered to reflect on their time in Mandela. During this meeting, a number of seniors publicly thanked their teachers and students for their assistance in graduating from high school. For instance, one senior thanked two of his teachers “for helping me when I had a bad time in February.” Another student frankly expressed how critical the support of teachers and students was to his graduation, “If you all weren’t here, I wouldn’t be here”. A third student thanked a teacher for “...showing me I could do better”. The strength of students’ testimonies was enhanced by the quiet respect, frankness, and palpable emotion shown by students and teachers. Overall, students felt their teachers were invested in their academic success and would stay committed to them even when they struggled. Prior to graduation, one senior thanked the teachers for sticking with his class even when they misbehaved or caused trouble.

Teachers were also able to address more chronic problems among students because they worked with the same students for multiple years. For instance, a Menchu student was performing poorly academically. Her poor performance was a direct result of her having a large number of school absences. Consultation with her parents revealed that she had a severe asthma problem. Working with the parents over the course of two school years resulted in better management of the students’ health problem and a substantial improvement in her attendance. In another instance, a student in special

education entered the school withdrawn and with an inadequate diagnosis. Throughout his time at the school, the teachers re-evaluated the student and changed his diagnosis. The teachers also worked to engage the student more in class activities, while assisting him and his parents in selecting a high school responsive to his special needs.

[Todd] changed from LD to Cognitively Delayed and we kept him. When we first got him, I was like ‘oh my lord what is going on’. He improved socially he still has some problems but he is graduated and go to a school for kids cognitively delayed...when I first got him he would sit in the corner and not say anything and now I can’t shut him up.

More broadly, the teachers in Menchu worked to engage students and make them feel comfortable expressing themselves academically. A Menchu teacher explained,

They [Menchu students] are participating, and children who normally might not get a chance to express themselves or do well and succeed get a chance in Menchu because they are not embarrassed to try because it is not the kind of thing where a student raises their hand and all the students look because this student is trying to answer a question.

These efforts by Menchu and Mandela staff reflected a deeper concern for students’ academic progress. In both schools, teachers defined success broadly in terms of students graduating on time with the skills necessary to succeed in high school or after high school. Teachers were concerned both with student progress in the class they taught and their general academic progress. This contrasts with many traditional middle school and high schools where students attend a large number of classes taught by teachers who are experts in an academic discipline such as math or English. After receiving instruction

from the teachers for a semester or a year, the student takes classes with a new set of teachers. In this environment, the academic interactions between teachers and students are usually confined to the students' class performance and the subject areas taught by the teacher. In the traditional high school or junior high, many teachers do not have the time or knowledge to assess students' general progress.

In Menchu, the teachers worked to ensure their students' were able to meet promotional requirements established by the Chicago Board of Education and to learn the skills they would need in high school to succeed. In an effort to end the practice of social promotion and ensure students entering high school had the requisite skills to succeed, the Chicago Public Schools established promotional requirements in the third, sixth, and eighth grade in 1996 and 1997. Students in sixth and eighth grade had to attain a minimal test score on both the math and reading section of the Iowa Test of Basic Skills (ITBS) to advance to the next grade. If students failed to reach these cutoffs, they were required to attend summer school and were re-tested at the end of the summer. If students again failed to reach the cutoff score by the end of the summer, they were forced to repeat sixth or eighth grade. Through extra tutoring and coursework, Menchu teachers worked hard to guarantee that their students would pass the test and be promoted to the next grade. A Menchu student commented, "Teachers hard on you, but not because they don't like you, because they want you to pass to the next grade". A teacher recalled the gratitude of the students after they passed the test and were promoted, "We had so many of them (students), 'Oh thank you for fussing with me', 'Thank you so much for staying on me and helping me'".

One might argue that Menchu teachers were not unique and that their efforts

reflected a rationale response to Chicago's grade promotional requirements. The depth of the school's commitment to its students, however, surpassed preparation for the standardized tests and was reflected in its commitment to retained students and its aim to comprehensively prepare students for high school. During the study, some of the eighth graders in Menchu failed to reach the test score cutoff in both May and August and were consequently retained. The principal in the host school assigned these students to another classroom outside of Menchu. Disagreeing with this decision, the teachers in Menchu lobbied to have the students placed back in their school. The teachers saw it as their responsibility to ensure that the retained students graduated elementary school and made it into high school. The lead teacher in Menchu argued,

We didn't want to send ours anywhere else. In fact, the assistant principal who did the scheduling last summer sent [Cheryl's] 8th graders who had failed to another 8th grade classroom... And we went and got them and brought them. They were ours. We wanted them.

Teachers in Menchu also worked to comprehensively prepare students both academically and socially for their transition into high school. They believed performing well on standardized tests was insufficient to ensure success. A student commented, that the teachers in Galli "just teach us what we supposed to know to pass our test. But Menchu go beyond that." Beyond academic content, teachers tried to instill into students work habits they would need to navigate through high school. For instance, students explained that in order to succeed in high school they would have to take the initiative to seek out extra assistance from teachers or tutoring programs if they were struggling. They added that their experience at Menchu had made them comfortable seeking help at

school. A student explained,

They (teachers at Menchu) also let kids know what kind of work they have to do in order to get to high school. Have to be on time and have to keep a schedule. It teachers you more than the regular school

In addition to teaching academic habits, the teachers tried to inform students about some of their high school options. The teachers advocated for some of their students by linking them with successful high schools and writing recommendations for them to academic magnets. The efforts by Menchu's faculty to comprehensively prepare their students for high school and ensure their promotion to the next grade reflected their deep commitment to students' general educational progress as well as their success in a single classroom.

As teachers in Menchu worked to prepare its students for high school, Mandela's teachers prepared their students for success after high school. A student observed that the teachers at Mandela, "think about things we need to do to get to college and to get jobs in the real world". As this quote suggests, teachers in Mandela actively worked to prepare their students to succeed in realms beyond the scope of high school, such as work and in college. In terms of job preparation, Mandela was constructed around a vocational theme; this theme was supported by a series of vocational classes that students were required to take throughout their career at Mandela. In an effort to make students' vocational training more meaningful, Mandela partnered with a large business association in Illinois. Through this partnership, Mandela was able to certify students in service and management skills and received assistance in establishing paying internships for its seniors and a growing portion of the junior class. Also, job shadowing experiences were

available for younger students. The job program strived to provide students the skills they would need to pursue management level jobs. The teacher in charge of the jobs program explained,

...we are not preparing the kids for some burger flipping job, but we are preparing them to be the kind of people who you know who can go into management positions or open their own businesses. To be of that kind of mindset.

Furthermore, in Mandela, the general curriculum was explicitly designed to foster job skills among its seniors. In portfolio evaluations, seniors were required to write resumes and to present their work to adults outside the school. This helped prepare students for future job interviews or interactions with college professors and teaching assistants. As discussed previously, teachers also challenged students to exhibit behaviors that are critical to job success, such as punctuality. The teachers invested considerable time in preparing their students for jobs, assisting them through the interview process, and ensuring successful job experiences. For instance, teachers sometimes transported students to their first interview or planned the route on public transport for students who had not extensively traveled in the city. The older students deeply appreciated these efforts and commented that the job internship program was a major advantage of Mandela in which they were proud.

The investment of teachers and the extensive time they took developing their vocational program facilitated the success of students at their job placements. The external partner who worked with Mandela to provide job certification and internships also collaborated with a number of other high schools in Chicago. She praised the performance of the Mandela students at their jobs and believed their success was partially

attributed to the extensive support provided by their teachers. The external partner commented,

...students from Mandela have been the most prepared, well prepared to make the transitions [to work]...what we found with Mandela is that there is a lot of teacher involvement and investment in the students.

The vocational focus of Mandela was paired with the extensive effort by teachers to support students pursuing post-secondary education. Each member of the faculty assisted a group of about 10 seniors to create plans for after high school. They pushed students to think about the educational opportunities available to them and assisted them in a range of tasks from preparing applications to getting the necessary documentation to schools. As one senior commented, “I wasn’t too sure about college. I want to thank [Julie] for pushing me”. Also, the teachers offered tutoring and exam preparation for students who wanted to take the ACT exam.

Mandela, however, did not simply focus its efforts on seniors who were pursuing a post-secondary career. The teachers required all seniors, regardless of their future goals, to submit a plan of what they were planning after high school. Teachers worked with students on a variety of plans including starting a job, joining the military, and applying to colleges. The process of planning forced the teachers and some students to admit that the student lacked enough credits to graduate from high school. For instance, a senior was unable to secure enough credits to graduate and did not want to return to school for another year. Responding to this problem, the teachers met with the student and the students’ parents in the middle of the year. After this discussion, the student decided to pursue a GED program and the teachers assisted her in enrolling in a local GED program.

Mandela faculty showed a deep commitment to their students by working diligently with both their academically successful and academically struggling students on their plans after high school.

Difficulties with Academic Mentoring

Although teachers' efforts to mentor their students were beneficial to their students, mentoring efforts confronted challenges and introduced new tensions. Specifically, the teachers in the schools grappled with setting boundaries. When should they reduce their efforts with a student? What problems were outside their responsibility? A teacher at Mandela expressed the difficulties in answering these questions and establishing boundaries with failing students when she confided,

Sometimes I look at kids who have failed a lot of classes...as a group of teachers we need to ask ourselves what is it that we are not doing to assist this kid...various reasons that a kid doesn't come to school, that is kinda out of our control...we can try to contact parents...or there is an academic problem and we address that with the kid. If there is a kid that is completely unwillingly to try to put in that extra time...including class time, we get to the point maybe we are just not helping this kid. Maybe, it is jut not the kid's time to come around

The substantial effort and time required to academically mentor students proved problematic. Mentoring students competed with teachers' efforts to teach and improve the basic curriculum. Menchu and Mandela teachers received little institutional support for their expanded efforts in terms of additional money for planning or extra overtime hours. Although a teacher in each school had a reduced teaching load, their extra time was often consumed with administrative issues related to running the small school and

additional time was needed to support the job internship program in Mandela and the computer focus in Menchu. The limited institutional support in both schools raises the concern that minimal staff turnover could disrupt much of the activities associated with academic mentoring if incoming teachers are unwillingly to put in the same extended and often uncompensated time. Indeed, two of the six teachers left Mandela within two years of the study. They left not because they were disappointed and disillusioned with the aspirations and mission of the school. They left to join newly forming schools that were striving to actively support and institutionalize efforts similar to the ones in Mandela.

