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**BUILDING A CULTURE AND CLIMATE  
OF SAFETY IN PUBLIC SCHOOLS  
IN PHILADELPHIA:  
SCHOOL-BASED MANAGEMENT  
AND VIOLENCE REDUCTION**

*FINAL REPORT*

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## INTRODUCTION

Throughout the United States, safety in and around public schools has gained increased public attention. According to the Annual Phi Delta Kappa Gallup Poll (Elam and Rose, 1995), the American public ranked lack of discipline as the number one problem facing public schools today. Fighting, violence, and gangs in school tied for first place in the list of school problems in 1994, and ranked third in 1995. Daily newspaper accounts portray schools as "violent places." Serious aggravated assault, shootings and stabbings in and around America's public schools have fueled a national debate about school safety. Weapons, metal detectors, paid security personnel, and student locker sweeps are now commonplace in public schools. A National School Boards Association survey of 720 school districts throughout the United States found that 39 percent of urban school districts use metal detectors, 64 percent use locker searches, and 65 percent use security personnel in their schools (National School Boards Association, 1993).

Studies of effective schools have consistently shown that a safe and orderly environment is necessary before learning can occur in schools (Purkey and Smith, 1983). According to the National Education Longitudinal Study (NELS:88), 40 percent of the 25,000 eighth graders surveyed reported that class disruptions by other students often got in the way of their learning (Lane, 1990). In another survey conducted by the U. S. Department of Education, 44 percent of teachers nationwide reported that student misbehavior interfered substantially with their teaching (Office of Educational Research and Improvement, 1991). Recognizing the importance of safe, disciplined schools, Congress passed the Safe School Act of 1994 which provides funding and technical assistance to school districts in order to develop school safety plans.

The problem of school violence is not confined to cities. In the 1993 National School Boards Association survey, 82 percent of the school districts — urban, suburban and rural — reported that the problem of school violence is worse now than it was five years ago. Overall, 35 percent believed that school violence had increased significantly, and that the incidents were more serious (National School Boards Association, 1993).

Clearly, the issue that captures the public attention most is the concern about students carrying weapons to school. According to data from the Center for Disease Control (1993), 2.5 million teenagers in the United States carry weapons and often take them to school. It has been estimated that every day 135,000 students bring guns to school (Center for Disease Control, 1993). Goal Seven of the National Educational Goals states "By the year 2000, every school in the United States will be free of drugs, violence, and the unauthorized presence of firearms and alcohol, and will offer a disciplined environment conducive to learning."

Student and teacher victimization and fear of crime have drastically altered the atmosphere of the teaching environment. In 1995, the National Education Goals report stated that, according to students, "substantial numbers of 8th, 10th and 12th graders were victims of violent acts, theft, and victimizations at school" (National

Education Goals, 1995). A survey conducted by the National School Safety Center found that 800,000 students stay home from school one day a month because of fear (Landes, 1992).

Today, school curricula contain courses on "mediating interpersonal conflict" along with the more traditional educational subjects. Of the 720 school districts that responded to the 1993 survey, 82 percent of urban schools, 63 percent of suburban schools, and 49 percent of rural school districts reported having some type of conflict resolution and/or peer mediation program implemented in their schools (National School Boards Association, 1993).

In many respects, increases in school-based violence are an extension of the recent rise in youth violence occurring throughout the United States. Weapons in schools are a reflection of their easy access in the community, their presence in many homes, and the widespread attitude in American society that violence is an effective way to solve many problems (Butterfield and Turner, 1989). In a 1993 survey of students from ten inner city high schools, almost half of the male students said they could "borrow" a gun from friends or family if they wanted to, and 40 percent of the students said they have a male relative who carries a gun (Sheley and Wright, 1993).

Violence involving youth as offenders and victims has intensified concern about crime and misbehavior in America's schools. The relationship between school and community-based violence is receiving greater attention, and schools are taking more proactive steps to improve school safety.

One avenue many school systems are pursuing to increase school safety is to understand and manage the internal school culture. The culture, or climate, of the school includes the unwritten beliefs, values and attitudes which become the style of interaction among students, teachers and administrators, and which in turn is influenced by parents and the wider community. The climate sets the parameters of acceptable behavior among all school actors and assigns individual and institutional responsibility for school safety. School climate also affects the implementation of school efforts to reduce violence and injury. Creating safe schools requires attention to the interpersonal and community contexts of schools.

Little systematic attention has been devoted to examining how safety and disorder within the school domain is affected by school climate. This research project examines the individual, socio-cultural, community and institutional dimensions of school disorder. Based on theories of school organizational behavior and delinquency, our research explores the interactive impact of multiple predictors and measures of school disorder at three levels of analysis (i.e., macro, intermediate, and micro) in the School District of Philadelphia, Pennsylvania.

## PREVIOUS RESEARCH ON SCHOOL SAFETY

In the early 1980s, many recognized that America's schools were in trouble. Much of this attention focused on the ability of public schools to provide what were thought to be basic educational services. The President's Commission for a National Agenda for the Eighties summarized this perspective by stating:

"...continuing failure by the (public) schools to perform their traditional role adequately, together with a failure to respond to the emerging needs of the 1980s, may have disastrous consequences for the nation" (1981:6).

This sentiment was echoed by the Twentieth Century Fund's Task Force on Federal Elementary and Secondary Educational Policy:

"The nation's public schools are in trouble. By almost every measure — the commitment and competency of teachers, student test scores, truancy and dropout rates, crimes of violence — the performance of our schools falls far short of expectations" (1983:2).

While the Task Force identified crimes of violence as being a serious problem in their opening critique of America's schools in 1983, they did not address safety problems in the remainder of their report. Simply put, the American educational critique was focused on the process and content of educational delivery, but not on the individual, interpersonal, community and institutional contexts which affect educational services. School safety issues remained on the backstage of school policy-making that more often discussed reforms such as competency-based education, teacher qualifications, and school voucher systems. In some sense, school safety was assumed. Today it is not.

Since the mid-1980s, youth crime, both within and outside of schools, has risen sharply. For example, in a continuing analysis of the National Crime Survey, Wetzel (1989) suggested that,

"although the school-aged population has declined markedly since 1982, the number of violent crimes in and around schools has remained high, ranging from a low of about 420,000 in 1986 and 1982 to a high of almost 455,000 in 1987."

Aggravated and simple assaults accounted for 150,000 of these incidents, or approximately one-third of school based crime incidents. Whitaker and Bastian (1993) reported that thirty-seven percent of all violent crimes experienced by youth, ages 12-15, occurred on school grounds. Increased reports of school and community based violence have shaped the image of schools, not as "safe havens" but as "dangerous places." This is especially the case in large, urban cities where neighborhoods are plagued by crime and violence, and where weapons are more prevalent.

### *The Safe School Study*

One of the major benchmarks of research relating school violence to school climate was the National Institute of Education's (NIE) Safe School Study (1978). Using questionnaires, data was collected from students, teachers and principals from 642 schools. Community data from each school was prepared from the 1970 Census. The National Institute of Education report clearly suggested that school administration and policies make a significant difference in the levels of disorder and perceptions of safety. The report concluded that certain policies reduce misbehavior:

- ◆ decreasing the size and impersonality of schools;
- ◆ making school discipline more systematic;
- ◆ decreasing arbitrariness and student frustration;
- ◆ improving school reward structures;
- ◆ increasing the relevance of schooling; and
- ◆ decreasing student's sense of powerlessness and alienation (Gottfredson and Gottfredson, 1985).

While the Safe School Study provides researchers and policy makers with the best source of information available about school violence and school climate, the study had significant limitations. Gottfredson and Gottfredson noted, for example, that "most of the analyses are cross-tabulations of personal or school characteristics with victimization status" (1985:9). Such analyses, however, do not fully explain the multivariate nature of school violence problems, nor do they address the multiple levels (e.g., individual, school, community) of analysis necessary to understand the dynamics of school disruption and violence. Further, individual level analyses such as those reported in the Safe School Study do not fully address differences across schools. Other limitations noted by Gottfredson and Gottfredson (1985) include the following:

- ◆ tests of statistical significance were often omitted;
- ◆ a multivariate, theoretical focus was missing;
- ◆ measures of demographic and community characteristics were not explicitly considered in the analyses;
- ◆ little information was provided about the reliability or validity of the measures used;
- ◆ the causal ordering of many variables was ambiguous.

The limitations of the Safe School Study suggest the need for a more comparative, multivariate, multi-level approach to hypothesis formulation and data analysis.

Gottfredson and Gottfredson (1985), in a re-analysis of the Safe School Study, attempted to assess and relate aspects of school disorder to various factors internal and external to schools. Using Safe School Study data, which includes separate teacher, principal and student responses, they hypothesized that the following dimensions of "school climate" were related to disorder and violence:

- a. principal and teacher attitudes, styles and strategies for coping with delinquency;
- b. school governance practices: rules, sanctioning practices, clarity and enforcement of rules, control over decision making, parental involvement in the school, student involvement, equity; and
- c. social climate: academic competition, academic orientation, basic skills orientation, vocational orientation, sub-culture of delinquent opportunity, attachment, commitment, involvement, belief, internal control, racial attitudes.

They also assessed the following aspects of school organization and environment:

- d. community characteristics: social class, income, racial composition, urbanicity and community crime;
- e. school social compositional characteristics: grades included in the school, gender, racial composition, ability, family resources, social class origins of the students, and desegregation activities;
- f. school size, staffing and resources: total enrollment, student-teacher ratio, average classroom size, number of different students taught, teaching resources, teacher demographic and educational characteristics; and
- g. site hardening or security measures and opportunity to engage in delinquent activity: security devices, surveillance, and length of school day. (1985:24).

Schools with the worst discipline problems were schools where the rules were unclear, unfair, or inconsistently enforced; schools that used ambiguous or indirect responses to student behavior (e.g., lowered grades in response to misconduct); schools where teachers and administrators did not know the rules or disagreed on responses to student misconduct; schools that ignored misconduct; and schools where students did not believe in the legitimacy of the rules. Other major factors related to high levels of disorder included school size; inadequate resources for teaching; poor teacher-administration cooperation; inactive administrations; punitive attitudes on the part of teachers (Gottfredson, 1989); and academic tracking of students (Wiatrowski et al. 1981; Kelly and Pink, 1982; and Tygart, 1988).

### *Factors Affecting School Safety*

In recent years, national attention regarding public education has increasingly emphasized a "balance" of pedagogy and school safety. Moreover, researchers have broadened their inquiry to better understand the effects that community violence has on schools, and have begun to investigate the extent to which school and community factors contribute to, or inhibit, school violence.

A handful of comparative studies have examined schools with different social compositions and administrative practices to learn how school officials might control and reduce school disorder and violence. These include studies by Johnston (1973); McPartland and McDill (1977); the National Institute of Education's Safe School Study (1978); Rutter, Maughan, Mortimore and Ouston's (1979) study of twelve urban schools; Coleman, Hoffer and Kilgore's (1982) study of achievement in public and private schools; Lipsitz's (1984) and Bryk and Driscoll's (1988) studies on effective schools for adolescents. These studies make it increasingly clear that a variety of individual, socio-cultural, community and school factors contribute to school safety.

### *Individual Factors*

Some individuals have greater propensities to violence than others, and some "risk factors" increase the likelihood that certain individuals will be involved in school violence. In particular, some students have a "lower stake in conformity" than others, and are less susceptible to control or influence by many conventional social institutions, including the school (Hirschi, 1969). Students differ in their personalities and socialization experiences, and these individual differences are imported into the school environment (Gottfredson and Hirschi, 1990).

Students with the following characteristics are more likely to engage in violence, theft, or other forms of disorder: low academic competence; limited career and educational objectives; dislike of school; association with delinquent peers; and low levels of belief in conventional rules and goals (Gottfredson, 1989).

### *Socio-cultural Factors*

Social conditions can also encourage or inhibit the expression of violent impulses. In this regard, school violence must be considered in the wider context of community conditions and problems. Several major changes in social conditions have contributed to reduced control over students in public schools (Toby, 1983). First, schools have become larger and increasingly separated from students' families and neighborhoods (e.g., large, bureaucratic schools in inner cities, consolidated school districts, districts that bus students to reduce segregation). As schools grow in size, so do problems of control. Second, "rising expectations" have restrained the ability of schools to enforce compliance with school rules. There are pressures that keep students in school longer so they will "succeed." Informal pressures from parents and compulsory attendance laws may compel attendance against the wishes of the student (Toby, 1983). Third, the extension of civil rights to children through changes in laws and due process rights (e.g., hearings, charges, appeals, witnesses) has prevented schools from punishing students arbitrarily, but such reforms may also have made it more difficult to protect students. Fourth, "socio-cultural differentiation" in schools, often through targeted student selection processes, may concentrate more motivated students in certain schools (i.e., "magnet" schools), and more "troublesome" students in other schools (i.e., "disciplinary" schools).

### *Community Factors*

Public schools cannot be examined in isolation from their community contexts. School climate and community factors together influence school violence. Understanding the interplay between school and community factors, which includes individual assessments of school safety from within and outside the school, can contribute to improved policy making.

Early studies of school victimization touched on the interrelated influences that communities and schools have on school violence, disruption and crime. In 1975, a Senate Subcommittee on Juvenile Delinquency suggested that school vandalism and violence reflected community crime and violence characteristics as well as factors associated with the schools themselves (U. S. Senate Judiciary Committee, 1975). The Safe School Study (1978) confirmed that, in addition to several school characteristics, the level of crime and disorder in the community surrounding the school was a major contributor to school crime and violence. Areas of high crime and delinquency are likely to experience greater problems of control in schools. Moreover, schools in such communities are more likely to have a problem with intruders coming into the school and contributing to the crime problem (National Institute of Education, 1978; Rubel, 1978; and Toby, 1983). Other variables thought to be associated with victimization in school included the level of poverty and unemployment in the surrounding community (Gottfredson and Daiger, 1979).

In a more recent study of the relative contributions made by community and school characteristics to patterns of violence in urban schools, Hellman and Beaton (1986) found that, for a sample of Boston high schools, community characteristics predicted school violence problems more than school characteristics. In middle schools, however, characteristics of the school environment, such as student-teacher ratios, explained suspension rates better than did community characteristics. These researchers concluded that:

“middle school problems are a function of the school environment, not that of the community, or, that the school environment can overwhelm any disruptive influence of the community” (1986:122).

Simply getting to and from school safely can be a challenge. In central city schools, students were least afraid of attack when travelling by car, slightly more afraid when taking the bus, and most afraid when walking (Pearson and Toby, 1991). Safe, accessible transportation to and from school is a small, but crucial, factor in school safety.

In a 1995 Louis Harris poll, almost half of the 2,000 junior high school and high school students surveyed said they had changed their daily routine because of crime and violence. Thirty-six percent believed that crime was a serious problem in their communities, and 75 percent believed conditions were staying the same or getting worse. In high crime neighborhoods, over 30 percent of students said they stayed home or cut class out of fear, and reported that they got lower grades because of crime and violence.

Menacker, Weldon and Harwitz (1990) conducted a study to test the inter-relationship between school and community order and safety. They analyzed data collected by the Chicago School District and the Chicago Metropolitan Police on a high crime neighborhood in the city. Comparing school disciplinary actions with police contacts, they found that schools actually punished violators more severely than the surrounding community. Further, crime from the surrounding community often invaded the school grounds. These researchers found that school principals notified police in only 6.5 percent of all reportable offenses known to the schools.

Accurate reporting of school crime has been an ongoing problem. Quarles (1989) found that in the Nation's secondary schools, 58 crimes went unreported for every one crime that was reported to the police.

### *School Factors*

Much of the discussion relevant to reducing school violence has taken the form of identifying intervention strategies thought to improve school safety. These interventions more often than not concentrate on selected aspects of the internal school environment, while ignoring the interactive nature of factors affecting school violence and delinquency.

*Strengthen Leadership:* Some have suggested that stricter, more charismatic leadership is needed by principals (e.g., "Lean on Me") (Stephens, 1988). The idea is that a "hands-on" leader will patrol the halls, communicate with teachers and students, identify and respond to problems, and communicate school policy and responses to parents. In practice, such enormous energy and dedication are difficult to muster in bureaucratic environments where the principal has little time for such efforts.

A more realistic conception of leadership is emerging, however. Good leadership can facilitate school safety, even though by itself it is only one factor among many affecting school safety and development. Studies have shown that effective school leadership is related to more orderly environments (Duke, 1989), especially through its influence on shaping school climate. From extensive reviews of the literature, Duke identified seven critical leadership functions: 1) teacher supervision and development; 2) teacher evaluation; 3) instructional management and support; 4) resource management; 5) quality control; 6) coordination; and 7) troubleshooting.

*Redistribute Problem Students:* Others have suggested a redistribution of students with behavioral problems throughout the school district, avoiding concentration in a few large schools. Some attempts have been made in this regard, but they have not been very successful. Parents will resist "importing" troublesome students into "their" schools, other parents will insist on their rights to send their own children to private or parochial schools.

*Establish and Enforce Behavioral Standards:* Minimum standards for continuing enrollment have also been suggested. Proponents argue that schools have emphasized "compulsory attendance" at the expense of a "orderly environment" (Toby, 1983). Following this logic, some argue that we should establish minimum standards for

behavior backed by credible sanctions. The paramount purpose of school should be educational, they suggest, not "recreational" or "incarcerative." Crucial in this regard are disciplinary policies that are clear, known to students and teachers, and fairly and effectively enforced (Gottfredson and Gottfredson, 1985; and Duke, 1989).

Increase School Security: Better security is often suggested as the "cure-all" for problems of school violence. Measures such as metal detectors, random searches, and more security officers are often assumed to be the answer to reducing the number of weapons in schools, and decreasing the number of violent incidents in the school building. There is no systematic data, however, on the benefits of any of these approaches, and each has certain shortcomings (Office of Educational Research and Improvement, 1993).

Much of the literature on school violence recommends partnerships between school officials, security personnel, and local police to reduce school violence (New York Advisory Committee on School Safety, 1993). One reason there is a demand for school security may be because of a perception that police are unable or unwilling to respond efficiently and effectively to a wide range of incidents in schools (Okaty, 1991).

Increase Oversight of the Physical Environment: School crime occurs primarily in places where supervision is inadequate or lacking: in hallways, stairs, restrooms, locker rooms, school grounds and parking lots (Toby, 1983; and Short, 1990). Crowded cafeterias are particularly hard to supervise, as is student movement during the lunch hour. Some researchers have advocated crime prevention through environmental design as a means of assessing trouble spots and managing human space in schools (Crowe, 1990). Studies have shown that the design and use of school facilities has a direct relationship to the pattern of school violations and criminal behavior.

Implement Conflict Resolution and Mediation Training: Teachers and administrators need to know techniques for breaking up fights between students and dealing with conflicts in a way that promotes resolution rather than retaliation (Glenn, 1990). Conflicts should be viewed as an opportunity for improving relations and improving school climate. Sixty percent of the districts surveyed by the National School Boards Association in 1993 reported that they have initiated some form of conflict resolution, mediation training, or peer mediation. Anecdotal reports suggest that conflict resolution and peer mediation programs have had some success in changing student behavior. In a Carnegie Council on Adolescent Development study (1991), researchers reported that, despite the proliferation of prevention and intervention programs, their short and long-term effectiveness is yet to be determined. They conclude that there is a great need to design interventions with specific, measurable objectives, evaluate the interventions, and disseminate the results widely (Cohen and Wilson-Brewer, 1991). Today, this is still a valid critique.

Increase Participation in Policy Formulation: Participation of students, parents and community members in the formulation of school safety plans has also been suggested as a critical component of increasing school safety. Participation by various parties in the formulation of anti-violence policies has varied greatly. In general, access to the formulation of reforms increases acceptability of new policies and compliance with rules and regulations.

In one effort in Chicago (Menacker, Weldon and Hurwitz, 1990) committees of teachers and parents learned about the law regarding order and control in schools, developed discipline codes, required teachers to learn about discipline, established discipline councils to review cases, and formulated rewards for good behavior, as well as punishments for bad behavior. Research found, however, that educators and parents often lacked understanding of the laws applicable to school order and safety, and that patterns of discipline administration at disorderly and unsafe schools were often inconsistent and, therefore, inefficient.

*Build Community-School Collaboratives:* In 1993 and 1995, the overwhelming majority of people surveyed by Gallup Poll interviewers said that they considered "serving the emotional and health needs of students" an important role of public schools (Elam and Rose, 1995). However, until now there has been little formal coordination between schools and other community agencies that provide services to children and families. This has resulted in a system of service delivery that is fragmented and inefficient, with many gaps and overlaps. Recently, there has been increased national attention given to community-school collaboratives. Recognizing that youth violence has become a serious problem that schools cannot solve in isolation, and faced with decreasing budgets and increasing demands on staffing and resources, school districts are beginning to explore ways to form linkages with other agencies in their communities. Community-school partnerships can provide a comprehensive approach to promoting the health, education and safety of students and their families by: identifying those students and families "at risk" and those "in need;" providing access to services; involving families in decision making; offering programs of prevention and intervention; and linking and coordinating services provided by different agencies and organizations. Frequently these services are provided in the school building itself, thereby facilitating inter-agency coordination and increased access to services for families. Partnerships may include schools, parents, health and human services, law enforcement, probation, parks and recreation, and business, religious and other community leaders.

One risk-focused prevention program that is built around community-school collaboratives is the Hawkins and Catalano (1994) "Communities That Care" program. This model uses a team approach to form juvenile advisory boards at the community level to assess community needs. Programs of prevention and intervention are then designed to meet the identified needs. Early identification is one of the important components of this model.

As previously suggested, the school factors identified as potentially mediating or reducing school disruption and violence have generally been examined in isolation of one another. There is little systematic analysis of their relative impacts. While we adopt a multi-level approach, we agree that the school itself has considerable potential for reducing negative school behavior and reinforcing positive behavior. This potential is ultimately reflected in the climate and culture of the school — the formal and informal norms that govern the behavior of students, teachers and school administrators while at school.

### *School Climate and Structure*

There is a growing realization that schools have their own characteristic "personalities," just as individuals do. In schools, there is an increasing awareness that education is delivered within a specific organizational and interpersonal climate. School climate includes factors such as communication patterns, norms about what is appropriate or how things should be done, role relationships and role perception, patterns of influence and accommodation, and rewards and sanctions (Fox et al., 1975). Effective learning and personal satisfaction are the two most basic indicators of a healthy school climate. Unhealthy climates may lead to low innovation, low job satisfaction, alienation, lack of creativity, complacency, conformity, frustration, and ultimately disorder and violence.

Organizational climate is "the study of perceptions that individuals have of various aspects of the environment in the organization" (Owens, 1987:168). It is the "feel" of the workplace as perceived by those who work there or attend school there, it is the general "we-feeling" and interactive life of the school (Anderson, 1982). In general, perceptual measures are used to assess many different aspects of organizational climate (Hellriegel and Slocum, 1974; Lawler, Hall and Oldham, 1974). Most theorists argue that the aggregated perception of individuals constitute something called "climate:"

"though one may argue that perceptions themselves are not objective reflections of "reality" (but may be influenced by subjective factors), the point is that whatever people in the organization perceive as their experience is the reality to be described." (Owens 1987:298)

A thorough analysis of school climate, and its relationship to school disorder and violence, must tap the perceptions of at least three key groups of actors: students, teachers and principals. While commonalities are often found in perceptions of school climate, it is important to account for differences in perception across these groups as well (Owens, 1987).

In addition to understanding school climate, some suggest that a proper analysis of how schools cope with violence must also consider organizational structure (Kelly and Pink, 1982; Gottfredson and Daiger, 1979; Gottfredson, 1989). Unfortunately, the common ground for such prescriptions is often a general failure to explain the meaning of the concept, or why it is important to an analysis of school violence.

Organizational structure implies an assessment of at least two major dimensions: 1) the extent and manner in which division of labor occurs, and 2) the nature of the formal coordinating mechanisms (Gordon, 1983). Division of labor refers to the extent to which organizations have specialization of tasks and roles. Specialization of tasks refers to assigning the same task to a person on a full-time basis. Specialization of roles refers to a narrow definition of jobs, and the existence of non-interchangeable positions in the organization.

Coordination, on the other hand, refers to the extent to which an organization integrates or holds together its various parts. Coordination must accompany division of labor for an organization to function effectively.

Mintzberg (1980) describes five coordinating mechanisms:

1. *Mutual Adjustment*: informal communication where two or more people speak directly as needed. Very simple or very complex organizations usually rely on mutual adjustment.
2. *Direct Supervision*: more formalized control (e.g., one person takes responsibility for the work of others). Any organization with more than five or six employees requires supervisory roles.
3. *Standardization of Work Processes*: specification of the procedures and content of work (e.g., curriculum guides, teaching manuals, and the like);
4. *Standardization of Outputs*: specification of the results of work, as well as standards of performance. In the current climate of poorly funded schools, such specifications may center around the smooth, expedient movement of persons into and out of the system without incident; and
5. *Standardization of Skills*: specification of the training required to perform the work. Questions surrounding coordination ask how effective current mechanisms are, and how they might be improved (Gordon, 1983).

Assessment of organizational climate and structure in different schools should yield important information about the dynamics of school violence. Basic organizational characteristics of schools which are predictive of disorder include: size (large school), staffing (high student:teacher ratio) and resources (low operating budgets and budgetary allocations for learning materials and equipment)(Gottfredson and Gottfredson, 1985). Other dimensions of organizational structure include complexity, coordination, centralization, formalization, and stratification. These dimensions have been empirically related to school disorder and violence and a variety of instruments have been specifically developed to measure these dimensions in schools (for a thorough review, see Duke, 1989).

### *School Victimization*

The problem of school victimization has been examined in several studies over the years, but to date only two, large national studies provide systematic research concerning school victimization in the United States. The earliest major study is the National Institute of Education's (NIE) Safe School Study (1978), previously discussed. The Safe School Study found that 40 percent of the robberies and 36 percent of the assaults of teenagers occurred in schools. Each month, 282,000 students were assaulted in school; more than 1.4 million secondary students were victims of theft; many involving the use of force, weapons, or threats; and 5,200 teachers reported being physically attacked.

Gottfredson and Gottfredson (1985) used NIE data to analyze questionnaire reports of personal victimization for a one month period, and victim incidents reported by principals for a twelve month period. Their results suggest that, for junior high schools, teacher victimization is greater in larger schools, in schools where there are few teacher resources, where there is ambiguity of sanctions, and where students do not perceive rules as clear and firm. Forty-eight percent of junior and senior high school teachers reported that students swore or made obscene gestures at them in a typical month; 12 percent reported that a student had threatened to hurt them and 12 percent reported that they avoided confronting misbehaving students because of fear for their own safety.

The level of student victimization in junior high schools is higher in schools where teachers are confused about school policy, where teachers are more democratic in allowing students to have a say in how the school is run, and where students do not perceive rules as clear and firm. The researchers found that about the same proportion of students experience attacks in suburban schools as in big city schools.

Gottfredson and Gottfredson (1985) also found that certain influences beyond the school's control contributed to school disorder. For example, teachers reported more victimization in school located in urban areas, high crime communities, areas where the student population was mostly black, low in ability, and from families on welfare, or neighborhoods characterized by unemployment or female-headed families. Junior high school students reported more victimization in schools located in neighborhoods characterized by unemployment and female-headed households, and where busing or court-ordered desegregation was in effect. For senior high schools, students reported more victimization in schools located in high crime areas, neighborhoods characterized by low education and poverty, and in schools that were largely male. Toby (1983) analyzed data from the Safe School Study and found that a higher level of victimization took place in areas with low supervision such as hallways and rest rooms. Gottfredson and Gottfredson (1985) concluded that overall, given the large number of teachers and students in the nation's public schools, serious victimizations such as robbery, rape, stabbing, and shooting are relatively infrequent. However, "the frequency of other types of victimization (e.g., fighting, bullying), and student opinion about school disorder, imply that these kinds of victimizations are major social problems" (Gottfredson and Gottfredson, 1985).

Another major source of information regarding school victimization is the National Crime Survey (NCS). Information was gathered from interviews conducted with a nationally representative sample of more than 10,000 youths. The School Crime Supplement (SCS) was added to the National Crime Survey from January through June, 1989, to collect data on victimization inside a school building or on school property.

The School Crime Supplement found that nine percent of students, ages 12 to 19, had experienced one or more violent crimes or property crimes over a six-month period, and that students younger than age 17 were generally more likely to be victims and more likely to fear attack at school, or going to and from school, than older students. Also, younger students were more likely to avoid certain places at school out of fear than were older

students. The SCS also found that 16 percent of the respondents reported that a student had attacked or threatened a teacher at their school, and that students who reported the presence of gangs in school were about twice as likely to fear attack than students from schools without gangs (Bastian and Taylor, 1991).<sup>1</sup>

### *Theories of Social Violence*

Several theories have been proposed to understand delinquent behavior in schools. Social control theorists argue that delinquent behavior can be contained or checked when youth identify with a strong, positive group or community norms and receive positive moral training (Reckless, 1973). They contend that delinquency is the result of a weakening or absence of effective social and cultural constraints.

#### *Social Bonding Theory*

The most systematic development of control theory is Hirschi's (1969) social bonding theory. Stressing the importance of social bonds to persons and institutions in controlling adolescent behavior, Hirschi identifies four elements to the social bond to conventional society:

1. *Commitment*: referring to the costs and risks of investing time, energy, and self in conventional behavior;
2. *Attachment*: referring to the extent to which one cares about others and their expectations and opinions;
3. *Involvement*: referring to participation in conventional activities as opposed to delinquent activities; and
4. *Belief*: referring to the moral validity youth attach to conventional values.

The idea that the presence of a school social bond is directly associated with reduced delinquency has generally been supported by research (Hindelang, 1983; Agnew and Paterson, 1989; Cochran and Akers, 1989).

While numerous studies have supported Hirschi's work, others reveal some of its shortcomings. For example, research has shown that, although a weak social bond may cause some delinquency, a weak bond may be a consequence of delinquency as well (Agnew, 1985; Liska and Reed, 1985; Thornberry, Lizotte, Krohn, Farnsworth and Jang, 1991). Although control theory assumes that causes of crime are similar across gender (Hirschi, 1969) and age groups (Hirschi and Gottfredson, 1983), other research has found age and gender to be important structuring variables (LaGrange and White, 1985; Friedman and Rosenbaum, 1988). Krohn and Massey (1980) found the commitment component of the bond to be more strongly related to delinquency than the other bond components, and the theory to be a better predictor of less serious forms of delinquency than more serious forms. Finally, control theory has been criticized for failing to incorporate the sources of factors that may be important to the development of social bonds (Rankin, 1980; Wiatrowsky, et al., 1981).

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1. A new School Crime Supplement is scheduled to be released by the Department of Education and the Bureau of Justice Statistics in July, 1996. Analysis of the data has not been completed as of the date of this report.

### *Social Disorganization Theory*

While social disorganization theory has undergone many variations since its inception over 50 years ago, its basic premise that crime rates vary with the capacity of a community to control the behavior of its members remains fundamental to criminological theory today. In fact, social disorganization theory is the macro-level precursor to Hirschi's more micro-level "control" theory (1969).

The classic work of Shaw and McKay (1942) found that three major structural factors — low economic status, ethnic heterogeneity, and high residential mobility — led to the disruption of community cohesion and organization, and subsequently, to higher rates of delinquency. These disruptions in the "social metabolism" of a community make it difficult for residents to form close ties, to maintain kin and friendship networks and to exert collective control over norms and behaviors. These conditions impair the ability of local institutions of socialization, including the family, school, churches, and businesses to transmit proper rules of behavior and to control the behavior of juveniles. Social disorganization, then, describes the inability of a neighborhood to "control itself" by monitoring and managing its boundaries, socializing its young, and exerting control over the behavior of those who live there (Messner and Rosenfeld, 1994). High rates of delinquency have been found to persist in communities characterized by these factors even though high population turnover has significantly changed the makeup of its residents.

Associations between socio-economic status and violence have been well established, although the exact causal mechanisms are not entirely clear. Recent research has uncovered complex links between poverty and crime, and between "social disorganization" and violence. Researchers studying community-level variations have found relationships between poverty and high rates of delinquency and between poverty and high homicide rates (Reiss and Roth, 1993). For example, community characteristics related to violence include: concentrations of poverty, high residential mobility and population turnover, family disruption, high density in housing and population, weak local social organization (e.g., low density of friends and acquaintances, few social resources, weak intergenerational ties in families and communities, weak control over street corner groups, low participation in community events and activities), and opportunities associated with violence (e.g., gun density, drug distribution networks). Although such relationships are complex, it can safely be said that community influences often combine with poverty and with one another to produce high rates of crime (for a detailed review of social disorganization theory and related research, see Sampson and Lauritsen, 1993).

As several of the studies we reviewed earlier indicate (e.g., Hellman and Beaton, 1986; Pearson and Toby, 1991), community characteristics likely affect the level of violence in a school in complex ways — by heightening exposure to risk factors coming to and from school, through the importation of norms and behaviors conducive to the use of violence to resolve disputes, and naturally — by weakening effective community controls over the behavior of children who attend school either in their own neighborhood or elsewhere. An adequate study of

school violence, therefore, must account for a variety of influences at the community level, in addition to the various individual and organization level factors we have discussed.

#### *Routine Activity Approach*

Another theory of crime and victimization relevant to school disorder and violence is the "routine activity" approach (Cohen and Felson, 1979) which emphasizes the circumstances under which offenders carry out their predatory acts, rather than the characteristics of the offenders. Garofalo, Seigal, and Laub (1987) applied the routine activity approach to see how routine activities in the school structure victimization experiences. They explored school-related victimizations of adolescents using the interview narratives from the Crime Incident Report of the 1982-1983 National Crime Survey. Focusing on robberies and assaults, they found that of the 850 reported victimizations, 54 percent were related to the routines of attending school (i.e., traveling to or from school, waiting for the school bus, and unsupervised school settings). The results of their study suggest that school-related victimizations are largely the result of peer interactions arising from normal daily activities in school.

Using data on school related victimization from the School Crime Supplement to the National Crime Survey, Pearson and Toby (1991) found that younger students (i.e., suitable targets for offenders), ages 12 to 15 years, feared being attacked or harmed at school more than older students, ages 16 to 19 years. They also found that fear of attack was related to reports of street gangs (i.e., likely offenders) at school. Finally, they found a substantial relationship between fear of attack going to and from school and mode of transportation used: those students who walked to school (outside of central cities) or took public transportation (in central cities) had the highest percentages of respondents reporting fear of criminal victimization compared to those who traveled by car or school bus. Pearson and Toby suggest that the absence of capable guardians on public transportation to school and the school walk route affect students' fear of victimization as they travel to and from school.

#### *The Multivariate Nature of School Violence*

The research and prescriptive literature on school violence and safety portrays a dynamic process wherein individual, situational, community and school-based factors interact in a complex way to produce more or less disorder in America's schools. Explaining and addressing school-based violence and disorder, then, requires a frame of reference which incorporates many variables (factors) from differing levels of analysis and/or points of intervention. Such a perspective attempts to overcome many of the shortcomings of previous research and current school safety intervention programming.

All too often prior research and school-based violence programming has fallen short of accounting for several factors that shape school safety. More often than not, these efforts (research and program development) have

examined or identified variables in selected parts or groupings (e.g., individual and situational interactions, or school and community characteristics in relation to violence) in isolation of one another. For example, several studies have examined selected aspects of community characteristics in relation to school disorder (generally defined as suspensions) without concurrently examining the school culture, the rate of student victimization and perceptions of safety and security at school (Rubel, 1978; Toby, 1983). Similarly, other studies examine school related issues without linking this analysis to external community dynamics (Duke, 1989).

Even when external community related factors are taken into account, rarely does research and violence reduction programming distinguish between the community surrounding the school and the communities from which students are drawn. This has important implications, depending on what type of school is being studied, because just as elementary schools are typically "community" schools, middle and high schools typically draw students from wider geographic areas, thereby diminishing the "local" community characteristics shared by students.

In regard to research and programming focused at reducing violence and disruption, there is considerable variation in what is considered "disruptive" and/or violent. Some studies use school definitions (Purkey and Smith, 1983; Duke, 1989), while others adopt legal definitions of criminal behavior (Toby, 1983; Butterfield and Turner, 1989; Garafolo, Siegal, and Laub, 1987). These efforts typically focus on different aspects of the school safety dynamic for intervention (e.g., peer mediation, improved school leadership, greater parent involvement, greater coordination with social service and other police agencies).

Further studies and program development efforts have examined school victimization, but rarely in relation to school climate, the community characteristics of the residence of the students attending the school, or their perceptions of safety and security, including avoidance behaviors students and teachers adopt to minimize their risk of victimization. Such shortcomings point to problems in creating data sets and interventions that can address differing units of analysis across a wide variety of violence related factors (variables).

Findings from a recent National Academy of Science Panel on Understanding and Control of Violent Behavior confirm the complexity of violence research. In his review of these findings, Roth (1996:347-357) suggests that multiple strategies aimed at violence reduction are necessitated because no single strategy has proven effective. The National Academy of Science Panel devised a matrix for organizing violence risk factors which is reproduced as Figure 1 on the following page.

As shown in Figure 1, violence risk factors can be classified according to how proximate in time the factor is to the violent event, as well as by the level at which the risk factor is observed. The proximity of risk factors to violent events reveals that these factors can be predisposing, situational and activating. Predisposing factors have the longest time horizon, often preceding violent acts by months or years, while activating factors are closest to and immediately preceding the violent act. Situational factors occupy an intermediate position relative

**Figure 1**  
**Matrix for Organizing Risk Factors for Violent Behavior**

Proximity to Violent Events and Their Consequences				
Units of Observation and Explanations	Predisposing	Situational	Activating	
<b>SOCIAL</b>				
	<b>Macrosocial</b>	<ul style="list-style-type: none"> <li>◆ Concentration of poverty</li> <li>◆ Opportunity structures</li> <li>◆ Decline of social capital</li> <li>◆ Sex role socialization</li> </ul>	<ul style="list-style-type: none"> <li>◆ Physical structure</li> <li>◆ Routine activities</li> <li>◆ Access: weapons, emergency medical services</li> </ul>	<ul style="list-style-type: none"> <li>◆ Catalytic social event</li> </ul>
	<b>Microsocial</b>	<ul style="list-style-type: none"> <li>◆ Community organizations</li> <li>◆ Illegal markets</li> <li>◆ Gangs</li> <li>◆ Family disorganization</li> <li>◆ Pre-existing structures</li> </ul>	<ul style="list-style-type: none"> <li>◆ Proximity of responsible monitors</li> <li>◆ Participants' social relationships</li> <li>◆ Bystanders' activities</li> <li>◆ Temporary communication impairments</li> <li>◆ Weapons: carrying, displaying</li> </ul>	<ul style="list-style-type: none"> <li>◆ Participants' communication exchange</li> </ul>
<b>INDIVIDUAL</b>				
	<b>Psychosocial</b>	<ul style="list-style-type: none"> <li>◆ Temperament</li> <li>◆ Learned social response</li> <li>◆ Perceptions of rewards/penalties for violence</li> <li>◆ Violent deviant sexual preferences</li> <li>◆ Social communication skills</li> <li>◆ Self-identification in social hierarchy</li> </ul>	<ul style="list-style-type: none"> <li>◆ Accumulated emotion</li> <li>◆ Alcohol/drug consumption</li> <li>◆ Sexual arousal</li> <li>◆ Premeditation</li> </ul>	<ul style="list-style-type: none"> <li>◆ Impulse</li> <li>◆ Opportunity recognition</li> </ul>
	<b>Biological</b>	<ul style="list-style-type: none"> <li>◆ Neurobehavioral* traits</li> <li>◆ Genetically mediated traits</li> <li>◆ Chronic use of psychoactive substances or exposure to neurotoxins</li> </ul>	<ul style="list-style-type: none"> <li>◆ Transient neurobehavioral* states</li> <li>◆ Acute effects of psychoactive substances</li> </ul>	<ul style="list-style-type: none"> <li>◆ Sensory signal processing errors</li> </ul>

\* Includes neuroanatomical, neurophysiological, neurochemical, and neuroendocrine. "Traits" describe capacity as determined by status at birth, trauma, and aging processes such as puberty. "States" describe temporary conditions associated with emotions, external stressors, etc.

Source: Adapted from Reiss, Albert J. Jr., and Jeffrey A. Roth, eds., *Understanding and Preventing Violence*. Washington, DC: National Academy Press, 1993, p. 297.

to this violence time horizon, and serve to further condition the probability of a violent act occurring or the level of injury or harm the act creates.

In addition to the time horizon of factors affecting violence, these actions are observed at several levels of analysis according to Figure 1. The units of observation or analysis at the broadest level occur in a macrosocial context where broadly defined social and economic forces shape violence. At an intermediate point, the microsocial level of observation includes local community-based factors and interactions that also shape violence. And, at an individual level of analysis, factors associated with individual temperament, drug and alcohol use and impulse

control are seen as associated with producing violent acts. The Panel also identified factors associated with a biological level of analysis.

The resulting matrix that is produced by the levels of observation and the proximity of violent events to their consequences illustrates the complexity of violence research and preventive programs. It also suggests applications for assessing violence within schools.

The current research project borrows from the perspectives on violence described above, particularly assessing the interaction of factors from the macrosocial to the individual level of analysis. At the macrosocial level, community SES and crime related variables associated with the neighborhoods where schools are located, as well as the neighborhoods from which students are drawn, are seen as potentially affecting the level of school violence. At the microsocial level, factors including the climate and culture of the school, the extent of school-based management and perceptions of safety and security are seen as also affecting the level of violence and disruption in schools. And, at the individual level, self-reported victimization and fear of crime, together with perceptions of the school, are seen as shaping violence in schools as well.

#### **CONVERGENCE OF RESPONSIBILITY AND AUTHORITY: SCHOOL BASED MANAGEMENT**

During the last five years, government agencies, including school systems, have been re-examining their organizational principles, moving closer to their customers, and providing for a more decentralized style of management. Despite the fact that school systems throughout the United States have historically been physically decentralized, the management of large, urban school systems has been centralized. Such centralization is now viewed as counterproductive to the realization of educational objectives.

