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Monitoring and Mapping Student Victimization in Schools

International data suggests that the most success-ful violence prevention programs are adapted to fit a specific school site and involve all of the con-stituents in a school setting. In contrast to many of the popular skills-based programs that are com-monly implemented in schools across the United States, the authors explore the utility of combining monitoring and mapping techniques to prevent spe-cific forms of school violence and aggression in specific spaces and times in school. Examples of the successful implementation of monitoring and mapping techniques in schools are provided.

E DUCATORS CAN PLAY A critical role in shaping and implementing policy, interventions, and procedures that make U.S. schools safer. This arti-cle discusses the use of two processes, monitoring and mapping, to (a) help school professionals cre-ate grass roots programs, (b) empower students and teachers, (c) use school site data to adapt programs, (d) evaluate interventions, and (e) debate school safety issues.

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Using Monitoring and Mapping to Develop and Implement School Safety Programs

Given the vast array of behaviors considered to be school "violence," how does a school know what kind of violence problem it has? When does a specific school cross the threshold from having an average level of school violence to having a high level? Conversely, how do we know when a school is considered a model safe school? What kind of violence prevention program should a school select? If a violence prevention program is implemented, how do we know it is effective? These are not abstract, moral, or academic issues alone. Several state and national politicians, orga-nizations, and task forces have declared publicly that punitive measures should be taken against schools that are unsafe (shut them down, hire new staff, etc.). Despite these developments, no one yet has put forth a clear set of criteria on what would constitute an unsafe school district or school. Edu-cators' participation in these philosophical discus-sions could add to the national dialogue because as a society, as practitioners, and as researchers we must have agreed upon ways to understand what is a safe or unsafe school. Without this shared un-derstanding it will be difficult to assess the suc-cess or failure of prevention/intervention programs.

A review of the school safety literature strong-ly suggests that programs should be developed and

implemented in a process that would ensure their relevance and applicability to each specific site. In our assessment, one reason for the promising results of anti-bullying programs in Europe and Australia has to do with the implementation process and underlying philosophical approaches of the programs (e.g., Sharp & Smith, 1994; Smith et al., 1999). Important assumptions of the bullying programs center on the belief that (a) the efforts to "fit" a program to a school involves *grassroots* participation, (b) students and teachers in the school need to be *empowered* to deal with the problem, (c) *democracy* is the core of a good school safety program, and (d) schools should demonstrate a *proactive vision* surrounding the violence problem in their buildings. The implementation of interventions or components of the program are slightly different for each school site. These beliefs enable each school to adapt the program or general principles to their unique demographic, philosophical, and organizational needs. This is a very different process from many skills-oriented curricular approaches used in the United States (Alexander & Curtis, 1995; Astor, Benbenishty, & Marachi, 2004; Larson, 1998).

One other major difference exists between the international school safety programs and those in the United States: the international programs begin with an overriding belief that data are necessary for the successful adaptation of the program to each school (Astor, Pitner, Benbenishty, & Meyer, 2002; Olweus, Limber, & Mihalic, 1999). Hence, an important element of successful school safety programs is the use of data in an ongoing and interactive manner. Figure 1 represents our interpretation of the cycle of monitoring and how data should be used to maintain successful school safety programs. This perspective proposes that the continuous and ongoing analysis and interpretation of data is an essential part of the intervention process. Data are used to create awareness, mobilize different school constituents, assess the extent of the problem, plan and implement interventions, and conduct evaluations. Information is provided on a continuous basis to different groups in each step of the intervention process. By contrast, many U.S. schools purchase evidence-based programs but do not actually collect any data about their own district

or school. Schools in the United States rarely use data to inform this process.

The process of introducing data allows each school to identify its specific needs, limitations, strengths, and resources so choices can be made regarding which specific interventions and components to implement. Moreover, the process of building and implementing school safety programs is continuous and cyclical, always changing to respond to new circumstances and emerging needs. Thus, the evaluation of the program progress after implementation becomes a reassessment of the situation, leading to a new cycle of awareness building, planning, modification of programs, and evaluation of their success. Not having site-specific and comparative data could be a significant obstacle in (a) assessing whether or not a specific school has a school violence problem, (b) adapting a school safety program to a specific school, and (c) evaluating the implementation process and outcomes of the program over time.

Given how important site-specific and comparative data are for the success of the project, we believe this warrants further elaboration. Also, it should be noted that there is rarely any mention in the school safety literature about the creation of a district-level policy or district data on victimization. Most of the intervention literature remains primarily at the individual or school site level. Often it is the school district that has the expendable resources to implement district-wide interventions. In the next section of this article we present two school-wide/data-based approaches to bullying prevention programs that depart from a focus on changing the individual student. The following sections on monitoring and school mapping are presented as quantitative and qualitative processes that (a) help create a whole-school response, and (b) help the school identify, create, and/or adapt programs to the site.