A glimpse of one day in Mandela provides an insight into the extra and complex demands of academically mentoring students. After the school day at Mandela ended, the investigator recorded the activities of the teacher responsible for the vocational program for thirty minutes. In this brief period of time after school officially ended, a student called the teacher to relay that he had gotten a job through an interview arranged through the school, a student came into the classroom to clean and set-up materials for the next day as punishment for misbehaving in class, another student worked quietly in the classroom after getting some assistance on his homework, two seniors who graduated the previous year who were attending a local Chicago college returned to discuss the first year successes and struggles with the teachers-most who were still at Mandela after school, and the teacher briefly talked to another teacher about coordinated some curriculum the next day. A commitment to academically mentoring students requires teachers to navigate and shift between a number of students and tasks.

Also, teachers in Mandela and Menchu worried that the supportive environments of their schools might disadvantage students upon entering high schools or colleges

because these environments required students be independent and take initiative to succeed. A Menchu teacher summarized these concerns,

We're [teachers at Menchu] still in the mindset of 'get them in line.' We're trying to prepare them [Menchu students] for high school. But in actuality we're not doing it because we're still there following them around.

A Mandela teacher echoed these concerns,

Sometimes they are in too sheltered an environment. We try to provide this safe place which certainly they feel comfortable...at some times too comfortable...sometimes I think it would be good to get out in the rest of the school and meet the people they don't know. I think the job experience gives them that too.

Finally, teachers' investment in the academic progress of their students created pressure to improve the quality of their own teaching. The success of students intertwined with the academic failures and struggles of other students. When asked about what skills they were confident their students possessed, a Mandela teacher responded, "They need work on most of their skills to be quite honest. I don't think they're where they quite need to be on anything". Moreover, although many students testified to their strong connections with Mandela and expressed gratitude for their commitment, some students did drop out of Mandela and others felt the small school was too confining and returned to the larger school. The yearly dropout rate, however, was substantially lower than that observed in the larger school. Having some of their students drop out and others graduate with substandard skills was no longer acceptable or viewed as inevitable, but became a painful impetus for debates among teachers about problems and possible

improvements in their school. This urgent need to improve, however, sometimes led the schools to initiate changes that were not well planned and as a result had limited success.

Students' Commitment to their Schools Reduces Violence

The faculty's efforts to build challenging classrooms and to academically mentor demonstrated to students the faculty's commitment to their educational success. Students tended to respect and reciprocate these efforts by viewing their school as a community that should be protected. Students' sense of community coupled with their perception that the school was providing them a valuable service kept them academically engaged, restrained them from acting violently, and in some instances motivated them to prevent or disrupt fights in the school.

A teacher in Mandela believed an important success of the school was the transformed relationships among its students.

One of our biggest problems is when you first get kids in their sophomore year, they are at each others throats, just cruel...to see our seniors now who are just so loving toward one another and really care about the others welfare. That alone is a major accomplishment, we think.

The lead teacher of Mandela discussed how Mandela was struggling to transform a school environment where students constantly cut classes to an atmosphere where students encouraged and assisted each other to succeed in school. Mandela teachers noted a marked improvement in attendance and a few commented they would not go back to teaching in the larger school because now they were used to teaching full classes. Moreover, they felt that, slowly, students were not just attending school, but also beginning to support and push each other to succeed in school. A Menchu teacher

explained,

If they are coming, at least they got the opportunity to learn. Their peers around them kind of keep them on track. We want to encourage more of that...Every year they see more and more kids trying to do well in school and get something for their future.

Mandela developed the sense and feel of a community. After participating in an ice skating trip with his class, a Mandela student referred to the strong school relationships when he noted in his journal that the school felt like a family. The principal also observed the unique pride that existed among students at Mandela, when he said, "It's sort of like a family type atmosphere...the kids are really proud of their particular small school (Mandela) and they let you know that".

Similar to Mandela, the lead teacher in Menchu argued that their school had a sense of community in which students felt supported by and invested in the school. She commented, "For me personally, I think that we've really gained a sense of community, of family. We have the students have grown into families". A student echoed these comments, when he said, "I think it's the best school there is. Because its' like home. When we have problems we can go to one of our teachers".

The strong sense of community in the two schools restrained students' violent behavior and in some cases led them to diffuse violent incidents. A teacher in Mandela admitted that their classrooms were not always orderly or well behaved. Their school struggled with student misbehavior, especially among the younger students. For instance, we saw one classroom where students were walking around, talking, shifting chairs, and ignoring the lesson. A Mandela teacher noted that "Sometimes it (the classrooms) is not

easy to get control, but it is also never out of control". Just as students' behavior tended not to spiral out of control, students also tended not to completely withdraw from the class activities even when they appeared disinterested. One fieldworker commented, "The students were VERY difficult to read; although they laid their heads on the desk while listening to this radio sketch, they were active and responsive as the first listening was debriefed. They drew intricate and interesting studios." The strong relationships among staff and students restrained students' inclination to act violently and fully disengage from the school.

In addition to simply restraining negative behavior, students' pride in their school motivated a growing number of students to actively intervene to diffuse violent situations. For instance, during the middle of a class, a male student darted out of the class and began fighting with a student passing through the hallway. Quickly following the student into the hallway, the teacher stopped the conflict with the assistance of two Mandela seniors who also rushed into the hallway. The teacher commented that it would have been physically difficult to break up the struggle without the assistance of the seniors. As the conflict was diffused, other Mandela teachers from adjacent classrooms moved into the hallway to assist the teacher and make sure the situation was under control. Although students in the math classroom crowded towards the door to see what was happening, the students mostly remained in the classroom and did not venture into the hallway in concordance with instructions from the teacher. After the incident was resolved, the teacher returned to the classroom and the student who initiated the incident returned to the class fifteen minutes later after discussing the fight with the two seniors who helped end the scuffle and another teacher who had a free period. The students' behavior was

further discussed and punished after school. The response to this incident was quick, comprehensive, and effective. Students actively worked to control the situation by helping the teachers separate the two boys fighting and by remaining in their classes and not cheering on the conflict. Moreover, the teacher was not the sole adult responding to the incident. Because the teachers in the school had strong professional relationships, other teachers quickly left their classes to support the math teacher in resolving the incident and restoring order to the school.

The response to this incident in Mandela contrasted to the response to a fight in which the investigator became entangled at Gullivar, the host school. Just after classes began, two boys grappled with one another in the hallway while being cheered on by around eight students surrounding them. I intervened and was able to quiet the taunting students who also began pushing one another, but I needed to get assistance in breaking up the struggle between the two boys. As I turned for assistance, a teacher came to her doorway and paused, looking from her classroom to the fight. In this moment, the crowd of students dissolved as students fled in multiple directions throughout school. Unlike at Mandela, neither I nor the other teacher could call on strong relationships with the students or even their names to disrupt the conflict or at minimal hold the students accountable for their participation. The sharp contrast in how these fights occurred and were resolved provides additional insight into the distinction students' in Mandela made in how safe they felt in their small school, Mandela, versus the larger school hosting them, Gullivar.

In Menchu, students also were invested in the school and worked to keep the school safe. Because Menchu used multi-age classrooms, the older students sometimes

mentored the younger students and put pressure on them to behave. One teacher commented that she wished the older students controlled their behavior as well as they controlled the behavior of some of the younger students. The lead teacher also described that over time some of the students with the worst behavioral problems worked to diffuse fights and problems as they got older.

[James] is the kind of child—first of all, he’s on Ritalin, on medication. Had a very difficult time sitting still. He was always touching somebody, bothering somebody. If a fight broke out in the classroom [James] would be the first one to stand up and you know, shout, hooray and cheer them on. And last week, a fight broke out in [Tamara’s] class...she wasn’t in the classroom. But James was the one who broke it up. Now he didn’t stand there and cheer them on. He went over to the door, he was the one who got the one who didn’t want to calm down out into the hallway, and had him waiting there for [Tamara]

In both Menchu and Mandela, students’ pride and investment in their school led some students to actively diffuse violent incidents and encouraged others to restrain from violence. Students’ pride in their school grew from their teachers establishing challenging classrooms, academically mentoring students, and using a discipline policy that both addresses the reasons behind conflicts and punishing them. Although the small schools felt safe and some students’ behaviors improved a great deal while attending the schools, each of the small schools occasionally struggled with maintaining orderly classrooms and quelling fights.