School-based management calls for the decentralization of authority and the transfer of decision-making to the local school level, where educational services can be tailored to local needs. School-based management also calls for local initiatives and experimentation, responsiveness to differing student needs and community demands, and "ownership" for solving local problems. School-based management is seen as a tool to empower local decision-makers, to increase collaborative efforts to solve local school problems and to create a climate of inclusion in school policy and decision-making.

Much of this process is aimed at influencing the institutional or organizational "culture" of local school administrations whereby they will embrace their internal community (teachers, staff, and students), as well as their external community (parents, neighborhoods surrounding the schools, and other youth serving school climate, but also by social processes between the school and the surrounding community, and that school needs

and problems, such as safety needs, will require collaborations within and outside of schools if meaningful progress is to be made.

### *School Based Management and School Safety*

The relationship between school-based management and school safety is evidenced in how schools plan and implement programs designed to increase the "quality of life" in the school setting. Historically, the "central administration" has controlled school and safety planning in most school districts. Offices of the Superintendent of Schools and Safety and Security Managers were seen as the source of programming and responsibility for local school curricular and safety planning. In recent years many government agencies, including the schools, have come to recognize that without "local" participation in planning and development efforts, no one becomes responsible for school and safety planning. Central administrations, removed from the day-to-day management of safety issues in individual schools, tend to make policies in a vacuum. Local school officials, absent the authority for tailoring central policies to local needs, abrogate responsibility for school and safety planning altogether. And students and parents, lacking input into either central and/or local decision-making, are frustrated by not having their interests represented in the decisions most affecting their lives and the lives of their children. Given the accountability dilemma posed by central planning and decentralized operations, school-based management seeks to redress past omissions.

Safety planning, in particular, is also greatly affected by "local" decision makers to the extent that local crime, disorder, victimization, and fear levels vary across communities and across schools. To the extent that local school administrators seek to provide a "safe" environment for students, local safety planning must assess local, non system-wide, needs and capabilities to produce that safe environment. Moreover, safety in school is simply not a "locks and bolts" issue. Issues of curriculum, class scheduling, use of sporting and group facilities, teacher responsibility and physical plant limitations all contribute to the "mix" of safety issues, concerns and capacities within each local school. As a result, linking school-based management to safety and security planning and to locally determined interventions is a major element of decentralized school administration.

In a recent assessment of New York Public School safety planning in a report entitled "*Rethinking School Safety*" (1993:42), a review panel commented:

The Board of Education should develop a more flexible, open-ended strategic planning process to enhance the safety and security of the school community. The Principal should continue to play a leadership role in that process...The strategic planning process should always include teachers, students, parents and other school-based personnel.

These comments underscore the need to elevate safety planning to a strategic level within local schools, and to

invest in the local principal authority and responsibility for integrating safety planning with other aspects of school-based management.

### *The Philadelphia Public Schools*

The School District of Philadelphia is the fifth largest public school system in the United States. In 1993, the School District had an annual budget of slightly over \$1.3 billion, served approximately 192,000 students, and employed a staff of nearly 30,000 persons — 13,217 of whom were regular classroom teachers. Staff accounted for 90.6 percent of the School District's operating budget for the 1990-91 academic year.

The School District of Philadelphia operates 31 high schools, 42 middle schools, 171 elementary schools, and 15 special facilities spread throughout the City of Philadelphia (see Figure 2). The School District is sub-divided into several administrative areas (see Figure 3), each of which is supervised by a Regional Superintendent.

Sixty-three percent of the students attending the Philadelphia Public Schools are African-American, four percent are Asian, ten percent are Latino, and the remaining 23 percent are White. In the 1990-91 school year, 28,772 students were suspended from school, 12 percent withdrew from school and 20 percent had not met the criteria for promotion.

As of June, 1991, average daily attendance in the Philadelphia Public Schools was 85.6 percent. In that same year, the School District graduated 8,014 students 57 percent of whom had plans to attend some form of college after graduation.

The School District has 42 middle schools, which are the major focus of this research project. Middle schools in Philadelphia typically involve students from the sixth through the eighth grades. In the 1990-91 academic year, the Middle Schools enrolled 34,055 students and employed 3,463 staff, of whom 1,743 are regular classroom teachers. Middle school enrollment was 69 percent African-American, two percent Asian, 11 percent Latino and 10 percent White.

Middle Schools in Philadelphia suspended slightly over 11,000 students in the 1990-91 academic year, eight percent of the students withdrew from school as of June, 1991, and 19 percent failed to reach promotion criteria in that same academic year.

In August, 1991, the Superintendent of the Philadelphia School District announced an initiative focused on the renewal and restructuring of middle schools. As a result of this initiative, middle schools were required to develop annual School Improvement Plans which were designed to enhance the performance of their schools. Included in the list of goals for these plans is positive school climate, described as:

safe, clean, attractive and hospitable. The physical, mental and emotional well-being of students

Figure 2

Locations of Philadelphia Public Schools

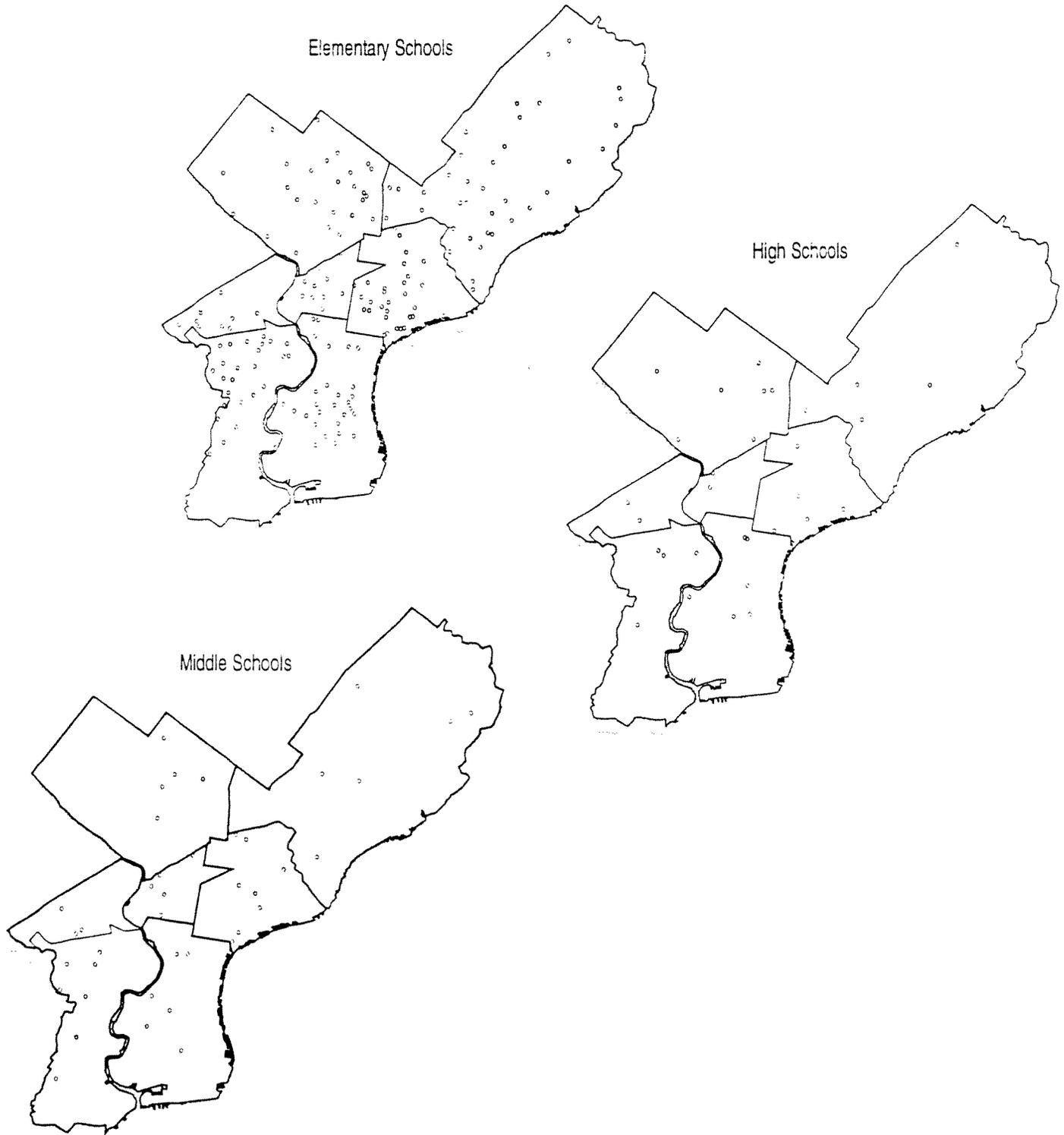
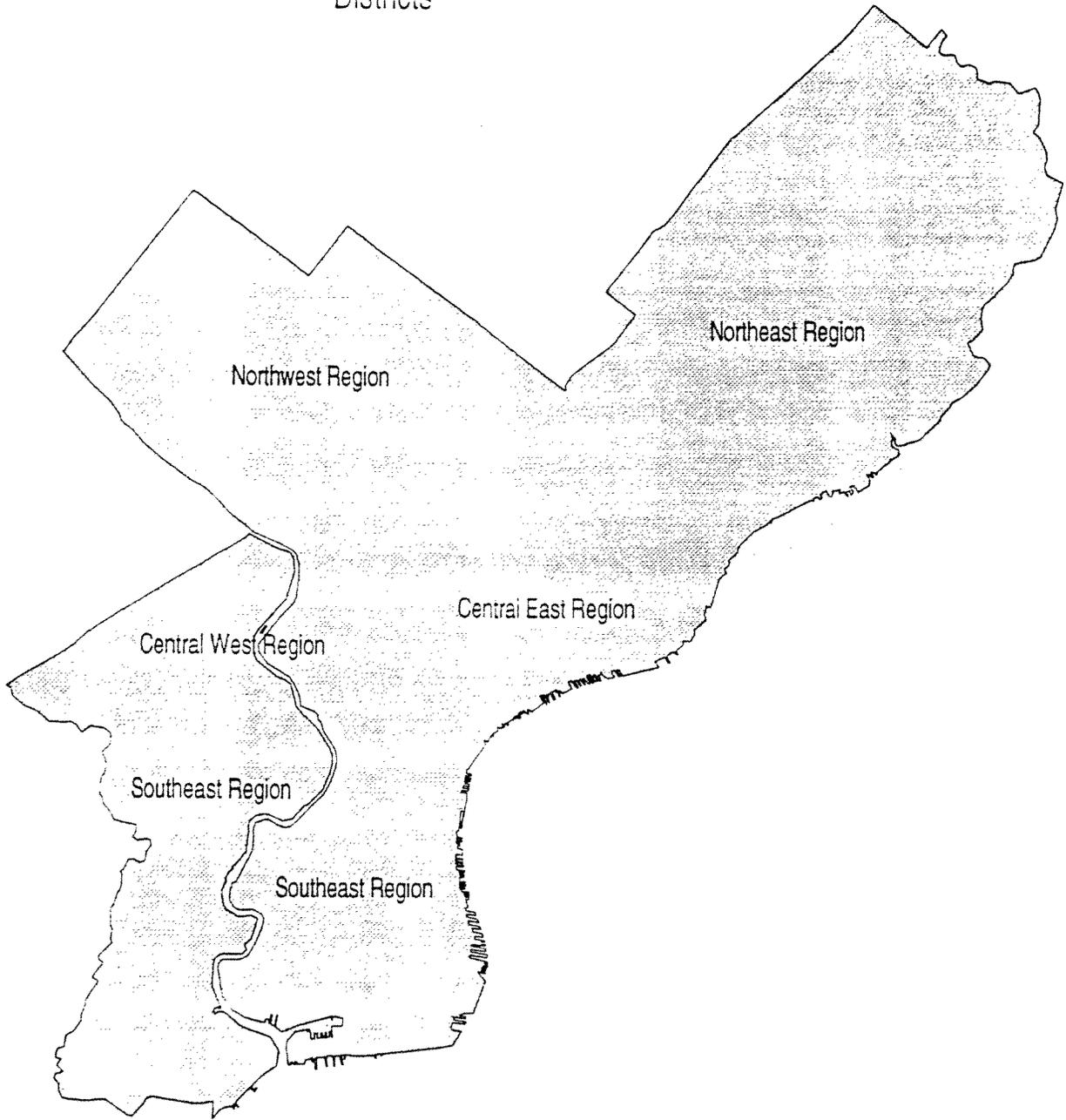


Figure 3  
Philadelphia Public School  
Districts



and staff will be supported and valued. Respect, caring, sharing, and purposeful teaching and learning will be the basis of all interactions between teachers, students, support staff, administrators, parents, community and business partners (School District of Philadelphia, 1992).

In 1993, in response to a widely publicized shooting in one of the City's high schools, the Philadelphia City Council held hearings to determine if violence in the public schools was increasing. Comparing figures for a two year period (1991 and 1992), and using both U. S. Justice Department and Philadelphia School Board data, the Council found an increase in the total number of incidents, and an increase in the number of serious incidents occurring in the schools, and/or on school property.

Clearly, safety is a key issue in the development of a positive school climate. A logical outgrowth of that initiative is the need for enhanced safety planning in individual schools which will improve their ability to create a safe, hospitable environment.

This action-research project brought the expertise of social scientists, working collaboratively with members of the Philadelphia School District, to focus on safety issues in the middle schools in Philadelphia. The project was designed to strengthen the possibility of successful implementation of the middle school renewal and restructuring initiative.

#### *School Based Management in Philadelphia*

The restructuring of a system of public education as large and complex as the School District of Philadelphia has, of necessity, required incremental changes over several years. While the School District's formal announcement of moving toward a school-based management system occurred in June, 1990, the District had strategically positioned itself for such changes through a series of interim efforts occurring prior to 1990.

In the mid to late 1980s, the School District had developed a significant public partnership effort. The "Adopt-A-School" program was perceived to be highly successful, setting the stage for greater public, community and business involvement in the affairs of local schools. At the same time, the District established a strategic planning process, called School Improvement Planning, for the purpose of identifying constituent needs as well as school system goals and objectives.

The School District of Philadelphia was also successful in waiving Federal Chapter 1 regulations to create "School-wide Project Schools." Such efforts provided local schools with access to block grants and incentives for teams of local teachers, school administrators and parents to work collaboratively to use federal funds to strengthen local school educational efforts.

These accomplishments planted the "seeds" of school-based management which was formally adopted in June,

1990. Since that time, the School District has been actively engaged in efforts to implement school-based management throughout the system. In a review document entitled "Fifty Steps Forward," the School District outlined progress toward the realization of school-based management.

"Schools have taken the lead by forming Governance Councils, organizing charters, working with consultants, writing Educational Plans, and increasingly involving parents in substantive educational decisions. The creation of Governance Councils represents a formal shift in authority within the school." (School District of Philadelphia, 1992:ii).

The District, working in collaboration with the business community through the Committee to Support Philadelphia Public Schools, produced and approved a formal partnership agreement which endorses the decentralized school-based strategy in January, 1992. Since that time, the District has expanded training for decentralized management, "seeded" local schools with planning and other developmental grants to stimulate local initiatives, and secured significant external funding in support of collaborative and decentralized decision-making. By October of 1992, 67 schools had filed a "Letter of Intent" to move toward school-based management, and 43 had formed Governance Councils.

Implementation of school-based management has not been an easy task. According to the Philadelphia Educational Team Report submitted to Judge Doris Smith by the court-appointed Philadelphia Educational Team:

The District's policy statements consistently herald the program as the centerpiece of its reform efforts. But the bureaucracy involved in becoming self-managed is so complicated that only 13 schools of the 70 are seeking to implement their school-based management policy have received District approval. Worse, there is enormous confusion, even within approved schools, as to what authority they actually have (1994:16).

### *Implementing School Based Management*

In Philadelphia, through the policies of school-based management implemented in 1990, each local principal is responsible for local programming, including the creation of a School Safety Plan. The School Safety Plan outlines current local school crime, violence, disruption and fear issues, and provides programming to address those issues. Further, since school-based management in Philadelphia includes emphasis on enhancing school administrator, parent and student partnerships, it is anticipated that all affected groups would be part of the design and implementation of the local School Safety Plan.

The adoption of a system of decentralized school-based management within the School District of Philadelphia can be seen as part of a process to influence the structure, climate and culture of schools who actually adopt such an orientation. Such changes to the school's climate and culture, it is believed, can in turn influence the internal norms of the school and ultimately the level of school disruption and violence. This school culture is, of course, also influenced by the community in which the school is located, the student population drawn to the school, the teaching and support staff's commitment to and involvement with the school, and the pattern and sources of current school disorder and violence.

A crucial question for research is to understand the degree to which school-based management has already been adopted in individual schools, and how it can be profitably developed in the early stages of implementation so as to play an effective role in violence reduction. An action-based research plan will facilitate consideration of these factors in our overall assessment of school violence with an eye toward incorporating findings into recommendations for school-based management policies.

Because school-based management policies targeted at violence reduction are likely to require multiple strategies, new policies may face considerable challenges to effective implementation. One important objective of the present research is to assess how the present leadership in schools feels about school-based management and to what degree their attitudes may affect the development and implementation of school-based management plans targeted at violence reduction.

This research is particularly interested in exploring the multivariate and multi-levels of influence which either facilitate or constrain school violence and disorder, including perceptions of safety among students, teachers and principals. By examining the factors that contribute to school disorder and violence, this research seeks to contribute to the theoretical explanation of school violence while at the same time identifying possible types and levels of intervention to address school-based disorder and violence.

## RESEARCH DESIGN

As indicated in our previous consideration of the multiple levels of analysis in violence research, this study has been designed to examine school climate and its effects on school disorder and violence from three perspectives. At the *macro-level* of analysis, this research was designed to examine the influences of socio-cultural, crime and school characteristics on aggregate-level school violence and academic performance measures. Here the focus is on understanding community, family and crime compositional effects on disruption and violence within schools in Philadelphia.

The second level of analysis, the *intermediate-level*, examines organizational and school social climate data in relation to school safety issues for 42 middle schools in the Philadelphia School District. Here the focus is within the schools; the relationships among the culture and climate of the school and their implications for understanding and controlling disruption and disorder within these schools.

Third, a *micro-level*, site specific analysis for a sample of three middle schools was conducted to explore, in a more qualitative framework, the relationships between school climate and culture and disruption, disorder and school violence. Three case studies from this level of analysis provide a more thorough understanding of such issues as student and teacher victimization and fear of crime, school social culture, type of school management (i.e., management style), and school physical design as they individually and collectively affect school disorder and violence.

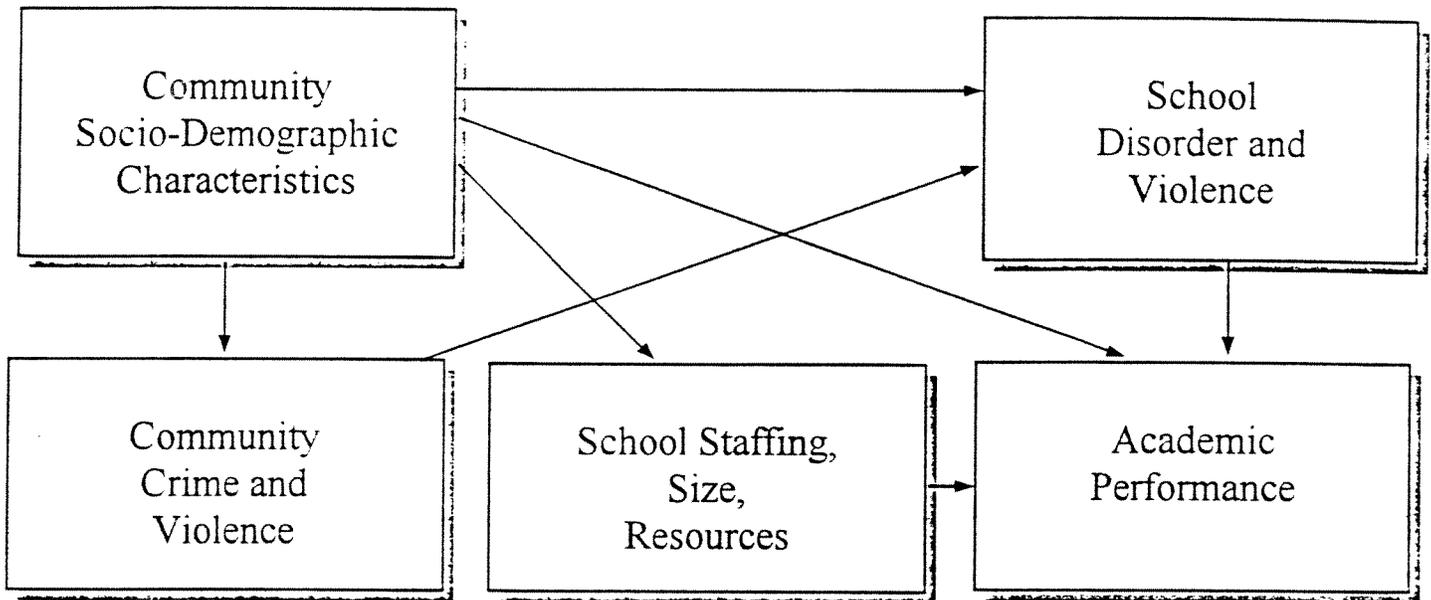
Finally, the research design for this project employs the use of Hierarchical Linear Modeling (HLM) in an effort to link two levels of analysis to better describe, predict and understand school disorder and violence. This analytic approach affords the opportunity to examine both systems' organizational and individual contributions to school climate and disorder and violence in Philadelphia's middle schools.

### *Macro-Level Research Design*

#### *Conceptual Model*

The conceptual model guiding the macro-level analysis of this study is presented in Figure 4. The model is rooted in the idea that a community's social and demographic characteristics have an important impact on several school related issues. First, the social and demographic characteristics of any particular community can be associated with the level of crime and violence that a community experiences. The community characteristics are also seen as having direct impact on local school disorder and violence, as well as the resources available to schools located in that community and to student academic performance. Community crime and violence are seen as also affecting the level of school disorder and violence, which in turn has an effect on academic performance. Lastly, the level of available school resources are seen as having an effect on the academic performance of the students in that school.

**Figure 4**  
**Macro-Level Conceptual Model**



The macro-level model involves the broadest level of analysis in this research. Here we examine socio-structural, crime and school characteristic data in relation to school violence and academic performance data. Our measurement of crime has two geographic referents: 1) the neighborhoods immediately surrounding the schools, and 2) the communities where the students live. The first measure represents “local crime,” while the second represents “imported crime,” or the criminal experiences students bring with them to schools.

At the macro level, 255 schools, which include all schools within the School District of Philadelphia, were examined using data from three sources: 1) Philadelphia Police Department offense and arrest data; 2) community and social structural data contained in the 1990 Census; and 3) school characteristic information provided by the Philadelphia School District. These data have been examined for their independent effects on: a) school reported delinquency and violence and b) academic performance.

The macro-level analysis is designed to explore the relationship between the level of disorder within the inner-city schools and the nature of the communities in which they are embedded. All of the Philadelphia Public Schools have been located in their social and economic contexts by identifying the specific neighborhood associated with student populations. At this level of the analysis, we have summarized the social demographic and crime characteristics of both the neighborhoods surrounding each school as well as the neighborhoods where students live. These data are then analyzed in relation to disorder, violence, educational structure, and achievement levels of students.

In order to analyze the relationship between schools and communities, we obtained information describing the community of each school as well as information describing the schools and students. Significant amounts of social and economic data have been made available by the 1990 U. S. Census. This information includes poverty rates, racial composition, percent female head of households, and residential stability. These data were used to define and operationalize a school's community, meaning the immediate environment surrounding the school. In addition, the 1990 Census data were merged with individual student records and then aggregated to schools. This affords the opportunity to draw back to the school the social-demographic characteristics and crime experiences of students attending the school.

Previous analyses of school related violence have used census and crime reporting data to examine the rate of suspensions within schools or school systems. These studies have typically used the community surrounding the school as the reference point for aggregating socio-economic status (SES) and crime data. Following this line of inquiry, a portion of our macro-level analysis is focused on examining the contributions to school violence made by the immediate community in which schools are located.

However, since students attending Philadelphia Public Schools come from a wide array of social backgrounds and often travel some distance to attend particular schools, it is equally important to examine the contributions made to school violence by the community of residence of these students. To examine this issue, we obtained census and crime reporting data from the census tract of the students attending any particular school as a proxy for this "imported" contribution. *This is an immense improvement over previous studies, all of which fail to address the locational differences between where students live and where they attend school.*

Data from census tracts within each school's vicinity have been used to describe the geographic areas which surround the school. The social, economic, and crime statistics of communities directly surrounding the school can be captured in this manner. We located the census tract or tracts within a quarter mile of the school building. Localizing the data was accomplished by using address-matching techniques available in Atlas-AGIS software. Measures of central tendency were then used to summarize the immediate area. As a result, our data provide an opportunity to determine the effect of the social, economic and criminal character of the areas *directly surrounding* schools (i.e., local crime) on the climate, disruption levels, and academic performance *within* the schools.

The second relevant community of a school is the neighborhood in which the school's students actually live (i.e., "imported" crime and characteristics). This community is geographically and analytically distinct from the community directly surrounding the school. Therefore, for each school we obtained the addresses for the students and then summarized the information describing their residential areas.

This task was made possible by the acquisition of the "Pupil Directory File." The "PDF" is a data base which includes all the students enrolled in the Philadelphia Public Schools. Among other things, it identifies the school that each student attends and the census tracts in which they reside. Using a computer matching program, data describing each student's census tract were attached to each student's PDF record. These data were then "aggregated" or summarized for each school according to the average characteristic of tracts represented in each school. Thus, if a school draws students from several different census tracts, and we are attempting to characterize the rates of poverty among children between the ages of five and seventeen years, we multiplied the poverty rates of each tract by the number of students living there. These products were then summed across the tracts represented in the school and then divided by the total number of students in the school. This created a weighted average of the poverty rates in the neighborhoods represented in the school.

This second technique also allowed us to determine the impact of the *neighborhoods in which students live* on the criminal behavior and academic achievement of the school. The value of having both community measures is unique in that it allows us to determine the importance of, and the interaction between, the level of social disorganization students experience in their neighborhoods, and the level of social disorganization experienced within sight of the school.

These neighborhood data were then merged with the school-based data set maintained by the Philadelphia School District. The District tabulates school level test scores for reading, mathematics, and science, as well as SAT scores for high schools. For each school, the percentage of African-American, Latino, Asian and White students and teachers, the percentage of students participating in the District's voluntary busing program, the turnover rate of students, and the average daily attendance rate were collected for the 1992-93 school year.

In addition to the social demographic and crime information used in this research, data were obtained from the School District of Philadelphia Police Department regarding "incidents" reported to the school police for the 1992-93 school year. This incident data contains information on types of incidents reported to the school police (e.g., property and personal crimes), where the incident took place (e.g., on or off school grounds), the actions taken by the police (e.g., arrest), and information about the date and time of the incident. These data were collapsed into categories and aggregated to each school. They are used as measures of school disruption and violence.

A separate student-level file containing suspension data (including the nature of the suspension) was also collected for the 1992-93 school year. These data were aggregated to each school as an independent measure of the level of school disruption. Moreover, to better understand "school-based violence" we separated the various classes of suspensions and disciplinary actions according to their level of severity to provide finer distinctions about what constitutes school-based violence.

*Variables*

Table 1 presents the constructs identified in the conceptual model for the macro analysis (see Figure 4). The variables to measure each construct, as well as the unit of measurement and data source are also displayed in Table 1.

**Table 1**  
**Macro-Level Analysis: Variables**

<b>Construct</b>	<b>Variable</b>	<b>Unit of Measurement</b>	<b>Source</b>
Local Community	Median Household Income	Census Tract	1990 Census
	% Minorities	Census Tract	1990 Census
	% Resided for 5 Years	Census Tract	1990 Census
	% Households w/4 or more	Census Tract	1990 Census
	% Single Parent Households	Census Tract	1990 Census
Imported Community	Median Household Income	Census Tract	1990 Census
	% Minorities	Census Tract	1990 Census
	% Resided for 5 Years	Census Tract	1990 Census
	% Households w/4 or more	Census Tract	1990 Census
	% Single Parent Households	Census Tract	1990 Census
Local Crime	Personal Offenses	Individual	1992-93 Phila. Police Dept.
	Property Offenses	Individual	1992-93 Phila. Police Dept.
	Drug Offenses	Individual	1992-93 Phila. Police Dept.
Imported Crime	Personal Offenses	Individual	1992-93 Phila. Police Dept.
	Property Offenses	Individual	1992-93 Phila. Police Dept.
	Drug Offenses	Individual	1992-93 Phila. Police Dept.
School Staffing, Size, Resources	Total # of Students	School	1990 Phila. School District
	% Minority Students in School	School	1990 Phila. School District
	% Minority Teachers in School	School	1990 Phila. School District
	Teacher/Student Ratio	School	1990 Phila. School District
Academic Performance	Mean Standardized Test Scores	School	1992-93 Phila. School District
	Average Daily Attendance Rate	School	1992-93 Phila. School District
School Disorder & Violence	Suspensions for Serious Incidents	School	1992-93 Phila. School District
	Suspensions-Non-serious Incidents	School	1992-93 Phila. School District
	Incidents on School Property	School	1992-93 Phila. School District
	Total Dismissals	School	1992-93 Phila. School District

### *Description of Macro-Level Data*

School suspension data for the 1992-93 school year were obtained from the Philadelphia School District. These data include the number of suspensions for disruptive behavior, vandalism, assaultive behavior, reckless endangerment, weapons possession, robbery, assault, drug use, drug sales, arson and rape that occurred by school. These data provide one measure of crime and disorder within schools.

In addition, we obtained from the School District Police the number of reported incidents in or on school property by type of infraction for the 1992-93 school year. These data contain: all incidents, incidents resulting in arrest, incidents involving juveniles, incidents involving adults, incidents involving juveniles resulting in arrest, property incidents, disorder incidents, drug related incidents, and incidents involving violence.

Offense and arrest data were collected from the Philadelphia Police Department for 1992 and 1993. These data were address matched and then geo-coded to census tracts. They were first aggregated to census tracts by type of offense/arrest and then merged with individual student records and then re-aggregated to schools. This procedure afforded the opportunity to link aggregate census tract and crime related data to individual students residing in those census tracts.

Finally, the Philadelphia School District provided the Superintendent's Management Information File for the 1990 school year and the Pupil Directory File for the 1992-93 school year. Data from the Superintendent's Management Information File included school size, median scores on standardized tests, and teacher and student demographics. As previously indicated, the Pupil Directory File provided a link between students and their respective communities.

Data descriptives for all the variables contained in the macro-level analysis are presented in the Appendix.

### *Intermediate-Level Research Design*

Focusing more narrowly on a subset of the schools analyzed at the macro-level, this analysis examines all middle schools in Philadelphia. This model includes all of the variables measured at the macro-level and adds the crucial variable of school climate as a mediating variable. The extent of the adoption of school-based (decentralized) management is also added. This factor constitutes an important control variable for inter-school comparisons.

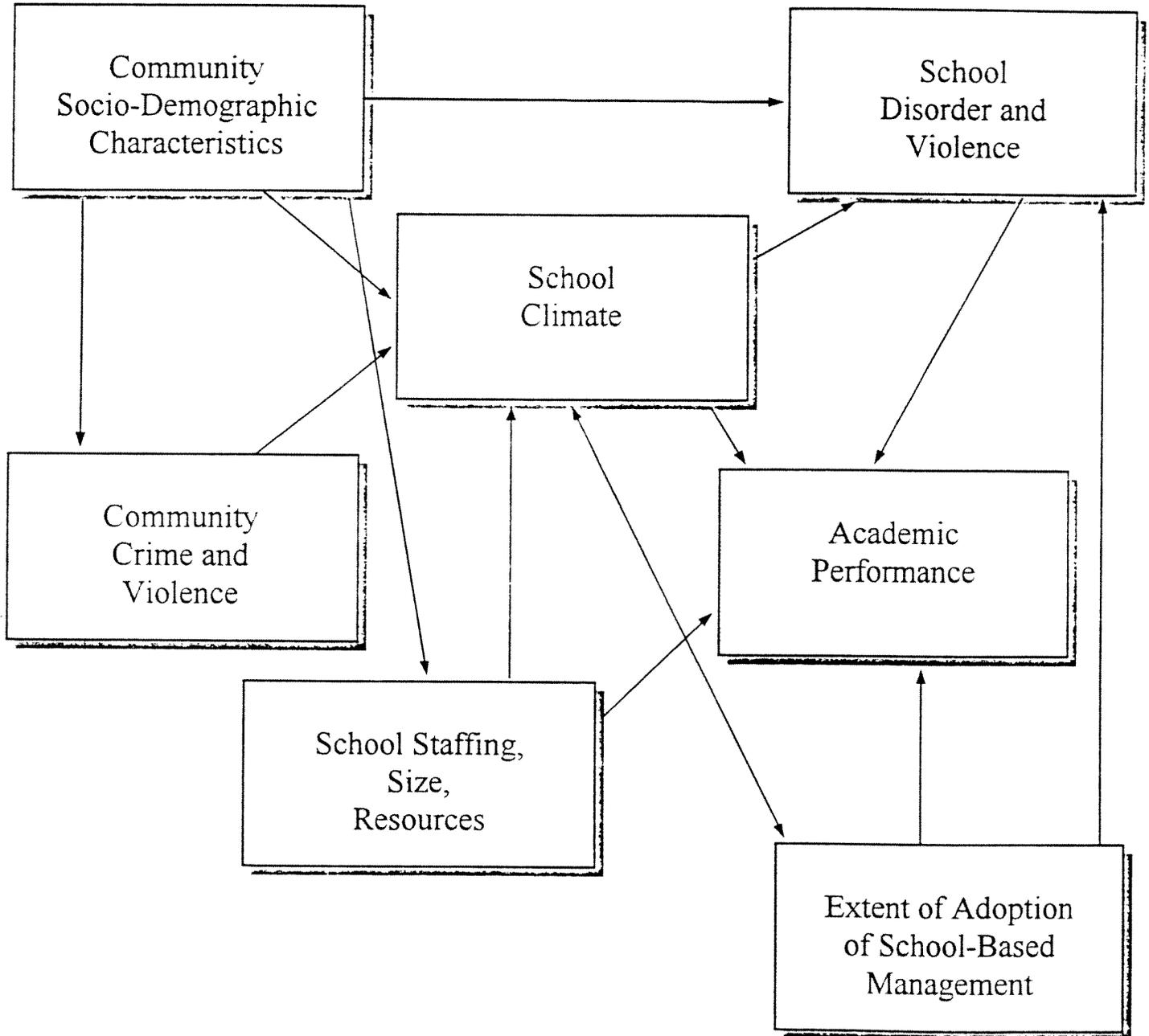
At the second stage, we analyzed the organizational and school climate of schools in relation to school safety for the 42 middle schools in the Philadelphia School District. Information was gathered in three ways:

1. the principals from the 42 middle schools were interviewed about school-based management, violence/disruption issues, and climate issues at the start of the project;

2. the *Effective School Battery Survey* was administered to the students, teachers and administrators in 11 of the Philadelphia middle schools (supplemental questions asked students about victimization); and
3. the principals from the 42 middle schools completed an additional survey discussing various structural issues pertaining to their schools.

See the Appendix for the instrumentation and data descriptives for this analysis.

**Figure 5**  
**Intermediate Level Conceptual Model**



Following Anderson's (1982) recommendations for a more systematic, theory-based approach to the measurement of school climate and its relationship with the school milieu (community and social composition) and student outcomes (e.g., performance, violence), we have articulated a preliminary causal model to guide analyses. The model is based upon relationships discussed in the literature review. Five main variables are discussed.

Community characteristics and crime rates are presented as exogenous variables, based on research findings that suggest the important contribution of such inputs (e.g., social demographics, income, poverty, crime in surrounding neighborhoods, family structure, social demographic characteristics) to the school environment. These exogenous variables may have direct influence on school disorder and violence (e.g., drug sales in the school yard, gang members that settle disputes in the school), but their effects are clearly mediated to some degree by school organizational structure (e.g., centralization; formalization; staffing, size, and resources) and school climate (e.g., disciplinary rules, policies, and enforcement; intellectual climate; reward structures; morale).

In the model, school climate is presented as a primary mediating variable and a major influence of school outcomes. Organizational dimensions such as school staffing, size and resources set limits on school climate.

The primary dependent variable that we will explain is school disorder and violence. As Figure 5 suggests, school disorder is explained by a variety of direct and indirect causal variables. School climate is hypothesized as a major influence on school performance and disorder, a filter between community characteristics and student characteristics. School-based management (i.e., level of decentralized management), in turn, may mediate the effects of school climate on disorder.

*Variables*

Table 2 presents the variables, along with their units of measurement and data source, that were measured at the intermediate-level as they relate to the constructs in the model.

**Table 2**  
**Intermediate-Level Analysis: Variables**

<b>Construct</b>	<b>Scale</b>	<b>Unit of Measurement</b>	<b>Source</b>
School Climate (student)	Safety	Individual	Survey
	Respect for Students	Individual	Survey
	Planning and Action	Individual	Survey
	Fairness of Rules	Individual	Survey
	Clarity of Rules	Individual	Survey
	Student Influence	Individual	Survey
	Parental Education	Individual	Survey
	Positive Peer Association	Individual	Survey

**Table 2**  
**Intermediate Analysis: Variables**  
**(continued)**

<b>Construct</b>	<b>Scale</b>	<b>Unit of Measurement</b>	<b>Source</b>
School Climate (student)	Educational Expectations	Individual	Survey
	Social Integration	Individual	Survey
	Attachment to School	Individual	Survey
	Belief in Rules	Individual	Survey
	Interpersonal Competency	Individual	Survey
	Involvement	Individual	Survey
	Positive Self Concept	Individual	Survey
	School Effort	Individual	Survey
	Avoidance of Punishment Attachment	Individual	Survey
	School Rewards	Individual	Survey
<b>Construct</b>	<b>Scale</b>	<b>Unit of Measurement</b>	<b>Source</b>
Extent of Adoption of School Based Management	Belief in the Goals of School-Based Management	Individual	Survey
	Autonomy	Individual	Survey
	Centralization	Individual	Survey
	Perceptions of Decision-Making Influence	Individual	Survey
	Adoption of Specific Policies of School-Based Management	School	Official Records
<b>Construct</b>	<b>Scale</b>	<b>Unit of Measurement</b>	<b>Source</b>
School Climate (teacher)	Safety	Individual	Survey
	Morale	Individual	Survey
	Planning and Action	Individual	Survey
	Smooth Administration	Individual	Survey
	Resources	Individual	Survey
	Race Relations	Individual	Survey
	Parent/Community Involvement	Individual	Survey

**Table 2**  
**Intermediate Analysis: Variables**  
**(continued)**

Construct	Scale	Unit of Measurement	Source
School Climate (teacher)	Student Influence	Individual	Survey
	Avoidance of Grades as Sanction	Individual	Survey
	Pro-Integration Attitude	Individual	Survey
	Job Satisfaction	Individual	Survey
	Interaction with Students	Individual	Survey
	Personal Security	Individual	Survey
	Classroom Orderliness	Individual	Survey
	Professional Development	Individual	Survey
	Nonauthoritarian Attitude	Individual	Survey

\* only new constructs which build upon the Macro-Analysis are included.

#### *Measurement and Sampling*

Members of the project team conducted in-person interviews with the 42 principals of Philadelphia's middle schools. Each interview was conducted by a pair of interviewers so that one person focused on facilitating the interview while the other person took notes. The interviews concentrated on three central issues: school-based management, school safety and disorder, and school climate.

In regard to school-based management, principals were asked about general management practices within the school and the extent to which teachers were involved in school policy and decision making. Questions about school safety and disorder sought information on general trends in safety problems, as well as the program implemented locally to address these problems. Finally, principals were asked to comment on their perceptions of the quality and tenor of the school's climate, that is, the feelings that students and teachers have about the school. A copy of the *Principal's Survey* is reproduced in the Appendix.

Principals also provided official documents about their schools. A filing system was created for each of the 42 middle schools, containing a school profile, a school safety plan, a principal interview, and additional school documents as were provided.

### *Method of Choosing Schools for the Intermediate Analysis*

Analysis at the macro-level on school disorder and demographic characteristics were used to select a sample of 11 middle schools for the administration of the *Effective School Battery Survey* and the *Student Victimization Survey*. Schools were chosen on the basis of three primary criteria. First, schools were chosen based on the level of “disruption” (i.e., suspension and incident data) that they reported. This information was gleaned from the data collected as part of the macro-level analysis. In selecting the 11 schools for this analysis, an attempt was made to include the broadest range of schools on the “disruption” measures (i.e., several schools in each of the “low,” “medium” and “high” ranges).

Second, schools were chosen on the basis of the level of “poverty” (i.e., percentage of students from low income families) they exhibited. Here, the concern was to select schools that represented a broad range of income levels among the families of students (i.e., low, medium, and high).

Third, school selection was also conditioned by “regional representation.” Here, the concern was identifying schools from across the entire City of Philadelphia. Figure 6, on the following page, presents a map of Philadelphia with the identification of the 11 middle schools selected for this portion of the analysis.

### *The Effective School Battery and Student Victimization Survey*

The *Effective School Battery Survey* assesses school climate and how students and faculty feel about their school, while the *Student Victimization Survey* directly focuses on crime and disorder problems within schools. A total of 7,583 usable student surveys (i.e., a 65.44% response rate) and 493 usable faculty surveys (i.e., a 66.44% response rate) were completed.

The *Effective School Battery* (ESB) addresses the issue of school psychosocial climate. Psychosocial climate includes such things as staff morale, the fairness and clarity of school rules, relations with parents and the community, and other aspects of the perceptions of the school by its inhabitants. Moreover, the ESB provides additional scales which concentrate on the population characteristics of the school (i.e., they describe a school by the people who inhabit it). Additional factors examined are family educational background of students, the extent to which students believe in the rules, and the students’ attachment to the school. Similarly, teacher job satisfaction, participation in continuing professional development, and attitudes about education also contribute to school climate.

The assessment of school climate is fundamentally different from the measurement of individuals. The ESB contains two sets of measures for school climate. The first set of scales involve psychosocial climate measures. These measures about the school environment are based on the reports of students and teachers and focus on the ways people in the school environment generally perceive and describe that environment. The ESB instrumentation used in this research is contained in the Appendix.

Figure 6  
Philadelphia Public Middle Schools  
in Intermediate Analysis

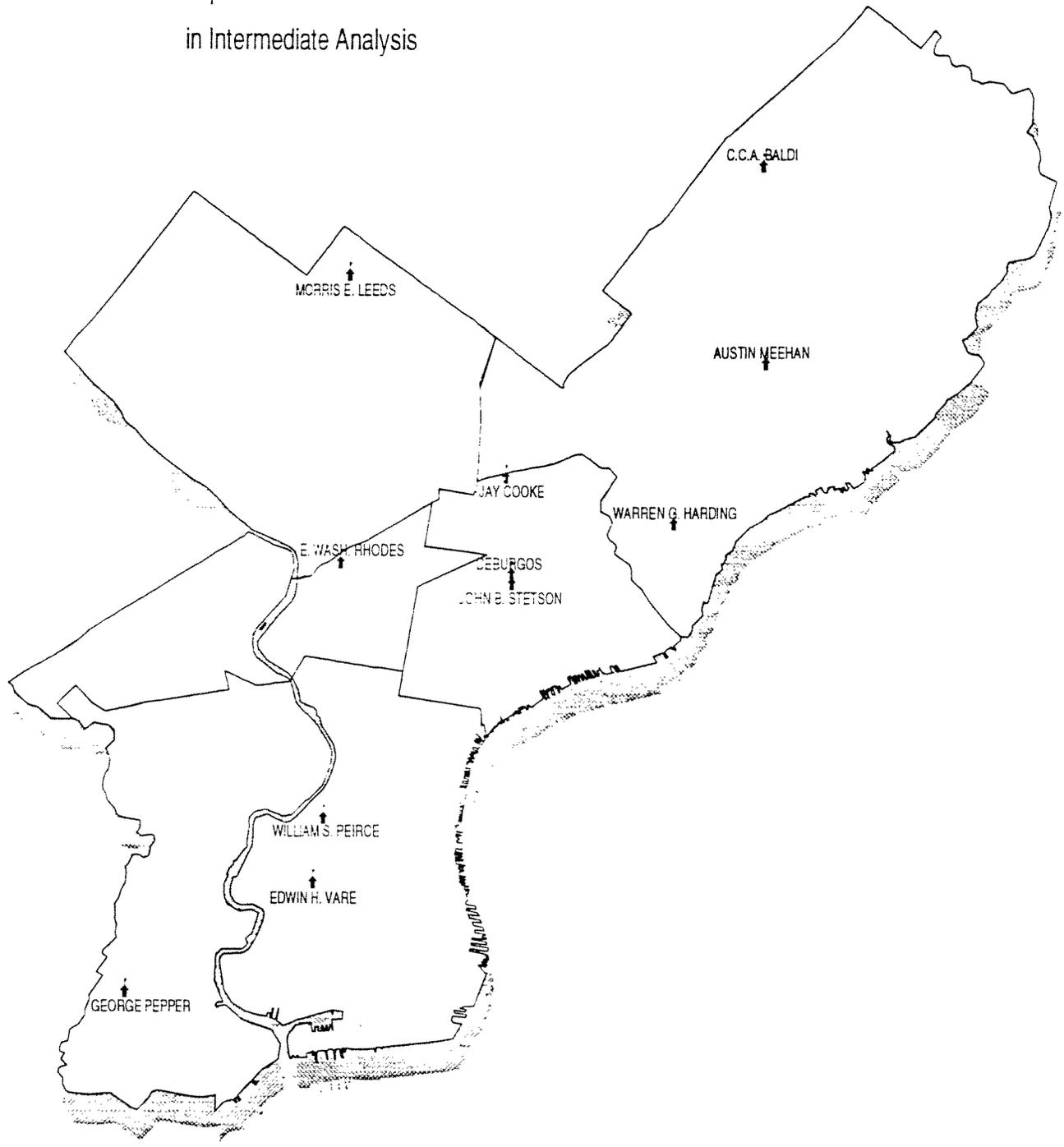


Table 3 presents the ESB psychosocial climate level scales for teachers, including their descriptions. Table 4 depicts the ESB psychosocial level scales for students, including their descriptions.

**Table 3**  
**Effective School Battery**  
**School Psychosocial Climate — Teacher Reports**

SCALE	MEANING
Safety	Indicates how safe teachers report the school environment to be. A high score means that teachers tend to report most places in the school to be safe, and a low score means teachers report many places in the school to be unsafe.
Morale	Indicates the degree of enthusiasm of a school's faculty and faculty confidence in the school. A high score means that teachers are more likely to be enthusiastic and to participate in the development of new programs. A low score suggests that many faculty share a sense of resignation about the school and little confidence that much can be done about it.
Planning & Action	Indicates teacher reports of the degree to which the school takes an experimenting or innovative approach to planning school programs.
Smooth Administration	Indicates how teachers perceive the school administration. High scores imply that teachers perceive that they get the help they need to do their jobs when they need it.
Resources	Indicates whether teachers report adequate instructional supplies and other resources or whether they report difficulty in obtaining needed teaching supplies.
Race Relations	Indicates (in integrated schools) how well different ethnic groups get along. In schools with students and faculty of only one ethnic group, this scale should be disregarded.
Parent/Community Involvement	Indicates the degree to which the school uses community resources in its program.
Student Influence	Indicates teacher perceptions of the extent to which students participate in school decisions.
Avoidance of Use of Grades as a Sanction	Indicates the extent to which teachers avoid lowering grades in response to student misconduct — a generally poor practice.

Source: Gottfredson, Gary D. 1984. The Effective School Battery. Psychological Assessment Resources, Inc. Odessa, Florida.

Environment can also be characterized by aggregated or averaged characteristics of individuals. The second set of ESB scales involve school population measures. Population profiles in the ESB describe the average student or teacher in the school. These measures tell us how socially integrated the average student is or how much job satisfaction the typical teacher reports.

**Table 4**  
**Effective School Battery — School Psychosocial Climate — Student Reports**

SCALE	MEANING
Safety	Indicates how safe students report the school environment to be. A high score means that students tend to report most places in the school to be safe, and a low score means that students report many places in the school to be unsafe.
Respect for Students	Indicates how students feel they are treated in school. A high score means that students are treated with dignity; and a low score suggests students are subjected to degrading experiences or treated with a lack of respect. This scale is a general indicator of whether students perceive their treatment in school in positive or negative ways.
Planning & Action	Indicates student reports of the degree to which the school undertakes efforts to plan and implement school improvement.
Fairness of Rules	Indicates whether students know what the school rules are and what the consequences are for rule violation. Low scores imply that students perceive injustice or inequity; high scores imply they perceive fairness and even-handed rule enforcement.
Clarity of Rules	Indicates whether students know what the school rules are, and what the consequences are for rule violation. Low scores imply students may not know what the rules are or may be uncertain about the consequences for rule violation.
Student Influence	Summarizes the students' point of view about the extent to which they are able to influence matters of concern to them. A low score implies students feel powerless to bring about desired changes in school practices; a high score implies that students feel the school is open to their suggestions.

Source: Gottfredson, Gary D. 1984. The Effective School Battery. Psychological Assessment Resources, Inc. Odessa, Florida.

Table 5 presents the ESB individual level scales for teachers, including their descriptions.

**Table 5**  
**Effective School Battery — School Population — Teacher Characteristics**

SCALE	MEANING
Pro-Integration Attitude	Indicates average teacher attitude toward integrated education. A high score suggests that teachers view integrated education in a positive way; a low score suggests that the average teacher may be somewhat insensitive to issues of racial equality.
Job Satisfaction	Indicates how the average teacher feels about his or her job. A high score implies that teachers typically like their jobs in the school; a low score indicates that teachers typically dislike their jobs.
Interaction with Students	Indicates how much positive social interaction the average teacher reports having with students. A high score implies that many teachers report friendly interaction with students.
Personal Security	Indicates the average teacher's experience of personal victimization. In a low scoring school, relatively many teachers report receiving obscene remarks or gestures, threats, thefts, or even attacks. A high score implies teachers rarely experience indignities or victimization in the school.
Classroom Orderliness	Indicates how orderly the average teacher's classroom is. A high score implies classrooms are typically orderly; a low score implies that disruption interferes with teaching in many classes.
Professional Development	Indicates how much exposure to continuing education the average teacher in the school has had in the past year.
Nonauthoritarian Attitude	Indicates the average teacher's attitude about student-teacher authority relations. A low score implies many teachers have a punitive, moralistic attitude about student misbehavior. A high score implies many teachers have a more flexible attitude about coping with student misconduct.

Source: Gottfredson, Gary D. 1984. The Effective School Battery. Psychological Assessment Resources, Inc. Odessa, Florida.

Table 6 depicts the ESB psychosocial level scales for students, including their descriptions.

**Table 6**  
**Effective School Battery — School Population — Student Characteristics**

SCALE	MEANING
Parental Education	Summarizes information about the educational background of the average student's parents.
Positive Peer Associations	Describes peer relations for the average student. A high score implies most students have friends who value school and avoid trouble; a low score implies many students' friends dislike school and get into trouble.
Educational Expectation	Indicates the level of academic orientation. A high score implies the average student expects to complete a great deal of formal education.
Social Integration	Indicates whether the average student feels integrated with or alienated from the social order of the school. A low score means many students feel alienated.
Attachment to School	Indicates the average student's liking for school. A high score implies students typically liked school; a low score means many students dislike school.
Belief in Rules	Indicates the extent to which the average student believes in the validity of conventional social rules. A high score implies most students regard conventional rules as appropriate guides to conduct; a low score indicates that many students feel free to violate rules.
Interpersonal Competency	Indicates the degree to which the average student is competent in interpersonal relations.
Involvement	Indicates the extent of the average student's participation in extracurricular activities.
Positive Self-Concept	Indicates how the average student describes him/herself. A high score means the average student has high self-esteem and sees himself as a rule abiding person.
School Effort	Indicates how much care and effort the average student devotes to school work.
Avoidance of Punishment	Summarizes information about how often the average student is punished. A low score implies much school punishment; a high score implies little punishment.
School Rewards	Indicates how much the average student is rewarded for his or her behavior. A high score means that the typical student is rewarded relatively frequently.

Source: Gottfredson, Gary D. 1984. *The Effective School Battery*. Psychological Assessment Resources, Inc. Odessa, Florida.

The *Principal Survey* was distributed to all 42 middle schools. The *Principal Survey* focuses on structural aspects of middle schools. A total of 34 surveys were completed (i.e., an 81% response rate). This instrument measures the effects of the structural organization of the school on school climate and school safety. Several factors examined are: types of school security devices, staff used for security purposes, areas of school disruption, and the level of student involvement in school security issues. The *Principal Survey* is contained in the Appendix.

The *Student Victimization Survey* measures levels of student victimization in the school. Items from the School Crime Supplement (Bureau of Justice Statistics, 1990) and the Safe School Study were combined to measure school related victimization, perceptions of risk of victimization, fear of victimization, perpetuating victimization (e.g., offending), and avoidance of victimization. The *Student Victimization Survey* is reproduced in the Appendix.

### *Micro-Level Research Design*

Because schools operate in specific contexts, with their own histories and their own particular combination of staff and students and within their own physical settings, any attempt to assess school climate and safety issues requires an assessment of the school as a total entity. Accordingly, at the *micro-level* analysis, we narrowed our inquiry to the description and understanding of various dimensions of school climate and disorder in a subset of three Philadelphia middle schools as case studies. The three schools — Harding, Leeds and Pepper — were chosen from the 11 schools selected through the *intermediate-level* analysis on the basis of their level of disruption, poverty and regional representation. In addition, these schools were also differentiated on the basis of student demographics.

These three schools are representative of middle schools within the School District of Philadelphia in terms of the range they include on measures of disruption, student composition, including poverty, and region of the city. The three schools are not unusual. Rather, these case studies provide detailed insight into how middle schools in Philadelphia operate and how they handle the obstacles they confront. The complete case studies for the three selected schools are contained as separate appendices to this report.

### *Conceptual Model*

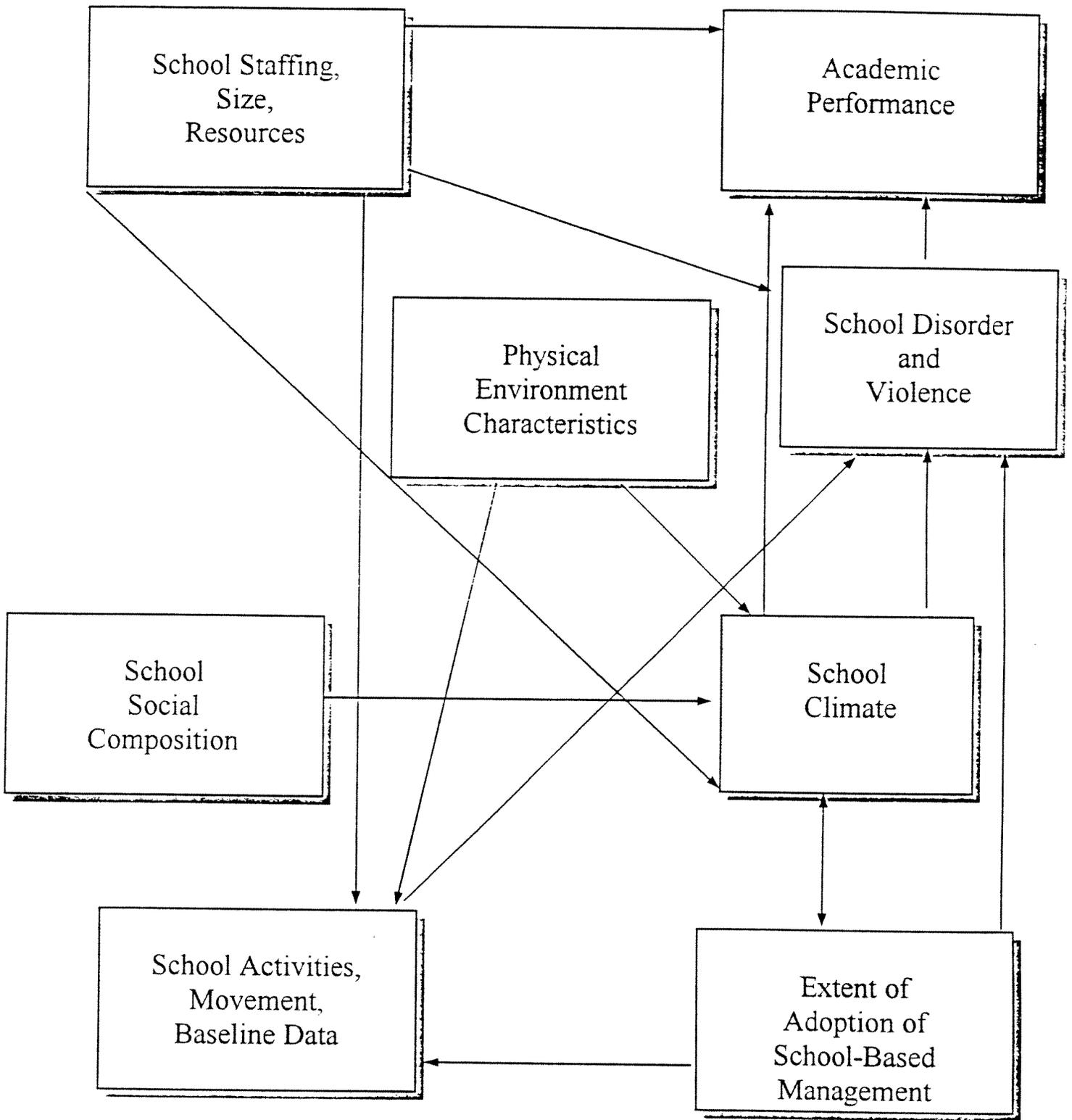
As the most complex of the conceptual models presented, the micro-level analysis found school disorder and violence to be affected by several school related variables, including the school's climate, school activities, staffing and resources, and the extent of adoption of some form of school-based management. These variables are, generally speaking, within the policy and administrative division of the school system. School climate, an intermediate variable in the model presented in Figure 7, is also affected by several internal school factors (e.g., the physical environment of the school, routine activities within the school, school resource availability and the degree to which the school has adopted a form of school based management.)

By contrast, the extent of adoption of school-based management is believed to affect routine activities in the school, school climate and the level of school disorder and violence. School resources, school climate and the level of school disorder and violence are then seen as affecting academic performance within the school. Figure 7 presents the variables of interest to the micro-level analysis and their relationships.

### *Case Study Measurement*

A variety of data sources and measures were used to assess the degree to which school social and formal structures (school climate) are related to school disorder and safety in each of the three schools selected for the *micro-level* analysis.

Figure 7  
Micro-Level Conceptual Model



**Table 7**  
**Micro-Level Analysis: Variables**

<b>Construct</b>	<b>Variable</b>	<b>Unit of Measurement</b>	<b>Source</b>
School Social Composition	Age, Race & Gender Composition	School	Official Records
	Teacher & Student Demographics	School	Official Records
School Activities, Movement, Baseline Data	Organizational Structure	School, Individual	Documentation, Interviews, Surveys
	Primary Responsibilities of Different Staff	School	Documentation, Interviews, Surveys
	Length of School and Lunch Periods	School, Individual	Documentation
	Scheduling of School Activities	School, Individual	Documentation, Observation, Interviews
	Transportation To and From School	School, Individual	Documentation, Interviews, Surveys
	School Characteristics (e.g., tracking, courses offered)	School, Individual	Documentation, Interviews
	School Disciplinary Patterns	School, Individual	Documentation, Interviews, Focus Groups
	Relations with Community	School, Individual	Interviews, Focus Groups
Security Measures	School, Individual	Observation, Interviews	
Physical Environment Characteristics	Size of Classrooms	School	Observation
	Permeability: School Boundaries and Physical Barriers (e.g., fences, # of entrances & exits)	School	Observation
	Physical Layout of School (e.g., defensible space characteristics, open spaces, degree of observation of different places)	School	Observation
School Disorder and Violence	Victimization	Individual	Surveys, Interviews, Focus Groups

\* Only new constructs which build upon the *macro* and *intermediate* analyses are included.

The primary data collection strategy is qualitative. Qualitative data were collected through open-ended principal interviews, focus groups, observations and school documentation to clarify the meaning of particular measures of school climate and their association with school disorder. One-to-one interviews were held with each principal. Open-ended questions were asked about school management style, school disorder and safety, violence prevention

strategies, and perceptions of school climate (e.g., teacher and student attitudes and factors that facilitate or hinder efforts to change attitudes). Sample questions included:

- ◆ Define School-Based Management.
- ◆ What training have you received in School-Based Management?
- ◆ What steps have you taken to implement School-Based Management?
- ◆ What safety/security issues are present in your school?
- ◆ How serious is the issue of school violence, vandalism and theft? What do you think contributes to this behavior?
- ◆ What activities does your school do to reduce violence, vandalism and theft in your school, and how successful have they been?
- ◆ Generally, how do teachers, staff and students feel about being at this school?

A total of 21 focus group interviews were conducted in the three schools. Each group, consisting of eight randomly selected persons, was interviewed for one hour by a pair of interviewers so that one person focused on facilitating the interview, and the other person took notes and taped the discussion. In each school, two groups of teachers, students and parents, and one group of security staff responded to open-ended questions about school climate and school disorder and safety. Sample questions included:

- ◆ How do you feel about how this school is managed/run?
- ◆ Do you think this school does a good job handling behavior problems?
- ◆ What kind of relationship does the school have with the community?
- ◆ What do you think contributes to serious misbehavior problems at this school?

Multiple observations were made by multiple observers of the external and internal school environment. Direct observations were made of routine school activities in different locations (e.g., stairs, exits, lunch rooms, rest rooms, auditorium, library/media center, main office, locker areas) of the school during different times of the school day. A *School Environment Assessment Instrument* was used to analyze the physical environment of both the school and its surroundings. The instrument is divided into two sections: 1) the assessment of the physical environment in and around the school, and 2) the observation of movement and use of spaces in school. During a two month period, observation was done during a variety of days and at differing times. The *School Environment Assessment Instrument* is included in the Appendix.

Documentary information was also collected from all three schools. Some of the documents reviewed included the school handbook, behavior referral forms, school improvement plans, School District disciplinary codes, school incident reporting forms and annual school data forms.

Quantitative data were used to enhance the quality and credibility of the qualitative analysis and to increase generalizability. Data from the *Effective School Battery* student and teacher surveys, as well as the *Student Victimization Survey*, summarized for each of the three case study schools, were analyzed in light of the qualitative data collected through the *micro-level* analysis at each school.

## MACRO-LEVEL ANALYSIS<sup>1</sup>

As described in the research design section of this report, the macro-level analysis of this study focuses on two principal areas of interest. The first area examines data from, and related to, all 255 schools in the School District of Philadelphia. A total of five constructs and thirty-three variables (see Table 8 on the following page) are used in the descriptive comparison of the District's three primary school types: 1) elementary schools; 2) middle schools; and 3) high schools.

The breakdown of the District by school type affects both the number of students attending any particular school as well as its age distribution. In consideration of our theoretical focus on school climate and culture and its relationship to disorder, the school's local community setting, as well as differences in the school size and age distribution, are important qualifiers in terms of assessing socio-demographic characteristics of students. Identifying differences in community characteristics could assist the development of school policies that take into account the different problems faced by each type of school.

The first section of the macro-level analysis explores the nature and distribution of local and imported community socio-demographics and crime variables (see below for definition of these terms) as they append to Philadelphia's schools. Here, we examine the District's organization into three school types and its effects on the nature of local vs. imported social, demographic and crime characteristics. Elementary schools, for example, are more numerous, serve a smaller geographic area, have a smaller student population, and serve a wider range of grade levels than middle or high schools. Consequently, elementary schools can be thought of as "community-level" schools, with any distinction between local and imported community social, demographic and crime factors being blurred due to the similarities of where students live and where they go to school. By contrast, middle schools and high schools typically draw students from larger geographic areas, thereby potentially diminishing the "local community" character of these schools.

The second focus of the macro-level analysis, which relates only to middle schools, uses multivariate regression analyses to gauge the effects of a number of independent variables (described in full below), with a dependent variable measuring academic performance. In addition, as illustrated by the macro-level conceptual model, our method of analysis attempts to tease out the complexities contained among these concepts by changing their independent and dependent status.

### *Description of Constructs/Variables*

The first construct to be examined includes a number of variables that measure *Community Socio-Demographic Characteristics*. The term "community" takes on two different meanings in terms of data organization. The first meaning of the term — *local community* — is used to define the census tract where the school is located (the

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1. We appreciate the work of Dr. William Yancey, Salvatore Saporito, and Raj Thadani in assembling this data.

**Table 8**  
**Variables Used in this Analysis**

<b>Construct</b>	<b>Variable</b>	<b>Unit of Measurement</b>	<b>Source</b>
Local Community	Median Household Income	Census Tract	1990 Census
	% Minorities	Census Tract	1990 Census
	% Resided for 5 Years	Census Tract	1990 Census
	% Households w/4 or more	Census Tract	1990 Census
	% Single Parent Households	Census Tract	1990 Census
Imported Community	Median Household Income	Census Tract	1990 Census
	% Minorities	Census Tract	1990 Census
	% Resided for Five Years	Census Tract	1990 Census
	% Households w/4 or more	Census Tract	1990 Census
	% Single Parent Households	Census Tract	1990 Census
Local Crime	Personal Offenses	Individual	1992 Phila. Police Department
	Property Offenses	Individual	1992 Phila. Police Department
	Drug Offenses	Individual	1992 Phila. Police Department
Imported Crime	Personal Offenses	Individual	1992 Phila. Police Department
	Property Offenses	Individual	1992 Phila. Police Department
	Drug Offenses	Individual	1992 Phila. Police Department
School Staffing, Size, Resources	Total # of Students	School	1990 Phila. School District
	% Minority Students in School	School	1990 Phila. School District
	% Minority Teachers in School	School	1990 Phila. School District
	Teacher/Student Ratio	School	1990 Phila. School District
Academic Performance	Mean Standardized Test Scores	School	1990 Phila. School District
	Average Daily Attendance Rate	School	1992 Phila. School District
School Disorder & Violence	Suspension for Serious Incidents	School	1992 Phila. School District
	Suspensions-Non-serious Incidents	School	1992 Phila. School District
	Incidents on School Property	School	1992 Phila. School District
	Total Dismissals	School	1992 Phila. School District

school's surrounding neighborhood). The second meaning refers to the social and demographic characteristics of the neighborhoods where students reside and is termed *imported community*. This latter group of variables was aggregated to the schools by weighting the contribution that each tract made in terms of the number of students it "provided" to the school. These variables were constructed by matching the address of each student and attaching

the corresponding census tract to that student. Using the school as the aggregating unit, students' *imported community* social and demographic characteristics were then averaged to construct these variables.

The variables used to describe local and imported community characteristics include: median household income; percentage of single family households; percentage of households with more than four residents; percentage of households residing in the same dwelling for five or more years, and the percentage of minorities living in the tract.

The second construct in the model is *Community Crime and Violence*. The organization of these variables follows a similar logic to that utilized for the organization of the social and demographic variables: we separated local criminogenic effects occurring in the communities surrounding the schools (*local* effects), from those being brought to the schools from the tracts where student live (*imported* effects). The data used for this analysis were 1992 offenses reported to the Philadelphia Police Department, which were converted into rates expressed in terms of offenses by census tract population per thousand. To simplify this analysis, specific offense categories, organized according to Uniform Crime Report (UCR) distinctions, were collapsed into more broadly defined categories relating to personal, property and drug related offenses. A similar recoding scheme was used for imported (i.e., aggregated to schools) rates of offenses.<sup>2</sup>

The third construct examined in this analysis is *School Staffing, Size and Resources*. The data used for this construct were gleaned from the School District of Philadelphia's records and included the following variables: school size, as expressed by the number of students; staff demographics, or the percentage of minority teachers; student to teacher ratios; and student demographics, as expressed by the percentage of minority students in each school. Although more precise measures relating to individual school resources (such as budget figures) were unavailable, it is believed that school size, as expressed by the number of students in a school, acts as a good proxy measure for school resources due to the formula-derived, per-pupil expenditure policy of the School District. Although school operating budgets can be driven by other factors — namely the number of "at-risk" youth and the size of a school's special education curriculum — they are basically determined by the number of registered students at the beginning of a school year.

The fourth construct to be analyzed is *Academic Performance*. The variables associated with this construct include standardized test scores for elementary and middle schools, and the average daily attendance rate of middle schools. There are no adequate measures of performance for high schools as average attendance, grades and standardized test scores were unavailable. After some consideration, it was determined that the lone measure for high school academic performance, SAT scores, was unreliable in terms of determining overall academic

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2. Local and imported *personal* offense categories were created by collapsing murder, rape, robbery, assaults and aggravated assaults, prostitution, gambling, loitering, DWI and weapons offenses. Local and imported *property* offense categories were comprised of auto theft, theft, burglary, arson, forgery, fraud, embezzlement and vandalism.

performance of a school. This is due to the low percentage of students taking the exam and the self selective nature of the test, since it is not mandatory and is usually only taken by college-bound students.

In the analysis of academic performance that follows, we have focused on the school type where we have good measures — middle schools. The variables used in this analysis include the percent of student scoring above the mean on a nationally normed test, and the average daily attendance rate. We found these two measures highly correlated with a Pearson correlation coefficient of .81.

The fifth and last construct to be analyzed is *School Disorder and Violence*. This construct is expressed by the variables: incidents on school property that resulted in a report to police in 1992; dismissals from school in 1990; and suspensions from school in 1992.<sup>3</sup> Of these three measures, suspension data seem the most complicated in determining levels of school disorder and the extent to which schools vary in exercising suspensions as a form of discipline. This is due to differences in individual school policies regarding what constitutes a suspendable offense. Both dismissals and incident data may provide a better picture of school disorder because they capture more serious levels of disorder and show less variation attributable to differences in school reporting practices.

### *School Size and Demographics*

As stated above, school size and school type have a role in explaining possible variation in local vs. imported socio-demographic and crime characteristics — as well as levels of school disorder. Staff size and staff demographics are also variables believed to play a role in classroom performance and order maintenance. Table 9 lists mean school size (in number of students); mean percent of minority students;<sup>4</sup> mean number of teachers; mean percent of minority teachers; and, student to teacher ratios, broken out by school type.

**Table 9**  
**School Size and Demographics**

School Type	Mean # of Students	% Minority Students	Mean # of Teachers	% Minority Teachers	Mean # of Students per Teacher
Elementary	636	70	29	41	22
Middle School	817	80	42	48	20
High School & Votech	1492	71	77	29	19
Avg. Total	770	72	37	41	21

3. Suspensions were collapsed into two variables to reflect serious and non-serious suspension types. Non-serious suspensions included disruptions and property damage. Serious suspensions were defined by collapsing drug possessions and sales; reckless endangerment; robbery; assault; indecent assault; weapons possession; arson; and rape.

4. The variable "minority" was created by collapsing African-American, Hispanic, Asian and "other" racial categories.

As indicated in Table 9, average school size throughout the School District is 770 children per school. Elementary schools have the least number of students, averaging 635, with 70 percent of elementary school students being members of a minority group. Middle schools have the second largest number of students, with an average of 817 per school, with 80 percent of the student body being comprised of minority group members. Lastly, high schools have just under twice as many as the mean for all schools, with an average student body of just over 1492, with 71 percent being members of a minority group.

In terms of staff size and demographics, elementary schools average just over 29 teachers per school, 41 percent who are members of a minority group. Middle schools average 41 teachers per school, with nearly half (48%) being minority. High schools and Vo-Techs average almost 77 teachers per school (76.7), with 29 percent of their teaching staff being minority. The number of students per teacher, with a District-wide mean of 21.2 students per teacher, is rather consistent over the three levels of schools. Elementary schools were highest with 21.9 students per teacher; middle schools had 19.8 students per teacher, while high schools had a 19.1 to 1 student to teacher ratio.

*Local vs. Imported Community Characteristics*

Tables 9 through 13 illustrate the differences among schools classified by type and local and imported socio-demographic variables used to define community differences.

Table 9  
Median Family Income (\$)

	All Schools	Elementary Schools	Middle Schools	High Schools
Local	22,563	22,587	23,146	21,627
Imported	21,314	21,417	20,521	21,634
Difference	(1,249)	(1,170)	(2,625)	(7)

Median family income levels are \$1,249 less in the tracts imported to schools than in the local tracts of the schools. This means that Philadelphia schools are located in areas where incomes are generally higher in comparison to the areas in which students live. A t-test for paired samples resulted in a t-value of 4.07 (2-tailed sig. = .000 at .95) for all schools, with the difference between local and imported incomes being statistically significant. Mean differences among school type vary, however, with the aggregated median family income in census tracts where elementary school students live being \$1,170 less than the school tract. In middle schools, the most drastic difference in local and imported median family incomes is identified (\$2,625). Differences in median family incomes between local and imported tracts for high school, however, are very small, at only \$7. These findings, taken at face value, cast doubt on the notion that elementary schools are somehow closer to being

“community” schools and suggest that the imported characteristics of high school students, in terms of median family incomes, are more in tune with communities that surround schools. Or, perhaps more accurately, these findings reflect the relative homogeneity in income levels among neighborhoods that serve high school aged students. This homogeneity, especially at the high school level, may reflect those students whose families can afford sending their children to private school.

Table 10 examines the racial composition of local and imported tracts by school type.

**Table 10**  
**Percent Minority in Census Tracts**

	All Schools	Elementary Schools	Middle Schools	High Schools
Local	53	53	62	48
Imported	63	62	73	64
Difference	10	9	11	16

Among all school types, imported tracts have a ten percent greater minority population than local tracts. A paired t-test for all schools resulted in a t-value of 7.91 (2-tailed sig = .000 at .95). In terms of school types, the largest difference in the average minority population was evidenced in high schools, with imported tracts having a 16 percent greater minority population than the local tract of the school. Middle school imported tracts were 11 percent greater, while elementary schools had a nine percent greater level of minority population in imported tracts. While the greater number of elementary schools in the sample helps to explain why their mean difference is so close to the overall average, every school shows a significant difference in imported vs. local minority populations. An explanation for these findings, like those involving income levels, is perhaps related to the racially segregated nature of Philadelphia neighborhoods. As neighborhoods are segregated, so are, by extension, Philadelphia schools. The issue of school segregation has a different interpretation, however, as the number of school-aged children in the city who attend non-public schools is correlated with race, with many upper-income city children attending private or parochial schools. Such a circumstance results in the concentration of large numbers of minority group children in public schools.

The stability of a community can also have social consequences beyond population shifts and can, as examined in this research, related to school climate and performance differences. A variable used to measure community stability, percentage of households residing in the same residence for five or more years, is illustrated in Table 11.

As indicated in Table 11, there is very little variation in community stability for both our imported vs. local areas, as well as across school type. This observation is amplified by the results of a paired t-test which resulted in a t-value of -1.54 (2-tailed sig = .125 at .95 confidence interval). The difference in means for all schools is small and statistically insignificant. For elementary schools, there was no difference; for middle schools a two percent

**Table 11**  
**Percent of Households at Same Dwelling for Five or More Years**

	All Schools	Elementary Schools	Middle Schools	High Schools
Local	65	66	63	62
Imported	66	66	65	66
Difference	1	0	2	4

difference on the side of imported tracts was detected: and for high schools, the difference expanded to four percent, also in the direction of imported tracts.

Our fourth measure of community characteristics is the percent of single family households, the distribution of which is described in Table 12.

**Table 12**  
**Percent Single Parent Households**

	All Schools	Elementary Schools	Middle Schools	High Schools
Local	15	15	17	14
Imported	24.5	24.2	26.6	24.2
Difference	9.5	9.2	9.6	10.2

The measure of single family households, while oftentimes an indication of poverty in an area, serves to highlight the potential level of family resources available to school-aged children. Table 12 illustrates both the large differences in imported over local percentages of single parent households across all schools, as well as within school comparisons. Including all schools in the analysis, there are nearly 10 percent more single family households in imported tracts (9.5%) than in local tracts. A matched pair two-tailed t-test for these variables resulted in a t-value of -24.1 (sig = .000 at .95 confidence interval). All three school types show a consistent difference similar to the District-wide figure, with elementary schools showing a difference of 9.2 percent; middle schools a difference of 9.6 percent; and high schools a difference of 10.2 percent. An explanation for these consistent differences relates to a point raised earlier relating to Philadelphia's high level of racial and income segregation, and by extension, the overrepresentation of poor, minority students in the School District.

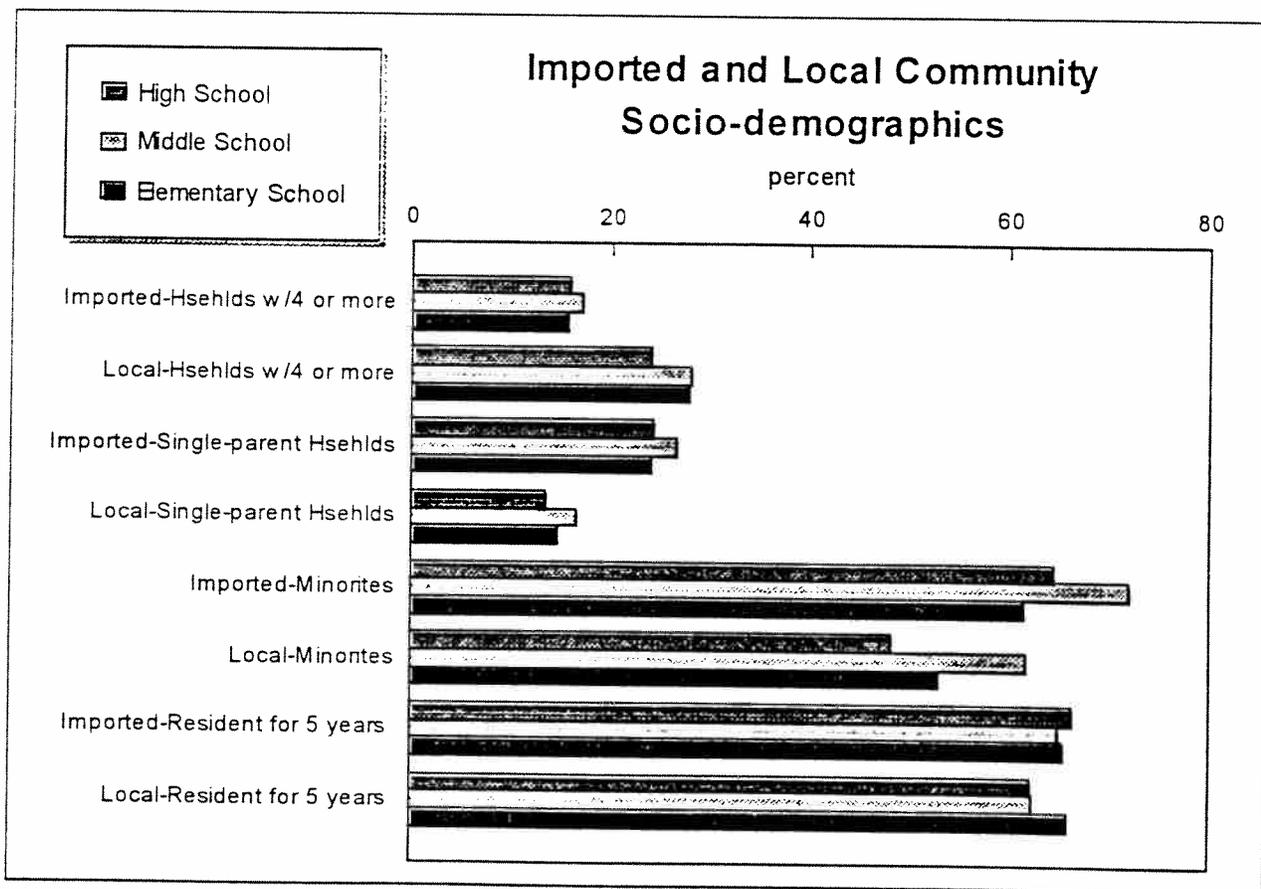
One final table (Table 13) describes a community socio-demographic characteristic relating to household size, or percentage of households in a tract with four or more residents.

**Table 13**  
**Household Size —Percent Households with Four or More**

	All Schools	Elementary Schools	Middle Schools	High Schools
Local	27.3	28	28.1	24
Imported	15.9	15.6	17.1	15.9
Difference	11.4	12.4	11	8.1

Just as there are large differences in the local and imported variables for single parent households, there are also significant differences between local and imported tracts for household size. These differences, interestingly, point in an opposite direction to those detected thus far — with local tracts exhibiting a far greater percent of large households than their imported counterparts. For all schools, there is over an 11 percent spread in this variable, with 27.3% of local and 15.9% of imported tract households having four or more persons. A two-tailed matched pair t-test resulted in a t-value of 28.5 (sig = .000 at .95 confidence interval). This difference remains consistent across school types with elementary school local tracts at 12.4%, middle schools at 11%, and high schools dipping slightly to 8.1 percent

**Figure 8**



While there is no clear explanation for differences in household size, section two of this analysis will enter each of these variables (local and imported) into a multiple regression analysis to examine their respective effects on the dependent variables relating to school performance. This analysis should offer better insight into how and what these local and imported differences mean in terms of our theoretical model. Figures 8 through 10 provide a graphic illustration of the local and imported socio-demographic variables used in this analysis, broken down by school type.

***Criminal Offenses: Local vs. Imported***

Following the format of the preceding analysis, we also analyzed the differences among crime rates for both local and imported tracts among the three school types. In calculating crime rates, we used offenses reported to the police. We analyzed drug offenses separately and collapsed all other offense types into two more broadly defined categories which are indicative of whether the offense involved a personal or a property crime.

**Figure 9**

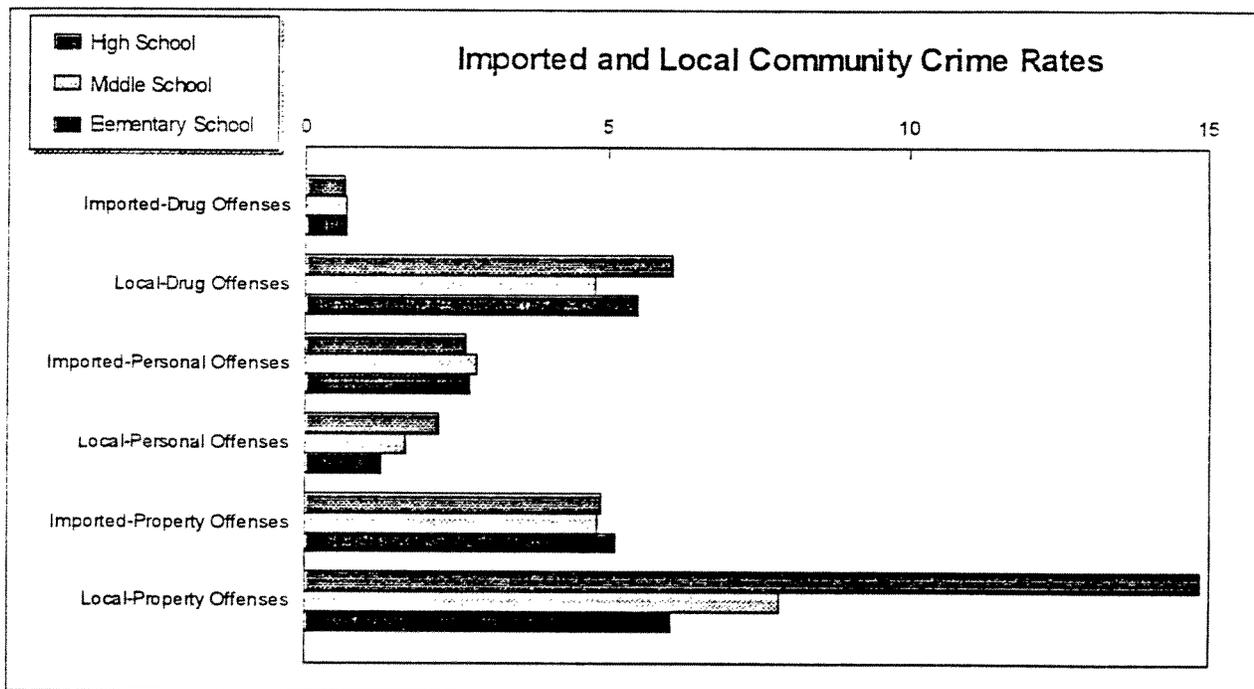


Table 14 presents offense rates for personal, property and drug offenses for imported and local tracts and analyzes their mean differences.