Summary of Findings

The fieldwork revealed that the simple model linking small size with stronger

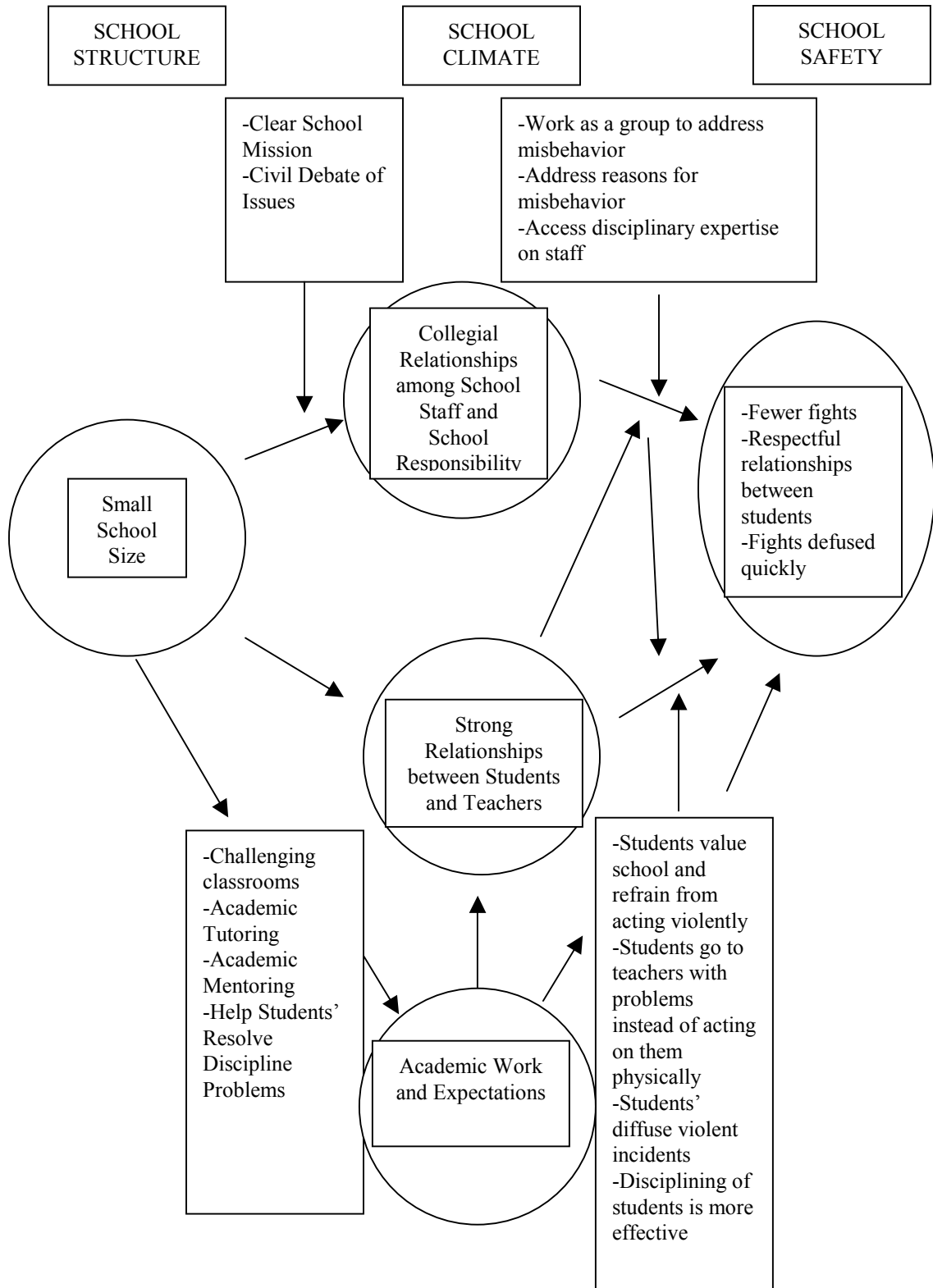
relationships among students and teachers and higher academic standards needed to be elaborated. Multiple efforts such as a common school mission were needed to translate the opportunities for improved relationships in smaller schools into strong collegial relationships among staff and trusting relationships between teachers and students. Also, links connecting strong relationships among students and teachers and academic expectations with a safer school environment (See Figure 4) proved complex and in some instances tenuous. Creating a discipline policy that addressed causes of students' misbehaviors and academically mentoring students were required to harness positive relationships into initiatives that made the school safer (See Figure 5 for elaborated model).

Strong collegial relationships and cooperation among faculty were documented in the two schools and their smaller size was perceived as a critical component in fostering and maintaining these relationships. Faculty, however, explained and visits to a larger set of small schools suggested that a faculty needed to agree and commit to a common mission and have the ability to navigate disputes civilly in order to build the numerous social contacts afforded by a small school into productive professional relationships. The common school missions focused the school efforts and united the faculty while civil discourse enabled the school to simultaneously voice and address problems in a coordinated fashion. Also, civil discourse helped prevent and diffuse prolonged conflicts. Strong professional relationships among staff, however, do not guarantee an effective discipline policy. Both schools crafted discipline policies that responded to the causes of student misbehavior, worked as a faculty to address discipline policies, and tapped the disciplinary abilities of particular faculty to resolve major disciplinary policies. These

disciplinary stratagems fostered students approaching teachers with problems before they became violent.

The effectiveness of the disciplinary policy in both schools was enhanced and grounded in trusting relationships between students and teachers. Students' respect for the school grew out of their perceptions that the classroom work was challenging, their belief that the teachers wanted them to academically succeed as evidence by teachers supplying academic tutoring. Also, students expressed their appreciation for teachers' academic mentorship and assistance when they were academically struggling. Because students valued their experience in school, they felt they could approach their teachers with problems, wanted to support or at least not disrupt the school climate, and sometimes worked to diffuse violent incidents.

Figure 5: Factors Moderating the Relationship among School Structure, School Climate and School Safety



DISCUSSION

Synthesizing current research, the introduction argued that four characteristics of schools foster safer school environments: a commitment to teach non-violence, high levels of social capital among and between students and teachers, effective instruction, and responsiveness to students' culture and community. In this study, findings from both the qualitative and quantitative analyses were consistent with this model. Analyses of the CPS survey data in 1997 and 1999 found that a staff's commitment to teaching non-violence, trusting relationships between staff and students, and an academically challenging curriculum predicted CPS eighth graders feeling safer and fighting less at school in 1997. These three variables also predicted improvements in eighth graders reports of safety and fighting between 1997 and 1999. The cross-sectional and longitudinal relationships persisted even after controlling for violence in students' neighborhoods, students' reports about how connected and safe they felt in their neighborhoods, and students' ability to navigate conflicts. The qualitative work also found that schools are safer when strong relationships between students and teachers are established. Together these findings establish the ability of schools to inhibit student violence by constructing a strong school climate. Consequently, initiatives to reduce school violence which currently tend to rely on behavioral or cognitive interventions, such as teaching students social skills in separate classes or revising discipline policies, also need to consider how the operation of schools can be modified to make schools safer.

The fieldwork also highlighted the need to expand the conceptualization of effective instruction to include the idea of academic mentorship and recognize the importance of including a problem-solving component into a schools' discipline policy.

More broadly, the dynamic and fragile sense of community observed in the two study schools was not addressed or captured in the theoretical model presented in the introduction. This is problematic because students' attachment to their schools reduced their chances of acting violently and enhanced the ability of teachers to diffuse potentially violent situations. In order to reconcile observation and theory, research examining links between school climate and safety needs to shift from describing the climate that exists in safe schools to investigating the processes that foster or inhibit a sense of community in schools. The remainder of this section attempts to construct a theoretical framework, primarily using the qualitative data, through which to identify and understand the key processes that supported and maintained a sense of school community in the two study schools. Although the theory presented below is preliminary, exploratory, and limited by the fact it emerged from the study of just two urban schools, the theory suggests important new directions for research that may inform practitioners' efforts to establish a sense of community in their schools.

Constructing and Sustaining Focused Communities

The communities that were formed in the two study schools are referred to as focused communities because teachers' and students' sense of community coalesced around the mission of their schools and were forced to prosper within multiple organizational constraints. School communities have multiple organizational constraints, such as pre-defined roles for its members (i.e., teacher and student) and pre-established goals, which include effectively teaching students academic skills. Consequently, in order for school communities to succeed, they must be extremely goal-oriented, or focused, and construct positive relationships that emerge from and support the core

academic activities of the school. A sense of community is only seen as valuable to the extent it enables the school to achieve its organizational mandates.

Participation in schools is mandatory for youth until they turn 16 years old and students are brought together by necessity instead of common values or beliefs. As a result, schools have to manufacture a sense of community by teaching their students to negotiate, cooperate, and eventually feel a sense of community with other students with whom they may have little in common. In order to forge this sense of community and encourage students to view their school as unique, a school requires a strong mission or focus.

Although the preceding paragraph explains why the communities observed in the two study schools were “focused”, it fails to identify how the two schools operated as communities. Three elements, -membership, social legitimacy, and personal investment, -combined in the study schools to form a sense of community. The qualitative results found that the small size of the two schools made the students and teachers feel personally connected to their schools. Although relationships emerging from these personal connections were not always positive, the school experience was not perceived to be an impersonal or anonymous for either students or teachers.

Students are expected to respect and respond to the authority of their teachers. In the two study schools, these expectations of respect for their teachers’ grew into a deeper earned respect. Students reported respecting their teachers’ authority because their teachers respected them, provided extra academic assistance, and occasionally mentored them through difficult social or academic problems. Thus, the authority of teachers was socially legitimized through interactions as well as institutionally through the teacher and

student roles. Because students respected their teachers, the school operated more smoothly and with less conflict.

Moving beyond questions of legitimacy, students in the study schools increasingly invested in their own academic success and worked more broadly to support the success of the school. In the qualitative findings, evidence emerged of students improving their own behavior as well as helping teachers resolve other student conflicts. Below, a theory of how these schools fostered a sense of membership, social legitimacy, and personal investment is outlined.