It is apparent from Table 14 that both property and drug offenses occur more frequently in the local tracts than the imported tracts of the students. There are two possible explanations for these differences. The first is that property crime increased around the schools because of significant daily migrations of school aged populations

**Table 14**  
**Offense Rates by Type for All Schools**

	Property Offenses	Drug Offenses	Personal Offenses
Local	7.6	5.5	1.5
Imported	5.0	.6	2.7
Difference	(2.6)	(4.9)	(1.2)
T-Value (sig. at .95)	2.4 (.017)	9.0 (.000)	-11.6 (.000)

into local tracts. This explanation is fortified by an examination of individual level offense types illustrated by Figure 9, where it is revealed that most of this increase is occurring in high school tracts and most incidents involve theft offenses. In terms of drug offenses being greater within the school tract, such a finding could possibly be explained by drug enforcement efforts around schools, characterized by such programs as "Drug Free School Zones" as well as increased drug enforcement scrutiny of students while they are in school.

While drug and property offenses are greater around schools than in imported tracts, personal offenses are greater in imported tracts with a statistically significant difference of 1.2 and a t-test value of -11.6. Theories of social disorganization offer some insight into this finding, as local communities exhibit higher levels of disorganization and are thus more prone to personal offense. This finding can be explained by the fact that local communities show high levels of social disorganization. Figures 8 and 9 provide a graphic illustration of the distribution of offense types for local and imported crime. Table 15 examines the distribution of offenses by local and imported census tracts, breaking out the three school types.

**Table 15**  
**Offenses**  
**Local and Imported Tracts by School Type**

Elementary Schools			Middle Schools			High Schools		
	Local vs Imported	Diff. (-)		Local vs Imported	Diff. (-)		Local vs Imported	Diff. (-)
Property Offenses	6.8 vs 4.3	(2.5)	Property Offenses	8.9 vs 4.0	(4.9)	Property Offenses	22.3 vs 4.5	(17.8)
Drug Offenses	5.5 vs .7	(4.8)	Drug Offenses	4.8 vs .7	(4.1)	Drug Offenses	6.1 vs .6	(5.5)
Personal Offenses	1.3 vs 2.7	(1.4)	Personal Offenses	1.7 vs 2.8	(1.1)	Personal Offenses	2.2 vs 2.7	(.5)

As indicated in Table 15, overall offense rates were greater with regard to drug and property crimes within school tracts, while personal offenses were greater overall in the imported tracts than the local tracts. Table 15 further illustrates these findings and offers some explanations for these differences. Property offenses, while only exhibiting slight differences in the elementary and middle school local vs. imported tracts, skyrocket locally at the high school level. This significant increase in offense rates might be explained by the effects that high school age children can have on a community when they migrate to their school each day. Alternately, some high schools are located around commercial areas in the city and increases in property offenses may be related to the nature of the community in which the school is located.

Somewhat more surprising in Table 15 is the consistency in mean differences of drug offenses among the three school types. One would expect older students to be more involved with such activity, thus driving up the offense rate at middle and high schools in comparison to elementary schools. Imported offense rates for personal offenses are very consistent across school types, with only the slightest of differences being revealed. There is, however, some variation in the local personal offense rates among the three school types, ranging from 1.3 for elementary schools, 1.7 for middle schools, and 2.2 for high schools. The differences in these means, like property offenses, may be affected by both the size and age differences of the respective school type populations, as well as the location of the school itself.

#### *School Disorder and Violence*

The variables used for school disorder and violence were derived from official school records and include incidents occurring on school property as reported to school security, dismissals from school and suspensions which were dichotomized into serious and non-serious categories. Table 16 examines these variables by school type.

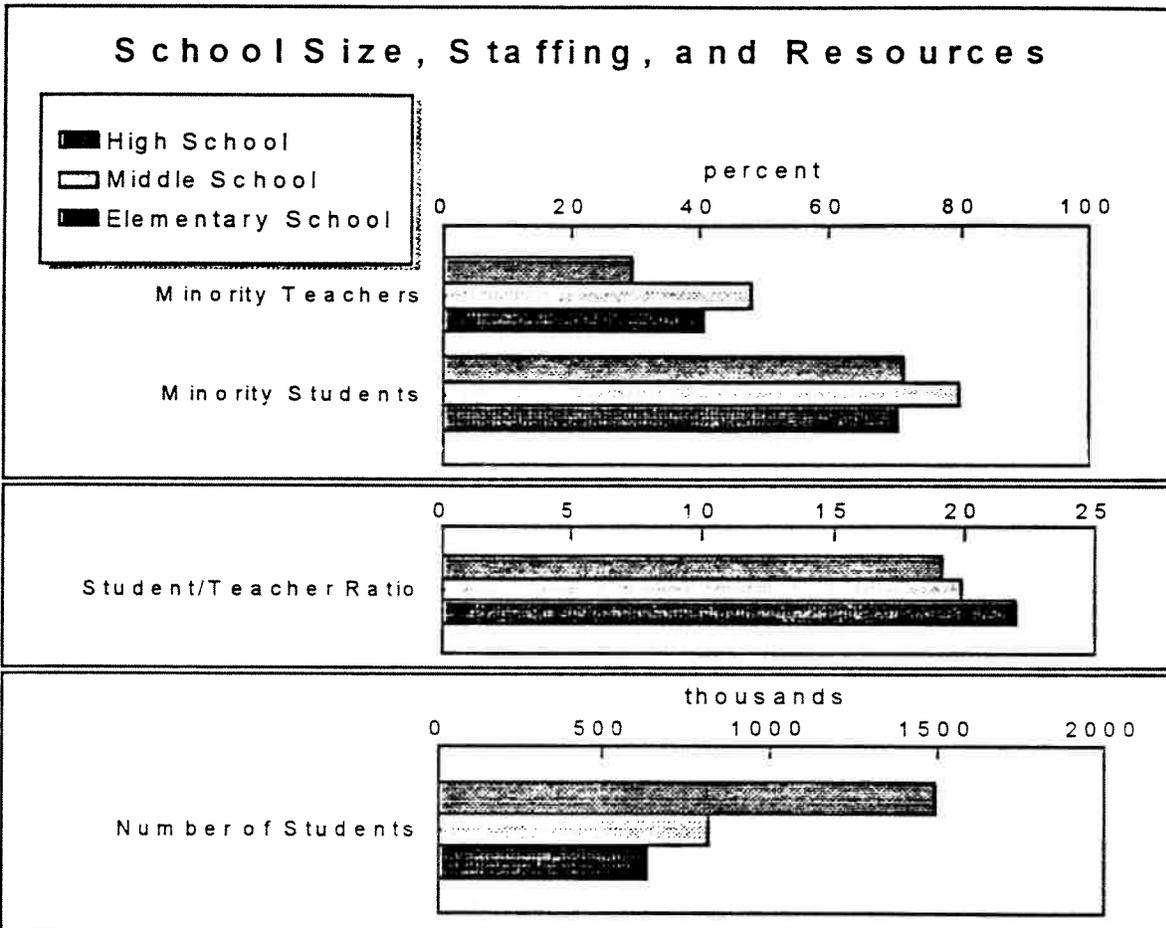
**Table 16**  
**Offense Rates by Type for All Schools**

	<b>Incidents on School Property (rate per student)</b>	<b>Dismissals (rate per student)</b>	<b>Serious Suspensions (rate per student)</b>	<b>Non-serious Suspensions (rate per student)</b>
Elementary	10 (.02)	90.7 (.14)	20.3 (.03)	17.5 (.03)
Middle	39.7 (.05)	116.7 (.14)	132.9 (.16)	110.9 (.14)
High	85.4 (.06)	278 (.19)	293 (.19)	104.4 (.07)
Total	25	120.3	76.2	44.9

As would be expected, elementary schools exhibited the least amount of school disruption in terms of absolute numbers, middle schools were next in their frequency, and high schools suffered the most disruptive incidents.

When controlling for the size of the respective school types, this pattern remained, except for dismissals, where the rate of elementary dismissals equals that of middle schools (.14 per student), and was slightly less than high schools (.19). A larger difference is revealed between the middle school rate for non-serious suspensions and that of high schools, in fact, middle schools show double the high school rate (.07 to .14), with elementary schools showing a very small non-serious suspension rate (.05).

Figure 10



In terms of serious suspensions, the elementary school rate was the lowest at .03 per student per school year, the middle school rate was .16; while the high school rate was the highest at .19. Figure 10 breaks down the school disorder measures by type of school.

To this point in our analysis, we have described several dimensions to community, social, demographic and crime characteristics, as well as differences among school types in Philadelphia on these characteristics. We have also examined school disruption and violence within and across school types by describing the frequencies of disruptive incidents and school suspensions at each level of school studies.

Our theoretical model for this analysis was guided by a conceptualization of the interdependence of these local and imported factors as they shape school climate and culture, as well as affect the performance of students in Philadelphia's schools. Since our focus in this research is on middle schools, the analysis that follows considers the independent and collective effects of community-level variables for Philadelphia's 42 middle schools.

The following analysis examines the bi-variate effects of these variables and concludes with a multivariate analysis. This analysis will be followed, in the next chapter, with an examination of school climate, culture and safety issues for these same 42 middle schools.

## **COMMUNITY AND CRIME FACTORS AFFECTING PHILADELPHIA'S MIDDLE SCHOOLS**

### ***Communities***

Students attending public schools come from diverse social and economic backgrounds and often travel some distance to attend school. Communities where students live and the communities surrounding schools are distinct in geography. The issue explored in this section is whether these communities are analytically distinct in character and contribution to school disorder and academic achievement.

Table 16 presents the bivariate correlations between the socio-demographic measures of communities — household structure, economic and racial composition, and residential stability. An examination of *imported* community characteristics reveals that the variable correlating highest with other variables is single-parent households. This measure correlates strongly with lower median household income (-.87), larger household sizes (.66), and an increased proportion of minorities in census tracts (.63). The relationship among household size, median household income and percentage of minorities to each other are also significant, though the correlations are not as strong.

An analysis of the relationships among the socio-demographic variables in *local* communities reveals a similar pattern (see Table 17), with the percentage of single-parent households being highly correlated to higher percentages of minorities (.63), lower median income levels (-.56), and larger household sizes (.49). The connectivity of these measures, in both local and imported communities, is indicative of one of the endemic problems of urban centers — poverty. This data presents evidence that poverty can be more concentrated in some communities than others. The higher correlations among the imported community characteristics suggests that poverty is more an issue in neighborhoods where students live in comparison to the community where they attend schools.

When variables measuring both local and imported socio-demographic characteristics were entered into the same equation (see Table 18), the relationships among imported to local variables were all positive and statistically significant: median household income (.79), percentage of minorities (.78), percentage of households with four

or more members (.58), percentage of single-parent households (.46), residential stability (.33). This suggests a significant degree of overlap between the characteristics of local communities where schools are located and those from which students are drawn. However, given the range of the correlation coefficients (.46 to .79), there are considerable differences between the communities as well.

**Table 16**  
**Bivariate Correlations Between Imported**  
**Community Characteristics**

Imported	Minority	Household Size	Median Income	Residential Stability	Single-Parent Household
Minority	1.0				
Household Size	.40**	1.0			
Median Income	-.42**	-.57**	1.0		
Residential Stability	.22	-.34*	.47**	1.0	
Single Parent Household	.63**	.66**	-.87**	-.40**	1.0

\* $p < .05$

\*\* $p < .01$

**Table 17**  
**Bivariate Correlations Between Local**  
**Community Characteristics**

Local	Minority	Household Size	Median Income	Residential Stability	Single-Parent Household
Minority	1.0				
Household Size	.23	1.0			
Median Income	-.44**	-.06	1.0		
Residential Stability	-.08	.43**	.27	1.0	
Single Parent Household	.63**	.49**	-.56**	-.22	1.0

\* $p < .05$

\*\* $p < .01$

**Table 18**  
**Bivariate Correlations between Local and Imported**  
**Community Characteristics**

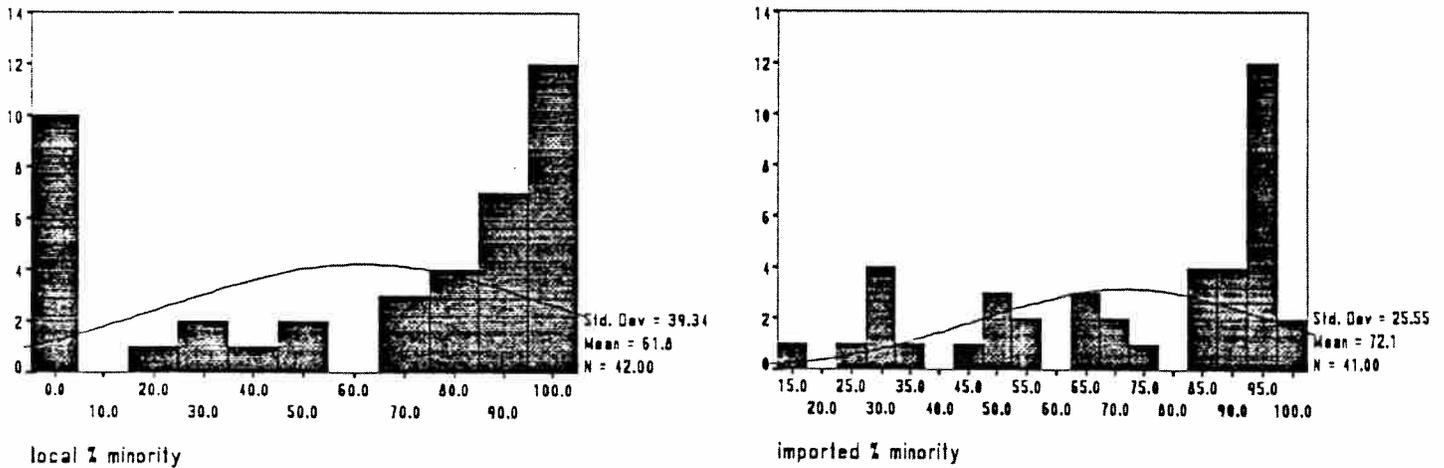
Imported	Local →					
	Minority	Household Size	Median Income	Residential Stability	Single-Parent Household	
Minority	.78**	.23	-.39*	-.07	.58**	
Household Size	.17	.58**	-.45**	-.07	.60**	
Median Income	-.20	-.09	.79**	.19	-.41**	
Residential Stability	.28	-.004	.27	.33*	.01	
Single Parent Household	.31*	.16	-.62**	-.20	.46**	

\*  $p < .05$

\*\*  $p < .01$

Figure 11 presents histograms of the percentage of minorities for local and imported communities. The graph of the local percentage of minorities shows that the distribution of the communities where middle schools are situated can be characterized as segregated. Note that the majority of local communities are primarily clustered along the graph's extremities at 0 percent and 100 percent. This suggests that the communities surrounding middle schools are not racially diverse. Rather, they are predominately White or predominately Black and Hispanic.

**Figure 11**  
**Percentage of Minorities**  
**For Local and Imported Communities**  
**(Middle Schools)**



The distribution of minorities in imported communities is skewed severely to the right toward the predominately minority portion of the graph and highlights the segregated nature of Philadelphia's public schools. Middle schools are attended primarily by minority children, whereas White households enroll their children in private schools (see map of public school enrollment on the following page). The student body in half of the 42 middle schools is over 80 percent minority, and 28 schools have a student body more than 50 percent minority.

**Crime**

Table 19 shows the bivariate relationships between the types of crime that occur in the communities adjacent to middle schools and the communities from where students commute. The strongest correlations among imported crime rates are between crimes involving drugs and crimes involving property. A correlation coefficient of .78 indicates that communities with high rates of drug offenses are those communities which also have high rates of auto theft, vandalism and arson. This is the only statistically significant bivariate relationship among imported crime rates, suggesting that drug offenses and property offenses are very likely to take place in the same neighborhoods of the city.

**Table 19  
Bivariate Correlations between  
Imported Crime Characteristics.**

<b>Imported</b>	<b>Drug Offenses</b>	<b>Personal Offenses</b>	<b>Property Offenses</b>
Drug Offenses	1.0		
Personal Offenses	.27	1.0	
Property Offenses	.78**	.28	1.0

\*p < .05  
\*\*p < .01

Table 20 shows that the correlations of local crime rates (personal, property and drugs) are significant and positively related. Personal crimes exhibit the strongest relationships showing correlation coefficients of .66 with property crimes and .62 with drug crimes. The linked relationships among all types of local crimes suggest that crime occurring in communities surrounding middle schools can be characterized as concentrated. This means that a community experiencing a high rate of one particular type of crime is also enduring high rates of other crimes as well.

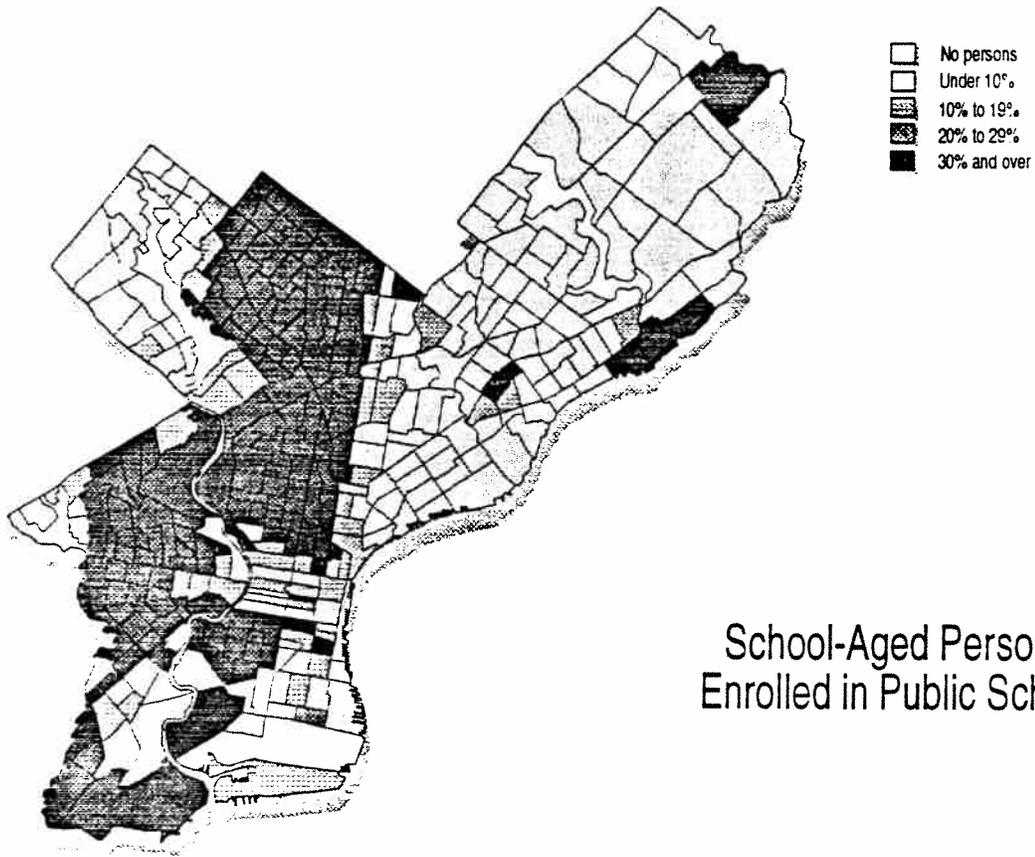
**Table 20  
Bivariate Correlations between  
Local Crime Characteristics**

<b>Local</b>	<b>Drug Offenses</b>	<b>Personal Offenses</b>	<b>Property Offenses</b>
Drug Offenses	1.0		
Personal Offenses	.62**	1.0	
Property Offenses	.30*	.66**	1.0

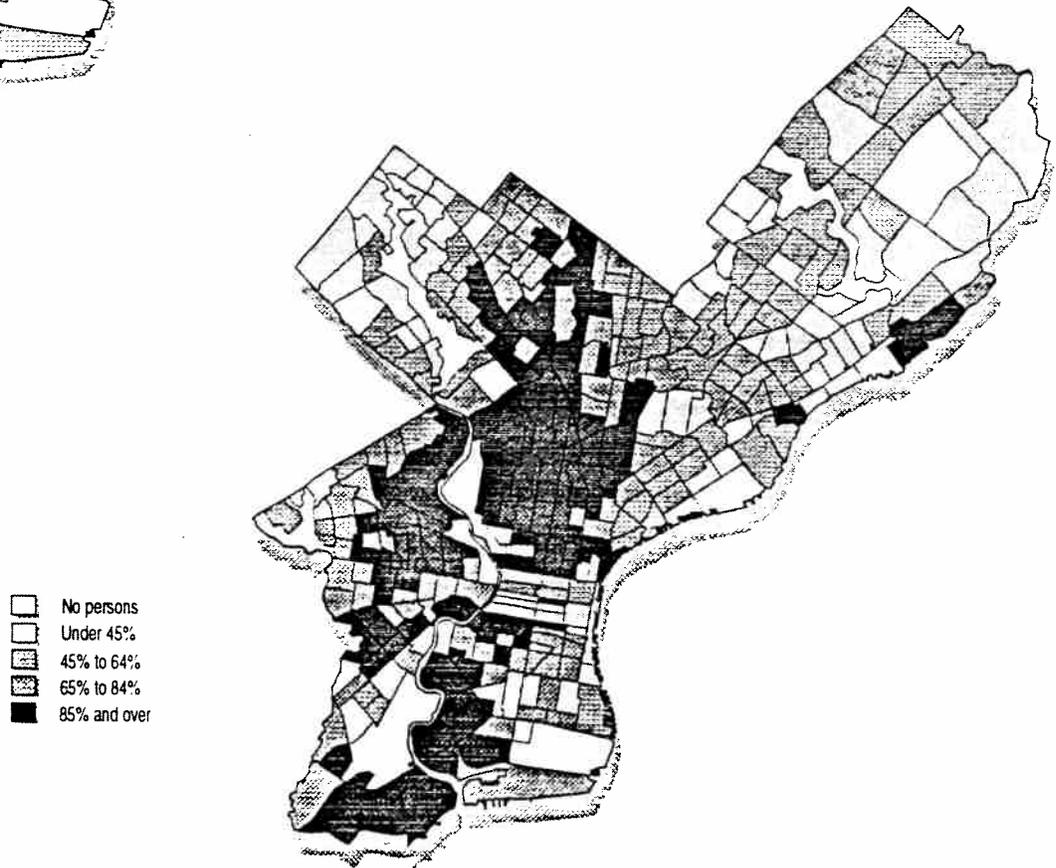
\*p < .05  
\*\*p < .01

Figure 12

### Non-White Persons



### School-Aged Persons Enrolled in Public School



Examining the association of crime rates between communities where middle schools are situated and communities where students live, Table 21 reveals the possibility of a transference of criminal behavior. The relationship between imported personal crimes is positive and significantly related to local drug crime rates (.63) and local personal crime rates (.48). Middle school students living in communities with high rates of personal crimes are likely to attend a school that is located in a community with high rates of drug offenses.

**Table 21**  
**Bivariate Correlations Between**  
**Local and Imported Crime Characteristics**

	Imported Drug Offenses	Imported Property Offenses	Imported Personal Offenses
Local Drug Offenses	-.07	.03	.63**
Local Property Offenses	.05	.47**	.34*
Local Personal Offenses	-.02	.22	.48**

\*p < .05

\*\*p < .01

#### *Communities and Crime*

Thus far, our analysis maintains that students living in communities characterized by individual poverty, community instability, and high rates of crime may also be exposed to and desensitized by crime and violence. These experiences can then be imported by students into the school environment, thereby increasing the risk and likelihood of violence and disorder at school. Table 22 shows the bivariate correlations between imported community measures and imported crime rates.

**Table 22**  
**Bivariate Correlations Between**  
**Imported Community and Crime Characteristics**

	Personal Offenses	Property Offenses	Drug Offenses
Minority	.40**	-.39**	-.31*
Household Size	.66**	-.09	.04
Median Income	-.85**	.05	.12
Residential Stability	-.10	-.16	-.22
Single-Parent Households	.85**	.03	.01

\* p < .05

\*\* p < .01

The variable personal crime has the strongest relationships with the household characteristics of the community. Low median household income (-.85), high percentages of single-parent households (.85) and high percentages of

households with four or more members (.66) are all significantly related to personal crime rates, while property crime rates are related to low percentages of minorities (-.39). Drug crime rates did not correlate highly with any of the socio-demographic measures.

Table 23 reveals these relationships in terms of local offenses, with personal crimes highly correlated to community instability (-.62) and low median household income levels (-.51). Local property crimes are also related to community instability (-.45), while local drug crime is significantly related to low median household income levels (-.54), higher percentages of single-parent households (.41) and higher percentages of minorities (.41).

**Table 23**  
**Bivariate Correlations Between**  
**Local Community and Crime Characteristics**

	Personal Offenses	Property Offenses	Drug Offenses
Minority	.37	-.07	.41**
Household Size	.17	-.38*	.28
Median Income	-.51**	-.11	-.54**
Residential Stability	-.62**	-.45**	-.16
Single-Parent Households	.38	-.20	.41**

\*p < .05

\*\*p < .01

It is evident from this data that the telltale characteristics of poverty are highly correlated to most types of crime, in particular drug crimes in local school tracts and personal crimes in imported census tracts. Previous studies have shown that high levels of poverty and crime are associated with school disorder (Gottfredson and Daiger, 1979; NIE, 1978; Rubel, 1978; Toby, 1983b). It would seem to be a reasonable expectation that poverty and crime will be significant factors in explaining the level of disorder and violence in Philadelphia's middle schools.

#### *School Disorder and Violence*

Socio-demographic and community crime constructs were analyzed using a multivariate regression analysis to predict school disorder and violence. Several variables for school size and staff (total school enrollment, percentages of minority teachers and students, student teacher ratio) were also entered into the analysis as measures of the internal school environment to assess their relationship to school disorder. Recall that we anticipated that local community characteristics had a direct and indirect impact on disorder, with the indirect impact relating to school resource demands.

Given the strength of the correlations between the measures of the socio-demographic construct (e.g., the relationship between single-parent households and median household income in imported tracts (see Table 16)), it is unreasonable to enter these variables into multivariate regression models without experiencing difficulties with multicollinearity. Rather than eliminate any of these variables from the analysis, they were combined based on a factor analysis using a varimax rotation.

The final solution produced two major dimensions each for local and imported community characteristics (Table 23). The first factor score was labeled "poverty" because the relationship of the variables suggest economic hardship for households; concentrations of single-parent households and minorities and lower median incomes. The second factor score was labeled "community stability" because of its link to residential tenure; long-term residents contribute to the cohesiveness of communities. The relationships of the factor scores for local and imported are almost equivalent (i.e., local poverty with imported poverty; local community stability with imported community stability) with the exception of household size which is highly associated with both local poverty and imported community stability. The factor solution suggests that larger household sizes increase the level of community stability found within the neighborhoods immediately surrounding middle schools and, to a lesser degree, also increases household poverty.

On the other hand, in imported communities, larger households primarily increase the levels of household poverty and reduce the level of community stability. The factor scores were used as independent variables for the socio-demographic construct in predicting school disorder and violence and academic achievement.

**Table 24**  
**Factor Solutions**  
**for Local and Imported Community Characteristics**

	Local "Poverty"	Local "Community Stability"	Imported "Poverty"	Imported "Community Stability"
Single-Parent Households	.91	.14	.96	(*)
Minority	.79	(*)	.72	.62
Median Income	-.77	.24	-.87	.26
Household Size	.38	.83	.78	-.15
Residential Stability	-.29	.84	-.34	.89

\* absolute value less than .10

The variable school incidents reflects levels of school disorder that occur on or near school grounds that are reported to the police. This includes all incidents that involve students, adults, and students from other schools.

Dismissal rates are the measures of the total number of expulsions for the 1992 school year, while suspensions were dichotomized into serious and non-serious categories.

Table 25 shows the bivariate correlations of the various measures of school disorder. All are positive and significantly related to one another. These relationships are similar to the correlations that exist between the types of crime previously discussed. Schools with high rates of incidents, dismissals, or suspensions for serious infractions are also likely to experience high rates of all types of disorder, while non-serious suspensions show little relationship to the other variables.

**Table 25**  
**Bivariate Correlations**  
**Between Types of School Disorder**

	Incidents on School Grounds	Dismissal Rate	Serious Suspensions	Non-Serious Suspensions
Incidents on School Grounds	1.0			
Dismissal Rate	.48**	1.0		
Serious Suspensions	.38*	.42**	1.0	
Non-serious Suspensions	.12	.15	.16	1.0

\*p < .05

\*\*p < .01

Table 26 shows the results of a multivariate regression analysis for our measures of school disorder. The prediction of incidents occurring on or near school grounds with local community constructs (Model 1) was statistically significant ( $F = 2.400$ ,  $p < .03$ ) and accounted for 47 percent of the explained variance. Strong predictors of school disorder were school size ( $b = .50$ ,  $p < .005$ ) and average daily attendance ( $b = -.61$ ,  $p < .05$ ). This suggests that middle schools with larger enrollments and worst attendance are more likely to have incidents. It appears that this finding could be a function of increased demand on staff and security to patrol larger school buildings and grounds. Thus, it becomes more difficult to maintain order among students during class changes and dismissal times and guard against intruders in larger schools. Although somewhat counterintuitive to the preceding discussion on school size, middle schools with poorer attendance rates are more likely to experience higher levels of incidents on or near school grounds as well. The strength and direction of this relationship could be interpreted as those schools with high truancy rates also have a low attachment to school, and this detachment from school could result in less self control and more incidents in and around these schools.

**Table 26**  
**Multivariate Regression Analysis**  
**of Factors Related to School Disorder**

**Dependent Variable**

	Rate of Incidents Occurring On or Near School Grounds		Dismissal Rate		Suspension Rate for Serious Infractions		Suspension Rate for Non-Serious Infractions	
	Model 1 Local	Model 2 Imported	Model 3 Local	Model 4 Imported	Model 5 Local	Model 6 Imported	Model 7 Local	Model 8 Imported
School Enrollment	0.501**	0.372*	0.099	0.116	0.545**	0.492**	0.272	0.269
Student/Teacher Ratio	-0.186	-0.212	-0.018	-0.163	-0.175	-0.206	-0.180	-0.268
% Minority Teachers	-0.055	-0.055	-0.181	-0.204	-0.423	-0.400	-0.460	-0.063
% Minority Students	0.078	0.126	0.130	-0.142	0.420	0.656	-0.931**	0.322
Average Daily Attendance	-0.609*	-0.737*	-0.506*	-0.586*	0.140	0.339	-0.376	-0.546
Mean Standardized Test Score	0.334	0.319	-0.436*	-0.416*	-0.307	-0.425	0.146	0.150
Poverty	0.270	0.397	-0.062	0.224	0.199	0.364	0.349	0.400
Community Stability	-0.026	-0.207	0.205	0.276	0.194	-0.324	-0.027	0.107
Personal Offenses	-0.203	-0.608	0.154	-0.196	0.040	-0.529	-0.535	0.262
Property Offenses	0.204	-0.186	-0.026	-0.014	0.119	-0.274	-0.115	-0.152
Drug Offenses	-0.240	0.225	-0.208	0.085	-0.419	0.392	0.507*	-0.058
Constant	340.121*	460.762*	0.726*	0.927**	-107.124	-362.567	685.488	1031.207
R	0.684	0.717	0.879	0.892	0.721	0.737	0.790	0.656
R-Squared	0.468	0.514	0.773	0.796	0.519	0.543	0.624	0.430
F	2.400	2.798	9.300	10.291	2.946	3.135	4.527	1.987
Signif F	0.028	0.013	0.000	0.000	0.009	0.007	0.001	0.068

shown are standardized coefficients

\* p < .05

\*\* p < .01

Substituting imported community and crime constructs for imported variables (Model 2) resulted in similar findings, with a statistically significant regression equation accounting for 51 percent of the explained variance ( $F = 2.798, p < .01$ ). Here too, total student enrollment ( $b = .37, p < .02$ ) and the average daily attendance rate ( $b = .74, p < .04$ ) were strong predictors of incidents. It appears that the imported community factors contribute slightly more to the explanation of incident rates at school than local community factors with an increase of .04 in the  $R^2$ . Interestingly, the relative importance of daily attendance rates increased from -.61 to -.74, while total school enrollment decreased from .50 to .37. This suggests that daily attendance by middle school students is more strongly linked to factors in their home neighborhoods. Moreover, changes in standardized beta coefficients indicate the possibility that high levels of poverty and instability within communities where students live, as well as high personal crime rates, are indirectly related to school disorder through average daily attendance rates.

Looking at dismissal rates, the regression model for local community constructs (Model 3) accounted for 77 percent of the explained variance ( $F = 9.300, p < .0001$ ). Good predictors of dismissal rates were the average daily attendance rate ( $b = -.51, p < .02$ ) and mean standardized test scores ( $b = -.44, p < .03$ ). Moreover, middle schools with poor attendance rates and poor overall performance on standardized tests were more likely to have higher dismissal rates.

Once again, replacing local measures with imported community and crime characteristics (Model 4) accounted for 80 percent of the variance and was statistically significant ( $F = 10.291, p < .0001$ ). Like the equation using local community variables, the strongest predictors of dismissal rates were the average daily attendance rate ( $b = -.59, p < .01$ ) and mean standardized test scores ( $b = .42, p < .03$ ) of the schools. The explanatory power of the equation increased .03 when imported community factors were substituted into the model. As with incidents at schools, the relative strength of daily attendance increased from -.51 to -.59.

Predicting suspension rates for serious infractions using local community characteristics (Model 5) was also successful ( $F = 2.946, p < .009$ ) accounting for 52 percent of the explained variance. The only significant predictor was school size ( $b = .55, p < .001$ ). This suggests that the middle schools with the largest enrollment are more likely to have the highest suspension rates.

The regression model with the imported community and crime characteristics (Model 6) produced similar results. The model accounted for 54 percent of the explained variance and was statistically significant ( $F = 3.135, p < .007$ ).

The regression equations for non-serious suspensions produced much different results than the previous models. The model with local community and crime constructs (Model 7) was statistically significant ( $F = 4.527, p < .001$ ) and accounted for 62 percent of the explained variance. However, the percentage of minority students ( $b = .03, p < .003$ ) and the drug offense rate ( $b = .51, p < .02$ ) were the only significant predictors. These results

indicate that middle schools with predominately White students are likely to have higher suspension rates for disruptive behavior and property damage. Also, school located in neighborhoods with high rates of drug offenses are more likely to have higher rates of non-serious suspensions.

The model substituting imported community measures (Model 8) accounted for 43 percent of the explained variance, but was not statistically significant. None of the variables were statistically significant, suggesting that non-serious suspension rates are not an accurate measure of school disorder.

This series of regression analyses shows that the best overall predictors of school disorder in Philadelphia's middle schools are measures which are primarily related to internal school factors of school size and achievement levels of students and not to community and crime. Hellman and Beaton (1986) arrived at similar conclusions in their analysis of problems in middle schools in Boston. School disorder is essentially a function of the internal school environment and not of the community itself, although community characteristics did predict school violence in Boston's high schools. Local and imported community characteristics appear to play a secondary or indirect impact on school disorder. Imported community and crime constructs, poverty and community stability, in particular, contribute an additional two to four percent above the local models toward the prediction of rates of incidents, dismissals and serious suspensions.

With  $R^2$ 's of .77 for the model with local community and crime constructs and .80 for imported characteristics, dismissal rates appear to be the best measurement for school disorder in middle schools. The insignificance of non-serious suspension rates in the regression analysis may be explained by the accuracy and variability of reporting policies throughout the School District.

### *Academic Achievement*

The role of the school disorder and violence and the academic achievement constructs were reversed in a second series of multivariate regressions. Average daily attendance rates and mean standardized test scores replaced the school disorder constructs as the dependent variables in the equations.

The dependent measures of academic achievement are mean standardized test scores and average daily attendance rates. Daily attendance is related to educational success in that it is important for students to be in class. Students can not learn if they are not in school. In this analysis, we examine the contributions of community, crime, and school size and staff on academic achievement, including the effect that school disorder and violence has on student performance.

Table 27 shows the results of the multivariate regression analysis of academic achievement in Philadelphia middle schools. The first regression equation predicting average daily attendance rates with local community characteristics (Model 1) was statistically significant ( $F = 9.025$ ,  $p < .0001$ ) and accounted for 81 percent of the

explained variance. Dismissal rates ( $b = .62, p < .0001$ ) was the only significant predictor. In other words, middle schools with the lowest dismissal rates are more likely to see their students achieve a higher mean on standardized tests.

**Table 27**  
**Multivariate Regression Analysis**  
**of Factors Related to Academic Achievement**

**Dependent Variable**

	Average Daily Attendance Rate		Mean Standardized Test Score	
	Model 1 Local	Model 2 Imported	Model 3 Local	Model 4 Imported
School Enrollment	-0.040	0.004	0.033	0.065
Student/Teacher Ratio	-0.028	-0.131	0.122	0.025
% Minority Teachers	-0.174	-0.180	-0.299	-0.299
% Minority Students	0.072	-0.444	0.094	-0.020
Incident Rate	-0.104	-0.131	0.126	0.096
Dismissal Rate	-0.619**	-0.486**	-0.651**	-0.614**
Serious Suspension Rate	0.108	0.117	-0.106	-0.122
Non Serious Suspension Rate	-0.141	-0.081	-0.017	0.011
Poverty	-0.215	0.215	-0.352	-0.189
Community Stability	0.202	0.438*	0.094	0.187
Personal Offenses	0.299	-0.307	0.368	-0.018
Property Offenses	-0.173	0.130	-0.264	0.000
Drug Offenses	-0.245	-0.100	-0.069	0.019
Constant	94.845**	106.761**	54.122**	70.857**
R	0.899	0.939	0.891	0.896
R Squared	0.807	0.881	0.793	0.804
F	9.025	15.352	8.255	8.502
Signif F	0.000	0.000	0.000	0.000

shown are standardized coefficients

- \*  $p < .05$
- \*\*  $p < .01$

Substituting imported community and crime constructs (Model 2) into the regression equation reveals slightly different results. The model was statistically significant ( $F = 15.352, p < .0001$ ) and accounted for 88 percent of the explained variance. Dismissal rates ( $b = -.49, p < .0001$ ) was again a significant predictor, along with community stability ( $b = .44, p < .02$ ). This suggests that students who live in communities that exhibit high coherence and low rates of residential turnover are more likely to attend school on a regular basis. The community and its residents may serve as role models so that children can absorb and interpret contacts they have with adults and events that take place within their neighborhood. Some children exposed to an environment with large numbers of truants or drop outs may inevitably accept this behavior as normal. Therefore, it would be expected that higher rates of truancy in communities would be directly related to poor attendance in schools.

The regression models for mean standardized test scores produced revealed similar relationships. With the local community constructs entered into the regression (Model 3), 80 percent of the explained variance is predicted and the equation is statistically significant ( $F = 8.255, p < .0001$ ). The predicting variable for dismissal rates ( $b = -.65, p < .0001$ ). Essentially, schools with the lowest dismissal rates are most likely to have higher test scores among its students.

The model substituting imported community and crime measures (Model 4) was statistically significant ( $F = 8.502, p < .0001$ ) and accounted for 80 percent of the explained variance. Again, a school's dismissal rate was one of the strongest predictors ( $b = -.61, p < .0001$ ). Unlike the previous regression models, imported community constructs do not appear to contribute any additional explanation to the variance of mean standardized test scores as the  $R^2$ 's for both equations are identical. This would suggest that there is no real difference between the impact of the community immediate to middle schools or students home community regarding student performance on standardized tests.

## CONCLUSION

Clearly, this analysis shows that school disorder directly and negatively impacts academic achievement. Dismissal rates proved to be the better measure of school disorder and violence in the previous series of regression analyses and is the most significant factor in predicting student performance in middle schools. School size, expressed in terms of student enrollment, proved to be a significant predictor of several measures of school disorder (i.e., the rates of incidents occurring on school grounds reported to police and suspensions for serious infractions). Recall from the descriptive analysis that the Philadelphia School District allocates school resources according to a formula based on individual school enrollment figures. Consequently, school operating budgets and other resources can also be expected to exhibit comparable relationships as well as be relevant measures in predicting disorder in schools.

This analysis has also shown that Philadelphia's public middle schools are racially, economically and criminologically segregated just as its neighborhoods are. We anticipated that poverty and crime in communities where students live and attend school would have a direct and negative impact on school disorder and violence; however, none of the community factors stand out as significant contributors to disorder. The analysis of academic achievement showed that residentially stable and coherent communities encourage students to attend classes. Daily attendance also contributes to low rates of disorder in middle schools. Thus, a student's neighborhood environment does contribute to disorder, but in an indirect manner.

## SCHOOL BASED MANAGEMENT AND SCHOOL CLIMATE AND CULTURE

The intermediate level of analysis for this research focuses primarily on the climate and culture of a subset of Philadelphia's middle schools. Essentially, this analysis sees school climate as a mediating variable affecting school disorder and violence, as well as the extent of adoption of school based management. Below we examine the general trends in school based management across Philadelphia's 42 middle schools, followed by a more detailed quantitative assessment of school based management in the 11 middle schools in which surveys were completed. The remainder of the intermediate analysis focuses on school victimization and disorder, as well as the climate and cultural aspects of middle schools thought to influence the extent to which schools exhibit higher or lower levels of disorder and violence.

### *School Based Management: Some General Considerations*

School systems, particularly the larger ones, have continually attempted to balance two often competing and, at times, polar demands. On the one hand, school systems are legally and morally charged with assuring equal access to educational services and an equal quality of the educational services provided. Moreover, large school systems have, for years, been beset with resource problems, such that acquiring "economies of scale" through centralized management were believed to increase the ability of the school system, as a whole, to produce a quality educational experience for students.

Such a legal mandate, coupled with the economic realities of managing large-scale educational systems, has tended to shift decision making on matters of curriculum, class size and the like from local school decision makers to a central administration. By standardizing school educational policies, it is believed that such quality assurance in access and content can be better assured, and at a more reasonable cost to the public.

On the other hand, school systems are continually challenged to "tailor" educational services to the needs of their specific clients. Such a posture tends to shift authority and decision making for curricular and other educational matters from the central administration to the local school and its decision makers. Programs reflecting language and cultural differences across schools are illustrative of such decentralized and local approaches to at least part of the educational enterprise.

The tension between the appropriate balance between centralized and decentralized management is ever present in large, urban school systems such as that in Philadelphia's. Moreover, the balance between central and local decision making also has implications for building a school climate and culture that actively supports improved school functioning and, hence, improved student learning.

A criticism of centralized school management is that it distances those who decide about school functioning from those who actually have to make the school work. Such a distancing of management from day-to-day operational

necessities of making a school work, it is argued, also suppresses local innovation and risk taking. It is further argued that this results in a local school culture that is characterized by apathy and avoidance. Since local administrators, teachers, students and parents have little opportunity to shape the policies of the school, they simply withdraw, creating a vacuum in the school's culture and climate. Such a retreat in personal investment in the school, it is contended, further alienates those within the school from the central purpose of the school itself — to provide a high quality education to students. Moreover, the frustration associated with centralized management has also been suggested to further distance students and their parents from the educational process. If local administrators and teachers are impotent in affecting basic changes within their schools, then why should students and parents be involved in a system apparently beyond anyone's control? The self-reinforcing and self-reflecting nature of this apathetic and distant environment, it is believed, continues to fuel a downward spiral of local school climate and culture.

A growing trend in administrative practice is to have authority and responsibility for managing complex systems devolve to the appropriate level where information is most available and where time constraints are most pressing. For school systems, "School Based Management" is generally seen as a process for transferring authority and responsibility for school decision making from centralized school system offices to local schools. The general idea is that such a transfer in authority and responsibility will be accompanied with a renewed commitment to the school on behalf of local administrators, teachers, staff, students and their parents. School based management, then, is couched in terms of cooperative, decentralized decision making and power sharing with the end goal of improving the responsiveness of schools in their pursuit of academic excellence.

In addition to raising the level of commitment within schools, school based management is believed to affect school climate and culture by providing a "stake" in the school for those who work and learn in the school. School based management assumes that by decentralizing authority and responsibility for school functioning, administrators, teachers, students and parents will benefit by a supportive and nurturing environment which stems from the decentralized process, as well as the raised commitment and "stake" in school outcomes.

School based management is also seen as "results-oriented" as opposed to the traditional school management practices of measuring process. That is to say, under the rubric of school based management, outcomes — not processes — are the most important. Whereas in the past a school might focus on issues like student-teacher ratio and per pupil expenditures as measures of school system effort, more and more concerns with raised test scores, the percentage of students who graduate and go on to more advanced education, and improved learning are the preferred measures of school success.

While school based management has gained some following within educational circles, many still resist the language and, often-times, symbolism associated with new programs. Nevertheless, a school can be said to be engaged in school based management if it exhibits the following activities or practices:

- ◆ A recognized authority from the central administration of the school system for committing resources and/or designing or modifying educational programs to meet local conditions;
- ◆ An internal structure (committees, policy boards, discussion groups, etc.) for discussing school issues on a regular basis and involving administrators, teachers, students and parents in school decision making;
- ◆ A routinized process for communicating policies and programs to teachers, students and their parents and for soliciting comments and input prior to decision making; and
- ◆ A process for self-evaluation and the use of local information to redirect programs and/or resources based on changing circumstances.

These four conditions create a structure and process for local schools to be more involved in decision and policy making on the matters that most often affect them. Their presence (or absence) within any particular school provides a way of estimating the extent to which that particular school is engaged in school based management.

### *School Based Management in Philadelphia*

Like school districts in many large cities, the School District of Philadelphia has been experimenting in school based management as a means of improving local responsiveness and educational quality. In 1990, the School District initiated a program of School Based Management and Shared Decision Making (SBM/SDM) (1992), outlining its intentions to move from a centralized to a decentralized school management system. This effort began with an agreement between the Superintendent of the School District and the President of the Philadelphia Federation of Teachers to build a process for greater decision making autonomy within local schools. The program was based on establishing a local school based management process, while at the same time increasing the capacity within schools for shared decision making.

School based management is a process which provides for the decentralization of resources to individual schools which become the primary unit of decision making. The major belief behind school based management is that the closer a decision is made to a student served by a decision, the better it is likely to serve the student. Decision making at the local level involves the principal, staff, parents, community members, and sometimes students, [Whereas] Shared decision making (SDM) means that all members of the staff at the school level collaborate in defining goals, formulating policy, and implementing programs to enhance school effectiveness (School District of Philadelphia, 1992:1).

While the School District of Philadelphia acknowledged that there was no "prepackaged formula" for creating and implementing school based management and shared decision making within any particular school, it did outline several criteria for beginning the process of building a school based management team and shared decision making processes in local schools.

To begin the process of making a transition from traditional to school based management, schools within the School District of Philadelphia were required to: 1) submit a "Letter of Intent" to the District, 2) form a Governance Council, and 3) design and submit for approval a local school Educational Plan. As of March, 1994,

of the 270 schools within the District, 67 had submitted letters of intent, 45 had formed Governance Councils, and 13 had submitted and approved Educational Plans.

While the creation of a centralized structure to facilitate decentralized school management may appear somewhat contradictory, the School District of Philadelphia saw the need to provide some guidelines for local schools who heretofore had little experience with decentralized management. Moreover, the District targeted and supported several schools for this initiative by providing resources and support services in furtherance of decentralized management at these schools. This support came through the Philadelphia School Collaborative and the Cluster Initiative, both vehicles for increasing support for staff development to local schools that were designated as Cluster Schools and that had already filed a Letter of Intent and formed a Local Governance Council (LGC). The District also created an Implementation Team comprised of School District of Philadelphia Federation of Teachers representatives to help support decentralization efforts. As a consequence of the additional support, several schools leaped ahead of others in their pursuit of school based management and shared decision making. Nevertheless, many schools which had not be designated for increased support also began the process of pursuing a decentralized and shared decision system of management, often-times outside of the "official" SBM/SDM program of the School District. As a result, at least two groups of schools — those with additional District support and a group without this support — began the process of decentralizing management and increasing input into school decision making.

As part of this research, an initial assessment was undertaken of the extent of adoption of school based management and shared decision making, ongoing safety and security issues within schools and programs to address these concerns, and school climate. During August, 1994, the Temple University Project Team conducted interviews with middle school Principals in each of the School District's 42 middle schools. These interviews typically lasted from one to one and one-half hours, and were guided by an interview schedule (see Appendix for Instrumentation for Interview Schools). Notes from each interview were transcribed and a cross-school analysis of principal responses was conducted.

While many of the schools in which principals were interviewed had not submitted the formal letter of intent to the School District, many had in place processes and structures that are easily associated with school based management and shared decision making. That is to say, in many of the interviews with middle school principals, schools had implemented alternative consultative and decision making arrangements to what can be considered typical top-down management. Schools had organized themselves into Houses<sup>1</sup> (vertical or horizontal), had cabinets and/or committees to review and comment on school needs and strategies, and had processes to include teachers, staff and parents in decision making.

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1. The implementation of the House structure enables the school to be separated into smaller learning communities. The Vertical House Plan separates the school into houses containing classes for each grade level, whereas the Horizontal House Plan organizes the school by grade level.

Some of these schools suggested that they had no intention of pursuing SBM/SDM as outlined by the School District, although they recognized that many of the processes they had implemented locally reflected the principles of SBM/SDM. Nevertheless, many principals suggested that their inability to actually control the budget and address personnel matters locally effectively precluded their adopting a SBM/SDM as envisioned by the School District. Another concern raised by principals was the need for the District to address issues regarding the teachers' contract as a prelude to implementing SBM/SDM. Here, the concern is with how much time can be expected to be devoted to SBM/SDM activities when the teachers' contract does not contain provisions for the time or extra salary to undertake such duties. Given the constraints of budget, personnel oversight and time, many principals interviewed suggested that a less ambitious version of SBM/SDM was likely to emerge in most of the District's schools.

While a significant number of schools had not officially adopted School Based Management and Shared Decision Making as a formal program as outlined by the School District, using criteria outlined above, several were well on their way to decentralizing management and increasing responsibility for and input in decision making. Table 28 examines the more generic elements of decentralized management across Philadelphia's 42 middle schools. Information contained in Table 28 was gleaned from the Principal Interviews described above.

As seen in Table 28, while most of the middle schools in Philadelphia were not officially recognized by the School District as embarked on a path toward SBM/SDM, most had at least two common elements in decentralized management and shared decisions — a structure for such discussions and a regular communication about policy, procedure and practice. To the extent that most of the schools had some of these attributes, SBM/SDM has perhaps gone further in the School District of Philadelphia than is formally recognized, at least for middle schools. This conclusion must be tempered by a concern for the strength of the SBM/SDM processes within any school. That is to say, while many schools may be identified as having selected aspects of SBM/SDM, many were only experimenting or had just recently shifted toward these principles. Therefore, many of the schools, while "looking good on paper," still emulated a more conservative and traditional orientation toward school based management and shared decision making. Many principals espoused the belief that since they were ultimately "responsible" for what occurred in the school and since many faculty were reluctant to share this responsibility, their (the principal's) commitment to SBM/SDM was measured.

Perhaps more important is the distribution of middle schools on their capacity for local evaluation. Applying most liberal of interpretations regarding self evaluation results in approximately 10 schools (of 42) demonstrating some capacity for self-initiated evaluation. As school based management and shared decision making is likely to require timely and accurate evaluation information, many of the middle schools in Philadelphia will need to considerably elaborate on their evaluation capacities. Most, according to Table 28, are in what might be termed a "developmental stage," wherein they are attempting to establish a group decisional and communications process in furtherance of a SBM/SDM approach to school management.

*School Based Management Criteria*

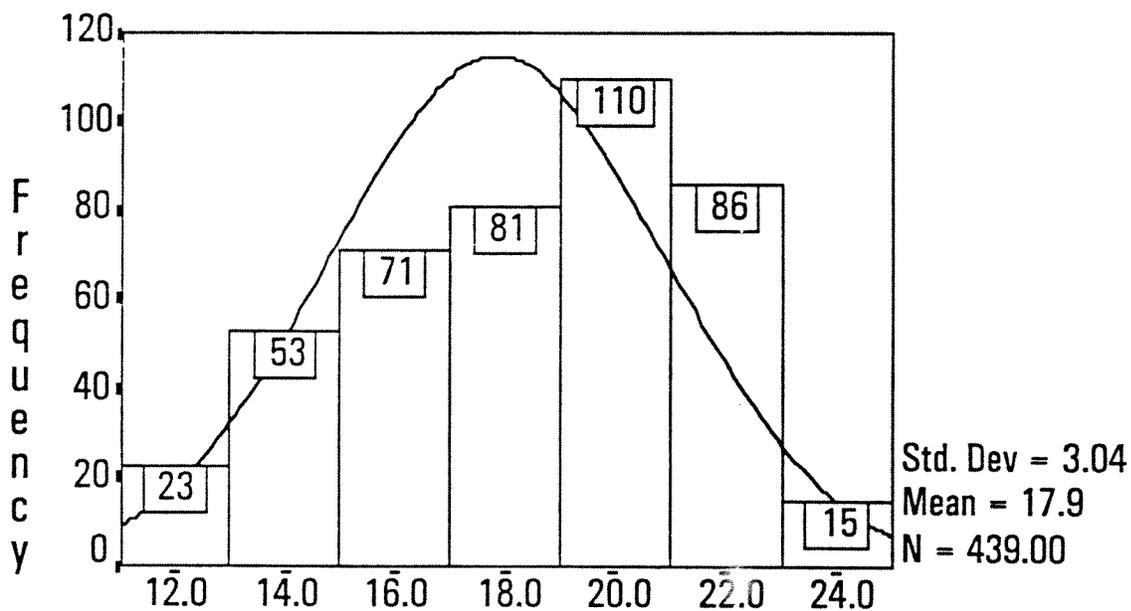
Middle School	Recognized Authority (Letter of Intent)	Internal Group Structure	Communications Process	Local Evaluation Capacity
AMY 5	✓	✓	✓	✓
AMY 6, MV	✓	✓	✓	✓
Baldi		✓	✓	✓
Barratt		✓	✓	
Beeber		✓	✓	✓
Central East		✓	✓	✓
Clemente	✓	✓		
Conwell		✓	✓	✓
Cooke	✓	✓		
DeBurgos		✓	✓	✓
Elverson		✓		
Fitsumons			✓	
Gillespie		✓	✓	
Harding		✓	✓	
Hill-Freedman				
Jones		✓	✓	
La Brum		✓	✓	
Leeds	✓	✓	✓	✓
Lewis		✓	✓	
Meehan	✓	✓	✓	
Middle Yr-Alt		✓	✓	
Peuce		✓	✓	✓
Penn Treaty		✓		
Pepper		✓	✓	✓
Pickett		✓		
Rhodes				
Rush		✓	✓	
Sayre		✓		
Shaw		✓		
Shoemaker		✓	✓	
Stetson		✓	✓	
Stoddart-Fleisher		✓		
Sulzberger	✓	✓		
Thomas		✓	✓	
Turner		✓		
Vare	✓	✓	✓	
Vaux		✓	✓	
Wagner	✓	✓	✓	
Wanamaker		✓		

## QUANTITATIVE ANALYSIS OF SCHOOL BASED MANAGEMENT

Furthering our analysis of the extent of adoption of school based management within Philadelphia's middle schools, 12 items were selected from the Teacher's Survey of the Effective School Battery to represent the various dimensions of school based management previously discussed. These 12 items included teacher perceptions of their involvement in school decision making, the extent to which they saw the administration of the school as functioning smoothly, the fairness and equity of school administration, the extent of parental involvement, and the general administrative climate of the school.<sup>2</sup> Four hundred thirty-nine teachers from 11 middle schools in Philadelphia completed the Teacher Survey of the Effective School Battery. These teacher responses provide the basis for a more detailed analysis of the extent of school based management, at least in the 11 participating middle schools.

A reliable School Based Management scale (alpha = .80) was constructed with these 12 items from the Teacher Effective School Battery responses. This scale has a normal distribution with a mean of 17.85, a standard deviation of 3.04 and a range of .72. Figure 13 shows the distribution of this School Based Management Scale for all responding teachers.

**Figure 13**  
**Distribution of Scale Measuring School Based Management**



school based management

Note: This scale consists of these items from the teacher ESB form:

94,22,84,85,46,81,88,90,99,6,7,9

2. The specific items from the teacher ESB form in this scale included: 94, 22, 84, 85, 46, 81, 88, 90, 99, 6, 7, 9.

The twelve items contained in this School Based Management scale were then subjected to a principal component factor analytic technique using varimax rotation, the final solution accounted for 53.8 percent of the explained variation. This resulted in three significant factor loadings: the factor analysis showed that the SBM scale is made of of three main components:

Factor 1: Shared decision making with teachers:

Factor 2: Shared decision making with parents; and

Factor 3: Teacher/Administration relations.

The implication of these three factors is that, to be involved in some form of school based management, schools must demonstrate the capacity for shared decision making with teachers and parents, as well as positive inter-school relations between administration and teachers. Such factors are consistent with our previous consideration of the generic dimensions of effective school based management. Table 29 presents the results of the factor analysis.

**Table 29**  
**Rotated Factor Matrix of School Based Management Items**

	Factor 1	Factor 2	Factor 3
Q94	.69261		
Q22			.87012
Q84	.67022		
Q85	.66003		
Q46	.42276		.34291
Q81	.73482		
Q88	.74904		
Q90	.57324		
Q99	.82057		
Q6		.63058	
Q7		.81082	
Q9		.60827	.43699

<p><b>NOTE: Factors loadings &lt; .40 are not included to ease interpretability. See the Appendix for variable labels.</b></p>
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A one-way analysis of variance was conducted on the School Based Management scale and the three factors. These analyses revealed that schools differed significantly on these measures, and that with some minor variation schools order themselves rather consistently on all four measures (SBM scale and three factors). Tables 30 through 33 present the results of these analyses.

**Table 30**  
**One Way Analysis of Variance of**  
**School Based Management by School**

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	10	1077.2716	107.7272	15.5133	.0000
Within Groups	428	2972.1043	6.9442		
Total	438	4049.3759			

**Table 31**  
**One Way Analysis of Variance for Teacher Shared**  
**Decision Making Factor Across 11 Middle Schools**

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	10	134.1917	13.4192	18.7864	.0000
Within Groups	428	305.7212	.7143		
Total	438	439.9129			

**Table 32**  
**One Way Analysis of Variance for Parents Shared**  
**Decision Making Factor Across 11 Middle Schools**

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	10	67.2725	6.7273	8.1863	.0000
Within Groups	428	351.7173	.8218		
Total	438	418.9898			

**Table 33**  
**One Way Analysis of Variance for Teacher/Administration Relations**  
**Factor Across 11 Middle Schools**

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	10	55.3423	5.5342	6.1785	.0000
Within Groups	428	383.3669	.8957		
Total	438	438.7092			

Interestingly, schools can be high on one component of SBM and low on another. Since we used a varimax rotation in the factor analysis, we anticipate that these factors are fairly independent components of school based management. Post hoc analyses (Tukeys) presented in tables 34 through 37 revealed significant differences

among these 11 middle schools of the School Based Management measure. Leeds Middle School had the lowest score on the SBM measure, while Baldi Middle School had the highest score. Once the three school based management factors are examined, the relative position of schools changes somewhat. For the factor measuring teacher shared decision making, Leeds Middle School evidenced the lowest score, while Peirce Middle School replaced Baldi Middle School as having the greatest level of self-reported teacher shared decision making. When considering the factor representing parent shared decision making, Baldi Middle School returns to have the highest score, while Harding Middle School replaces Leeds Middle School as having the least amount of reported parental involvement in decision making. And, when considering the general tenor of relationships between teachers and their school administrations, interestingly, Baldi Middle School has the lowest score, while Vare Middle School has the highest score for teacher/administration relations.

**Table 34**  
**Tukey-B Post Hoc Test of Differences Among**  
**Middle Schools on School Based Management**

Mean	SCHOOL ID	
14.3243	Leeds	
15.3143	Cooke	
16.9130	DeBurgos	**
17.7778	Vare	**
18.0200	Rhodes	**
18.1429	Harding	**
18.2955	Stetson	**
18.7619	Meehan	***
19.1818	Peirce	***
19.3611	Pepper	***
19.6207	Baldi	*** *

(\*) Indicates significant differences which are shown in the lower triangle

**Table 35**  
**Tukey-B Post Hoc Tests of Differences Among 11 Middle Schools**  
**On Teacher Shared Decision Making Factor**

Mean	SCHOOL ID		D e B u r g o s	S t e t s o n	H a r d i n g	R h o d e s	P e p p e r	B a l d i	M e e h a n	P e i r c e
-1.3657	Leeds		L e e d s	C o o k e	V a r e					
-.8071	Cooke	*								
-.3063	DeBurgos	**								
-.2890	Vare	*								
.1158	Stetson	**								
.1779	Harding	**								
.2165	Rhodes	***								
.3849	Pepper	****								
.4265	Baldi	****								
.4498	Meehan	****								
.5753	Peirce	****								

(\*) Indicates significant differences which are shown in the lower triangle

**Table 36**  
**Tukey-B Post Hoc Tests of Differences Among 11 Middle Schools**  
**On Parent Shared Decision Making Factor**

Mean	SCHOOL ID		H a r d i n g	P e i r c e	C o o k e	R h o d e s	M e e h a n	V a r e	D e B u r g o s	L e e d s	P e p p e r	S t e t s o n	B a l d i
-0.3695	Harding												
-0.3407	Peirce												
-0.2732	Cooke												
-0.2644	Rhodes												
-0.1308	Meehan												
-0.1291	Vare												
-0.1238	DeBurgos												
-0.0444	Leeds												
-0.0051	Pepper												
.0852	Stetson												
.9345	Baldi	*****											

(\*) Indicates significant differences which are shown in the lower triangle

**Table 37**  
**Tukey-B Post Hoc Tests of Differences Among 11 Middle Schools**  
**On Teacher/Administrative Relations Factor**

Mean	SCHOOL ID	
-5416	Baldi	
-2892	Meehan	
-1309	Rhodes	
-1270	Cooke	
.0147	DeBurgos	
.0702	Stetson	*
.1621	Harding	*
.1633	Leeds	*
.2594	Peirce	*
.4315	Pepper	**
.9239	Vare	***

(\*) Indicates significant differences which are shown in the lower triangle

As will be discussed in another section of this report, three schools were selected for a more in-depth qualitative analysis of school based management and its importance for the climate and culture of the school, as well as the level of disruption and violence within the school. On the measure and extent of school based management, the three schools selected (Leeds, Harding and Pepper) differ significantly on SBM, with Leeds evidencing the lowest SBM score ( $X = 14.32$ ), followed by Harding Middle School ( $X = 18.14$ ), and then by Pepper Middle School ( $X = 19.36$ ). On the three school based management factors, the positioning of the three case study schools changes slightly depending on the factor analyzed. For teacher shared decision making, the pattern is the same as the School Based Management scale; Leeds with the lowest score, followed by Harding and then Pepper. On the parent shared decision making factor, Harding received the lowest score, followed by Leeds and Pepper. And, for the teacher/administration relations factor, Harding and Leeds have similar scores, while Pepper is significantly higher than both Harding and Leeds.

**INTERMEDIATE ANALYSIS OF SCHOOL VICTIMIZATION AND SCHOOL CLIMATE**

As discussed in the methodology chapter of this report, two survey instruments were used to capture information about school victimization, disorder and violence, as well as school climate and culture. A modified version of the Student Supplement to the National Crime Victims Survey and the Effective School Battery were used as the

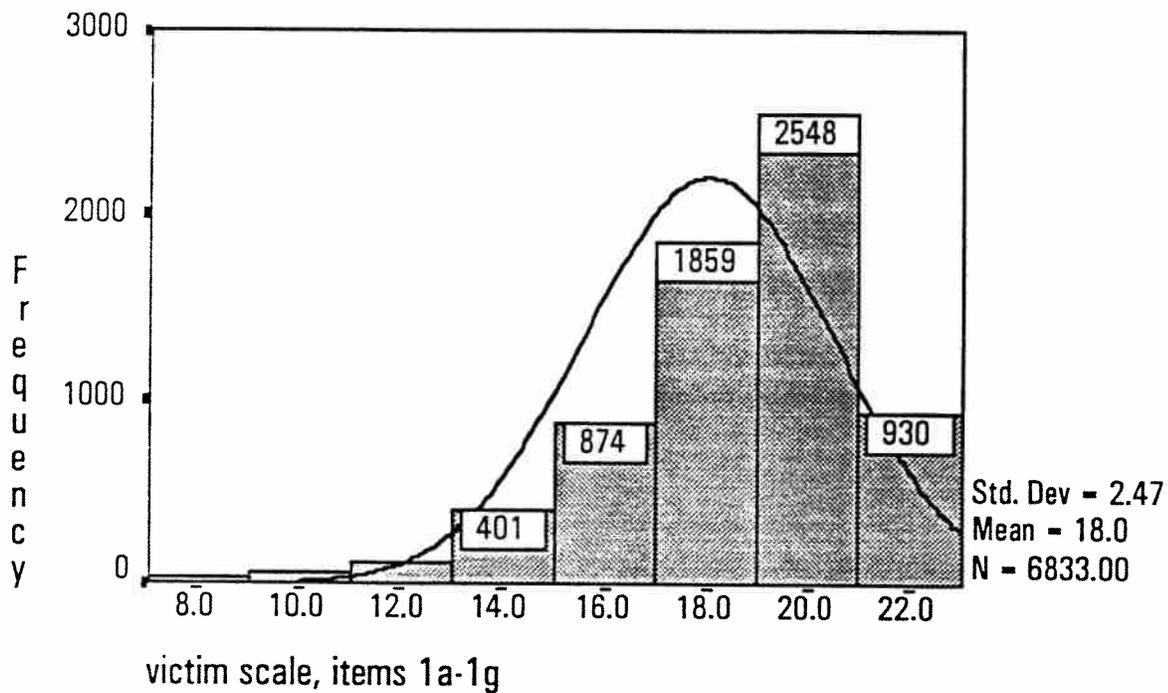
two primary survey instruments for the analysis that follows. These two instruments were distributed to 11 middle schools in Philadelphia. A total of 7583 usable surveys were returned for a response rate of 65.44 percent.

The analysis that follows begins with a consideration of school victimization, avoidance behavior and school offending. This analysis is then followed by a consideration of several dimensions of school climate and culture thought to affect the level of school disruption and violence. Finally, the analysis considers teacher victimization.

*Student Victimization*

A Student Victim Scale was created from our own Student Victimization Survey (see Appendix) to measure the nature and extent of student victimization, particularly while at school. Consisting of seven items (1a, 1b, 1c, 1d, 1e, 1f, 1g), this scale resulted in an alpha reliability coefficient of .72 (N = 6833). The scale mean was 18.0 (actual range = 7 - 21), with a standard deviation of 2.47. The lower scores indicate higher levels of victimization, due to the coding scheme used (i.e., 1 = often, 2 = sometimes, 3 = never). As Figure 14 shows, however, the scale is skewed to the right (in other words, a relatively low level of victimization was reported and limited variance in student responses was found).

**Figure 14**  
Victim Scale, Items 1a-1g



A one way analysis of variance of student victimization was conducted for the 11 middle schools participating in this study (11 schools, total n = 6833). This analysis is presented in Table 38 and shows that the 11 schools differed significantly on self-reported victimization ( $F = 3.92, p < .001$ ). Multiple range tests (Tukey-B) showed that two schools (Vare, Pepper) had higher self-reported victimization than two other schools (Leeds, Baldi).

**Table 38**  
**One-Way Analysis of Variance**  
**for Self-Reported Victimization**

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	10	237.2999	23.7300	3.9189	.0000
Within Groups	6822	41309.1922	6.0553		
Total	6832	41546.4920			

Mean	SCHOOL ID	
17.5767	Vare	
17.7662	Pepper	
17.8945	Stetson	
17.9348	Meehan	
17.9672	Peirce	
17.9781	Cooke	
18.0128	Harding	
18.1170	DeBurgos	*
18.2037	Rhodes	*
18.2336	Leeds	**
18.2386	Baldi	**

(*) Indicates significant differences which are shown in the lower triangle
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Because of the severe skew of the victimization scale, this scale was dichotomized with scores 0-17 classified as "high" and 18 or higher classified as "low." The resulting dichotomous scale resulted in 2327 students scoring "high" and 4506 students scoring "low." The 11 schools still differed significantly on this measure, as seen in Table 39 on the following page.

In addition to examining student victimization, analysis was conducted on student avoidance behaviors. That is, several items in the survey instrument asked students if they purposely avoided school locations because of fear of victimization. These items were then combined into a scale measuring student avoidance behavior.

Table 35  
Outcome Measures for Intermediate Analyses:  
One-Way Anovas and Post Hoc Tests of Differences

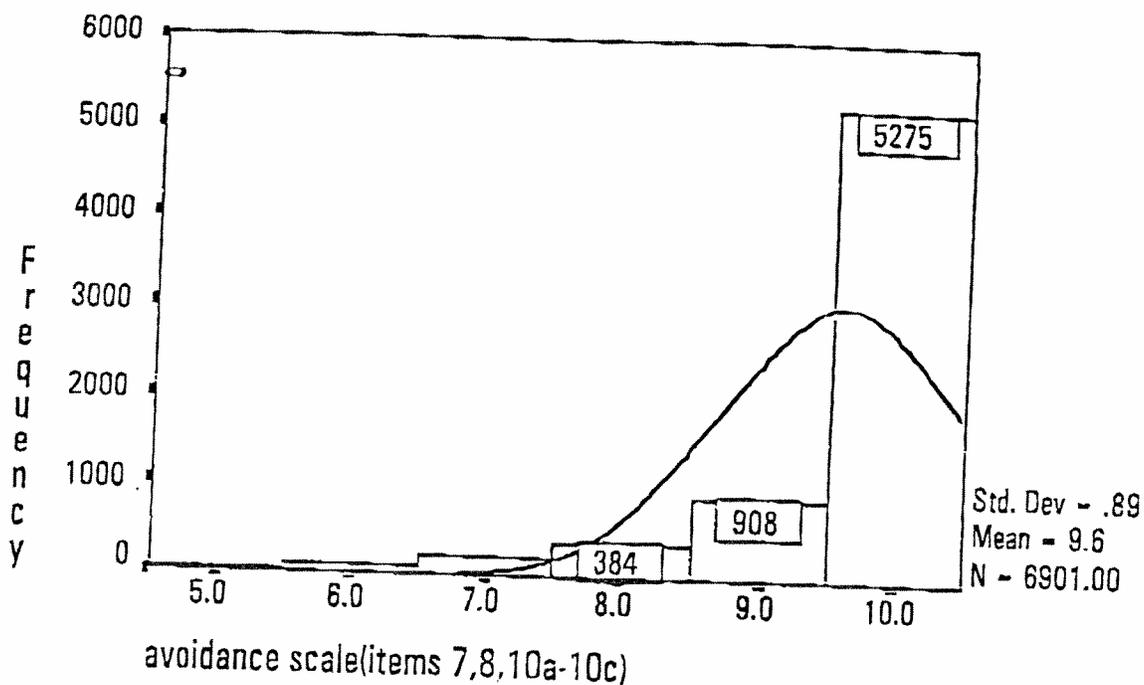
Measure	Leeds	Cooke	DeBurgos	Vare	Rhodes	Harding	Stetson	Meehan	Peirce	Pepper	Baldi	F (d.f.)
SBM	14.32 <sub>a</sub>	15.31 <sub>a</sub>	16.91 <sub>b</sub>	17.78 <sub>bcd</sub>	18.02 <sub>bcd</sub>	18.14 <sub>bcd</sub>	18.29 <sub>bcd</sub>	18.76 <sub>cd</sub>	19.18 <sub>cd</sub>	19.36 <sub>cd</sub>	19.62 <sub>d</sub>	15.51* (10,428)
Teacher - SDM	-1.36 <sub>a</sub>	-.081 <sub>b</sub>	-0.31 <sub>c</sub>	-0.29 <sub>bcd</sub>	0.22 <sub>de</sub>	0.18 <sub>cde</sub>	0.12 <sub>cde</sub>	0.45 <sub>e</sub>	0.58 <sub>e</sub>	0.38 <sub>e</sub>	0.43 <sub>e</sub>	18.79* (10,428)
Parents - SDM	-0.04 <sub>a</sub>	-0.27 <sub>a</sub>	-0.12 <sub>a</sub>	-0.13 <sub>a</sub>	-0.26 <sub>a</sub>	-0.37 <sub>a</sub>	0.08 <sub>a</sub>	-0.13 <sub>a</sub>	-0.34 <sub>a</sub>	-0.01 <sub>a</sub>	0.93 <sub>a</sub>	8.19* (10,428)
Teach/ Admin. Rel.	0.16 <sub>bcd</sub>	-0.13 <sub>abcd</sub>	0.01 <sub>abcd</sub>	0.92 <sub>cd</sub>	-0.13 <sub>bcd</sub>	0.16 <sub>bcd</sub>	0.07 <sub>bcd</sub>	-0.29 <sub>ab</sub>	0.26 <sub>bcd</sub>	0.43 <sub>cd</sub>	0.92 <sub>d</sub>	6.18* (10,428)
Victim- ization	18.23 <sub>c</sub>	17.98 <sub>bcd</sub>	18.12 <sub>bc</sub>	17.58 <sub>a</sub>	18.20 <sub>bc</sub>	18.01 <sub>abc</sub>	17.90 <sub>abc</sub>	17.93 <sub>abc</sub>	17.97 <sub>abc</sub>	17.77 <sub>ab</sub>	18.24 <sub>c</sub>	3.92* (10,6822)
Avoid- ance	9.56 <sub>abc</sub>	9.61 <sub>abc</sub>	9.46 <sub>a</sub>	9.51 <sub>abc</sub>	9.61 <sub>abc</sub>	9.56 <sub>abc</sub>	9.47 <sub>ab</sub>	9.64 <sub>cd</sub>	9.67 <sub>bcd</sub>	9.51 <sub>abc</sub>	9.76 <sub>d</sub>	7.40* (10,6890)
Offend- ing	16.57 <sub>a</sub>	16.49 <sub>ab</sub>	16.52 <sub>ab</sub>	16.49 <sub>ab</sub>	16.57 <sub>ab</sub>	16.51 <sub>ab</sub>	16.45 <sub>ab</sub>	16.60 <sub>b</sub>	16.25 <sub>a</sub>	16.63 <sub>b</sub>	17.02 <sub>c</sub>	10.46* (10,6824)
School Safety	8.92 <sub>abc</sub>	8.90 <sub>bc</sub>	8.46 <sub>ab</sub>	8.49 <sub>ab</sub>	8.44 <sub>a</sub>	8.77 <sub>abc</sub>	8.51 <sub>ab</sub>	9.09 <sub>c</sub>	8.62 <sub>abc</sub>	8.45 <sub>ab</sub>	10.09 <sub>d</sub>	23.38* (10,6903)

\*p < .05

Note: Means with different subscripts are significantly different from one another at the .05 significance level (Tukey-B Post Hoc Tests)

Interestingly, schools can be high on one component of SBM and low on another. Since we used a varimax rotation in the factor analysis, we anticipate that these factors are fairly independent components of school based management. Post hoc analyses (Tukeys) presented in Table 35 revealed significant differences among these 11 middle schools of the School Based Management measure. Leeds Middle School had the lowest score on the SBM measure, while Baldi Middle School had the highest score. Once the three school based management factors are examined, the relative position of schools changes somewhat. For the factor measuring teacher shared decision making, Leeds Middle School evidenced the lowest score, while Peirce Middle School replaced Baldi Middle School as having the greatest level of self-reported teacher shared decision making. When considering the factor representing parent shared decision making, Baldi Middle School returns to have the highest score, while Harding Middle School replaces Leeds Middle School as having the least amount of reported parental involvement in decision making. And, when considering the general tenor of relationships between teachers and their school administrations, interestingly, Baldi Middle School has the lowest score, while Vare Middle School has the highest score for teacher/administration relations.

Figure 15  
Avoidance Scale



A one-way analysis of variance on this avoidance scale ( $N = 6901$ ) showed that the eleven schools differed significantly on self-reported avoidance ( $F = 7.40$ ,  $p < .001$ ). Multiple range tests (Tukey-B) showed that one school (DeBurgos) had higher levels of self-reported avoidance than at least three other schools (Meehan, Peirce and Baldi). Baldi showed lower levels of avoidance than all other schools except Meehan and Peirce.

Self-reported offending was also measured by several items contained in the survey of students. Here the concern was to determine the level of victimizing that occurred within schools by the students themselves. Consisting of nine items (11a - 11i), the Student Offending Scale resulted in an alpha reliability coefficient of .71 ( $N = 6835$ ). The scale mean was 16.6 (actual range = 9 - 18), with a standard deviation of 1.58. Again, lower scores indicate higher levels of offending, due to the coding scheme used (i.e., 1 = often, 2 = sometimes, 3 = never). As Figure 16 shows, however, the scale is also skewed severely to the right (in other words, a low level of offending was reported, and limited variance in student responses was found).

A one-way analysis of variance for student self reported offending ( $N = 6834$ ) showed that the 11 schools once again differed significantly on self-reported offending ( $F = 10.47$ ,  $p < .001$ ). Multiple range tests (Tukey-B) showed that one school (Peirce) had higher levels of self-reported offending than at least three other schools (Meehan, Pepper and Baldi). Baldi showed lower levels of offending than all other schools.

Table 39  
Victimization Scale by School  
(Dichotomized)

School	High	Low	Total
Meehan	278 (37.0)	474 (63.0)	752 (11.0)
Baldi	288 (28.5)	722 (71.5)	1010 (14.8)
Cooke	187 (37.2)	316 (62.8)	503 (7.4)
Peirce	132 (39.4)	203 (60.6)	335 (4.9)
Stetson	160 (36.7)	276 (63.3)	436 (6.4)
Rhodes	175 (29.7)	414 (70.3)	589 (8.6)
Vare	165 (40.8)	239 (59.2)	404 (5.9)
DeBurgos	248 (33.0)	504 (67.0)	752 (11.0)
Leeds	214 (31.2)	471 (68.8)	685 (10.0)
Pepper	211 (36.0)	375 (64.0)	586 (8.6)
Harding	269 (34.4)	512 (65.6)	781 (11.4)
Column Total	2327 (34.1)	4506 (65.9)	6833 (100.0)

Note: Percentages are in parenthesis ().

Chi-Square	Value	DF	Significance
Pearson	41.53382	10	.00001

Number of Missing Observations: 764

Consisting of five items (7, 8, 10a, 10b, 10c), this Student Avoidance Scale resulted in an alpha reliability coefficient of .66 (N = 6901). This scale mean was 9.59 (actual range = 5-10), with a standard deviation of .89. Once again, lower scores indicate higher levels of avoidance, due to the coding scheme used (i.e., 1 = often, 2 = sometimes, 3 = never). As Figure 15 shows, however, the scale is skewed severely to the right (in other words, a low level of avoidance was reported, and limited variance in student responses was found).

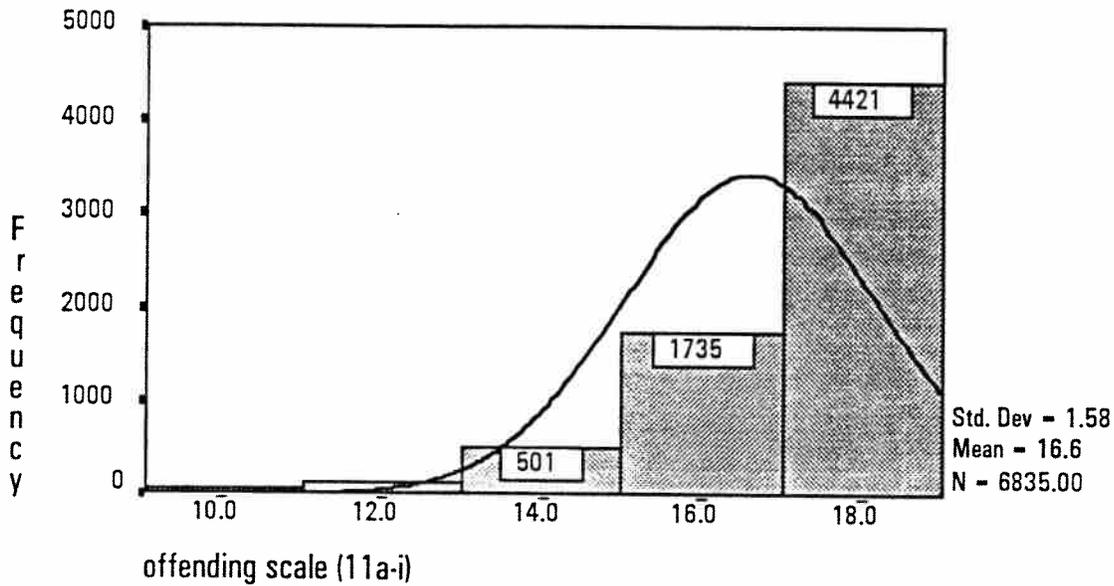
**Table 40**  
**One-Way Analysis of Variance for**  
**Self-Reported Avoidance Scale**

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	10	57.7869	5.7787	7.3976	.0000
Within Groups	6890	5382.2093	.7812		
Total	6900	5439.9962			

Mean	SCHOOL ID	D	S	P	H	L	C	R	M	P	B
9.4653	DeBurgos	B	u	r	g	o	s				
9.4732	Stetson	S	t	e	t	s	o	n			
9.5111	Vare	V	a	r	e						
9.5127	Pepper	P	e	p	p	e	r				
9.5605	Harding	H	a	r	d	i	n	g			
9.5654	Leeds	L	e	e	d	s					
9.6099	Cooke	C	o	o	k	e					
9.6142	Rhodes	R	h	o	d	e	s				
9.6396	Meehan	M	e	e	h	a	n				
9.6687	Peirce	P	e	i	r	c	e				
9.7563	Baldi	B	a	l	d	i					

(\*) Indicates significant differences which are shown in the lower triangle

**Figure 16**  
**Offending Scale**



**Table 41**  
**One-Way Analysis of Variance for Self-Reported Offending Scale**

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	10	258.7711	25.8771	10.4659	.0000
Within Groups	6824	16872.4002	2.4725		
Total	6834	17131.1713			

Mean	SCHOOL ID	
16.2471	Peirce	
16.4509	Stetson	
16.4864	Vare	
16.4889	Cooke	
16.5095	Harding	
16.5172	DeBurgos	
16.5661	Rhodes	
16.5695	Leeds	
16.5982	Meehan	*
16.6317	Pepper	*
17.0248	Baldi	*****

(\*) Indicates significant differences which are shown in the lower triangle

Student understanding and the clarity of school disciplinary policies were also examined as part of the intermediate analysis. Here the concern was with the extent to which such policies were seen as potentially influencing student behavior. Students were asked how often specific responses were made by the school to five types of incidents: 1) being disrespectful to teachers, 2) fighting with other students, 3) drinking or being drunk in school, 4) using or under the influence of drugs at school, and 5) cutting classes. Students could then respond to each of these incidents in seven ways (nothing, disciplined by teacher, sent to principal's office, notify parents, detention, suspension, and don't know).