The two school communities observed in this study went through three stages of development: disruption of anonymity, community formation, and community sustainability. In the disruption of anonymity phase, students and teachers' investment in their school was heightened by their active choice to attend their school and the numerous everyday interactions forced by their small school structure. Heightened investment tended to grow into a positive sense of community during the formation phase because the two schools pursued a policy of earned inclusion, established their school was valuable, and encouraged civic expression among students. Finally, the schools worked to sustain a sense of community by establishing traditions and building institutional supports for their programs.

The theory of focused communities does not address teacher-to-parent relationships. This omission occurred because this study lacked data on parents' perceptions of the study schools and the quality of parent and teacher relationships. Understanding the extent to which parent and teacher relationships contribute and support the creation and sustaining of a focused school community is an important topic for future

research. Also, the study did not explore the extent to which students' experiences outside of school, both positive and negative, influenced their participation and attachment to their school. Again, this is an important topic for future research.

Disrupting Anonymity with Choice and Size

The first stage in establishing a focused community is eroding the sense of anonymity that exists for many teachers and students in contemporary junior high schools and high schools. Between 1940 and 1990 the average enrollment of elementary, middle, and secondary schools has risen from 127 students to 653 students per school (Bryk, Lee, and Smith, 1993) and the average high school enrollment increased to 1,000 students (Fowler, 1992). In larger schools, teachers are exposed to 100 to 200 students a day, each for only around 45 to 50 minutes. Also, students pass through up to nine periods in one day. High teacher-to-student ratios make the establishment of relationships between teachers and students more difficult and are associated with higher levels of school violence (Klonsky, 2002, Learning First Alliance, 2001, National Institute of Education, 1978). In order to foster a sense of community, students need the opportunity to feel personally involved in their school.

In this study, voluntary association and small size worked to erode anonymity and establish a sense of school membership among faculty and students. All faculty and most students choose to attend their small schools¹⁶ and in general, voluntary association has been shown to help foster a sense of school membership (Bryk and Schneider, 2003). In these two schools, the choice to join the two schools powerfully influenced teachers'

¹⁶ Some students were assigned to Menchu by the principal in order to ensure Menchu was not attracting better students from its host school. Also, the principal felt some students who were academically or behaviorally struggling in the larger school could benefit from the more personal environment in Menchu.

investments in the school and had a minimal impact on students' investment. Faculty joined because they philosophically agreed with the schools' mission, respected the other teachers in the school, and believed improving student performance required broad school reform. The schools provided teachers the opportunity to teach topics that interested them with approaches they thought were most effective. The common purpose of the faculty coupled with their collective embrace of reform resulted in the faculty feeling heavily invested in the success of their schools.

In contrast, the motivations for students to join the two schools were varied, complex, and minimally related to how invested they felt in their school. The lead teacher in Menchu explained that many of the students enrolled in Menchu because they were dissatisfied with the larger school that hosted Menchu. In Mandela, students' reasons to enroll in the school varied from the increased opportunities to get a job to positive interactions with teachers in summer school. While teachers' choices to join the school clearly fostered higher levels of investment, the links between students' choice to enroll in the school and their level of investment were difficult to identify.

Students' sense of membership in the school developed from their substantive experience in their schools instead of their choice to join it. This was evidenced by the fact that it took time for students entering the schools to become attached to it and show improvement in their behavior and academic performance. The study schools struggled with many of the same academic and behavioral problems of the larger school. The weak effect choice had on students' investment in the study school provides a cautionary tale for the growing number of reform movements in large urban areas that break down large high schools into a number of smaller theme-based high schools. While the creation of

theme-based high schools may energize the faculty, these schools probably will evoke little emotion or investment in most students. However, the weak effect of choice on student investment in this study may result from the fact that the two study schools were hosted by larger neighborhood schools and, as a consequence, enrolling in them did not seem a major decision or commitment. Future research needs to investigate the conditions associated with choice that foster high levels of investment in students and their parents.

The small size of the study schools coupled with students enrolling in classes with the same set of teachers for three consecutive years resulted in students and teachers getting to know each other very well. In this environment, anonymity is hard to find. This point was supported by the Mandela teacher who explained that cutting classes was impossible because everybody knew each other. Also, students and teachers in the study schools were invested in building positive relationships with each other because they are constantly interacting over a long period of time. In the qualitative results, the smallness of the schools was cited by both students and teachers as a critical support to founding strong relationships. A Mandela student explained, “You go here three years and you get a close relationship with people. In other school you switch classes and don’t get to know people”. A teacher in Mandela also believed that the small size of the school reduced students’ feelings of anonymity and consequently changed the dynamics in the school, “They know us and we know them it makes a huge difference”.

Although increased interactions provide the opportunity to build positive relationships, the qualitative findings cautioned that the more numerous and intense interactions in small schools can also have negative effects by creating new conflicts and

making chronic problems worse. Also, increased interactions prove stressful as teachers and students recognize and navigate problems that previously were ignored or handled through administrative procedures. The finding that small school size can have negative as well as positive implications for school relationships suggest that the growing movement to build small schools needs to recognize the unique stresses these schools place on faculty and support faculty in navigating these new challenges.

Choice and small school size were used by these schools to disrupt a sense of anonymity and foster a sense of investment among students and teachers. These two approaches should not be considered the only strategies to disrupt anonymity in schools. Other reform approaches may be as effective or more effective in different contexts. The important lesson from these schools is the need to institutionally design and reform schools in a manner that fosters a sense of connection instead of anonymity in schools.

Transforming the increased investment of students and teachers into positive relationships and a sense of community requires substantial work and is fraught with risks because students' and teachers' higher level of investment can make problems and failures more emotionally charged, divisive, and demoralizing. Methods the study schools used to establish a sense of community are now described.

Community Formation

Earned Inclusion

At the end of the school day, a Mandela student who had misbehaved earlier was sent to the teacher in charge of discipline. When the student saw the teacher in the hallway, he promptly darted away down the stairs in the school. After the school had emptied out and was quiet, the student returned to talk to the teacher and accept

responsibility for his behavior. When reciting this story, the teacher explained that she knew the student would return because youth like having structure and being held accountable, even though they would not admit this fact to you. In this anecdote, the student's willingness to return and accept his punishment instead of skipping a day or more of school to avoid punishment suggests that the student valued the opinion of his teachers and his membership in the school. This in turn raises the broader question about why the student valued his school.

In Menchu, a student explained earlier that his behavior had improved in Menchu because teachers were on his side and helped him control his outbursts.

They (teachers in Menchu) take our side. Sometimes the teachers in the regular school, you do something, they'll automatically suspend you. But the teachers at Menchu, they'll talk to you, give you chances and stuff. Talk to you calm you down, so you won't do it no more.

The preceding glimpses into the study schools suggest that students were responsive to disciplining efforts partially because they believed teachers were respectful of their views and were acting in their best interest. Students' faith in their teachers' motivations arose from teachers' willingness to discuss and address with students the causes of their misbehavior and teachers' supplying extensive support to academically struggling students. In these schools, an informal contract was forged between students and teachers. Students were required to earn their right to participate in the school by displaying appropriate behavior and teachers needed to legitimize their authority by convincing students that their actions were motivated by their desire to see the students succeed. This informal contract is referred to as earned inclusion.

As described earlier, both schools had discipline policies that possessed a strong problem-resolution component. Student misbehavior was addressed both through punishment and discussions aimed at identifying why the student was misbehaving. By discussing with students the reasons behind their misbehavior, the staff projected the message to students that the staff was interested in solving problems. This in turn fostered the sense among students that punishment was part of a process to improve their behavior instead of a way for teachers' to exert their authority or exclude them from the school. Also, teachers in Mandela tailored the severity of their punishment to match the severity of students' misbehavior. The tailoring of punishments coupled with the problem-resolving approach of the schools resulted in most students viewing the discipline policies as fair. Establishing fair discipline policies is important because punishment is more effective when the punished individual perceives the process through which they are judged guilty and punished as fair (Sherman, 1993, Short, 1997).

The discipline policies of the two schools were also supported by students' broader perceptions that the faculty was invested in their academic success. As described in detail in the qualitative results section, both schools supplied students with extra academic assistance and worked to academically mentor students through problems. These efforts reinforced perceptions among students that the staff was invested in their success. Reciprocating these efforts, students appreciated their teachers' extra assistance and consequently expressed higher levels of respect for their teachers and higher levels of behavioral restraint. The external partner working with Mandela who also worked with a number of other CPS high schools described the advantages of the extra support students in Mandela received,

I just really want to say I can really see the benefit of a small school concept in a schools structure where students need a little extra help, a little extra assistance.

You know, schools are big places and sometimes we need people out there trying to help us figure out how to orchestrate it all

A conversation with a Mandela student about the reasons he chose to enroll in the school highlighted the importance of convincing students that their teachers wanted them to succeed. The student explained that the summer before entering Gullivar he was extremely worried because he had heard from his friends that the teachers in Gullivar did not care about their students and that Gullivar in general was a bad school. Attending a summer session designed to introduce incoming freshman to the school, the student met one of the teachers at Mandela and was struck by the way she interacted with students and sincerely appeared invested in their success. This interaction spurred the student to seek out and enroll in Mandela the first year he was able to enroll, or his sophomore year.

The teachers in the two study schools also reflected upon and learned from student problems instead of solely blaming students for poor behavior. During the fieldwork, teachers were constantly examining methods to prevent and respond better to student problems. In Mandela, the poor performance of a number of students on their senior portfolios led the staff to reflect and argue how they could improve the portfolio process. In another example, teachers in Menchu responded to a serious fight between two girls by identifying the need to integrate more conflict-resolution techniques into their curriculum. The willingness of the teachers to organizationally respond to student problems instead of primarily attributing them to students fosters a school norm of integrating struggling students into school activities. Students were found to be responsive to these efforts and,

as reported earlier, felt confident approaching teachers with problems or misunderstandings instead of behaviorally acting out feelings of frustration and anger.