These seven types of responses constitute seven subscales, each with five items, representing students' perceptions of how often the school responds in certain ways to disciplinary violations. The "nothing" subscale resulted in an alpha reliability coefficient of .81 (N = 7558). The scale mean was only .31, with a standard deviation of .91. There was thus a severe "floor" effect for this scale, as students rarely reported "nothing" as a likely response to

any of the five disciplinary violations. Although the scale had a possible range of 0 - 5, fully 84.7 percent of the sample scored 0.

The "discipline by teacher" subscale resulted in an alpha reliability coefficient of .77 (N = 7558). The scale mean was only .54, with a standard deviation of 1.11. There was a slightly less severe "floor" effect for this scale, as students rarely reported "discipline by teacher" as a likely response to any of the five disciplinary violations. Although this scale had a possible range of 0 - 5, fully 72.1 percent of the sample scored 0.

The "sent to principal's office" subscale resulted in an alpha reliability coefficient of .78 (N = 7558). The scale mean was 1.4, with a standard deviation of 1.52. There was a less severe "floor" effect for this scale, as students reported "sent to principal's office" as a more likely response. The scale had a possible range of 0 - 5, with 51 percent of the sample scoring 0.

The "notify parents" subscale resulted in an alpha reliability coefficient of .80 (N = 7558). The scale mean was 1.30, with a standard deviation of 1.64. There was less of a "floor" effect for this scale, as students reported "notify parents" as a likely response. The scale had a possible range of 0 - 5, with 48 percent of the sample scoring 0.

The "detention" subscale resulted in an alpha reliability coefficient of .68 (N = 7558). The scale mean was .92, with a standard deviation of 1.23. There was little evidence of a "floor" effect for this scale, as students reported "detention" as a likely response. The scale had a possible range 0 - 5, with 49 percent of the sample scoring 0.

Next, the "suspension" subscale resulted in an alpha reliability coefficient of .69 (N = 7558). This scale mean was 1.88, with a standard deviation of 1.54. There was no "floor" effect for this scale, as students reported "suspension" as a likely response. The scale had a possible range of 0 - 5, with 24 percent of the sample scoring 0. Clearly, suspension is seen by students as the most frequently used response across schools and across different types of disciplinary violations.

Finally, the "don't know" subscale is important as an index of the degree to which students can predict likely responses to disciplinary violations. Indeed, if "deterrence" is to have any effect, it is essential that students know with some certainty what likely sanctions are for specific violations. The "don't know" subscale resulted in an alpha reliability coefficient of .67 (N = 7558). The scale mean was 1.0, with a standard deviation of 1.25. The scale had a possible range of 0 - 5, with 52 percent of the sample scoring 0.

With the exception of suspension, students predict the likelihood of any other sanction about as often as they report they "don't know" what the school's response would be to specific violations. These subscales were entered into a multiple regression equation with self-reported victimization as the dependent variable. Results are reported in Table 42. As shown in this table, the equation was statistically significant, but accounted for only two

percent of the explained variance. Significant predictors of victimization were “don’t know,” “do nothing,” “send to principal’s office,” “suspension,” and “discipline by teacher.”

**Table 42**  
**Regression of Self-Reported Victimization**  
**on Perceived Use of Sanctions**

Variable	Beta	T	Sig T
POLDETEN	-.028608	-1.825	.0680
POLDUNNO	.066947	4.832	.0000
POLNOTH	-.093973	-7.253	.0000
POLPAREN	.014813	.825	.4097
POLPRINC	.043156	2.521	.0117
POLSUSP	.047363	3.198	.0014
POLTEACH	-.058126	-3.775	.0002

**NOTE:** POLDETEN = “detention”; POLDUNNO = “don’t know”; POLNOTH = “nothing”; POLPAREN = “notify parents”; POLPRINC = “discipline by principal”; POLSUSP = “suspend”; POLTEACH = “discipline by teacher”

Multiple R	.1415
R Square	.0200
Adjusted R Square	.0190
Standard Error	2.4424
F	19.9284
Signif F =	.0000

Because low scores on the victimization scale indicate high rates of victimization, we need to reverse the signs on the coefficients. Thus, the only policies that reduce victimization, at least according to students’ perceptions, were “don’t know,” “send to Principal,” and “suspension.” It is curious that a lack of certainty about the likelihood of possible sanctions can sometimes be as useful as more clearly understood (and severe) sanctions. Such findings would question predictions made by deterrence theory.

Once again, we acknowledge that many of our victimization subscales suffer from limited variance, floor effects and, not surprisingly, weak explanatory power. The major problem would appear to be the use of 3-point, rather than 5- or 7-point, scales. We chose the former option so that results would be comparable to national norms (e.g., National Crime Victimization Survey).

*The Prediction of School Safety*

First, we examined means across the 11 schools on this subscale of the ESB student form. As Table 43 indicates, the 11 schools differed significantly on the safety subscale. Students at Baldi felt most safe; students at Rhodes felt least safe. Of the three schools which we conducted case analyses on, Leeds and Harding were perceived as equally safe (ranked 4th and 5th, respectively) while Pepper was perceived as less safe (ranked 10th out of 11 schools). Note, however, that the actual differences between schools are small, and that the three case study schools did not differ significantly from one another. Only two schools in the sample (Meehan and Baldi) scored higher on the safety scale than at least five other schools.

**Table 43**  
**One Way Analysis of Variance for School Safety**  
**(Student Measure) Across 11 Middle Schools**

**Analysis of Variance**

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	10	2061.8670	206.1867	23.3801	.0000*
Within Groups	6903	60876.7766	8.8189		
Total	6913	62938.6437			

\* p < .05

Mean	SCHOOL ID	
8.4363	Rhodes	
8.4476	Pepper	
8.4565	DeBurgos	
8.4908	Vare	
8.5107	Stetson	
8.6217	Peirce	
8.7747	Harding	
8.9217	Leeds	
8.9990	Cooke	*
9.0927	Meehan	*****
10.0934	Baldi	*****

(\*) Indicates significant differences which are shown in the lower triangle

*Interrelations among Measures of Safety, Victimization, Offending, Avoidance, and School Based Management*

We next examined relationships among dependent measures of school based management (obtained from the teacher ESB form) and school violence obtained from student level measurements (safety, victimization, avoidance, and offending). Before proceeding with predictive analyses, we wanted to examine how these outcomes related to each other and to school based management. For these analyses, we aggregated the teacher measure of school based management to each school by assigning the mean SBM value for each school to each student in that school. In this way, we can examine relationships unbiased by unequal sample sizes, although the aggregated SBM measure is really a “dummy” variable that varies only across schools, rather than within schools.

For this reason, we chose a nonparametric correlational test, the Spearman test. This test is suitable for ordinal data or interval data that do not mean assumptions of normality. Like the Pearson coefficient, its values can vary from -1 to +1.

Spearman correlations among the variables are presented in Table 45; each school's relative ranking on each of the five measures is presented in Table 46. The Spearman correlations point to some interesting results. As expected, schools high on avoidance tend also to be high on self-reported offending. However, schools low on victimization tend to be higher on both self-reported avoidance and offending (note that the victimization scale is reverse-scored, and thus it is necessary to change the sign of the VICSCAL coefficients presented in Table 45). Perhaps students more successfully avoid victimization when they perceive themselves to be at risk, and perhaps one way of reducing one's own risk is to put on a "front" to others that they are not to be messed with. This might explain why low victimization can be accompanied by high avoidance and offending.

**Table 45**  
**Spearman Correlations Among Safety, Victimization,**  
**Avoidance, Offending and School Based Management**

	SAFESC	VICSCAL	AVDSCL	OFFSCL	AGGSBM
SAFESC	1.0000 (6947) p= .	-.0057 (6241) p= .650	-.0078 (6315) p= .537	-.0033 (6256) p= .794	.0513 (6914) p= .000
VICSCAL	-.0057 (6241) p= .650	1.0000 (6833) p= .	.4183 (6623) p= .000	.2974 (6558) p= .000	-.0160 (6833) p= .187
AVDSCL	-.0078 (6315) p= .537	.4183 (6623) p= .000	1.0000 (6901) p= .	.2402 (6730) p= .000	.0401 (6901) p= .001
OFFSCL	-.0033 (6256) p= .794	.2974 (6558) p= .000	.2402 (6730) p= .000	1.0000 (6835) p= .	.0480 (6835) p= .000
AGGSBM	.0513 (6914) p= .000	-.0160 (6833) p= .187	.0401 (6901) p= .001	.0480 (6835) p= .000	1.0000 (7559) p= .

(coefficient / (Cases) / 2-tailed significance) "." is printed if a coefficient cannot be computed.

School safety was positively associated with school based management, but not with the other outcome measures. It would appear that basic principles of SBM, when used constructively, are conducive to shaping an environment where students feel safer. More disturbing, however, is the finding that schools scoring higher on SBM also tend to exhibit higher rates of avoidance of offending (but not victimization). Again, this raises some concern, for it suggests that SBM, or at least the temporary transition to SBM, may be partially responsible for lapses in

discipline and control which students adapt to by “taking matters into their own hands.” The actual correlations are small, of course, and this interpretation cannot be accepted unquestioningly. Some of our micro-level results, however, do support this interpretation.

**Table 46**  
**Rank of Each School on Measures of Safety, Victimization,**  
**Avoidance, Offending, and School Based Management**

**School’s Rank on Each Measure**

School	Safety	Victimization	Avoidance	Offending	School Based Management
Leeds	4	10	6	8	11
Cooke	3	6	7	4	10
DeBurgos	9	8	1	6	9
Vare	8	1	3	3	8
Rhodes	11	9	8	7	7
Harding	5	7	5	5	6
Stetson	7	3	2	2	5
Meehan	2	4	9	9	4
Peirce	6	5	10	1	3
Pepper	10	2	4	10	2
Baldi	1	11	11	11	1

Perhaps a clearer picture is presented in Table 46. We see that SBM is not perfectly related to any of the four measures of school safety and violence. However, schools that score consistently low on victimization, avoidance, and offending tend also to score higher on perceived safety and school based management (see, for example, Baldi). There are exceptions, however. Pepper ranked second highest on SBM and second lowest on self-reported offending. At the same time, it finished second highest in victimization, fourth highest in avoidance, and tenth in safety.

There are probably tradeoffs associated with SBM, and with each school’s idiosyncratic adoption of the concept. While SBM seems to support more positive perceptions of school climate, it also tends to produce slight increases in avoidance and offending. It may be that the move toward SBM engenders greater feelings of involvement by students, or greater feelings that teachers and administrators are “doing something.” At the same time, there may be a slight “power vacuum” in which school officials, distracted by their new obligations to shared decision making and consensus building about school policies in contrast to a more “take charge” approach, do not adequately pay attention to school safety and discipline. Clearly, SBM is not the only factor shaping either climate or disorder in schools. One must look at other dimensions of climate which influence safety and disorder

in each individual school to adequately sort out complex relationships. Our micro-level analyses attempt to do so in three specific schools.

A central concern in this research was with predicting school safety, most particularly from measures of school climate and culture. To begin this analysis, we attempted to explain school safety by using a subscale of the Effective School Battery that indicates how safe students report the school to be as the dependent variable. Because these were explanatory analyses, stepwise regression procedures were used (i.e., beta coefficients that meet a .05 significance level are entered one at a time; at each subsequent step, variables that do not meet at least a .10 significance level are removed). Other procedures (e.g., forward, backward, enter) produced much the same results.

Thirteen subscales, measuring several dimensions of school climate as perceived by students, were used as the independent variables for this analysis. They included scales measuring: 1) positive peer associations; 2) educational expectations; 3) the level of student social integration; 4) student affective attachment to the school; 5) belief in the efficacy of rules; 6) the level of student involvement in the school; 7) the extent of student positive self-concept; 8) student avoidance of punishment; 9) school rewards; 10) invalidity; 11) respect for students; 12) the clarity of school rules; and 13) the extent of student influence in school decision making. These 13 scales were entered into a regression analysis with the measure of school safety, previously described, being dependent.

The strongest overall predictor of school safety was social integration (i.e., whether a student feels integrated with or alienated from the social order of the school). Greater alienation strongly predicts lower safety.

Avoidance of punishment was also strongly and positively related to perceptions of safety (i.e., students who reported high avoidance of punishment were more likely to report higher levels of safety). This might suggest that students who believe in the efficacy of rules and follow them feel safer than others who report being punished frequently. It may also be that those who report high levels of punishment (i.e., low avoidance of punishment) also feel less safe because they have more direct experience with interpersonal conflict, either offensive or defensive in nature.

Other variables positively related to school safety were positive peer associations, high educational expectations, belief in school rules, positive self-concept, perceptions that teachers respect students, and clarity of rules. Curiously, high attachment to the school (SISC) predicts perceptions of low school safety, as does high involvement in school activities. It would seem that liking for the school and involvement in activities is not necessarily related to student feelings of safety. According to a lifestyles or routine activities perspective, students who spend more time at the school in various capacities may objectively be at higher risk, or perhaps feel less safe travelling during non-peak hours of movement. Other variables negatively related to school safety were school rewards, student influence and invalidity.

**Table 47**  
**Regression of ESB Student and Climate Scales on School Safety**

Variable	Beta	T	Sig T
PPASC	.029859	2.288	.0222
EESC	.056832	4.827	.0000
SISC	.249299	18.556	.0000
ATSSC	.069146	-4.478	.0000
BIRSC	.084713	6.577	.0000
INVLVSC	-.111969	-9.526	.0000
PLCSC	.090547	6.396	.0000
AOPSC	.094194	7.657	.0000
SRSC	-.115111	-9.317	.0000
INVSC	-.114991	-9.675	.0000
RFSSC	.057452	4.428	.0000
CORSC	.058220	4.716	.0000
SINFSC	-.070046	-5.866	.0000

**NOTE:** SAFESC = safety scale; PPASC = positive peer association scale; EESC = educational expectation scale; SISC = social integration scale; ATSSC = attachment to school scale; BIRSC = belief in rules scale; INVLVSC = involvement scale; PSCSC = positive self-concept scale; AOPSC = avoidance of punishment scale; SRSC = school rewards scale; INVSC = invalidity scale; RFSSC = respect for students scale; CORSC = clarity of rules scale; SINFSC = student influence scale.

Multiple R	.47471
R Square	.22535
Adjusted R Square	.22373
Standard Error	2.65792
F	139.5664
Signif F =	.0000
N of Cases =	6251

Factor analyses of Effective School Battery subscales were also conducted as part of this analysis. Here we investigated whether it would be possible to reduce the number of Effective School Battery subscales to several major dimensions by running principal component factor analysis. The results (using varimax rotation) are presented in Table 48, on the following page. The final solution accounted for 48 percent of the total variance using only four major dimensions. These were labeled as “social integration/attachment” (ATTACH); “positive associations” (POSASSOC), “self concept” (SELFCON), and “stake in conformity” (CONFORM). Factor scores were saved and entered as independent variables in the prediction of school safety.

The resulting equation was significant, accounting for 19 percent of the explained variance in school safety ( $p < .0001$ ). All predictors achieved statistical significance. The strongest predictor of safety was high self concept (Beta = .26), while high conformity (Beta = .25) was associated with lower perceptions of safety. Curiously, students who feel the safest have high levels of attachment, positive associations with others and high self concept, but low levels of conformity. Perhaps those who feel safest are not entirely the “good” kids, but those who are willing to stick up for themselves. Of course, it would be a shame if those who conform are susceptible to either greater victimization or fear of victimization.

**Table 48**  
**Factor Solution (Varimax) for**  
**Effective School Battery Student Subscales**

	Factor 1	Factor 2	Factor 3	Factor 4		Mean	Std.Dev.	Cases	Label
PPASC		.53543			PPASC	6.74367	1.84414	7147	positive peer associations scale
EESC		.64548			EESC	3.61350	1.71724	7498	educational expectation scale
SISC	.50174				SISC	3.78335	1.55252	6776	social integration scale
ATSSC	.70365				ATSSC	6.84793	2.45829	6576	attachment to school scale
BIRSC		.42545			BIRSC	4.13777	1.46021	6707	belief in rules scale
ICSC			.71086		ICSC	3.67390	1.15080	6820	interpersonal competency scale
INVLVSC				.70413	INVLVSC	2.82750	2.21973	7229	involvement scale
PSCSC		.42439	.63236		PSCSC	8.81295	2.16386	6640	positive self-concept scale
SESC		.53779			SESC	3.10305	1.43209	7365	school effort scale
AOPSC		.52354			AOPSC	2.76455	1.14710	7284	avoidance of punishment scale
PARESDC		.59621			PARESDC	5.20771	2.05736	4463	parent education scale
SRSC				.62696	SRSC	1.55129	1.28921	7272	school rewards scale
INVSC			-.51416	.40509	INVSC	.81996	1.00910	6943	invalidity scale
RFSSC	.66827				RFSSC	3.38685	1.41864	7300	respect for students scale
PASC	.65412				PASC	1.61863	.87782	7266	planning and action scale
FORSC	.72156				FORSC	1.91742	.87601	7229	fairness of rules scale
CORSC	.49377				CORSC	3.01333	.94396	7200	clarity of rules scale
SINFSC	.51748				SINFSC	1.98087	1.21393	7083	student influence scale

NOTE: Factors loading < .40 are excluded to ease interpretability.

*Predicting Self Reported Victimization, Avoidance and Offending*

Weaknesses in these scales were noted above. These weaknesses stemmed from the skewness of each scale and the limited variance in reported victimization, avoidance and offending on the part of students. Despite the limitation of these scales, we used them to attempt to predict each of three dependent variables using subscales of the Effective School Battery. The results are presented in Table 49.

The attempted prediction of self-reported victimization was a complete failure, accounting for less than one percent of the explained variance. The regression equation was not statistically significant. The prediction of self-reported avoidance fared only somewhat better, with the model accounting for 1.2 percent of the explained variance. The regression equation, however, was significant. Only two variables were statistically significant. Parental education was positively associated with victimization — perhaps because students with more educated

parents also have more money and possessions worth stealing. Positive self-concept reduces avoidance behavior, probably because students are less afraid of being bullied, or refuse to let others intimidate them.

**Table 49**  
**Regressions of Victimization, Avoidance and Offending**  
**on the Effective School Battery Student and Climate Subscales**

Variable	Victimization Dependent	Avoidance Dependent	Offending Dependent
RFSSC	.0048	-.0093	-.0363
PASC	-.0074	-.0333	.0096
FORSC	.0552*	.0412	.0412
CORSC	-.0197	-.0157	.0008
SINFSC	.0353	.0037	-.0249
SAFESC	.0063	.0349	.0062
EESC	.0329	.0093	.0043
SISC	-.0084	-.0287	-.0039
ATSSC	-.0141	.0429	-.0079
BIRSC	-.0139	-.0262	-.0154
ICSC	.0413*	.0126	.0111
INLVSC	-.0123	.0047	.0412*
PSCSC	-.0352	-.0603*	-.0160
SESC	-.0061	-.0188	.0379
AOPSC	-.0169	.0395	-.0012
PAREDSC	.0244	.0695*	.0252
SRSC	-.0056	.0335	-.0628*
INVSC	.0227	.0040	.0497*
Multiple R	.0855	.1139	.1039
R Square	.0073	.0130	.0108
Adjusted R Square	.0010	.0067	.0044
Standard Error	2.4558	.8830	1.565 8
F	1.1494	2.0648	1.6941
Signif F	.2963	.0052*	.0336*

**NOTE:** All coefficients are standardized betas. RFSSC = respect for students scale; PASC = planning and action scale; FORSC = fairness for rules scale; CORSC = clarity of rules scale; SINFSC = student influence scale; SAFESC = student safety scale; EESC = educational expectation scale; SISC = social integration scale; ATSSC = attachment to school scale; BIRSC = belief in rules scale; ICSC = interpersonal competency scale; INLVSC = involvement scale; PSCSC = positive self-concept scale; SESC = school effort scale; AOPSC = avoidance of punishment scale; PAREDSC = parent education scale; SRSC = school rewards scale; INVSC = invalidity scale

\* p < .05

The prediction of self-reported offending achieved statistical significance, although only two variables were significant predictors. Greater involvement in school activities led to increased offending, while school rewards decreased self-reported offending. Perhaps schools need to be more careful about who they allow to participate in school activities. Interestingly, students' perceptions that the typical student is rewarded frequently for good behavior reduce the likelihood of offending. The value of school rewards may be stronger for potential offenders than previously thought.

Because of skewed distributions, we dichotomized these three dependent variables and ran the regression equations again with the same independent variables entered. No appreciable improvement was found (i.e., the logistic models resulted in very low variance explained and exhibited a very poor fit to the data).

However, three interesting findings emerged with these analyses. School effort positively predicted victimization (N = 4983, B = .04, p < .06), suggesting that students who try harder are more likely to be picked on. Belief in school rules negatively predicted avoidance (N = 5032, B = -.06, p < .03), suggesting that those who believe in the effectiveness of school rules are less likely to fear victimization and less likely to alter their behavior. Last, but not least, those who perceived low school rewards were more likely to report victimizing others (N = 4992, B = .07, p < .004). However, self reported offending was also positively related to the ESB invalidity scale (B = .08, p < .01) suggesting possible self report bias in these results.

*The Prediction of Teacher Safety*

The strongest prediction results were obtained with teacher scales, probably because of the higher subscale reliabilities obtained with a more mature population. The overall regression of Effective School Battery subscales on teacher safety accounted for 46 percent of the explained variance (see Table 50). Significant predictors of teacher safety were personal security (average teacher's experience of personal victimization), classroom orderliness, smooth administration (teacher's perceptions that they get help from school administration when they need it), perceptions of adequate resources, and stable race relations.

**Table 50**  
**Regression of Self-Reported Victimization**  
**on Perceived Use of Sanctions**

Variable	T	Sig T
PERSEC	4.612	.0000
CLORD	4.622	.0000
SMADM	3.200	.0015
RES	3.255	.0013
RREL	2.231	.0265

**NOTE:** PERSEC = personal security scale; CLORD = classroom orderliness scale; SMADM = smooth administration scale; RES = resources for instruction scale; RREL = race relations scale

Multiple R	.67693
R Square	.45823
Adjusted R Square	.44793
Standard Error	6.87696
F	44.48969
Signif F =	.0000

A strong predictor of teacher safety was resources. This finding lends validity to teachers' claims that schools with poor resources or poor resource management face a host of difficulties, not the least of which is fear and victimization. Of course, teachers who have previously been victimized feel less safe, and teachers who perceive a high level of classroom orderliness report feeling more safe. Teachers who perceive a helpful administration also report feeling more safe.

## **INTERMEDIATE ANALYSIS: CONCLUSIONS**

### *Self-Reported Victimization*

While schools differed significantly on the level of victimization reported by students, a relatively low level of victimization overall was reported. Still, in schools with relatively high levels of victimization, as many as 40 percent of students reported at least one incident of direct personal threat or assault. Similarly, schools differed significantly on self-reported avoidance and offending, although low levels overall were reported.

### *Disciplinary Policies*

Suspension is the most frequently used sanction, and appears quite overused compared to other options. Other sanctions used most frequently included "notify parents" and "detention." It appears that schools (according to student self-reports) use an extremely narrow range of sanctions for misconduct.

Students reported that they did not know what punishment was likely in more than 50 percent of the scenarios presented. How can students obey the rules when they do not know what the punishments are? These results strongly support previous conclusions that school rules must be clear, consistent, and enforced if they are to have any significant effect on student behavior. At the present time, there appears to be a large gap in schools' ability to successfully communicate and enforce rules and punishments. At a minimum, "deterrence" requires certainty (knowledge of rules and punishments, and belief that sanctions will be enforced), swiftness (the punishment must follow the behavior closely in time) and severity (the punishment must be severe enough to deter others from committing the same act, but only severe enough to achieve this purpose, otherwise rules will likely be perceived as unfair).

### *School Safety - Students*

The strongest predictor of school safety was social integration. Consistent with control theory, students who feel more integrated socially are less likely to misbehave and more likely to perceive their school as a safe place.

Students who experience low levels of punishment reported feeling more safe. Likely, those who believe in the fairness of rules and the likelihood of punishment are those who are most likely to monitor their own behavior in order to avoid punishment.

In general, the school climate subscales strongly predicted school safety, accounting for 22 percent of the explained variance in school safety. Inspection of the results suggested the influence of three key factors influencing school safety: social integration, rules and individual self concept.

A factor analysis of 12 school climate subscales identified four key factors: social integration/attachment; positive associations; self concept; and stake in conformity. Factor scores were used to predict school safety. The strongest predictor of school safety was high self concept, suggesting the importance of individual factors in determining how students adapt to their environment. High attachment and positive associations also positively predicted school safety, consistent with control theory, but high stake in conformity was negatively related to school safety. Those who feel safest are not necessarily "good" kids who follow the rules, but those who perceive they are able to cope with a dangerous environment. This is a disturbing finding, for it suggests that schools have left many students to fend for themselves. "Being good" (i.e., following the rules) is conducive to feeling less safe and perhaps increasing one's risk of victimization.

### *Safety - Teachers*

Perceptions of school climate strongly predicted school safety, accounting for 46 percent of the explained variance. Significant predictors of teacher safety were: personal security (average teacher's experience of personal victimization), classroom orderliness, smooth administration (teachers' perceptions that they get help from school administration when they need it), perceptions of adequate resources, and stable race relations.

A strong predictor of teacher safety was resources. This finding lends validity to teachers' claims that schools with poor resources or poor resource management face a host of difficulties, not the least of which is fear and victimization. Of course, teachers who have previously been victimized feel less safe, and teachers who perceive a high level of classroom orderliness reported feeling more safe. Teachers who perceive a helpful administration report feeling more safe, underscoring not only the influence of school climate, but its amenability to change.

## INTEGRATIVE ANALYSIS (INTERMEDIATE AND MACRO): HLM MODELING<sup>1</sup>

Until recently, disentangling individual and group level effects have been complicated by inadequate data analytic techniques. The emergence of hierarchical linear modeling (HLM), however, has greatly enhanced researchers' ability to examine contextual effects and to understand the relative contributions of individual and group effects. This procedure does not make the same assumptions about data as OLS regression techniques, assumptions which are often violated when using nested data. For example, OLS regression assumes that observations are independent. When using nested data, this assumption is violated because observations within units are not independent of one another. HLM does not rely on this assumption. Additionally, HLM models may include variables measured using different units of analysis, such as individuals and schools, which is not recommended when using OLS regression techniques.

### *The Data Set*

The data used in this study are ideal for HLM modeling. Individual level data, or level 1 data, were gathered from surveys of students and teachers in 11 middle schools in Philadelphia. A total of 7561 individual cases were used in this analysis. These cases are nested within 11 schools and characteristics of these schools make up the level 2 data for this analysis.

The dependent variable, student safety scale (SAFESC), is a measure of student perceptions of safety at school. The measure was obtained from the Effective School Battery (ESB) student survey. Four dimensions of school climate obtained from principal components factor analysis (see Intermediate Analysis) were entered as Level 1 predictors. These included social integration/attachment (ATTACH), positive associations (POSASSOC), self concept (SELFCON), and stake in conformity (CONFORM).

Level 2 predictors included characteristics of the 11 schools, and community characteristics aggregated to the 11 schools. Characteristics of schools included the degree of adoption of school based management as measured by a scale constructed from the ESB teacher survey (see Intermediate Analysis) and aggregated to each school. Other characteristics of schools included total enrollment for 1994-95 school year (TOT90); the school's mean percentile score on standardized testing (NATRD90); community crime, as measured by serious property crime (LOSEPRO) and serious personal crime (XROSEPER); two factor scores representing imported community poverty (CIMPRT1) and imported community stability (CIMPRT2). For a description of community level variables, see Chapter 2: Research Design.

### *ANOVA*

An analysis of variance of the dependent variable, in this case student perceptions of safety (SAFESC), is the starting place for an HLM analysis. Although the ANOVA model contains no predictors, it provides a base

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1. We appreciate the work of Ellen Kurtz in assembling and analyzing this data.

model for comparison with subsequent models. Most importantly, perhaps, it tells us how much of the variance in our dependent variable (SAFESC) is with schools (Level 1) versus between schools (Level 2), allowing us to decide whether or not to proceed with more complex models. If we found, for example, that there was no between unit variance, there would be nothing to explain at the school level.

*At Level 1, the ANOVA model is  $Y_{ij} = \beta_{oj} + r_{ij}$*

where:

*$Y_{ij}$  = perception of safety score for an individual*

*$\beta_{oj}$  = average perception of safety for a school*

*$r_{ij}$  = a unique effect for individuals*

The variance in  $r_{ij}$  is sigma-squared, and it is a measure of the pooled within-unit variance in the dependent variable.

*At Level 2, the ANOVA model is  $\beta_{oj} = \gamma_{oo} + \mu_{oj}$*

where:

*$\beta_{oj}$  = perception of safety for the population of schools*

*$\gamma_{oo}$  = average perception of safety for the population of schools*

*$\mu_{oj}$  = between unit error or a unique effect for each school*

The variance in  $\mu_{oj}$  is  $\tau_{oo}$ , and it is a measure of the between unit variance in perceptions of safety.

Table 51 on the following page presents results from the ANOVA perceptions of safety. The within unit variance, sigma-squared, is 8.75754, and the between unit variance is .26063. Although most of the variance in perceptions of safety is accounted for by variance within schools, rather than between schools, the between unit variance is large enough to model.

The intra-class correlation coefficient, which is 0.03 (between unit variance/total variance) is another way of expressing this. It shows that three percent of the variance in perceptions of safety is accounted for by between school differences, while 97 percent is accounted for by within school factors. In other words, the majority of the variance in perceptions of safety can be accounted for by individual level factors, i.e., characteristics and

perceptions of individual students. School level factors can, at best, account for three percent of the variance in perceptions of safety.

**Table 51**  
**ANOVA Model**

Parameter	Value
Sigma-squared	8.75754
Between Unit Variance	.26063
Chi-Square	151 (p = 0.000)

The Chi-square value for  $\tau_{00}$ , between school variance in perceptions of safety, is significant ( $X^2 = 151$ ,  $p = 0.000$ ), allowing us to reject the null hypothesis that  $\tau_{00} = 0$ . Essentially, we have rejected the null hypothesis of no difference in perceptions of safety across schools. Thus, although the variance in perceptions of safety across schools is minimal, school differences in this parameter attain statistical significance. This confirms findings at the intermediate level that differences between schools, while small, are statistically significant.

#### *Building an Individual Level Model*

Before exploring a between school model, we first build a Level 1 model using individual level predictors. The Level 1 model has four predictors — CONFORM, SELFCON, POSASSOC, ATTACH — each selected for their theoretical relevance to perceptions of safety. The selected predictors have also been demonstrated to be significantly related to perceptions of safety in the Intermediate Analysis.

In HLM, two distinct questions can be answered: 1) Is a predictor significantly related to outcome?; and 2) Does the relationship between the predictor and the outcome vary across Level 2 units?. In order to address both of these questions, we ran an HLM model which included all four of the individual level predictors. Their slopes were allowed to vary to examine whether or not their relationships with perceptions of safety varies across schools. According to this model, three of the four predictors — SELFCON, POSASSOC and ATTACH — were significantly related to the outcome, while one — CONFORM — was not. Since CONFORM was not found to be significantly related to the outcome, it was dropped from future analysis.

None of the slopes varied significantly across schools. This means, for example, that the relationship between POSASSOC and perceptions of safety is the same in all 11 middle schools. Thus, in subsequent analyses, the slopes of these predictors were fixed, i.e., not allowed to vary across schools. This reduces the number of parameters that HLM must estimate, allowing us to enter more predictors at Level 2. This also allows us to generalize our findings across schools. In other words, the *nature and magnitude* of relationships between

variables is not dependent upon the specific school being examined — this is exactly what is predicted by theories of school climate. Another way of stating this is that the theory is robust across schools.

We reran the model, this time without CONFORM and with the slopes of the predictors fixed. The results of this model are shown in Table 52. As expected, all predictors remained significant and in the expected direction — positive. More specifically, as student perceptions of attachment (ATTACH;  $\beta_1 = .44$ ,  $p = .000$ ), positive associations (POSASSOC;  $\beta_2 = .43$ ,  $p = .000$ ) and self concept (SELFCON;  $\beta_3 = .80$ ,  $p = .000$ ) increase, perceptions of safety (SAFESC) also increase.

**Table 52**  
**Individual Level Model**

Parameter	Value
$\beta_1$ (ATTACH)	.44 ( $p=0.000$ )
$\beta_2$ (POSASSOC)	.43 ( $p=0.000$ )
$\beta_3$ (SELFCON)	.80 ( $p=0.000$ )
Variance Explained	11%

The sigma-squared value for this model, 7.75876, tells us how much variance is explained by this model by comparing it to the sigma-squared value for the ANOVA model (8.75754). This model explains 11 percent of the individual level variance in perceptions of safety.

#### *Adding School and Community Variables*

Five school/community concepts are included in our model — community socio-demographic characteristics; community crime and violence; school staffing, size and resources; academic performance; and extent of adoption of school based management. Each concept was measured using anywhere from one to four variables. Additionally, two distinct communities are of interest: 1) the local community immediately surrounding the school, and 2) the imported community from which students come (see macro-level analysis, research design sections of this report). Thus, two models are of interest, one which includes the local community characteristics and one which includes the imported community characteristics. Both models include characteristics of the community aggregated to each of the 11 schools.

Ideally, these two models should be estimated by entering all of the variables of interest at the same time. Unfortunately, this was not possible due to the small number of cases ( $n = 11$ ) at Level 2. Thus, the analysis proceeded in a stepwise fashion. Variables for each concept were first entered separately. Next, subsets of variables for each concept were examined for their predictive power and collinearity. Where it was necessary to pare variables (e.g., selecting one of four measures of community crime), we selected variables that were most

predictive and independent of other variables in the model. Finally, more complex models encompassing each theoretical construct were estimated.

Two final models — one including local community characteristics and one including imported community characteristics — were estimated, each including variables from all of the concepts in our theoretical model.

*Local Community Model*

Table 53 shows results from the final local community model. Six variables were entered into this model. CLOCAL\_1 and CLOCAL\_2 are factor scores which describe local community socio-demographics: poverty and community stability (see macro-level analysis for a complete discussion of these variables). LOSEPRO is a measure of serious poverty offenses in the local community and is used as an indicator of community crime and violence. Of the four crime variables entered into early analyses, this variable came closest to attaining statistical significance, so it was included in the final model since all four variables could not be included due to problems of collinearity. TOT90, total number of students, was included as a measure of school size. NATRD90, mean standardized test score, was included as a measure of academic performance, and SBM was included as a measure of the extent of adoption of school based management.

Table 53  
Local Community Model

Parameter	Value
$\gamma_1$ (CLOCAL_1)	-.53 (p = .10)
$\gamma_2$ (CLOCAL_2)	.38 (p = .09)
$\gamma_3$ (LOSEPRO)	-.02 (p = .28)
$\gamma_4$ (TOT90)	.002 (p = .04)
$\gamma_5$ (NATRD90)	-.02 (p = .27)
$\gamma_6$ (SBM)	-.02 (p = .27)
$\tau_{00}$	.03901
Total Variance Explained	14%

Of these six variables, only one — TOT90 — was significant ( $\gamma_4 = .002$ ;  $p = .04$ ). For each additional student within a school, perceptions of safety increase by a factor of .002. This model accounts for 85 percent of the school level variance in perceptions of safety. Recall, however, that only three percent of the total variance can be accounted for at this level. Thus, although our model has accounted for most of the between school differences in

perceptions of safety, most of the variance lies at the individual level. The model accounts for 14 percent of the total variance in perceptions of safety.

*Imported Community Model*

Table 54 shows results from the final imported community model. Six variables were entered into this model. CIMPRT\_1 and CIMPRT\_2 are factors scores which describe the imported community socio-demographics. XROSEPER is a measure of serious personal offenses in the imported community and is used as an indicator of community crime and violence. Of the four crime variables entered into early analyses, this variable came closest to attaining statistical significance, so it was included in the final model since all four variables could not be included due to collinearity. TOT90, total number of students, was included as a measure of school size. NATRD90, mean standardized test score, was included as a measure of academic performance, and SBM was included as a measure of the extent of adoption of school based management.

**Table 54**  
**Imported Community Model**

Parameter	Value
$\gamma_1$ (CIMPRT_1)	-.47 (p = .14)
$\gamma_2$ (CIMPRT_2)	-.24 (p = .09)
$\gamma_3$ (XROSEPER)	-.005 (p = .32)
$\gamma_4$ (TOT90)	-.00004 (p = .32)
$\gamma_5$ (NATRD90)	.08 (p = .04)
$\gamma_6$ (SBM)	-.06 (p = .17)
$\tau_{00}$	.03759
Total Variance Explained	14%

Of these six variables, one — NATRD90 — was significant ( $\gamma_5 = .08$ ;  $p = .04$ ). For every unit increase in student achievement, perceptions of safety increase by a factor of .08. This model accounts for 86 percent of the between school variance in perceptions of safety, and 14 percent of the total variance in perceptions of safety.

**INTEGRATIVE ANALYSIS: CONCLUSIONS**

The modeling of school safety as a depending variable using HLM techniques found much the same results as the intermediate and macro analyses previously discussed. In other words, we are able to predict perceptions of school safety quite well at the individual level within schools, and small, but significant, increments in explained

variance are provided by community level variables such as poverty and community stability. It is noteworthy how strong the school climate construct remains even when pitted against community level variables in the most sophisticated modeling technique available for nested data. As we argued previously, a school is neither blessed nor doomed entirely on the basis of where it is located. Schools do not differ greatly on their aggregate characteristics or the characteristics of communities (either local or imported). Where they do, those differences only add slightly to the explanatory power already provided by school climate and individual student constructs.

Implications are that school climate is not only the strongest predictor of safety, but it is amenable to change. In spite of resource constraints and all the other problems facing public schools approaching the 21st century, it is not impossible to implement positive change. School climate dimensions emerge as powerful predictors of school safety, and school climate can indeed be shaped by conscious efforts by school administration, teachers, parents, students, and others involved or potentially involved in the task of the healthy development of children.

At the same time, however, it must be noted that all schools are at the same low level of funding, and communities are afflicted with the same high levels of poverty, instability and so on. This base rate factor, as much as anything, may account for the low explanatory power of Level 2 variables in our models. As we noted earlier, our ability to model community level factors is constrained by the small number of schools (11) in our sample. While HLM is much more efficient and effective at modeling nested data than OLS regression models, it still cannot overcome entirely the limitations of the sample size. Although we have a large number of students (Level 1), a higher number of schools (Level 2) would be desirable.

## MICRO-LEVEL ANALYSIS

The micro-level analysis focuses on the third stage of the larger study previously described by examining a subset of three schools. We narrowed our inquiry to the effects of various dimensions of school physical design, student movement and climate on school disorder in three middle schools in the Philadelphia School District. In each of the three schools, focus groups of students, parents, teachers and staff provided information regarding school safety and school climate issues. Table 55 shows some of the characteristics of the three schools as we found them in 1994-95. All schools served grades 6 through 8. One school also served grade 5, but student respondents were limited to grades 6 through 8. Each middle school is described in more detail below.

**Table 55**  
**Selected Characteristics of Participating Schools**

Characteristics	Harding	Leeds	Pepper
Total Student Enrollment	1049	875	949
Percentage by Ethnicity			
% Black	37	99	63
% White	47	—	20
% Asian	3	—	15
% Latino	13	—	1
Percentage Below Poverty	83	67	87

In the discussions that follow, selected aspects of school structure, management, climate, and disorder are presented. A more detailed case study of each of the three middle schools selected for this analysis is presented in the Appendix to this report.

### *Harding Middle School*

Warren G. Harding Middle School, located in the northeast section (Frankford) of Philadelphia, was originally built in 1923 as a junior high school, converting to a middle school during years 1986-1988. This area of Philadelphia has been a stronghold of blue collar workers from local trade and service industries. The area has been under transition for several years, accommodating a growing minority population, as well as white ethnic families who have lived in the area for many years.

Even though Harding is a community school, Harding has historically had a negative reputation within the community of Frankford. Harding has been regarded as a "tough" community school. This "tough" school image stems, in part, from the backgrounds of the families Harding has traditionally served (i.e., working class, blue collar families). During the 1960s and 1970s, Harding was described as a "hotbed" of gang activity and racial tension which frequently erupted into assaultive behavior. While these tensions are said to have been reduced in the present day, this image of Harding lingers.

In 1994-95, there were 1,049 students enrolled at Harding. Average daily attendance was about 85 percent, which was consistent with levels of previous years. The student population was 47 percent White, 37 percent Black, 13 percent Latino and 3 percent Asian. Students from low income families comprised 83 percent of the school population. Special Education programs enrolled 217 students and there were 46 Limited English Proficient (LEP) students. Staff were 60.8 percent White, 35.3 percent Black, 2 percent Asian, 2 percent Latino, and 23.5 percent male.

Several factors distinguish Harding Middle School from the other two schools. First, Harding possessed the highest population of White and Latino students. Second, Harding is the oldest school. Third, the principal at Harding has the longest tenure.

### *Leeds Middle School*

Morris E. Leeds Middle School was founded in 1955. The school is located in a predominately Black, middle class neighborhood in the northwest (Germantown) section of Philadelphia.