Although these schools worked to include students, the teachers worked to maintain a respectful environment within their schools, set boundaries on appropriate behavior, and expected students to behave appropriately. Mandela teachers challenged truancy and inappropriate language and Menchu teachers used group-learning activities to require and teach students to interact appropriately. The positive school environment was deemed valuable by teachers and certain unacceptable negative behaviors were not tolerated. For instance, in Menchu, a male student was inappropriately rubbing against female students. As part of their approach to the problem, the police were brought in to formally warn the student about the legal consequences of his continued behavior. In Mandela, some students dropped out and a handful of students were asked to transfer back into the larger high school after displaying chronic problems in the small school. Even though a small number of students dropped out of Mandela, discussions with students in Mandela made it appear that inclusion was the norm of the school and exclusion was the exception.

In the quantitative findings, high levels of student-teacher trust were found to relate to school safety and fighting. This finding may be misinterpreted as indicating that schools need to stress positive interaction between students and teachers. Although positive interactions among students and teachers helps build student-teacher trust, the qualitative work suggests that establishing student-teacher trust requires teachers holding students to high behavioral expectations and challenging misbehavior, while at the same time providing assistance to students academically or personally struggling. In other

words, the schools' reactions to problems were key determinants of the level of student-teacher trust in the school.

Academic Value

The sense of earned inclusion in the two study schools created the foundation for a focused community by facilitating the establishment of respectful relationships between students and teachers and by keeping students academically and behaviorally engaged in school. These efforts were insufficient to make students' view their school participation as important or valuable. Perceptions of value emerged from students' academic experiences. Specifically, students tended to view their school experiences as valuable because their school had a challenging curriculum, their school work felt connected with their future success, and their school provided them unique opportunities and skills. Students who felt their academic experience was valuable moved from merely respecting teachers to actively engaging and becoming invested in the activities of the school. As explained in the qualitative results, students' investment in school fosters positive behavior because students value their school participation and consequently work to restrain misbehavior. The principal of Gullivar and Mandela commented, "A lot of kids need a purpose to go to school, a purpose to want to be here everyday and graduate. I think small schools give a lot of kids that purpose they need to come to school everyday".

A Mandela teacher explained that she pushed students to justify their arguments and respond to questions, "For me, they [juniors] know that they can't get away with one or two sentences of just vague crap. They know that...they come up to me and say 'you are not going take this are you' 'No it is not even close'". This teachers' attitude reflected

a broader commitment in Mandela to shift student work away from simple worksheets to assignments that made students think. Similarly, in Menchu, the teachers tried to challenge their students through project-based assignments. Although students in both schools complained that their schools were more difficult than the larger schools hosting them, the students also took pride in the difficulty of their work and argued that their schools provided them a better education. In the senior portfolios in Mandela, many of the seniors picked assignments that they found difficult or struggled with to present. When asked about their selections, the students would explain that the assignments taught them they could overcome problems and taught them something interesting they did not know before.

For instance, a Mandela senior presented information on a math test covering quadratic equations. When asked why she selected this assignment, she explained that she was scared of math. She had received a D grade in math class and was ashamed of her grade. She relayed how she had never got a D in her life and that she realized she deserved the grade because she did not apply herself in math as much as she did in other subjects. Her job, which she had acquired through Mandela, however, had pushed her to work and improve at math. Although she still struggled with her math skills at work and school, she said they had improved and, by extension, her ability to handle her job had gotten better. She stressed that a main lesson in her life was to keep trying in the face of failure. She relayed how it took 5 interviews to get her first job and that she was “shocked” when she got hired.

Another Mandela student who struggled with a learning disability described the difficulties he encountered and overcame when composing his resume. He explained, “I

see it in my head, but it doesn't come out that way on paper". He reported that finishing his resume and cover letter had taught him he could accomplish more than he thought. These examples demonstrate how the students drew value from working on and completing challenging assignments. Because students perceived their work as challenging, they were less likely to feel bored and more likely to feel that their school experience was valuable.

Teachers also linked students' class performance with the skills they would need to succeed in the future. Teachers in Menchu consciously worked with students on study skills that they would need to succeed in high school. In Mandela, student's behavior was compared against behavior that was required to succeed at a job. In interviews, students voiced appreciation for these efforts and complimented their schools for providing skills that would help them succeed in high school, college, or at a job. In addition, students valued their schools because they felt their schools provided them unique opportunities. Students in Menchu valued their ability to work extensively with computers and acquire computer skills. Similarly, students in Mandela appreciated the access and support their school gave them in acquiring a job. Integrating computers into the curriculum at Menchu and establishing a strong job internship program at Mandela convinced students that succeeding at school had short-term benefits as well as long-term benefits.

Civic Expression

The study schools also engaged their students by enabling and encouraging them to express their ideas in their academic work. This is referred to as civic expression because youth expressed their own ideas, but within the confines of academic activities. Challenging classrooms and project-based assignments evoked civic expression in

students because students were pushed to evaluate and think about the material instead of just memorizing it.

Both schools consciously encouraged civic expression by supplementing lectures with an array of project-based work that was designed to teach lessons while enabling students to express their interests. By engaging students in projects, teachers also enabled students to use and display a wider range of skills. When visiting Menchu, a few students showed the researchers around the school and took special pride in recently completed projects such as models constructed from blueprints the youth designed in math class. In literature class, one of the assignment required students demonstrate their knowledge about poetry by writing their own poems and then converting it into a rap song. More broadly, some quieter students in Menchu tended to become more talkative as they spent two or three years in Menchu and became confident in their ability to contribute.

Students in Mandela also were able to express their unique skills through larger school projects. Mandela's seniors were required to complete a community service project. In discussions with a few Mandela students, they enthusiastically described these experiences and took pride in the fact they had to take the initiative to complete their projects. They also discussed the difficulties about working with other students and ensuring everybody carried their own weight. In honor of African-American History Month, Mandela juniors hosted a feast for thirty local junior high students based on a book the juniors read in their English class. The event, which was completely hosted and run by students, included a poetry reading, a short lesson about colonization, a game involving African proverbs, a skit based on the novel, and an African dance. The fact that twenty students stayed after school to learn and choreograph the dance and the

seriousness with which the students conducted the event testified to the value they placed in the project.

Because students learned thoughtful expression was appreciated, students became more willing to express their opinions and engage in broader dialogues with teachers. As one Mandela teacher explained, “I mean the kids, one thing about them, they tell you exactly how they feel, and they will tell you...I don’t like this, or they go where did you get this from”. For instance, as part of an advisory period, different students each week were asked to select a reading for discussion. One week two students selected a reading about a main character who worked to gain respect and power by making money. The two students explained that the article motivated them to continue their education for financial incentive. Other students and a teacher responded that money is an incentive but not THE incentive for taking a job and going to college. An enthusiastic discussion ensued about the meanings of respect and why people work and get an education. The discussion continued until the end of the class. A strong level of trust was needed for students and teachers to honestly express their ideas and engage in this type of conversation.

At the end of the senior portfolios, the teachers asked the seniors about ways they could improve the school. In one portfolio, a student responded that he was concerned that a teacher, newly hired that year, did not understand how the school operated and was struggling. Thanking the student for his comments, the teachers admitted that the new teacher was experiencing a host of problems. The ability of the student to professionally voice his concern and the teachers take it seriously demonstrates that open and honest dialogue between student and teachers involves negotiating tough critique.

Sustainability

Both study schools achieved great success in fostering a sense of community by pursuing a policy of inclusive responsibility, implementing a curriculum that students valued, and providing students the chance to express themselves in their work. Maintaining these successes over time, however, is difficult since schools acquire a new class of students each year. As a result, the schools were constantly working to foster a sense of community among its new students. This challenge was highlighted by the poor performance of one of Mandela's classes. During the fieldwork, the senior and sophomore classes of Mandela performed well and grew into supportive communities. Mandela's staff, however, constantly struggled with the behavior of their juniors, a number of juniors returned to the large school for their senior year or dropped out of school. A staff member also noted that many of the activities that worked and engaged the seniors did not engage the junior class. Responding to this type of problem, the schools tried to support and maintain a sense of community in their schools by establishing traditions and institutionalizing their community-building efforts.

After the two schools were operating for a few years, traditions began to emerge that were designed to foster a sense of community among the students. The traditions were of two kinds, stable and shifting. Stable traditions involved established activities that remained the same, regardless of the class. For instance, an important tradition in Mandela was that all seniors and increasingly juniors who were satisfactory progressing academically were assisted in securing a job. This tradition was important to students not simply because of its monetary value, but because it recognized and rewarded students for their history of achievement in the school. Portfolio examinations also served as a regular

school tradition and a method for summarizing a year of student work. Other traditions in Mandela included participation in a community service project and going ice skating.

Stable traditions foster a sense of connection among and across classes because students are exposed to the same common experiences. Moreover, stable traditions create expectations among students, such as getting a job their senior year, that both mark and reward their school progress.

Shifting traditions include class activities or projects in which the content shifts from year to year. These traditions help each class establish a unique identity. For instance, one of Mandela's classes created and performed an educational show for junior high students during African-American history month. The design and performance of this show helped the junior class form its own unique identity. Although establishing stable traditions is important, shifting traditions are also important to respond to the unique identities of each class. Future research may want to examine if working with students to select a single project each year may help facilitate a sense of community among students.

In addition to traditions, the schools worked to institutionalize practices that fostered and maintained a sense of school community. In Menchu, the teachers integrated group-learning techniques into their curriculum in order to increase students' ability to work with each other. In addition, Menchu grouped students of different ages together with the hope that older students would mentor and engage younger students. In Mandela, a teacher took on the role of designated disciplinarian because she consistently showed an ability to address, punish, and resolve student misbehavior. Also, Mandela had an advisory period that was used to discuss and address student and school issues.

Although both schools were partially successful in integrating key elements of their community building efforts into their schools, these institutional efforts felt fragmented. A good understanding of what type of organizational structures beyond smaller school size that help support a sense of community appears lacking and is an important topic for future research.

Institutional efforts were also severely limited by time and resources. Much of the time teachers spent providing extra assistance to students or disciplining students went uncompensated. This is worrisome because the success of the school seemed to rely on exceptional effort and this, in turn, made the schools fragile. Indeed, after the study ended, Mandela lost two of its faculty to new schools that were viewed as more supportive of their efforts. Also, the teachers' efforts with struggling students were limited to school efforts and establishing broader community links may assist schools connect or better assist some of its youth.

In the quantitative section, the finding that high levels of school responsibility relate to improvements in school safety and decreases in fighting may be misinterpreted to suggest that school safety can be changed simply by changing teachers' attitudes. The struggles of teachers in the two schools to institutionalize their efforts to built a sense of community and address student problems indicates the need to consider institutional reforms that support a sense of school responsibility.

Conclusion

The qualitative and quantitative analyses documented that a school's climate influences how safe students feel in the school. While pointing out important revisions in contemporary research linking school climate and safety, the fieldwork more broadly

highlighted the need to shift from studying the environment of safe schools to understanding how schools create a safe school environment by fostering a sense of community among its students. The theory of “focused community” presented in this section is designed to stimulate discussion and highlight directions for new research.

APPENDICES

Appendix 1: 1997 HLM Analysis Predicting the Percent of Eighth Graders Who Reported Feeling Unsafe in School Classrooms

Predictor Variables	Base Variance Model	Community Context			School Climate		Behavioral Mediators			
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	
School Level (Level 2)										
Intercept	-2.27#	-2.32 #	-2.32 #	-2.39 #	-2.51 #	-2.51 #	-2.52 #	-2.54 #	-2.55 #	
Average Social Status		-.13 #	-.11 *	-.06	-.07	-.09	-.07	-.09	-.09	
Magnet School		-.19	-.25	-.08	-.19	-.20	-.17	-.20	-.09	
Small School		-.47 *	-.41 *	-.35 ^	-.27	-.20	-.22	-.20	-.17	
Large School		.09	.07	.01	.03	.03	.02	.04	.06	
Predominantly Latino		-.25 ^	-.03	-.08	-.10	-.15	-.22	-.15	-.01	
Multiple Minority		-.24 ^	-.14	-.26 *	-.25 *	-.25 *	-.24 *	-.26 *	-.18	
Racially Diverse		-.27	-.00	-.14	-.12	-.12	-.13	-.12	-.03	
Racially Integrated		-.50 #	-.09	-.16	-.14	-.11	-.13	-.12	-.02	
Community Violence			.24 #	.10	.12	.10	.11	.10	.10	
Average Human Resources				-.23 #	-.18 #	-.16 #	-.14 *	-.15 *	-.13 #	
School Student-Teacher Trust					-.10 *	-.11 *	-.11 *	-.10 *	-.07	
School Academic Press					.03	.06	.07	.06	.06	
School Responsibility						-.11 #	-.11 *	-.11 *	-.09 *	
Peer Relationship							--	--	-.11 ^	
Social Competence							-.03	--	--	
Square Social Competence							.06 #	--	--	
Teacher Response							--	.01	--	
Student Level (Level 1)										
Male		.15 #	.15 #	.13 #	-.01	-.01	-.05	-.03	.00	
Social Status		-.02	-.03	-.01	-.02	-.02	-.02	-.02	-.02	
Reduced Price Lunch		.03	.02	-.02	.05	.05	.06	.04	.05	
Free Lunch		.06	.04	.04	.10	.11	.11	.11	.11	
Old for Grade		.14 *	.14 *	.13 ^	.08	.08	.09	.09	.09	
White		-.16	-.12	-.13	-.17	-.16	-.16	-.17	-.16	
Asian		.18	.17	.18	.20	.22	.20	.22	.29	
Latino/a		-.23 *	-.23 *	-.22 *	-.27 *	-.26 *	-.26 *	-.25 *	-.22 ^	
Special Education		.45 #	.46 #	.46 #	.40 #	.40 #	.37 #	.39 #	.40 #	
New to System		.37 #	.36 #	.31 #	.31 #	.31 #	.31 #	.30 #	.29 *	

Appendix 1: 1997 HLM Analysis Predicting the Percent of Eighth Graders Who Reported Feeling Unsafe in School Classrooms (Continued)

Predictor Variables	Base Variance Model	Community Context			School Climate		Behavioral Mediators		
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Changed CPS School		.18 *	.19 *	.16 *	.10	.10	.07	.09	.09
Retained in Grade		-.08	-.08	-.07	-.14	-.15	-.17	-.14	-.16
Community Violence			-.04	-.08 ^	-.02	-.02	-.02	-.03	-.02
Square Community Violence			-.06	-.05 ^	-.04	-.04	-.03	-.04	-.04
Human Resources				-.41 #	-.23 #	-.23 #	-.20 #	-.20 #	-.17 #
Academic Press					-.28 #	-.28 #	-.27 #	-.26 #	-.28 #
Square Academic Press					.14 #	.14 #	.13 #	.13 #	.13 #
Student-Teacher Trust					-.40 #	-.40 #	-.36 #	-.34 #	-.37 #
Square Student-Teacher Trust					.08 #	.08 #	.07 #	.08 #	.07 #
Parental Academic Support					-.19 #	-.19 #	-.16 #	-.16 #	-.20 #
Square Parental Support					.05 #	.05 #	.05 #	.05 #	.05 #
Interaction Academic Press and Trust					-.08 *	-.08 *	-.07 ^	-.08 *	-.07 *
Peer Relationships							--	--	-.30 #
Social Competence							-.18 #	--	--
Square Social Competence							.09 #	--	--
Teacher Response to Student Conflict							--	-.28 #	--
Missing Data Dummy Codes									
<i>Level 2</i>									
School Responsibility						-.13	-.07	-.13	-.09
<i>Level 1</i>									
Miss Demographics		.85 #	1.57 #	1.41 #	1.02	.99	1.01	1.13	.96
Miss Just Context		.36 *	1.01 #	.99 *	.80 ^	.79 ^	.80 ^	.84 ^	.73 ^
Missing Measure of Community Violence			-.76	-.80	-.65	-.63	-.62	-.67	-.56
Missing Human Resources				.30 #	-.01	-.01	-.04	-.04	-.02

Appendix 1: 1997 HLM Analysis Predicting the Percent of Eighth Graders Who Reported Feeling Unsafe in School Classrooms (Continued)

Predictor Variables	Base Variance Model	Community Context			School Climate		Behavioral Mediators		
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Missing Academic Press					.25 *	.26 *	.24 *	.23 *	.10
Missing Student-Teacher Trust					-.02	-.02	.04	-.00	-.03
Missing Parental Support					.56 #	.56 #	.50 #	.51 #	.54 #
Missing Social Competence							-.07	--	--
Missing Peer Relationship								--	.24
Missing Teacher Response to Conflict								.41*	--
Variance at the School Level	.283	.185	.175	.133	.098	.095	.084	.096	.092

^ p < .10

* p < .05

p < .01

Appendix 2: 1997 HLM Analysis Predicting the Percent of Eighth Graders Who Felt Unsafe in School Hallways/Bathrooms

Predictor Variables	Base Variance Model	Community Context			School Climate		Mediators			
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	
School Level (Level 2)										
Intercept	-1.62#	-1.65 #	-1.65 #	-1.68 #	-1.72 #	-1.72 #	-1.72 #	-1.73 #	-1.74 #	
Average Social Status		-.08 ^	-.07	-.01	-.00	-.02	-.01	-.02	-.02	
Magnet School		-.35 #	-.40 #	-.24 *	-.28 *	-.26 *	-.19	-.26 *	-.17	
Small School		-.40 #	-.33 *	-.28 *	-.22 ^	-.17	-.15	-.16	-.14	
Large School		.14 *	.13 ^	.08	.09	.09	.09	.08	.11 ^	
Predominantly Latino		-.41 #	-.15	-.19	-.21	-.23	-.27 ^	-.23	-.08	
Multiple Minority		-.19 ^	-.08	-.18	-.16	-.14	-.14	-.14	-.06	
Racially Diverse		-.46 #	-.16	-.27 ^	-.27 ^	-.25 ^	-.27 ^	-.26 ^	-.16	
Racially Integrated		-.62 #	-.18	-.23	-.25	-.19	-.21	-.19	-.05	
Community Violence			.23 #	.10	.11	.11	.13 ^	.11	.11	
Average Human Resources				-.23 #	-.20 #	-.18 #	-.15 #	-.18 #	-.15 #	
School Academic Press					-.01	.02	.03	.01	.02	
School Student-Teacher Trust					-.02	-.03	-.03	-.02	.00	
School Responsibility						-.11 #	-.11 #	-.10 #	-.09 *	
Square School Responsibility						-.04 *	-.04 ^	-.05 *	-.04 ^	
Peer Relationship							--	--	-.12 *	
Social Competence							-.07 ^	--	--	
Student Level (Level 1)										
Male		.01	.01	-.01	-.10 *	-.09 *	-.12 *	-.11 *	-.09 *	
Social Status		-.01	-.01	-.003	-.00	-.00	-.01	-.01	-.01	
Reduced Price Lunch		.02	.01	-.02	.02	.03	.03	.02	.02	
Free Lunch		.17 #	.15 #	.14 #	.18	.18 #	.18 #	.19 #	.18 #	
Old for Grade		.16 #	.16 #	.16 #	.11 *	.11 *	.12 *	.12 ^	.13 *	
White		-.12	-.06	-.06	-.09	-.08	-.05	-.09	-.08	
Asian		.29 *	.31 *	.32 *	.33 *	.35 *	.34 #	.35 #	.40 #	
Latino/a		-.04	-.01	-.01	-.04	-.04	-.04	-.03	-.01	
Special Education		.32 #	.33 #	.32 #	.27 #	.28 #	.26 #	.27 #	.27 #	
New to System		.39 #	.38 #	.35 #	.35 #	.36 #	.35 #	.34 #	.33 #	
Changed CPS School		.16 *	.17 *	.14 *	.10	.10	.09	.10	.09	