All 875 students in the school were from the immediate neighborhood which surrounds the school. Average daily attendance was about 86 percent, which was consistent with levels of attendance in previous years. About 67 percent of the student population were from low income families. Ninety-nine percent of the students were Black. Special Education programs enrolled 129 students. The staff were 61.4 percent Black, 37.3 percent White, and 1.2 percent Latino. Twenty-eight percent of the staff were male.

There were two factors which were unique to Leeds Middle School. First, Leeds had the highest principal turnover rate over the past two to three years. During the case study analysis, three different principals managed the school. Second, the 99 percent Black student population makes Leeds the most racially isolated of the three schools and one of the most segregated in the entire District.

### *Pepper Middle School*

George Pepper Middle School was founded in 1974. The school is located in the southwest section (Eastwick) of Philadelphia. Today, most residents in the area are middle class Blacks, elderly people, adults without children, or transient residents in newly built townhouses and apartments.

Over 87 percent of the students were classified as economically disadvantaged. Approximately 123 students participated in the Special Education Program, and 59 students were LEP students (mostly Vietnamese and Cambodian). The average daily attendance was 87 percent. The majority of the students travelled to school by bus (5th and 6th graders on Philadelphia School District buses, 7th and 8th graders on public transportation). The student population of 949 was approximately 63 percent Black, 20 percent White, 15 percent Asian and one

percent Latino. Staff were 50 percent Black, 49 percent White and one percent Asian. Thirty-one percent of the staff were male.

The school history and description detailed above suggest a number of characteristics that contribute to the uniqueness of Pepper Middle School. First, Pepper is a commuter school. The majority of the students travel to school by bus. Second, Pepper had the largest number of Asian students. Finally, of the three schools in this analysis, Pepper was the only school that had 5th grade students.

## **DATA ANALYSIS**

Perceptions of the school community (e.g., students, teachers, parents and security staff) of various dimensions of school climate were compared across the three middle schools selected for this analysis. This is followed by a discussion of perceptions of school disorder and safety. As school climate and safety were the two dominant themes in this research, each is considered at length for each of the case study schools. Following this analysis, a consideration of trends or patterns across these schools is presented.

### *School Climate*

#### *School Organization*

Harding: Harding is organized around a horizontal house system plan (i.e., house organized by grade level). Each of the three houses (6th, 7th and 8th) is headed by an Instructional Coordinator, a member of the faculty who manages disciplinary matters and coordinates house activities. The 6th grade house consists of self-contained classrooms with one primary teacher per class. The 7th grade is minimally cycled between two-teacher teams which offer a progression from self-contained classrooms to the full cycling. The 8th grade is organized into four-teacher teams, two-teacher teams, and one self-contained classroom offering an opportunity for students who need the consistency of only one or two teachers per day, as well as a chance for some students to experience full-cycling. Student rostering, while originally designed to meet student academic needs, is driven more by security or controlling student behavior.

Leeds: Leeds is also currently arranged in a horizontal house structure with houses organized by grade. Grades 6, 7 and 8 are taught. The 8th grade house has an African-centered curriculum. The curriculum is designed to produce excellence in the academic achievement of Black students, while building self-esteem and developing critical thinking skills. In every subject, contributions of African people and how they have helped the advancement of world civilization are included. Plans to extend this curriculum to lower grades have been delayed due to a reported lack of resources.

Pepper: The school is divided physically and educationally into four distinct houses. Unlike Harding and Leeds, Pepper is organized around a vertical house system (four equal houses containing grades five through eight and special education). Each of the four houses (Alpha, Beta, Gamma and Delta) are subdivided into an upper (rotating 7th and 8th grades) and a lower house (self-contained 5th and 6th grades), has a house director, assistant house director, and a non-teaching assistant who makes thematic, instructional and disciplinary decisions.

#### *School Management*

Harding: School management at Harding revolves around the Leadership Team, which includes the principal, two assistant principals, the instructional coordinators, the building representative (union representative), the Chapter 1<sup>1</sup> representative, the special educational coordinator, the expressive arts coordinator, the English for Speakers of Other Languages (ESOL) coordinator and two parents. Meeting weekly, the Leadership Team focused on the following shared goals: (1) decreasing suspensions; (2) improving strategies for dealing with disruption; and (3) attempting to keep students in school.

Despite having shared goals, the Leadership Team is in the process of transformation and is not well coordinated or cohesive. There currently exists a large administrative presence which tends to overshadow the creation and formation of decentralized "team" management (i.e., the principal continues to possess the primary administrative responsibility). However, the principal maintains an "open-door" policy with his staff, parents, and students, hoping that such a policy will support the transition from a strong administrative presence to the decentralization of management. Issues that constrain the amount of decentralized leadership include:

1. insufficient time within the constraints of the school day;
2. changes in assistant principals over the years, resulting in an inconsistent central administration;
3. teacher uncertainty about whether to take on added administrative responsibility; and
4. the "take charge" style of the principal.

In general, teachers were divided as to whether they wanted a role in the administration of the school. Some teachers wanted involvement in the administration, others did not. Still others felt that they had been "burned" before in schemes which tried to draw teachers into the administration of the school.

Many teachers reported that they would prefer to have autonomy in the classroom rather than a role in management. They claim that many teachers have established their ability in the classroom and will continue to

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1. Chapter I of the Elementary and Secondary Education Act provides federal funds for economically disadvantaged children.

teach their classes in the same manner throughout the years. Such a system, however, creates the potential for wide disparity in discipline and order across classrooms.

The shortage of formalized communication networks among teachers has had particular effects on new teachers. Although the majority (56%) of Harding's teachers have taught at the school for over three years, 12 teachers (18%) are on special assignment (i.e., assigned to the school for only one year). It may become difficult for the administration to develop a positive school climate if teachers on special assignments do not display ownership in the school. Given the rotation of 20 percent of Harding's teachers through special assignments, building effective decentralized management is made more difficult at this middle school.

The non-teaching assistants/security staff do not fulfill any administrative role within the school, but they play a critical role in the maintenance of order and discipline, particularly in the common areas of the school (i.e., school grounds, hallways, the lunchroom). They interact with the administration of the school only in an indirect and informal fashion, and many feel alienated from the school's professional staff culture.

The results from the ESB for Harding suggest that, compared to national norms, teachers generally perceive the administration as supportive. Instructional supplies are adequate. Most teachers reported that the school takes an innovative and experimental approach to planning school programs.

Leeds: There were three different principals in the school during the school year 1994-95, precipitated by a prolonged medical leave by the former principal shortly after the start of the 1994-95 school year. A new acting principal took over for the 1995-96 school year. Teachers suggested that the former principal tended to do things herself rather than delegating much responsibility to others. According to some teachers, this resulted in the school either not applying for, or missing, some grant opportunities. Teachers indicated that their participation in actual decision making over the past two years had been minimal. Some teachers perceived that the principal listened to their suggestions but rarely acted on them. Others perceived that they were usually told what to do without being asked for their opinion. The acting principal during the spring of 1995 strongly advocated a more participative type of leadership style, and staff felt that their views were well-represented in the 1995-96 School Improvement Plan assembled in the spring of 1995.

Several committees (e.g., Leadership Committee, Building Committee, School Safety Committee) met occasionally during the spring term. Like the Leadership Team at Harding, the Leadership Committee at Leeds was not well coordinated or cohesive. Teachers expressed a need to build a sense of teamwork among the staff and to "improve communications across the board."

Unlike Harding and Pepper, Leeds' ESB results showed that teachers perceived the school's administration to be very unsupportive because they did not get help as needed. They reported that the school has generally not taken

an innovative approach to planning school programs, and the level of school resources has been inadequate. These complaints may be partially due to recent principal changes and the concomitant disruption in leadership.

Many students were concerned about poor maintenance, especially in the bathrooms. Students share responsibility for keeping bathrooms clean, but, according to students, the school seems to make little effort.

The security staff perceived Leeds as a friendly place, but noted that some staff are “caught up” in their own jobs, and, like Harding, they believe the communication between administration, teachers and security staff could be better.

*Pepper:* Like Harding and Leeds, Pepper Middle School had not implemented school based management. Broad-based school decisions were made through the Principal’s Cabinet and standing committees. Formed in 1992, the Principal’s Cabinet is representative of the entire school community: house directors, instructional curriculum coordinator, PATHS/PRISM<sup>2</sup>, coordinating chair (pilot program for middle school restructuring), assistant principal, lead non-teaching assistant, Home and School Association president, building engineer, food services manager, roster chair, special education liaison, building representative, and elected expressive arts representatives. Members of the Cabinet share an equal voice in the debates, discussions and decisions on school wide policy issues.

In addition to the Principal’s Cabinet, the planning committees (e.g., Positive School Climate Committee, Parental Involvement Committee, Home and School Association, Professional Development Committee and Building Committee)<sup>3</sup> were also part of the school decision making process. However, like Harding, special assignment teachers and new teachers indicated that they sometimes felt less informed than other teachers about school rules and policies. Because school-wide decisions were generally made at the Cabinet level and then moved down to the committees, ultimately there was a forum for teachers to voice their opinions. According to one teacher, “everyone is on some committee that is involved in some discussion of what is happening at Pepper.” On the other hand, some teachers expressed frustration that there was not enough planning time in the school schedule. They suggested that they were “volunteered out” because there were too many meetings, especially morning meetings, making them feel overwhelmed. Overall, teachers viewed the management style as participatory.

Generally, ESB results confirmed teacher focus group comments. In the Effective School Battery, teachers reported that they liked their jobs and were satisfied with their jobs most of the time. Over 80 percent of the teachers agreed that teachers and administrators collaborate to run the school, and that the administration supported teachers.

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2. The Philadelphia Alliance for Teaching Humanities and Science/Philadelphia Renaissance in Science and Math is a foundation created to support professional development of teachers in the Philadelphia School District.

3. Note that each of the three schools studied had a Home and School Association and a Building Committee

### *Student Influence*

Harding: Students have influence at Harding through a student council. Student representatives ask the students about their opinions and report to the Council. Based on focus group interviews, it was clear that some sixth grade students were unaware that a student council existed in the school. Many students did not know the role and some of the responsibilities of the Council or that representatives had been selected. According to ESB results, however, most students felt that students had power to bring about changes and felt the school was open to their suggestions. Teacher results on the ESB indicated that they perceived students as having very little participation in school decisions.

Leeds: At Leeds, on the other hand, students did not have a student council and reported that they did not have any say in school decisions. For example, the school had a new dress code in the spring of 1995 under the acting principal. Although a meeting was held with student representatives to discuss the new policy, students claimed that the new principal made the new rules herself (e.g., no tank tops, no sandals, no shorts above the knees). Students would have liked to have more say in school decisions or to have at least participated in them. ESB results confirmed the opinions of the student focus groups: students reported a low degree of involvement in school decision making. Teachers at Leeds also reported that students have very little input into school decisions.

Pepper: Like students at Leeds, Pepper students complained that the school does not provide many opportunities for students to be involved in decision making. Student Government was ineffective during the 1994-95 school year because the teacher/sponsor was on extended sick leave. Students expressed the opinion that Student Government exists in name only. There was a school president, but he did not have an active role. Also, students did not know their class officers and were unsure about the rules in the school.

Both the ESB results and comments in student focus groups suggested that students had no forum to voice their ideas and concerns. Many students believed that their opinions were insignificant. According to ESB results, 78 percent of the students think they are "almost always" or "sometimes" treated like children. Sixty-one percent of the students agreed that they had little say in matters of concern to them.

### *Clearness and Fairness of Rules*

Harding: Students reported that school rules were clear and generally agreed that they were fair. However, some students resented the cancellation of school events (e.g., eighth grade dance and school trip) based on the behavior of only some students. According to ESB results, 71 percent of the students think the principal is fair and firm and about 54 percent of the students reported that punishment in the school is almost always the same for all students.

In contrast to students, teachers felt that rules were inconsistently enforced among classes and grade levels. They suggested that rules should be distributed to students on the first day of school and posted in classrooms.

*Leeds:* Students complained about some rules which they saw as arbitrary. For example, students wanted to have a Valentine's Day Dance, but the acting principal refused, stating that there would be no dance until behavior improved. Like Harding students, they were upset because they thought the majority of them were being punished for the misbehavior of a few. Students also resented school policies that made them take alternative routes to class because the school declared certain "house" areas off limits. For example, boys complained that the door to the boy's locker room was always locked to keep 6th and 7th graders off the 8th grade floor, forcing students to go from the first floor to the second floor to use the locker room. According to ESB results, 57 percent of the students think the principal is fair and firm and about 48 percent of the students reported that punishment in the school is almost always the same for all students.

Like the teachers at Harding, the teachers at Leeds perceived that the rules were inconsistently enforced. They stated in focus groups that there was no one set of rules or consequences. For example, students who disobey the same rule may get detention, suspension, or a warning for the same misbehavior, depending on which teacher enforces sanctions.

*Pepper:* In student focus groups, many Black and Asian students complained that "some teachers were prejudiced and showed favoritism toward White students." Some students complained that teachers did not always ask students "their side of the story." One student reported that, according to his science teacher, "You are guilty until proven innocent." Like students at Harding and Leeds, Pepper students argued that rules were unfair when the whole class was punished for the actions of a few (e.g., whole class detention). According to ESB results, 63 percent of the students think the principal is fair and firm and about 50 percent of the students reported that punishment in the school is almost always the same for all students.

Most teachers agreed in focus groups that the discipline policy was used equitably with everyone. They regarded students' complaints about prejudice as "an excuse for misbehavior."

#### *Parent/Community Involvement*

*Harding:* There was very little parent involvement at Harding. The Home and School Association had about five regular members who attend school events. The Association sponsored events (e.g., flower shows, bake sales), but minimal interest was shown by most parents. One aspect of the problem was the lack of communication between the school and the parents. A monthly newsletter discussing upcoming events had been very ineffective. Several attempts had been made to include parents in the management process. Support was offered in the form of meetings, workshops, phone calls, and conferences. However, the only time parents seemed to get involved in the school was when their children were in trouble.

In focus groups, teachers stated that the principal was very involved with the community. They called Harding a "public relations kind of school." The school was often mentioned in the paper for being involved in community activities despite the "tough" image it has in the community. On the other hand, ESB results indicated that teachers believed that the school used community resources in its programs to an average degree compared to national norms.

Parents interviewed in focus groups lamented the lack of parental input or attachment, and several indicated that the school did not create opportunities for parents to come to the school, except for disciplinary problems. Parents suggested the use of rewards ceremonies and talent shows as ways of drawing parents to the school.

Leeds: Parent involvement at Leeds was mixed. The Home and School Association had increased in size and involvement over the past five years. Parents instituted a Saturday tutoring program and organized fund raising projects, including a business partnership with local stores. A parent generated newsletter and a telephone chain were used to open up school lines of communication. Community involvement, with a few exceptions, had been sparse. Leeds had relationships with several businesses and organizations in the community and incentives (e.g., mall merchants provided free products, food for special events and awards) for student achievement.

Teachers also perceived parents and the community as not strongly involved in the school. The principal reported a low level of involvement from parent groups, businesses, social service organizations, civic organizations and religious organizations. They perceived that behavior at school is largely a function of the behavior children learn at home. They believed that parents needed to be taught parenting skills because there had been "a general erosion of basic respect from students." Teachers claimed that they spent most of their time with parents who took an interest in their child's behavior and progress at school — teachers were most responsive to those parents who either asked for specific feedback from teachers and/or were responsive when the parent had called previously. ESB results showed that teachers reported a moderately low degree of school use of community resources compared to national norms.

In general, parents strongly expressed a need to be more involved with their children's education (e.g., report cards should point out areas of deficiencies which a parent can address and should provide feedback about a child's behavior and progress). The President of the Home and School Association reported that they had received a number of complaints from parents about how they were received in the main office and how they were spoken to by some teachers. All parents agreed that the school needed to do a better job of welcoming parents and finding constructive ways for parents to participate in education and activities at the school since most parents could not attend meetings or events during the day.

Pepper: Like the other middle schools, Pepper has low parent attendance at meetings and school activities. In order to accommodate parents who live far from school, some Home and School Association meetings were held

at feeder schools. Efforts to get more parents to attend meetings included personal phone calls, providing a bus from the feeder elementary schools, having meetings at the feeder schools, and offering to pay baby-sitting costs. In addition, parents were encouraged to attend Cabinet meetings, and they were involved in the decision making process through a "Power Breakfast for Parents" which provided a forum one morning each month (7:30am) for working and early-rising parents to discuss school issues and concerns.

Pepper's school computer network was used for daily attendance and provided individual student profiles, whole school reports, and system wide trends for strategic planning as well as necessary information required when reporting to federal and state regulatory agencies. Parents also received school information through the monthly calendar, periodic mailings, and the local newspaper, and communication designed specifically for the Asian community was sent to Asian parents on a regular basis.

There is little interaction between the school and the community immediately surrounding the school because most students commute by bus from distant feeder elementary schools. However, the school integrates the reading instructional program with the resources at the local public library, receives on-site counseling for pregnancy prevention at a nearby health clinic, recruits tutors from a high school nearby, and utilizes the services of a local Asian Community Center to assist Asian students with homework. Also, universities located in Philadelphia and a local radio station provide technical and financial support for the school. ESB results indicated that teachers perceived the school's use of community resources in its programs to be average compared to national norms.

### *School Disorder*

#### *Safety and Discipline*

Harding: According to the staff and administration, student movement contributed to disruption throughout the school. Therefore, the staff attempted to monitor and control movement through class scheduling and the House Administration to allow for self-contained classes and minimal movement of all students. The hallways remained predominantly clear during class periods, and there was little movement during class changes. Classroom changes of expressive arts classes were the most disruptive. Non-teaching assistants (NTAs) were present, but students did not cooperate.

Staff members, parents and students indicated that one of the main disciplinary problems stems from students' lack of respect for others. "Children raising children" was often cited as a way to explain the differences between the current student population at Harding in comparison to previous student populations. Drug and alcohol abuse within families was also described as part of the problem which resulted in school disruption and negative behavior.

Students stated that one of the major aspects of disruption is fighting. They reported that fighting between students originates from minor confrontations which occur in the hallways. Another disciplinary problem was cutting class, which became more of a problem for the 7th and 8th grade houses. In some cases, students would come to school, leave during the day, and return before 3:00pm. Teachers reported that there was no follow-up on students who cut class and, therefore, students knew how to get away with the behavior.

Students were monitored by non-teaching assistants, the school security officer, a police officer, instructional coordinators, and administrators as they entered and exited the school. As a result, students entered and exited the school in a timely, orderly fashion.

As stated earlier, the role of NTAs is to maintain order and discipline in the common areas of the school. They bring disruptive students to the attention of house coordinators and monitor hallways, entrances and exits, student arrivals and departures, and lunch periods. The only training they received was that obtained through experience on the job. This created problems considering that there were only six NTAs and about 1050 students. The shortage of NTAs was very apparent in the lunchroom when some students were seen running around, throwing food, and attempting to leave. NTAs had different approaches to lunchroom supervision: some provided garbage cans at the ends of the lunch table; others blew whistles at students to remind them to return to their lunch tables, and others remained passive, making no effort to control behavior.

NTAs reported that, although they played a critical role in the daily activities of the school, they were not consulted in matters of order and safety in the school. They felt that they should have more contact with the management process and be included in the development of appropriate types and levels of discipline at Harding.

In order to decrease out-of-school suspensions, Harding created the Alternative Learning Center (ALC). Two categories of students were sent to the ALC. Some students were sent for a "Time-Out" period, while others were sent for as long as a two-day period. The amount of time a student spent in the ALC depended on the severity of the incident. During the student's time in the ALC, the student was given assignments in reading, math and English as an alternative to out-of-school suspension. The ALC is monitored by the ALC coordinator experienced in special education. Most offenses were categorized as Level I offenses which included: disruption of school; disruptive/offensive use of language; damage, destruction or theft of school property; reckless endangerment of a school employee; assault on a student or person not employed by the school district; possession, use, or under the influence of any non-prescription intoxicant of any kind; and possession of a dangerous weapon. Less frequently reported are Level II offenses which include: reported school violations; indecent assault; indecent exposure; and assault on school personnel. The ALC coordinator also conducts a Peer Mediation Program to deal with student confrontations. This program, according to the ALC coordinator, seemed to be more effective with 7th and 8th grade students. In focus groups, all respondents reported feeling generally safe in the school.

Teachers indicated that there were few assaults in the building. They also reported that they did not feel threatened in the school. According to ESB results, teachers indicated moderately low levels of personal security and average levels of safety compared to national norms. Students also reported a low level of security and safety as compared to national norms (i.e., many places in the school were reported to be unsafe).

Leeds: Class changes and dismissal at the end of the day were generally the most noisy and chaotic times at Leeds. The acting principal was trying, with some success, to persuade more teachers to participate in hall monitoring and "hall sweeps" between classes. Such action was voluntary, however, because teachers can not be required, under terms of their union contract, to engage in such activity. Thirty minute lunch periods for each grade were also noisy, although they were fairly well monitored by House Directors and NTAs. Disorder occurred most often traveling to and from lunch rather than in the lunchroom itself.

Generally, monitoring of stairwells and entrances was practically nonexistent, and monitoring the hallways was sporadic. The school did not have classroom intercoms, and both the public address system and the walkie-talkies were rated as unreliable. While the school had deadbolt locks on outside doors, they were not considered dependable by the principal. Police did not regularly patrol the outside of the school, but one officer is stationed inside the school during school hours. During observations, the police officer was only encountered once. The areas most frequently monitored were the lunchroom and hallways at dismissal time.

While they felt safer in school than they did coming to school, students wanted to see more police and security in and around the school. They perceived discipline as poor. The school had a group of 8th graders in a leadership program, the "Black Watch." These students were supposed to monitor the halls, but some students characterized this group as "bullies who misuse their power." Some students complained that some teachers and NTAs ignore fights, while others tell students to "break it up and move along." Many students believed in-school suspension to be ineffective. Extremely high "lates" is a problem also, indicating lack of discipline and inconsistent enforcement of rules.

Students may be suspended for any of the following: fighting; using threats or intimidation; fighting in route to or from school; possession of a dangerous weapon; use of offensive language; physical abuse of a student; damage, destruction or theft of school property or private property; and repeated school violations. In-house suspension, upon referral from a teacher or staff member, lasted three days in a special class conducted by a full-time teaching specialist. Students focused on school work, but also on peer mediation and discussion of their own and others' behavior. School violence prevention programs were listed in the School Improvement Plan, but they were neither observed by us nor mentioned by staff, students, or parents. Out-of-school suspension was used rarely and only for more serious incidents.

Teachers perceived that, in most instances, what was needed was individual and family therapy, not suspension. They sometimes avoided reporting student behavior for fear of subsequent child abuse by parents. They contended that the school did not have adequate resources nor authority to make the referrals that were needed. Some suggested that at least one full-time social worker was needed on site. In many cases a child had to be arrested or some kind of serious crisis had to occur before any kind of treatment could be ordered.

Parents suggested that the school needed to work out a much better discipline code, and that both parents and students should participate in its preparation. They complained that teachers did not spend enough time on academics, did not contact parents frequently enough when problems first appeared, and were inconsistent in calling when students were late, absent, or in detention. However, some noted that parents must take responsibility to visit teachers at the school and not wait for teachers to call them.

According to ESB results, both teachers and students rated the safety of the school low (relative to national norms). Survey results also indicated that discipline practices and policies had not been sufficiently clear, consistent or effective.

*Pepper:* Generally, few disruptive incidents were observed at Pepper. Most of the time students were where they should have been at various times during the day. Although some students appeared to be cutting class (e.g., ducking behind a wall or turning to walk the other way when they saw an adult coming), for the most part students outside of classrooms had passes. Stairs were hazardous when students were changing classes. There was no way to move up or down the stairs without touching someone accidentally. According to teachers, truancy, cutting classes and late arrivals were major problems.

The lunchroom was a crowded, noisy area which appeared to be in need of more space and control. At lunch time, sounds of students yelling and talking could be heard throughout the interior hallways of the building. Many students were observed wandering through the halls without passes during lunch periods. Teachers seldom stopped students to ask where they were going. NTAs, however, immediately directed wandering students back to the lunchroom or to class.

Teachers stated that they were concerned that the school was isolated and that doors were not always locked. Similar to the other two middle schools, teachers recommended that the number of NTAs be increased to monitor the long corridors, many exits, and lunchroom. They also recommended that NTAs receive training before being hired.

The security officer and NTAs attempted to patrol all entrances and exits during the school day. All side entrances had panic bar doors (e.g., doors that open only from the inside). To guard against intruders, visitors were required to enter the building at the main entrance, sign in at the security desk (manned by a school aide at

various times of the day), and report to the main office for permission to visit any area of the building. All members of the School Safety Team (e.g., the school principal, assistant principal, house directors, lead NTA, transportation coordinator, school nurse, school security officer and two school counselors) utilized walkie-talkies to communicate and monitor student behavior and building safety.

Although parents considered Pepper Middle School to be one of the safer middle schools in the District, in the focus group they identified peer pressure, lack of parental guidance and parent-child communication, and lack of control by some teachers as major factors contributing to school disorder. While they praised NTAs for doing a good job, parents also complained that there were not enough NTAs and counselors. Parents also contended that 5th graders should not be housed in a school with 8th graders because 5th grade students tried to behave like the older students.

The security staff reported at the focus group that the physical layout of the building lent itself to problems. They contended that the stairs had been unsafe since the building was built because they were too narrow and congested during class changes. They reported that even when you can hear something happening on the stairwell, it is difficult to get to the problem because of the number of students walking up and down the stairs at once.

Also, security staff perceived a lack of consistency regarding discipline and the limits that staff set in the building. Some teachers disciplined only the students they knew and disregarded others, and some were able to handle problems effectively while others frequently had difficulty with behavior management.

Like the other two middle schools, Pepper had a highly structured program designed and implemented as an alternative to out of school suspensions, the Alternative Learning Center (ALC). Disruptive students were assigned to a special classroom for one to three days by the House Director or Administrative Team. They reported to the ALC at the beginning of advisory in the morning and worked on learning packets individually in a small group setting for the entire school day. If a student was assigned to the ALC more than three times, the student received an out-of-school suspension. Unlike the other schools, five teachers were assigned to the ALC by roster, rather than a single teacher.

Students in the focus groups did not consider the ALC an effective way to handle behavior problems. Some students reported that they knew students who went there everyday, and some skipped school on the days that they had to report to the ALC. Some suggested that there should be a school wide mediation program. Unlike students, teachers believed that "the ALC is the only thing that seemed to have any effect on misbehavior." Teachers considered out-of-school suspension an ineffective punishment for students who do not want to be in school anyway. Intervention programs existed (e.g., Students Practicing Appropriate Responses Can Succeed/

S.P.A.R.C.S., Gang Resistance Education Training/G.R.E.A.T.), however these programs were inconsistent and were not offered school wide.

According to ESB results, teachers rated their personal security as low, indicating that many teachers received obscene remarks or gestures, threats, thefts, or physical attacks. Similar to students at Harding and Leeds, Pepper Middle School students rated the safety of the school environment "low" relative to national norms.

### *Victimization*

Harding: In 1993-94, 127 students were suspended from Harding. There were no expulsions. Serious incidents were down from the previous year. There were five assaults on students, three on teachers. There were eight weapons offenses (6 knives). There was one drug offense and one robbery offense of a student. The principal reported graffiti on some school property and a few instances of vandalism.

According to the student victimization survey, nine percent of the students reported that they were "often" hit or pushed, while 43 percent reported that they were "sometimes" hit or pushed. Only three percent of the students reported that they had "often" had something taken by force, while 88 percent reported that they had "never" had anything taken by force. When asked whether or not students were ever threatened at school, three percent reported that they had "often" been threatened, and 66 percent reported that they had "never" been threatened. Fifteen percent of the students stated that alcohol was "easy" to get and 20 percent said that marijuana was "easy" to obtain. Almost 60 percent of the student had hit another student, and five percent had hit a teacher. Approximately 16 percent of the students had carried a weapon to school and 26 percent of the students reported that there were gangs in the school.

Leeds: In 1993-94, 257 students were suspended. There were no expulsions. Serious incidents were slightly down from the previous year. There were 11 assaults on students and four on teachers. There were 15 weapons offenses (1 gun, 14 knives). There were three marijuana offenses, no other drug offenses, no arson, and no robberies. During the 1994-95 school year, the principal reported high rates of graffiti on school property and a somewhat high level of vandalism. The most common offenses resulting in arrests were trespassing, weapons, narcotics, or disorderly conduct. Generally, the biggest problem was disorderly behavior in the halls and classrooms, and a lack of respect for adults.

In focus groups, students said the community was just like any other neighborhood. They did not fear going to or from school for the most part. However, they mentioned that there were crack houses and drug houses in the neighborhood near school and the drug dealers sometimes harassed them. Students reported seeing someone being chased with a gun, witnessing robberies, and seeing people assaulted on the way to or from school. They talked about students "hanging out" at the field across from the school, and drugs being sold openly and

aggressively. Some students reported that intruders in the school were a big problem, especially high school students who were former Leeds students.

The student victimization survey provided further detail about school disorder and violence at Leeds. Seven percent of students reported that they were "often" hit or pushed, but 40 percent said they were "sometimes" hit or shoved. When asked if anyone had taken anything from them by force, two percent said "often," eight percent said "sometimes." Fourteen percent of the students reported that they had been threatened or attacked "often" or "sometimes" going home, and 28 percent reported that students threatened or attacked other students in school "often." Alcohol was rated "easy" to get by 22 percent of the students, while marijuana was rated "easy" to get by 34 percent of the students. Two-thirds of students reported that they had hit another student. Four percent reported hitting a teacher. Thirteen percent said that they had carried a knife to school, 16 percent reported that they had carried a weapon. Twenty-two percent said they knew of street gangs at their school.

*Pepper:* According to the principal, there had been some problems with theft and a few problems with drug/alcohol abuse. Most assault incidents occurred between girls about boys and/or insults regarding clothing or hairstyles. A few knives had been confiscated, and some incidents were racial in nature.

During the school year 1993-94, there were 427 school suspensions, up from only 61 the previous year. There was one expulsion compared to none the previous year. During the school year, student assaults increased (0 to 3) and teacher assaults decreased (6 to 4). There were no drug offenses or morals offenses (rape, indecent assault, indecent exposure), no robbery offenses, no shooting or stabbing of students, and an increase in knife offenses (1 to 4).

In the Student Victimization Survey, about 10 percent of students reported that they were "often" hit or pushed, but 45 percent said they were "sometimes" hit or shoved. When asked if anyone had taken anything from them by force, four percent said "often," 11 percent said "sometimes." Sixteen percent of the students reported that they had been threatened or attacked "often" or "sometimes" going home, and 26 percent reported that students were threatened in school "often." Alcohol was rated "easy" to get by 18 percent of the students and marijuana was rated "easy" to get by 18 percent. Fifty-four percent of the students had hit another student, and five percent had hit a teacher. Ten percent said that they had carried a weapon (most frequent weapons, knives or mace). Although the principal reported that there were no gangs, nine percent of the students reported belonging to a gang, and 22 percent reported that there were street gangs in the school.

Based on our analysis, Table 56 (on the following page) depicts a typology of school climate in the three middle schools examined.

**Table 56**  
**A Typology of School Climate in Three Middle Schools**

Dimensions of School Climate	Observations and Perceptions		
	Harding	Leeds	Pepper
School Organization	Horizontal House Organization	Horizontal House Organization	Vertical House Organization
School Management	Moderate Shared Decision Making	Low Shared Decision Making	High Shared Decision Making
Student Influence	Student Council - Some Power	No Student Council - Low Power	Student Council - Low Power
Clearness/Fairness of School Rules	Rules Clear - Somewhat Fair	Rules Clear - Unfair	Rules Clear - Unfair
Parent/Community Involvement	Low Parent Involvement Some Community Involvement	Low Parent Involvement Some Community Involvement	Low Parent Involvement Some Community Involvement
Safety (ESB Results) Discipline	Safe School (Moderately Low) In School Suspension	Safe School (Low) In School Suspension	Safe School (Low) In School Suspension
Suspensions	Moderate	Low	High
Victimization	Few Student Assaults	Many Student Assaults	Fewest Student Assaults

**MICRO-LEVEL ANALYSIS: CONCLUSION**

Our analysis of three case studies of three middle schools in the Philadelphia School District provides new insight into the nature of the relationship between school climate and school safety in the course of routine daily school activities. Consistent with previous studies, our findings suggest that certain dimensions of school climate are related to school safety. The various trends and patterns of various dimensions of school climate (i.e., school organization, school management, student influence, clearness and fairness of rules, and parent/community involvement) across the three middle schools are presented below.

*School Organization*

All three middle schools are organized around a "House Plan" which divides students into groups of one grade level (horizontal) or groups containing a class at each grade level (vertical). In all three schools, house plans are designed to minimize student movement and strengthen interpersonal communication between students and teachers within a smaller community; however, each school also uses house organization to meet its own unique needs. For example, at Harding Middle School, reducing student movement to increase discipline is a guiding factor in house organization. Within each House, students are assigned to self-contained classrooms, minimally cycled in two-teacher teams or in four-teacher teams, or fully cycled like high school students to minimize student

movement and manage student behavior. At Leeds Middle School, the focus appears to be more on building self-esteem. For example, the 8th grade House uses an African-centered curriculum to encourage pride in all areas of study. Pepper Middle School's House Plan emphasizes the development of small schools with unique personalities within the larger school. Through the leadership of the House Directors, teachers in each house cooperatively develop teaching strategies, seek funding for resources, and set behavior standards based on the unique needs of their students.

While House Plans appear to restrict student movement and strengthen interpersonal relationships between students and staff within house boundaries, they may also have some disadvantages. Some teachers stated that the House organization creates an insular and fragmented style of student management that reduces consistency in school rule enforcement across houses and limits school-wide communication of school policies.

### *School Management*

All three middle schools have Leadership Teams and/or a Cabinet created to improve formal communication networks between teachers and administration and develop a system of shared decision making. At Harding, the principal remains the primary decision maker, but most teachers state that they are content with this arrangement since their classroom needs are adequately met. At Leeds, the high turnover of principals has resulted in a highly centralized decision making process with little opportunity for teachers to participate in decision making. On the other hand, Pepper has a well-developed process of shared decision making; broad-based school decisions are made through the principal's Cabinet which is representative of the entire school community. The results from all three case studies suggest that school management style is a complex process. Although various factors (i.e., principal tenure, school physical design, principal-teacher turnover) may influence principals to adopt a particular style of management, no single factor has been identified as a predisposing characteristic responsible for the degree of school-based management or shared decision making present in each of the three schools.

Student Influence: Generally, teachers at all three middle schools agreed that their schools were not very open to suggestions from students about school matters. Students at Leeds and Pepper Middle Schools also perceived student influence on school matters to be minimal. In contrast, at Harding Middle School, most students believed they had power to change school practices. At least in these three middle schools, it appears that, whether or not students believe they have any influence in school matters, in reality students have little input in decisions affecting school policies.

Clearness and Fairness of School Rules: Students at all three middle schools understood the rules and agreed that they were necessary; however, they also agreed that some school policies were unfair. For example, students in all three schools complained about teachers who punished the whole class for the delinquent acts of a few students, and principals who cancelled school-wide activities (e.g., dances) when only some students were

causing serious trouble. Students at Leeds and Pepper had lower perceptions of fairness of school rules than students at Harding Middle School. This may be due, in part, to their belief that their schools were not open to their suggestions.

Parent Involvement: Parent Involvement was low at all three schools. Teachers stated that Home and School Association meetings were seldom attended by more than a few parents. They also reported that, unless contacted by the school, few parents initiated communication with the schools. On the other hand, parents at all three schools contend that teachers could be more pleasant and receptive during their visits to the school.

The statements offered by parents and teachers in these three case studies exemplify the difficulty of bridging the gap between parents' and teachers' perceptions about the nature of parent/teacher communication. Although any attempt to discover the most effective method of increasing parent involvement may have limited success in these three schools, real solutions to the problem of low parent involvement will not evolve until parents and teachers find some common ground to break down the barriers that separate them.

Safety: During focus groups, teachers at all three schools reported feeling safe at school, but ESB results indicated that teachers at Leeds and Pepper felt less safe at school than teachers at Harding Middle School. Although students in focus groups across all three schools reported that they felt relatively safe in school, ESB results indicated that many students felt unsafe: students at all three schools rated safety as low compared to national standards, indicating that there were many unsafe places in their schools. The most difficult time to keep track of students at all schools was during the lunch period when students were more likely to cut classes.

In-school suspension was the most common sanction used to control student behavior. Most teachers reported that in-school suspension was an effective way of sanctioning students, because students could complete their class assignments in a controlled environment. Some teachers, however, stated that in-school suspensions did not deter disruptive students because the same group of students were always in trouble. Some teachers also reported that inconsistent discipline practices among teachers resulted in some students being suspended for minor offenses (e.g., gum chewing) and other students escaping suspension for serious offenses (e.g., fighting). Some students reported that they did not believe in-school suspensions worked because problem students did not change their disruptive habits.

In all three schools, removal of students from the school (i.e., out of school suspension) was a last resort approach because students would not only miss class work but also have the opportunity to get into more trouble outside of school. Also, transfers to disciplinary schools were rarely used because the process was complex and time consuming.

Victimization: Information from 1993-1994 official school profiles indicate that Leeds had more reported assaults on students, more weapons offenses and more drug offenses than the other two middle schools. Also,

results from the victimization survey show that more students at Leeds had hit other students and had been hit or shoved by other students. Pepper had fewer serious incidents than the other two middle schools. These results are inconsistent with school suspension rates, because Pepper had the highest suspension rate and Leeds had the lowest. This seems to suggest that in-school suspension may be an effective method of controlling student victimization.

Our findings in this case study analysis are important in at least two areas relevant to school policy development. First, the results indicate that students, teachers and parents have different perceptions of school climate and safety. This suggests that to measure the effectiveness of various approaches to improve school climate and safety in order to identify those approaches that prove ineffective, schools should seek input from the whole school community. This process may help to foster strong ties of communication and cooperation which may create a more positive environment.

Second, the school management dimension of school climate may be a mediating factor between other dimensions of school climate. The important issue seems to be the *reaction* to the management style rather than the *type* of management style. As we have seen in these case studies, school management styles vary from one school to another to the extent that they had adopted school based management and shared decision making.

The school community responded to school management in varying ways, ranging from total acceptance and conformity to rejection and nonconformity. In this small sample, the results suggest that students,' teachers,' and parents' reactions to the various management styles were guided by their varying perceptions of school climate and school safety in day to day school activities. Although it seems clear that school management has contributed to school climate in all three case studies, we are not able to assess the strength or power of its impact on school climate.

The findings of this micro analysis must be interpreted cautiously in view of the inherent limitations of a sample of observations drawn from only three middle schools in a large, urban school district. Schools are in constant transition through reorganization of curricula, relocation of administrators and teachers, and changing conditions within the neighboring school community. Longitudinal data would allow a more comprehensive analysis of the processes linking school climate and school delinquency.

But despite the noted limitations, the analyses reported here can be seen as providing an important step in the attempt to assess the nature of the relationship between school climate and school safety in the course of routine school activities. Moreover, the results of the three case studies have interesting implications for developing strategies and policies designed to improve school climate in public schools. It seems that school climate cannot be fully or properly understood without reference to the roles of all the players within the school community. And the direction of success of school management is heavily dependent on how the varying perceptions of school climate intersect.

## RESEARCH CONCLUSIONS AND THEIR IMPLICATIONS

This research sought to examine the roles that school climate and culture play in mediating disruption and violence in Philadelphia's Middle Schools. Over several years the School District of Philadelphia has moved toward a school based management system emphasizing decentralized management, greater parental and community linkage, and improvement in the climate and culture of individual schools.

In the mid to late 1980s, the School District developed a significant public partnership called the "Adopt-A-School" program which set the stage for greater public, community and business involvement in the affairs of local schools. At the same time, the District established a strategic planning process, called School Improvement Planning (SIP) to identify constituent needs as well as school local school goals and objectives.

These and other initiatives planted the "seeds" of school based management which was formally adopted in June, 1990. Since that time the School District has been actively engaged in efforts to implement school based management throughout the system. In Philadelphia, through the policies of school based management, each local principal is responsible for local programming, including the creation of a School Safety Plan. The School Safety Plan outlines current local school crime, violence, disruption and fear issues, and identifies programming to address those issues. Further, since school based management in Philadelphia includes emphasis on enhancing school administrator, parent and student partnerships, it was anticipated that all affected groups would be part of the design and implementation of the local School Safety Plan. This planning process and the creation of a School Safety Plan, in turn, was expected to enhance the ability of the school to address local disorder and violence issues, while at the same time creating an orderly environment within schools.

Following the developmental process of decentralizing school safety planning and programming, this research sought to investigate the degree to which school based management was adopted in individual schools, and its role in disorder and violence reduction. Also of interest was the extent to which efforts aimed at increasing local autonomy within schools also changed the affective climate within these schools.

The adoption of a system of decentralized school based management within the School District of Philadelphia can be seen as part of a process to influence the structure, climate and culture of schools. Such changes to the school's climate and culture can, in turn, influence the internal norms of the school and ultimately the level of school disruption and violence. School culture is, of course, also influenced by the community in which the school is located, the student population drawn to the school, the teaching and support staff's commitment to and involvement with the school, and the pattern and sources of current school disorder and violence.

This research project was particularly interested in exploring the multivariate and multiple levels of influence which either facilitate or constrain school violence and disorder, including perceptions of safety among students, teachers and principals. By examining the factors that contribute to school disorder and violence, this research sought to contribute to the theoretical explanation of school violence while at the same time identifying possible types and levels of intervention to address school based disorder and violence.

This research adopted a multi-faceted strategy to investigate school climate and culture within schools, and to better understand the community and family-level impacts that also potentially influence the level of school disruption and violence. Four levels of analysis were conducted. The *macro-level analysis* focused primarily on the impact of socio-demographic and community-level variables on school disruption and violence. The *intermediate-level analysis* focused directly on school climate and culture within 11 participating middle-schools in Philadelphia. An *integrated analysis* examined the relative contributions made by schools and students in the creation of a climate and culture within the schools. Finally, a *micro-level analysis* conducted case studies in three participating middle schools in Philadelphia.