Appendix 2: 1997 HLM Analysis Predicting the Percent of Eighth Graders Who Felt Unsafe in School Hallways/Bathrooms (Continued)

Predictor Variables	Base Variance Model	Community Context			School Climate		Mediators		
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Retained in Grade		.21 ^	.21 ^	.23 ^	.18	.18	.17	.18	.17
Community Violence			-.00	-.03	.00	.00	.01	-.00	.01
Square Community Violence			-.05 *	-.04 *	-.03	-.03	-.02	-.03	-.02
Human Resources				-.25 #	-.14 #	-.14 #	-.12 #	-.13 *	-.09 #
Square Human Resources				.04 #	.04 #	.04 #	.04 #	.04 *	.03 #
Academic Press					-.27 #	-.27 #	-.26 #	-.25 #	-.26 #
Square Academic Press					.09 #	.09 #	.09 #	.09 #	.09 #
Student-Teacher Trust					-.22 #	-.22 #	-.19 #	-.17 #	-.19 #
Square Student-Teacher Trust					.06 #	.06 #	.06 #	.06 #	.06 #
Parental Academic Support					-.07 #	-.07 #	-.05 *	-.05 #	-.08 #
Interaction Academic Press and Trust					-.06 #	-.06 #	-.06 *	-.06 *	-.06 #
Peer Relationships							--	--	-.24 #
Social Competence							-.13 #	--	--
Square Social Competence							.07 #	--	--
Teacher Response to Conflict							--	-.23 #	--
Missing Data Dummy Codes									
<i>Level 2</i>									
School Responsibility						.28	.32	.33 ^	.33 ^
<i>Level 1</i>									
Miss Demographics		1.24 #	1.22 *	1.09 *	.19	.16	.25	.27	.17
Miss Just Context		.12	.07	-.01	-.06	-.08	-.07	-.06	-.10
Missing Measure of Community Violence			-.00	.05	.05	.08	.10	.08	.10
Missing Human Resources				.16 *	-.12	-.12	-.15	-.16 ^	-.13
Missing Academic Press					.17	.17	.17	.16	.22
Missing Student-Teacher Trust					.71 *	.70 *	.85 #	.73 *	.71 *
Missing Parental Support					.53 #	.53 #	.56 #	.47 #	.51 #
Missing Social Competence							-.21	--	--
Missing Peer Relationship							--	--	-.01

Appendix 2: 1997 HLM Analysis Predicting the Percent of Eighth Graders Who Felt Unsafe in School Hallways/Bathrooms (Continued)

Predictor Variables	Base Variance Model	Community Context			School Climate		Mediators			
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	
Missing Teacher Response to Student Conflict								--	.40	--
Variance at the School Level	.287	.151	.141	.108	.117	.110	.105	.112	.105	

^ p < .10

* p < .05

p < .01

Appendix 3: 1997 HLM Predicting the Percent of Eighth Graders Who Were Involved in at Least One Fight at School in the Past Year

Predictor Variables	Base Variance Model	Community Context			School Climate		Behavioral Mediators			
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	
School Level (Level 2)										
Intercept	-1.08#	-1.18 #	-1.18 #	-1.19 #	-1.20 #	-1.20 #	-1.21 #	-1.20 #	-1.20 #	
Average Social Status		-.04	-.02	-.01	.00	-.01	-.00	-.01	-.01	
Magnet School		-.15	-.17 ^	-.12	-.12	-.12	-.09	-.11	-.05	
Small School		-.34 #	-.29 *	-.26 *	-.21 ^	-.17	-.17	-.16	-.15	
Large School		.01	.01	-.00	.01	.01	.01	.01	.02	
Predominantly Latino		-.11	.05	.01	-.01	-.04	-.06	-.04	.09	
Multiple Minority		-.05	.03	-.02	.01	.01	.01	.01	.08	
Racially Diverse		-.05	.12	.06	.07	.07	.06	.07	.16	
Racially Integrated		-.05	.18	.16	.15	.16	.15	.15	.29 *	
Community Violence			.11 ^	.09	.10 ^	.09	.09	.11 ^	.10 ^	
Average Human Resources				-.06 ^	-.02	-.01	.01	.01	.02	
School Student-Teacher Trust					.06 ^	.06 ^	.05	.09 *	.09 *	
School Academic Press					-.04	-.03	-.03	-.03	-.02	
School Responsibility						-.06 *	-.06 *	-.06 *	-.05 ^	
School Social Competence							-.02	--	--	
School Peer Relationship								--	-.11 *	
School Teacher Response to Student Conflict								-.06 *	--	
Human Resources (Level 2)										
Intercept				-.17 #	-.09 #	-.09 #	-.05 *	-.08 #	-.07 #	
Average Social Status				-.01	-.01	-.01	-.01	-.01	-.01	
Magnet School				.16 #	.15 ^	.14 *	.13 ^	.15 ^	.13 ^	
Small School				.11	.09	.08	.06	.08	.07	
Large School				-.01	-.01	-.01	-.01	-.00	-.01	
Predominantly Latino				-.32 #	-.35 #	-.33 #	-.34 #	-.33 #	-.40 #	
Multiple Minority				-.21 #	-.22 #	-.21 #	-.23 #	-.22 #	-.25 #	
Racially Diverse				-.27 #	-.27 #	-.26 #	-.30 #	-.27 #	-.32 #	
Racially Integrated				-.14	-.16	-.15	-.18 *	-.15 *	-.21 *	
Community Violence				.02	.00	.03	.02	.02	.01	

Appendix 3: 1997 HLM Predicting the Percent of Eighth Graders Who Were Involved in at Least One Fight at School in the Past Year (Continued)

Predictor Variables	Base Variance Model	Community Context			School Climate		Behavioral Mediators		
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Average Human Resources				-.03	-.02	-.02	-.02	-.02	-.03
School Student-Teacher Trust					-.02	-.02	-.02	-.01	-.03
School Academic Press					-.00	-.00	-.01	-.01	-.01
School Responsibility						.02	.02	.02	.01
School Competence							.01	--	--
School Peer Relationship							--	--	.05
School Teacher Response to Student Conflict							--	-.01	--
Student Level (Level 1)									
Male		.96 #	.96 #	.95 #	.90 #	.90 #	.86 #	.90 #	.91 #
Social Status		-.01	-.00	.00	-.00	-.00	-.0	.00	-.01
Reduced Price Lunch		-.09	-.09	-.10	-.08	-.08	-.07	-.07	-.08
Free Lunch		.04	.03	.02	.04	.04	.04	.05	.05
Old for Grade		.20 #	.20 #	.19 #	.17 #	.17 #	.17 #	.17 *	.17 #
White		-.39 #	-.33 #	-.31 #	-.33 #	-.32 #	-.34 #	-.33 #	-.30 #
Asian		-.92 #	-.88 #	-.85 #	-.85 #	-.84 #	-.86 #	-.83 #	-.80 #
Latino/a		-.55 #	-.50 #	-.48 #	-.52 #	-.51 #	-.54 #	-.51 #	-.48 #
Special Education		.51 #	.52 #	.51 #	.49 #	.49 #	.47 #	.49 #	.49 #
New to System		-.19 *	-.18 *	-.21 *	-.23 *	-.23 *	-.24 *	-.23 #	-.25 *
Changed CPS School		-.17 *	-.17 *	-.19 #	-.21 #	-.21 #	-.22 #	-.21 #	-.21 #
Retained in Grade		.08	.07	.07	.05	.05	.03	.05	.04
Community Violence			.05	.03	.05	.05	.05	.05	.05
Academic Press					-.17 #	-.17 #	-.14 #	-.16 #	-.17 #
Square Academic Press					.03 *	.03 #	.03 *	.02 ^	.03 *
Student-Teacher Trust					-.20 #	-.20 #	-.18 #	-.18 #	-.19 #
Square Student-Teacher Trust					.03 *	.03 #	.04 *	.03 *	.03 *
Parent Support					-.02	-.01	--	--	--
Peer Relationships							--	--	-.12 #

Appendix 3: 1997 HLM Predicting the Percent of Eighth Graders Who Were Involved in at Least One Fight at School in the Past Year (Continued)

Predictor Variables	Base Variance Model	Community Context			School Climate		Behavioral Mediators		
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Social Competence							-.24 #	--	--
Square Social Competence							.05 #	--	--
Teacher Responses to Student Conflicts							--	-.09 #	--
Missing Data Dummy Codes									
<i>Level 2</i>									
School Responsibility on Intercept						-.03	-.02	-.02	-.00
School Responsibility on Slope of Social Resources						.19	.17	.19	.18
<i>Level 1</i>									
Miss Demographics		.17	-.30	-.50	-.58	-.60	-.39	-.34	-.31
Miss Just Context		.23	-.24	-.26	-.22	-.24	-.26	-.25	-.25
Missing Measure of Community Violence			.49	.47	.40	.40	.43	.42	.41
Missing Human Resources				.30 #	.10	.10	.15 ^	.19 *	.18 *
Missing Academic Press					.23 #	.23 #	.24 #	.24 #	.18
Missing Student-Teacher Trust					-.43	-.43	-.46	-.23	-.25
Missing Parent Support					.61 #	.61 #	--	--	--
Missing Social Competence							.33	--	--
Missing Peer Relationship								--	.09
Missing Teacher Response to Conflict								-.06	--
School Level Intercept Variance	.150	.098	.095	.094	.089	.087	.088	.086	.082
School Level Variance in the Relationship between Human Resources and Fighting				.021	.021	.022	.021	.023	.024

^ p < .10

* p < .05

p < .01

Appendix 4: School-Level HMLM Analysis Predicting Changes in Eighth Graders Reports about Classroom Insecurity between 1997 and 1999

Predictor Variables	Base Variance Model	Community Context			School Climate		Behavioral Mediators		
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	-.00	.33 #	.37 #	.40 #	.41 #	.39 #	.41 #	.39 #	.25 #
Classroom Safety in 1997	.29 #	.18 #	.19 #	.16 *	.10	.08	.07	.08	.07
Small School		-.28	-.29	-.27	-.16	-.05	-.11	-.06	-.03
Large School		.07	.05	-.01	-.01	.01	.02	.01	.01
Magnet School		-.37	-.37	-.27	-.28	-.25	-.20	-.25	-.19
Predominantly Latino		-.73 #	-.78 #	-.89 #	-.80 #	-.80 #	-.84 #	-.80 #	-.55 *
Multiple Minority		-.39 *	-.41 *	-.49 *	-.46 *	-.44 *	-.46 *	-.45 *	-.28
Racially Diverse		-.64 #	-.70 #	-.76 #	-.77 #	-.79 #	-.81 #	-.79 #	-.58 *
Racially Integrated		-.43 *	-.50 ^	-.47	-.55 ^	-.56 *	-.59 *	-.55 *	-.32
School Stability 1997		.03	.02	.09	.07	.10	.11	.11	.11
Change in Stability 1997 to 1999		.06	.07	.08	.08	.08	.08	.08	.08
Community Violence in 1997			-.03	-.13	-.08	-.10	-.09	-.10	-.10
Change Violence 1997 to 1999			.09	.07	.06	.05	.04	.05	.04
Average Social Status		-.04	-.04	.01	-.00	-.01	-.01	-.01	-.02
Change in Social Status 1997 to 1999		.05	.05	.07	.04	.04	.04	.04	.03
Average Human Resources (HR) in 1997				-.25 *	-.17 ^	-.15	-.15	-.16 ^	-.11
Change in HR 1997 to 1999				-.10	-.03	-.04	-.08	-.03	-.03
Student Trust/Academic Press (STAP) 1997					-.31 #	-.29 #	-.31 #	-.31 #	-.24 #
Change in STAP 1997 to 1999					-.28 #	-.27 #	-.30 #	-.27 #	-.24 #
School Responsibility in 1997						-.17 *	-.17 *	-.17 *	-.13
Change in School Responsibility from 1997 to 1999						-.13 ^	-.12 ^	-.13 ^	-.09
Peer Relationship in 1997							--	--	-.22 ^
Change Peer Relationship 1997 to 1999							--	--	-.08
Social Competence in 1997							.04	--	--
Change in Social Competence from 1997 to 1999							.12	--	--
Teacher Response in 1997							--	.03	--
Variance	.913	.824	.816	.793	.733	.720	.713	.720	.709

^ p < .10

* p < .05

p < .01

Appendix 5: School-Level HMLM Analysis Predicting Changes in Eighth Graders' Reports about Hallway/Bathroom Insecurity between 1997 and 1999

Predictor Variables	Base Variance Model	Community Context			School Climate		Behavioral Mediators		
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	-.01	.44 #	.36 #	.39 #	.40 #	.37 #	.37 #	.37 #	.30 #
Hall & Bathroom Safety in 1997	.49 #	.32 #	.31 #	.28 #	.25 #	.22 #	.22 #	.22 #	.22 #
Small School		-.34 ^	-.31 ^	-.31 *	-.24	-.08	-.09	-.08	-.06
Large School		.01	.02	-.03	-.03	.00	.00	.00	.00
Magnet School		-.54 *	-.59 #	-.49 *	-.51 *	-.45 *	-.46 *	-.45 *	-.42 *
Predominantly Latino		-.86 #	-.75 #	-.75 #	-.77 #	-.74 #	-.74 #	-.74 #	-.62 *
Multiple Minority		-.55 #	-.48 #	-.56 #	-.54 #	-.51 #	-.51 #	-.51 #	-.44 *
Racially Diverse		-.68 #	-.54 *	-.61 #	-.62 #	-.64 #	-.64 #	-.64 #	-.54 *
Racially Integrated		-.54 #	-.37	-.33	-.40	-.43 ^	-.43 ^	-.43 ^	-.29
School Stability 1997		.02	.04	.11	.10	.14 ^	.14 ^	.14 ^	.14
Change in Stability 1997 to 1999		.03	.04	.04	.04	.04	.04	.04	.04
Community Violence in 1997			.09	-.00	.03	-.00	-.00	.00	.00
Change Violence 1997 to 1999			-.00	-.02	-.02	-.06	-.06	-.05	-.06
Average Social Status		-.07	-.06	.00	-.01	-.02	-.02	-.02	-.02
Change in Social Status 1997 to 1999		.03	.03	.05	.03	.02	.02	.02	.02
Average Human Resources (HR) in 1997				-.26 #	-.20 #	-.17 *	-.17 ^	-.17 ^	-.15 ^
Change in HR 1997 to 1999				-.13 *	-.09	-.10 ^	-.11 ^	-.11 ^	-.10 ^
Student Trust/Academic Press (STAP) 1997					-.22 #	-.20 #	-.20 *	-.19 #	-.17 *
Change in STAP 1997 to 1999					-.18 #	-.17 #	-.17 *	-.16 *	-.13 ^
School Responsibility in 1997						-.26 #	-.24 #	-.26 #	-.25 #
Change in School Responsibility from 1997 to 1999						-.24 #	-.22 #	-.24 #	-.22 #
Peer Relationship in 1997							--	--	-.10
Change Peer Relationship from 1997 to 1999							--	--	-.07
Social Competence in 1997							.01	--	--
Change in Social Competence from 1997 to 1999							.02	--	--
Teacher Response in 1997							--	-.01	--
Variance	.762	.640	.639	.610	.580	.543	.543	.543	

^ p < .10

* p < .05

p < .01

Appendix 6: School-Level HMLM Analyses Predicting Changes in Eighth Graders' Involvement in a Fight at School between 1997 and 1999

Predictor Variables	Base Variance Model	Community Context			School Climate		Behavioral Mediators		
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	-.01	.59 #	.43 #	.43 #	.44 #	.42 #	.42 #	.42 #	.28 #
Fights in 1997	.35 #	.09	.08	.07	.07	.05	.05	.05	.05
Small School		-.34 ^	-.30	-.30	-.25	-.09	-.03	-.09	.04
Large School		-.09	-.10	-.12	-.12	-.10	-.06	-.09	-.11
Magnet School		-.42 ^	-.51 *	-.46 *	-.47 *	-.45 *	-.35 ^	-.44 *	-.38 ^
Predominantly Latino		-1.30 #	-1.06 #	-1.05 #	-1.05 #	-1.09 #	-1.22 #	-1.09 #	-.86 #
Multiple Minority		-.47 #	-.32 ^	-.36 *	-.34 *	-.33 *	-.39 ^	-.33 *	-.21
Racially Diverse		-.78 #	-.48 *	-.50 *	-.49 *	-.52 *	-.57 ^	-.52 *	-.31
Racially Integrated		-.88 #	-.58 *	-.44 ^	-.48 ^	-.48 ^	-.51 *	-.48 ^	-.19
School Stability 1997		-.05	-.01	.03	.03	.07	.09	.07	.07
Change in Stability 1997 to 1999		-.05	-.04	-.04	-.04	-.03	-.01	-.03	-.03
Community Violence in 1997			.22 *	.16	.19 ^	.16	.21 ^	.16	.17
Change Violence 1997 to 1999			.03	.02	.02	.01	.00	.01	-.01
Average Social Status		-.05	-.03	.01	-.00	-.02	.01	-.02	-.02
Change in Social Status 1997 to 1999		.08	.09	.10 ^	.08	.08	.09	.08	.07
Average Human Resources (HR) in 1997				-.14	-.09	-.06	.04	-.06	-.03
Change in HR 1997 to 1999				-.10 ^	-.07	-.09	-.09	-.09	-.07
Student Trust/Academic Press (STAP) in 1997					-.15 *	-.12 ^	-.04	-.12	-.07
Change in STAP 1997 to 1999					-.14 *	-.12 ^	-.08	-.12 ^	-.03
School Responsibility in 1997						-.23 #	-.25 #	-.23 #	-.21 #
Change in School Responsibility from 1997 to 1999						-.11 ^	-.14 *	-.11 ^	-.09
Peer Relationship in 1997							--	--	-.18 ^
Change Peer Relationship from 1997 to 1999							--	--	-.20 #
Social Competence in 1997							-.24 #	--	--
Change in Social Competence from 1997 to 1999							.03	--	--

Appendix 6: School-Level HMLM Analysis Predicting Changes in Eighth Graders' Involvement in a Fight at School between 1997 and 1999 (Continued)

Predictor Variables	Base Variance Model	Community Context			School Climate		Behavioral Mediators			
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	
Teacher Response in 1997								--	-.00	--
Variance	.872	.642	.632	.621	.605	.584	.564	.584	.560	

^ p < .10

* p < .05

p < .01

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