### *Conclusions*

In this section, we discuss the major conclusions derived each of the four areas of analysis we have previously described (macro, intermediate, integrated, and micro). These conclusions outline the way that school climate and culture affect school disruption, disorder and violence. These conclusions also provide insight into the internal dynamics of middle schools in Philadelphia. Such an understanding sets the stage for a consideration of the policy relevance of this research for improving school climate and, by consequence, school safety.

*Macro-level Analysis:* Analysis of socio-structural and community factors shaping disruption and violence in Philadelphia's schools indicates that school disorder directly impacts academic achievement. Dismissal rates proved to be the better measure of school disorder and violence in the macro-level analysis and were the most significant factor in predicting student performance in middle schools. School size expressed in terms of student enrollment proved to be a significant predictor of several measures of school disorder -- the rates of incidents occurring on school grounds reported to police and suspensions for serious infractions.

This analysis also concluded that Philadelphia's public middle schools are racially, economically, and criminologically segregated just as its neighborhoods are. We anticipated that poverty and crime in communities where students live and attend school would have a direct and negative impact on school

disorder and violence, however, none of the community factors stand out as significant contributors to disorder. The analyses of academic achievement showed that residentially stable and coherent communities encourage students to attend classes. Daily attendance, in turn, contributes to low rates of disorder in middle schools. Therefore, a students' neighborhood environment contributes to disorder, but in an indirect manner.

*Intermediate Analysis:* While schools differed significantly on the level of victimization reported by students, a relatively low level of victimization overall was reported. Still, in schools with relatively high levels of victimization, as many as 40% of students reported at least one incident of direct personal threat or assault. Similarly, schools differed significantly on self-reported avoidance and offending, although overall low levels were reported.

Suspension is the most frequently used sanction, and appears quite overused compared to other options. Other sanctions used most frequently included notifying parents and in-school detention. It appears that schools (according to student self-reports) use an extremely narrow range of sanctions for misconduct.

Moreover, students reported that they did not know what punishment was likely in more than 50% of the scenarios presented. These results strongly support previous conclusions that school rules must be clear, consistent, and enforced if they are to have any significant effect on student behavior.

The strongest predictor of school safety was social integration. Consistent with control theory, students who feel more integrated socially are less likely to misbehave and more likely to perceive their school as a safe place. Students who experience low levels of punishment reported feeling more safe. Likely, those who believe in the fairness of rules and the likelihood of punishment are those who are most likely to monitor their own behavior so as to avoid punishment.

In general, the school climate subscales analyzed strongly predicted school safety, accounting for 22% of its explained variance. These results suggest the influence of three key variables influencing school safety: social integration, rules and individual self concept.

A factor analysis of 12 school climate subscales identified four key factors: social integration/attachment; positive associations; self concept; and stake in conformity. Factor scores were then used to predict school safety. The strongest predictor of school safety was high self concept, suggesting the importance of individual factors in determining how students adapt to their environment. High attachment and positive associations also positively predicted school safety, consistent with control theory, as high stake in conformity was negatively related to school safety. Those who feel safest are not necessarily "good" kids who follow the rules, but those who perceive they are able to cope with a dangerous environment.

Perceptions of school climate among teachers strongly predicted school safety, accounting for 46% of the explained variance. Significant predictors of teacher safety were personal security (average teacher's experience of personal victimization), classroom orderliness, smooth administration (teachers' perceptions that they get help from school administration when they need it), perceptions of adequate resources, and stable race relations.

A strong predictor of teacher safety was resources. This finding lends validity to teachers' claims that schools with poor resources or poor resource management face a host of difficulties, not the least of which is fear and victimization. Of course, teachers who have previously been victimized feel less safe, and teachers who perceive a high level of classroom orderliness report feeling more safe. Teachers who perceive a helpful administration report feeling more safe, underscoring not only the influence of school climate, but its amenability to change.

*Integrative Analyses (HLM Modeling):* The modeling of school safety as a dependent variable using HLM techniques found much the same results as the intermediate and macro analyses. In other words, we are able to predict perceptions of school safety quite well at the individual level within schools, and tiny but significant increments in explained variance are provided by community-level variables such as poverty and community stability. It is noteworthy how strong the school climate construct remains even when pitted against community level variables in the most sophisticated modeling technique available for nested data. As we argued previously, a school is neither blessed nor doomed entirely on the basis of where it is located. Schools do not differ greatly on their aggregate characteristics, or the characteristics of communities (either local or imported). Where they do, those differences only add slightly to the explanatory power already provided by school climate and individual student constructs.

*Micro Analysis:* Consistent with previous studies, our findings suggest that certain dimensions of school climate (i.e., school organization, school management, student influence, the clarity and fairness of school rules, and parent/community involvement in school decision making) are related to school safety. All three middle schools studies were organized around a House Plan which divides students into groups of one grade level (horizontal) or groups containing a class at each grade level (vertical). In all three schools, house plans are designed to minimize student movement and strengthen interpersonal communication between students and teachers within a smaller community; however, each school also uses house organization to meet its own unique needs.

While house plans appear to restrict student movement and strengthen interpersonal relationships between students and staff within house boundaries, they may also have some disadvantages. Some teachers stated that the House organization creates an insular and fragmented style of student

management that reduces consistency in school rule enforcement across houses and limits school-wide communication of school policies.

The results from all three case studies suggest that school management style is a complex process. All three middle schools have Leadership Teams and/or a Cabinet created to improve formal communication networks between teachers and administration and develop a system of shared decision making.

Although various factors (i.e., principal tenure, school physical design, quality of principal-teacher turnover) may influence principals to adopt a particular style of management, no single factor has been identified as a predisposing characteristic responsible for the degree of school based management or shared decision making present in each of the three schools studied.

Generally, teachers at all three middle schools agreed that their schools were not very open to suggestions from students about school matters. Students in two of the three schools perceived student influence on school matters to be minimal. At least in these three middle schools, it appears that, whether or not students believe they have any influence in school matters, in reality, students have little input in decisions affecting school policies.

Students at all three middle schools understood the rules and agreed that they were necessary; however, they also agreed that some school policies were unfair. For example, students in all three schools complained about teachers who punished the whole class for the delinquent acts of a few students, and principals who cancelled school-wide activities (e.g., dances) when only some students were causing serious trouble.

Parent involvement was low at all three schools. Teachers stated that Home and School Association meetings were seldom attended by more than a few parents. They also reported that, unless contacted by the schools, few parents initiated communication with the schools. At one school it was believed that some parents actually "block" incoming calls from the school to home, as a means of avoiding responsibility for the actions or inactions of their children.

On the other hand, parents at all three schools contend that teachers could be more pleasant and receptive during their visits to the school. The statements offered by parents and teachers in these three case studies exemplify the difficulty of bridging the gap between the perceptions of parents and teachers about the nature of parent/teacher communication and each others' role in school policy and decision making.

During focus groups, teachers at all three schools reported feeling safe at school, but Effective School Battery results indicated that teachers at two of the three schools felt less safe. Although students in

focus groups across all three schools reported that they felt relatively safe in school. Effective School Battery results indicated that many students felt unsafe; students at all three schools rated safety as low compared to national standards, indicating that there were many unsafe places in their schools. The most difficult time to keep track of students at all schools was during the lunch period when students were more likely to cut classes or school.

In-school suspension was the most common sanction used to control student behavior. Most teachers reported that in-school suspension was an effective way of sanctioning students because students could complete their class assignments in a controlled environment. Some teachers, however, stated that in-school suspensions did not deter disruptive students because the same group of students were always in trouble. Some teachers also reported that inconsistent discipline practices among teachers resulted in some students being suspended for minor offenses (e.g., gum chewing) and other students escaping suspension for serious offenses (e.g., fighting). Some students reported that they did not believe in-school suspension worked because problem students did not change their disruptive habits.

In all three schools, removal of students from the school (i.e., out of school suspension) was a last resort approach because students would not only miss class work but also have the opportunity to get into more trouble outside of school. Also, transfers to disciplinary schools were rarely used because the process was complex and time consuming.

Information from 1993-1994 official school profiles indicate that the school with the highest suspension rate had fewer serious incidents than the other two middle schools, and the school reporting the most serious incidents had the lowest suspension rate. This seems to suggest two possible alternatives. First, in-school suspension may be an effective method of controlling student victimization. Such a practice may actually "suppress" the number of dismissals recorded for any given school. Alternatively, this finding may indicate that some schools handle problems "in-house" rather than relying on the police, even when they are supposed to do so. Such an interpretation calls into question the validity of official school records as a measure of school incidents, and hence disruption.

### *Implications of the Findings*

The analysis reported here has several implications for practice, theory, and research. In the sections that follow, we consider the implications of our findings across these three concerns. Implications are reviewed for our understanding of school violence and the role that school climate plays in either fostering or reducing school disruption and violence.

Our findings also have implications for the conduct of research on school violence and disorder. And, the findings presented in this report have implications for how schools, particularly middle schools, shape their internal climates and culture, thereby shaping important responses to the incidence of violence and disorder in schools. These matters are taken up below.

*Macro Level Analysis:* In the macro level analysis we found that high levels of disorder at middle schools negatively impact academic achievement. School administrators should be encouraged that programs designed to increase safety and security in schools are likely to have positive effects on student achievement. Developing better strategies to reduce violence and disorder, particularly for schools identified as troubled schools, represents a significant opportunity to create a favorable school climate within which students and teachers can focus on academic achievement.

For middle schools, the size of the school, expressed in terms of student enrollment proved to be a significant predictor for school disorder as measured by dismissals, suspensions and reported incidents to school police. The schools with the largest student bodies are likely to experience many more difficulties in maintaining and monitoring order on the grounds and in the neighborhoods surrounding the schools. While it is unreasonable to expect the School District to reduce the number of students attending each middle school, interventions can be tailored to schools recognizing the size differences among schools.

Our analysis also found that daily attendance contributes to low rates of disorder in middle schools. This finding provides further emphasis to the importance of "Stay in School" campaigns and for the monitoring of student attendance. School administrators and teachers should seek to develop refreshing and unique programs and activities that retain students' interests and thereby keep them in school. Parents and community leaders also have a role to play in assuring that students attend school, and must become part of the process for ensuring that students attend school on a regular basis. Programs aimed at increasing the role of parents and the community in overseeing student truancy are likely to produce such local attentiveness to school attendance.

None of the community socio-demographic constructs stood out as significant contributors to disorder in middle schools. In the majority of multiple regression models in the analysis, approximately 80% of the variance was explained by the independent variables entered into the models. This can be attributed in part to the number of middle schools within the City of Philadelphia (N=42) representing a relatively small sample. These findings can also be attributed to little variation among the middle schools in the study.

Middle schools in Philadelphia are racially, economically, and criminogenically segregated, creating a sample which is analytically homogeneous, although some differences among schools is detected in the

intermediate analysis. Ideally, a project of this nature would focus on increasing the heterogeneity of the sample variation by including private/catholic middle schools in Philadelphia as well as schools from elsewhere in the Philadelphia metropolitan region.

There is also a need for better measures of school violence and disorder. The intermediate and micro level analyses both support this contention. The implementation policies of principals in administering student suspensions and disciplinary violations were often unclear and inconsistent. The reporting practices of principals to School District officials regarding disciplinary actions also appears to be highly variable at present. Certainly, the School District needs stronger and more sound information that accurately tracks student behavior so that these issues can be fully understood and addressed.

*Intermediate Analyses:* The implementation of school based management (SBM) in Philadelphia has not enjoyed a smooth road. Long before its implementation in Philadelphia, critics were wary of yet another reform-type fad in public education. Was decentralized management really anything new, they asked, and did SBM really transfer important decisions to the school? Or did SBM, as offered by the School District at that time, simply provide an "illusion of control?" If, in fact, schools still lack control over decisions about their budgets and their personnel, is there really anything important left to share "decision making" about?

Our results suggest that basic principles of SBM are indeed helpful for furthering development of school climate. SBM is, however, only one link in a chain of strategies and practices that may help improve school climate and safety.

We should be encouraged by findings that schools which score higher on SBM tend to score higher on perceived safety. Not all schools formally adopted the School District version of SBM, but those which practiced basic SBM principles seem to have made more progress in creating or maintaining a safe environment for their students. Our results suggest that real shared decision making between teachers, administration, and parents (as well as good teacher/administration relations) can be a powerful tool for addressing concerns about safety, security, and school climate.

We should be concerned by findings that schools further along on SBM, however, also have students that report higher levels of avoidance and higher levels of self-reported offending. It is possible that SBM, at least temporarily, creates somewhat of a power vacuum in school disciplinary policy, as the search for consensus may preclude effective action. People may be more likely to feel safe because they have had some say in decisions, and because they have talked about disciplinary policies, but students at the same time may compensate for lax disciplinary policies by enforcing their own "code of conduct". This code of conduct involves deliberate attempts to avoid unsafe places in and around the school, and putting on a

tough front which may deter harassment from others. In this way, students may indeed lower their risk of victimization, but at some considerable cost to those students less likely or capable of defending themselves or "putting on a front."

Other results bolstered this sobering interpretation. For example, we identified four major dimensions of school climate from the student ESB form, using principal component analysis: **social integration/attachment, positive associations, self concept, and stake in conformity**. First, the good news – the strongest predictor of school safety was high self concept, suggesting the importance of individual factors in shaping how students adapt to their environment. High attachment and positive associations were also strong predictors of school safety, supporting basic tenets of Hirschi's Control Theory. However, there is also bad news – high stake in conformity was negatively related to school safety. In other words, those students who are most likely to report that good behavior "pays off" are also most likely to report feeling unsafe. "Being good" is not necessarily consistent with being safe. Instead, as the above discussion indicates, being "tough" and "keeping your head down" (avoidance) seem to provide more effective adaptations for many students. If this is so, it is a shame, and it should not be tolerated.

Our results suggest that schools have to some degree left students to fend for themselves. In the absence of strong school and parental support for good behavior, and effective discipline for bad behavior, students will lower their risk of victimization through means of their own invention. Unfortunately, the "defensive" strategies they adopt may only fuel a vicious circle whereby aggressive postures adopted for self-defense all too easily convert to higher incidence of aggressive behavior, either through one's own initiative to establish a reputation, or through someone else's initiative to establish a reputation at another's expense. Such posturing is all too likely to be reinforced and strengthened as students move into the larger, more dangerous, and more understaffed urban high schools.

Micro-level results further supported this interpretation (e.g., reports by students that rules and sanctions are unclear; that discipline is lax and/or inconsistent; and that neither teachers nor teaching assistants effectively monitor behavior or protect the smaller and weaker students in the school). In the absence of effective control by teachers, teaching assistants, security, or administrators, students *can, do, and will* enact their own code of behavior.

Our results showed serious deficiencies in the practice of effective disciplinary policies. Suspension (in-school or out-of-school) is clearly the most widely used sanction, even though both students and teachers express skepticism about its effectiveness (see micro-level results, below). Not only is the range of sanctions used by schools extremely narrow, but students frequently reported that school rules were unclear, unfair, and inconsistently enforced. We observed that written school policies, where they

existed at all, bore only a loose resemblance to actual practices. It was commonplace for students and teachers to report that they were unaware of any specific written policies at all, or when they were, to report great discretion in the application of those rules and sanctions. No school is likely to make headway in improving safety without a clearly written, consistent, and enforceable disciplinary policy.

Structural, procedural and administrative obstacles are certainly relevant to any discussion of establishing a climate and culture within school emphasizing safety. Identified obstacles include lack of resources (e.g., insufficient numbers of teaching assistants and security personnel to monitor behavior), contractual constraints (e.g., teachers cannot be required to take on extra monitoring duties above and beyond what is called for in their contract), and poorly designed schools (e.g., many entrances and exits, narrow staircases, outdated house structures which necessitate excessive and poorly monitored movement).

In spite of these obstacles, poorly articulated and poorly practiced disciplinary policies remain the single largest culprit associated with low levels of safety and high levels of disorder. In the absence of clear and consistently enforced disciplinary codes, there is no reason to hope that infusions of resources or personnel alone might alleviate problems of school violence.

Numerous dimensions of school climate were positively associated with safety, and these findings should be taken seriously. The strongest predictors of school safety included: **social integration; belief in school rules; positive self-concept; and, avoidance of punishment.** Negative predictors of school safety included: **low involvement; low perceived rewards; and, low student influence.** It should be obvious that individual schools need to carefully assess their own climate (as we have demonstrated here) to determine which factors may be contributing to safety or inhibiting safety in their specific school. Indeed, the Effective School Battery was designed not just for theoretical exploration, but primarily as a tool to influence planning and policy. Its authors (Gottfredson, 1984) intended that it be used by teachers, administrators, and superintendents to:

- ◆ identify excellence and problem areas;
- ◆ stimulate planning and program development;
- ◆ provide benchmarks for planning and evaluating school improvement projects; and,
- ◆ help in policy making and in allocating resources and personnel.

Later in this chapter we report results from intensive planning workshops with the three case study schools we worked with. We prepared detailed school-specific profiles based on our research, and used these results in conjunction with data obtained from interviews, observations, and physical environment

surveys to guide discussions about improving school safety and climate. Excellent examples of how ESB results can be used for diagnosis, planning, intervention, and evaluation are provided by Gottfredson (1984), Gottfredson (1986) and Gottfredson, Gottfredson, and Hybl (1993).

School climate theory provides powerful constructs for understanding school based outcomes—not only safety and violence, but achievement as well. Dimensions of school climate strongly predicted perceptions of safety (and to a lesser degree, victimization, avoidance, and offending) in different schools, and school climate constructs offered specific, school-based recommendations for addressing safety issues in specific schools. We were able to assess the organizational and individual-level correlates of school violence in a thorough, structured framework.

Our findings were limited somewhat by relatively weak convergent measures of victimization. Our own scale, based upon the National Crime Survey School Supplement (Bureau of Justice Statistics, 1991), performed less than admirably in terms of its reliability and psychometric properties. While we wanted to use a measure that would allow us to compare our results to national norms, in retrospect it may have been wiser to develop and test an original instrument with more sound psychometric properties. Part of the difficulty also lies with the population (Grades 6-8) and with the issues addressed (personal victimization, avoidance, and offending). It is difficult to obtain reliable responses about victimization, and it is particularly so for an adolescent population where many are concerned with self-presentation.

Better convergent measures of violence and disorder are also needed. We obtained suspension rates and security incident data for individual schools (see macro results), but we lacked individual-level measures of student suspensions, disciplinary violations, achievement, and so on. These data were not readily available in the school's computerized data system. Again, we cannot overemphasize the usefulness of a sound information system for tracking student behavior and achievement. Strong, convergent measures of victimization would greatly aid the interpretability of results.

*HLM Modeling:* As discussed earlier, one of the major goals of this project was to examine the relative contributions of individual, organizational, and social structural factors to the prediction of school safety and violence. HLM modeling assumes a nested data structure which is characteristic of many social outcomes, including school safety (i.e., individuals are nested within schools which are nested within communities). Specifically, we modeled the contribution of major dimensions of school and social climate measured at the individual level (social integration/attachment, positive associations, self concept, and stake in conformity), along with school-level measures of school size (enrollment), achievement, and community measures aggregated to individual schools (both local and imported), including crime, poverty, and stability.

The results strongly supported predictions made by **control theory** and **school climate theory**, and to a smaller but lesser degree, **social disorganization theory**. The level-1 model (social and school climate measured at the individual level) accounted for 11% of the explained variance in school safety. The strongest predictor was **self concept**, but **social integration/attachment** and **positive associations** also strongly predicted safety. As we found with intermediate-level analyses, these three factors overwhelmingly account for variation in perceptions of school safety. **Stake in conformity**, on the other hand, was not significant.

As suggested by control theory, those who are well integrated and attached to basic institutions of socialization such as the school are less likely to deviate from conventional norms, and more likely to obey school rules and avoid punishment. Those with a high self concept have the ability to chart their own course and adapt to their environment, while those who have more positive associations with peers are less likely to be pressured into committing acts of deviance. As we suggested earlier (see intermediate analyses), high stake in conformity, unfortunately, may be associated with a higher risk of victimization in schools where students are not well protected. Intermediate analyses clearly showed the importance of school rules and disciplinary policies in shaping a safe environment.

Two separate level-2 models were then added into the equation: one for **“local” community characteristics**, and one for **“imported” community characteristics** (see methodology and macro-level analyses for detailed explanations of these variables). In each case, level-2 predictors increased the explained variance in school safety to 14%, a small but significant increase.

When we modeled local community characteristics and other level-2 variables, only one predictor was statistically significant: total enrollment (size of the school). Curiously, larger schools reported higher levels of safety. This contradicts our initial findings in the macro-level analysis where it was found that school size was positively related to school disorder and disruption. On closer examination we suspect that the difference in these findings is in the measurement of disruption. In the macro-level analysis disruption was assessed primarily through reported incidents to the police, and suspension data from the school was used to measure school disruption and disorder. In the HLM analysis, school disruption and disorder were measured by student perceived safety from the ESB student safety scale.

It may be the case that larger schools, at least at the middle school level, are able to compensate for the difficulties of monitoring and controlling a larger student body by allocating greater resources for security personnel and non-teaching assistants. Indeed, Philadelphia's funding formula is directly and explicitly tied to the total student enrollment. It is quite likely, therefore, that at least in Philadelphia, we are measuring resources as much as we are measuring number of students. To no surprise, the two

major backbones of social disorganization theory (poverty and residential stability) offer sizeable predictive power, although low statistical significance is likely influenced by the relatively small number of schools at level-2.

When we modeled imported community characteristics and other level-2 variables, again only one predictor was statistically significant, this time, student achievement (mean standardized test scores for the school). It would appear that an emphasis on student achievement is a well-supported strategy. This strategy emphasizes high expectations and high achievement first and foremost. It would appear that schools that already follow this strategy to some degree have also enjoyed benefits of greater perceived safety. Once again, community variables provided sizeable but nonsignificant coefficients: imported poverty (-.47) and imported "residential stability" (-.24). Schools with large numbers of students who come from communities with higher levels of poverty and lower levels of residential stability, therefore, tend to experience lower levels of safety.

It is worth noting that both community models (local and imported) provide similar results, although each adds one unique predictor to the formula. In a school district under desegregation orders, such as Philadelphia, it is perhaps not surprising that both local and imported community characteristics can add to the explanation of school safety. Some schools host large numbers of students from "disorganized" communities, and the importation of these demographics slightly increases the risk of disorder. However, other schools that are mostly neighborhood schools, can expect some level of imported disorder due to the characteristics of the immediately surrounding neighborhood. It is also noteworthy that, in spite of expectations and assumptions by many school officials that high levels of community crime have much (or everything) to do with school violence, neither local nor imported measures of crime contributed anything notable to the explanation of school safety at all.

While social disorganization theory offers useful and powerful constructs for understanding violence, its limitations must be briefly noted. For example, the original theorists were accused of attempting to make a judgment of life in big cities from their own rural, pastoral backgrounds. As Gottfredson and Gottfredson (1985) suggest in their summary of these criticisms, "What these country boys saw as corrupt, pathological, or disorganized may have just been different" (p. 65). Such a perspective, according to Mills (1943) and others, is both biased and ethnocentric. Another criticism is the implicit assumption (even if wrongly made by critics) that people who live in "disorganized" communities are unanimously likely to exhibit various forms of deviance and pathology.

Of course, even a superficial reading of Shaw and McKay (1942) would clearly show that heterogeneity was explicitly accounted for and modeled in their analyses, and they carefully pointed out exceptions where entire pockets in highly disorganized communities showed very highly organized behavior indeed.

Be that as it may, many have criticized the theory and the theorists for what they see as "over generalization."

Next, the infamous "ecological fallacy" summarizes the criticism that ecological theorists routinely measure at the macro level (e.g., community characteristics) and then generalize to the individual level of behavior (social disorganization). Indeed, this was the strongest criticism of the original work, but more recent ecological approaches have attempted to model more individual-level measures into their approach. Surprisingly, studies such as ours which measure behavior at multiple levels of analysis are still relatively rare.

Finally, the theory has been criticized for ignoring political dimensions which shape the conditions labeled "social disorganization": for example, zoning which discriminates against the poor, redlining, decisions about where to locate and relocate businesses, "white flight" in the 1950s and 1960s, and so on.

We do not intend to critique the theory in its entirety, nor do we pretend that we have measured it in its entirety. We offer these notes to illustrate that untested and simplistic assumptions that "bad" communities inevitably produce "bad" children and "bad" schools are simply not warranted. Much more sophisticated measures of ecological constructs are possible and desirable (see Sampson and Lauritsen, 1993, for a review), and political dimensions contributing to high rates of poverty, instability, and chronically insufficient funding for public education must not be ignored.

It is noteworthy how strong school climate constructs remain even when pitted against community level variables in the most sophisticated modeling technique available for nested data. As we argued previously, a school is neither blessed nor doomed entirely on the basis of where it is located, nor the demographics of its students. Of course, we noted that neighborhoods in Philadelphia are, by and large, *relatively* low income and exhibit *relatively* high residential mobility. Schools do not differ greatly on their aggregate characteristics, nor the characteristics of their communities (local or imported). Those differences only added slightly to the explanatory power already provided by school climate and individual student constructs.

School climate is not only the strongest predictor of safety, but it is amenable to change. In spite of resource constraints and all the other problems facing public schools approaching the 21st century, it is not impossible to implement positive change. School climate dimensions emerge as powerful predictors of school safety, and school climate can indeed be shaped by conscious efforts by school administration, teachers, parents, students, and others involved or potentially involved in the task of the healthy development of children.

We note several limitations to these results. All middle schools in Philadelphia are at the same relatively low level of funding, and most communities are afflicted with relatively high levels of poverty, instability, and so on. This base rate factor partially accounts for the low explanatory power of level-2 variables in our models. As we noted earlier, our ability to model community level factors is also constrained by the small number of schools (11) in our sample, even though over 7,000 individual students and 400 teachers provided data. While HLM is much more efficient and effective at modeling nested data than OLS regression methods, it still cannot overcome entirely the limitations of the sample size. Although we have a large number of students and teachers (Level-1), a higher number of schools (Level-2) would be desirable.

*Micro Level:* The findings of the micro analysis generally support the routine activities theory of delinquent behavior which has at its core the concept that motivation to commit crime and the supply of offenders is constant and present in the routine activities found in everyday life. According to routine activities theory, crime and delinquency is a function of the presence of motivated offenders, the availability of suitable targets, and the absence of capable guardians (Cohen and Felson, 1979). That is, the greater the opportunity there is for criminals and victims to interact, the greater the probability of crime. This theory is especially important for assessing the context in which school delinquency occurs. It is certainly plausible that opportunities to become involved in delinquent activities are influenced by school climate. Our analysis of three case studies of three middle schools suggests that by reducing personal interactions and increasing school security in the course of routine school activities, the opportunity for school delinquency and crime will decline.

The three case studies have interesting implications for developing strategies and policies designed to improve school climate. First, they document how perceptions of school climate differ among all segments of the school population. Our findings suggest the need for greater emphasis on redefining and rethinking the roles of each segment of the school community (i.e., parents, students, teachers). Each segment of the school population has an interest in creating a safe learning environment. To create a safe school climate, all members of the school community should take responsibility for finding solutions that can make a difference in school climate and school safety. For example, schools should take affirmative steps to open communication with parents and students as well as teachers to ensure that they are actively involved when planning, designing, and implementing strategies to improve school climate and school safety.

Second, while the investigation of school climate in the three middle schools suggests that school management may be associated with other dimensions of school climate, type of school management (e.g., school based management) appears to play less of a role in perceptions of school climate and safety

than do reactions to school management style. Given that management style differed in all three schools, there was no strong evidence that management style had a positive or negative impact on the perceptions of school climate and safety. Our findings at the micro-level provide support for the intermediate-level's supposition that the lack of consistency in enforcement of school rules and school policies undermines student social integration, belief in school rules, and individual self-concept. One may speculate that the success of school management in creating a favorable school climate is closely related to the extent to which it communicates respect and increases empowerment both individually and collaboratively within all segments of the school community.

Finally, the findings at the micro-level were not consistent with the macro-level determination that middle schools with the largest enrollment are more likely to have more difficulties maintaining and monitoring order. In fact, the middle school with the highest enrollment, had similar or less victimization than the other two middle schools with lower enrollments, and fewer suspensions.

These findings should, of course, be interpreted cautiously because the sample size is limited to only three schools. At least two explanations seem plausible. First, results of the environmental assessment of each of the three schools revealed a noticeable difference in monitoring and controlling student movement. While all three schools used non-teaching assistants, school security officers, and police officers to monitor students and secure entrances and exits, one had a unique method of grouping students and teachers and scheduling classes that seems more driven by controlling student behavior than the other schools. As a result, the school with the least amount of student movement and interaction appears to have also reduced opportunities for victimization.

A second explanation points to the range in suspension rates among the three schools studied. An important issue to be examined is whether different processes are set in motion by administrators when reporting school incidents to school police. Conceivably, the effects of different reporting processes would skew the *actual* number of incidents that occur in each school.

A question not addressed in the present investigation is the extent to which the entire community - - law enforcement officials, health personnel, business and community leaders, and other professionals - - influences school climate and school safety. Future case study research should consider the effects of community resources on school climate. The lack of resources in schools that may influence school climate may be offset by strong community bonds.

## ESTABLISHING AN ACTION AGENDA FOR IMPROVING SCHOOL CLIMATE AND CULTURE

The research reported here on the impact of school climate and culture for middle schools in Philadelphia provides a foundation for understanding school-based programming and its evaluation. This research has demonstrated, among other things, the importance of school climate and culture in mediating disorder and violence in Philadelphia's middle schools. Our research has also examined the environmental (external and internal) complexity confronted by schools in attempting to improve school functioning and increase safety.

In the sections that follow, we first review the efforts of the School District of Philadelphia in its pursuit of changing local school culture and climate. This is followed by a discussion of several workshops held to foster school specific approaches to reducing violence and disorder. Finally, the more generalized policy issues gleaned from this research are briefly reviewed.

### *The Philadelphia School District and Changing School Culture and Climate*

The School District of Philadelphia has begun to recognize the necessity for examining school climate and safety as contributing factors to academic achievement. As a result, the Philadelphia School District is now investing time and resources in programming aimed at strengthening local schools. These programs have been focused on improving school functioning at several levels — administratively, community outreach and safety to name a few. As previously mentioned, however, the road to implementing such local decision making and all it entails has been fraught with problems. Nevertheless, the path to decentralized and accountable local school administration has been established. The past two years may have been most productive in the District's pursuit of safer and decentralized schools. Several reports and/or pronouncements have emerged during this time. Collectively, they provide a better grounding for school based management and safety planning in Philadelphia's schools.

*The School District of Philadelphia Educational Team Report (September, 1994):* A court-appointed Educational Team, charged with examining Philadelphia's schools, found that school violence and vandalism were among the main concerns of parents, teachers, administrators, and students. The report of this "Educational Team" described the climate in many schools as one of "disruption and despair." They found an increase in alcohol and drug incidents, assaults, disorderly conduct, graffiti, robberies, thefts, trespassing, vandalism, and weapons in Philadelphia's public schools. In addition, they reported that vandalism accounted for 11% of all work orders (Philadelphia School District, 1994: 15).

The Educational Team also found that schools in the School District of Philadelphia deal with problem students primarily through punitive means -- suspension, expulsion, or student detention. The study concluded that these methods have not been proven to be effective. The report called for alternative prevention-focused approaches to be implemented in addition to the traditional methods the schools have used to oversee and control students.

Based on the Educational Team's "report card" on the Philadelphia school system, several safety and school climate issues emerged:

- ◆ 70 percent of student respondents stated that their schools do not provide a safe environment;
- ◆ 65 percent of students said school staff fail to treat students or parents with respect; and,
- ◆ 75 percent of students gave their schools a failing grade in cleanliness and maintenance.

The Educational Team called the Philadelphia School District a "dysfunctional organization with an unwieldy, central command and control structure," which they said "is perhaps the single greatest cause of its teaching and learning failures" (Philadelphia School District, 1994: 16).

Although school based management was announced as the centerpiece of the District's reform agenda, and Philadelphia has spent nearly five years trying to implement school based management, only about 13 out of 70 schools applied for and received approval from the School District to implement school based management, as it was officially created and recognized by the School District of Philadelphia. The Educational Team also found that Philadelphia schools had very low levels of parent involvement. They pointed to the bureaucracy, and the "fortress-school" atmosphere. The Educational Team also identified a need for health clinics and day care centers in schools serving high risk neighborhoods.

Recommendations concerning school governance and management, emphasized: the need for school-based leadership; a restructuring of the voluntary School-Based Management effort into a mandatory system-wide comprehensive policy; giving major decision making to the school level; and, improving facilities and maintenance. Recommendations concerning school safety and climate emphasized: programs, strategies and resources to reduce violence, vandalism, and disruption; increased student participation in learning; reducing the size of schools; creating school climate intervention teams in each school; developing programs for disruptive students; the establishment of collaborative relationships with other agencies and community based organizations; conducting climate assessments to identify the sources of safety problems; establishing alternative programs; providing conflict resolution training; and, providing greater opportunities, and encourage parent involvement.

This report and its recommendations created an important watershed for school safety interventions and for the improvement of school climate and culture in Philadelphia. Efforts to implement some of these recommendations have clear implications for the analysis we have conducted in this study.

Philadelphia School District's Family Resource Network: (October, 1995): Following the report of the Educational Team, the School District of Philadelphia recently implemented a coordinated strategy of systematic changes funded in part by the \$150 million Annenberg Challenge Grant. The purpose is to integrate service providers, involve isolated families, reduce administrative obstacles, and provide a unified approach to meet family needs, include non-traditional sources of family support such as cultural organizations, communities of faith, and neighborhood association.

The Family Resource Network will be implemented in the first six clusters of schools identified by the District. The "Cluster School" concept as being implemented in Philadelphia groups schools into clusters or groups of schools including elementary through high schools. The aim is to better coordinate the educational experience, and the school climate encountered by students within cluster groups of schools in Philadelphia. The District intends to expand this programming to all clusters as they are developed.

The plan is for each cluster to: catalogue and assess existing resources; promote a shared vision; require changes in how, where and by whom resources are distributed; provide a consensus on effective and appropriate approaches to meet needs; develop an on-line data bank to reduce fragmentation and duplication of services; set up professional development programs, trans-disciplinary teams, family centeredness, and interagency collaboration; and, support local efforts to design and implement a coordinated system of service for children and families that identifies those in need, provides access, involves families in decisions, emphasizes prevention, and links services.

Judge Smith's Order (February, 1996): For several years the School District of Philadelphia has been under several court orders to improve school safety and the functioning of schools. Judge Doris Smith has overseen these court orders in an attempt to improve School District compliance with judicial orders. More often than not, this has resulted in greater judicial involvement in specifying what the District will do to improve school safety and local school climates.

Following the development of a model for school service integration -- the cluster school model -- the School District of Philadelphia will have conducted a school-by-school survey of school safety and security needs prior to the end of the 1995-1996 school year. The District intends to incorporate the results into a systematic and comprehensive plan for school safety and security. In addition, the

Philadelphia School District will report to the court on all actions initiated to guarantee full implementation of a system-wide school safety plan by September, 1996.

The School District of Philadelphia will identify the effective and exemplary disciplinary practices currently in place in some schools which will be incorporated into a comprehensive system-wide disciplinary plan for dissemination to all schools before the end of the 1995-1996 school year. Each school will be required to identify and adopt exemplary disciplinary programs for implementation by September 1996. Moreover, schools will receive any necessary training in order to effectively implement such programs.

The oversight of and intervention in school safety planning by the courts has produced pressure on all involved to focus on school climate and culture as a medium to improve safety in Philadelphia's schools. Such efforts have been incorporated into a broader approach to support children achieving in school.

1995-96 Children Achieving Education Plan: Within the last year, the School District of Philadelphia has embarked on a comprehensive program aimed at increasing the achievement of children in school. Today, a school climate conducive to learning is considered a key component of an effective school. Although a positive climate may result from committed staff members, active leadership, innovative discipline strategies, and involved parents, perhaps the most critical factor in establishing a positive school climate is school safety. Unless students, staff, and parents feel safe in their building, the District believes it is extremely difficult to create a climate that fosters learning. Thus, school climate and school safety are closely linked.

In addition to underscoring the importance of a positive school climate on school effectiveness and safety, the Children Achieving Agenda also addressed governance and school-based management issues as they relate to school climate and positive student outcomes.

The cluster concept -- creating groups of schools from the elementary through high school -- is an attempt to coordinate local educational resources, enhance teacher communication, and improve transitioning of students between schools. Moreover, it is a key factor in cultivating a positive school climate by engaging all of the shareholders in the decision making process.

Another area of School District alignment is the recognition of the need to develop a coordinated system of social service delivery to students and families in need and/or at risk. Inter-agency collaboration and coordination of services is not just aimed at improving service delivery to students, but also targets school safety concerns. Problem students are less likely to strike out at other students, teachers, or property, if their social-emotional needs are being effectively addressed. Such a collaborative system is

to be family centered, linking students with health and social service agencies, as well as working closely with parents and community agencies.

*Developing Problem Solving Strategies Through Crime Prevention Partnerships: A Collaborative Effort with Harding, Leeds, and Pepper Middle Schools*

The activities undertaken by the School District of Philadelphia, as outlined above, provide an important backdrop for the development of future research and evaluation in school-based crime prevention. Following the completion of the middle school case studies in this research project, a process was established to maintain established relationships with each of the three schools who participated.

During June 1995, two workshops were held with members from each of the three schools, representatives from the Philadelphia School District, and researchers from Temple University. The purpose of the first workshop was to build a working definition of delinquent and at-risk children and their behavior as a prelude to designing and implementing school-based delinquency and disruption intervention programs.

The intent of this project was to create a working group of school personnel and administrators, allied service providers within the City of Philadelphia and Temple researchers to design, implement and evaluate school intervention programs. In addition, the first workshop focused on identifying a process for developing an innovative delinquency and disruptive behavior intervention within the Harding, Leeds, and Pepper Middle Schools. This process was designed to build upon existing efforts, as well as include other service providers who might better serve their own agency's and the School District's needs in behavior management.

At the conclusion of the first workshop, the collaborative identified four significant problem solving strategies for future discussion. These strategies included: 1) Family Involvement and Support, 2) Staff Development, 3) Alternative Learning Center (ALC) or In School Suspension (ISS)/Discipline, and, 4) Re-examination of Student Assistance Program (SAP) or Outside Referrals (including Mental Health Services).

The second workshop concentrated on the four aforementioned problem solving strategies. During the workshop, we discussed each strategy as well as the obstacles preventing the successful development of each strategy.

Discussions from the workshop revealed that safety and climate issues could no longer be handled at only the local school level and that there is a need to create a community-school collaboration. In order

to address each of the problem solving strategies, schools would need to establish a working relationship with some outside agencies.

### *Future Directions for Changing School Climate and Culture*

From the perspective of taking action to improve school safety through changes in school climate and culture several directions for program development are suggested by this research. Together these directions outline an action agenda that might be adopted to improve school safety, and, ultimately to improve the overall functioning of local schools.

An important first direction suggested by this research is the need to understand school climate and culture as major factors shaping the "success" or "failure" of any particular school. Much of the focus of school-based management and safety planning must rely, of necessity, on changes in the internal culture of the school if meaningful progress in decentralized school management is to occur. Nevertheless, many school-based management efforts, including those in Philadelphia, tend to treat such cultural change as a small, independent factor in the larger scheme of decentralizing school management and increasing local accountability. Our research clearly demonstrates the need for a more integrative approach where school climate and culture lead, not follow, the change agenda.

Second, our research points to the need to establish mechanisms within schools moving toward safety planning and school-based management that are capable of monitoring and providing feedback to those designing and initiating such programs. Clearly, the process of affecting substantive and institutional change in school culture will require feedback and interactive discussion. All too often local school administrators, teachers, parents and students are without such feedback and review. School improvement planning, including safety planning, can benefit from such feedback in many important ways.

Third, our analysis suggests that, despite resource and program support from school district central administrative offices, local decision makers can and should be focused on what goes on in their schools to positively or negatively shape school climate and culture. Simply put, what goes on in the school has an important impact on student achievement. That "something" is the extent to which the school can create and reinforce a climate of clear rules, trust, fairness and participation. While resources can, no doubt, accelerate the process of changing school climate and culture, local initiatives must focus on the types of issues raised in our intermediate analysis, as previously discussed. At the level of individual school there is considerable potential for making changes in the school's culture -- changes that must be initiated and sustained locally.

Fourth, our analysis suggests the importance of establishing partnerships within and outside the school. The climate and culture of the school is directly related to the sense of participation and involvement of administrators, teachers, parents and students have in school affairs. Clearly, student self-concept is strengthened by such involvement, but so to are the relationships with parents and the community at large. Such relationships build support for local decision making, including safety decisions, as well as beginning to integrate local schools in external networks that can sustain change. In some respects local schools appear to have abrogated responsibility for creating an effective school climate which can lead to the school's self-sufficiency.

Forming community-school collaborative, or partnerships, is a way to organize community resources, target high risk youth, and to focus on the interaction among the community, family, and the individual in order to address problems and to promote positive behavior. Collaboration is necessary because of the number and intensity of problems. Community agencies need to work together in order to find solutions to the problems which are not just school-based, but also linked to community needs. Coordination improves service delivery which further meets students' needs, potentially reducing frustration and anger thereby reducing violent behavior.

Finally, our research suggests the need for an overarching conceptual and pragmatic framework to guide local administrators in their pursuit of effective safety planning and the creation of sustainable cultures furthering local school objectives. Unfortunately in today's "program of the month" atmosphere, central and local administrations often drift from one program to another. Without a set of coherent principles it is difficult to choose among the alternative approaches available to schools. The creation of such a set of principles will greatly improve the focus on improving school culture and climate, while at the same time holding local administrators, teachers, parents and students accountable for program development, implementation and evaluation.

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