Concepts surrounding monitoring

Description and comparison. The value of the monitoring approach for schools comes from the two levels of information processing involved: description and comparison. The *description* of certain behaviors may be quite instructive. Consider, for instance, the students' perceptions of their
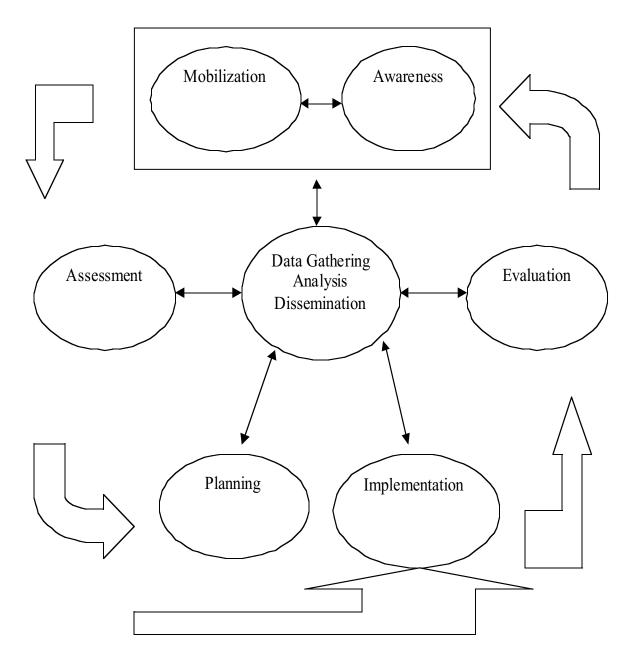
Figure 1. The Role of Data in the Development and Implementation of Interventions

teachers' responses when a student complains about bullying. The description of these responses may reveal that one fourth of the students describe the response as ignoring the complaint, one third portray the response as blaming the victim, and the rest describe a variety of caring and effective responses. This distribution is informative and has direct implications for training school staff.

In general, *comparisons* enhance the value of information by putting it in context. In order to design an intervention plan and prioritize resource allocation, it is imperative to ascertain (a) which violent acts are more prevalent than others, (b) which grade levels are victimized more, (c) how violence levels in a specific school compare with other schools in the district, and (d) how a particular district compares with the state and nation in terms of the severity of its school violence. Furthermore, after resources are allocated, it is important to examine how current levels of violence compare with those reported a year ago. In our model, we make comparisons across several dimensions (i.e., within schools, across groups, within a district, etc.).

Monitoring at the school district level: Practical examples

The two lead authors of this article (Benben-ishty and Astor) conducted a multi-year project examining the uses of data for the Hertzelia School District in Israel. The district annually surveyed all of their students. Therefore, each school had comparative data for specific types of perpetration and victimization involving bullying. The school violence and bullying data were then provided to each of 29 schools in the district to inform assessment, planning, and evaluation of grassroots projects developed by the teachers and students in each school. Schools in this project were able to compare themselves by grades, gender groups, and between other schools in their district. We will highlight the advantages of such an approach for school safety interventions.

Comparing a school site to district student victimization norms. One school wanted to know how it compared with other schools in its district on specific kinds of bullying/victimization behaviors. The local media was suggesting that this specific school

had problems with sexual harassment. Prior to monitoring, the school staff was not sure if their school had similar or higher rates than the district norms. Consequently, the information from Figure 2 was helpful because it showed that the school was lower than the district average on every sexual harassment item. This information helped teachers, parents, and the media situate the extent of the school problem within their district and counter harmful media stereotypes about this school with regard to sexual harassment. The data also raised awareness about which types of behaviors were most prevalent in their school (e.g., unwanted sexual touching, unwanted removal of parts of clothing). The issues presented in the data were brought to the teachers, students, and principal in forums where they could discuss what could and should be done to address the issue. The school then focused on developing interventions around these data. After several months of interventions, these behaviors were measured again to see if the new policies and grassroots interventions reduced the prevalence of sexual harassment behaviors in their school.

Assessment: Identifying target groups. Identifying specific target groups for interventions is another way data can and should be used. District administrators were particularly interested in knowing if students in their district who were victimized were also perpetrators. Students who were both bullies and victims could require different types of interventions. Some of this concern came from the numerous U.S. school shootings that received media attention in the late 1990s (Gegax, Adler, & Pedersen, 1998; Sack, 1999; Verhovek, 1999).

Figure 3 shows the percent of students in this district that reported being both victims and perpetrators of violence by grade and gender. It demonstrates two distinct patterns for boys and girls who fit the criteria of "high" victimization and perpetration in their district. The data suggests that far more boys than girls fit the dual criteria. Girls who were both victims and perpetrators had relatively stable rates over time. Boys who fit the criteria had greater variability from a high of 30% in 7th grade to a low of 15% in 12th grade. This suggests that there may be a need to have gender-specific strategies when targeting students who were both victims and perpetrators, and that prevention programs
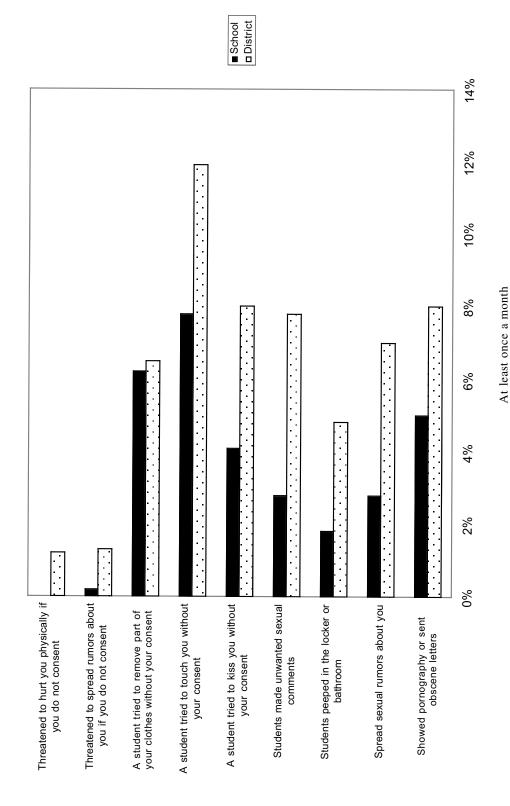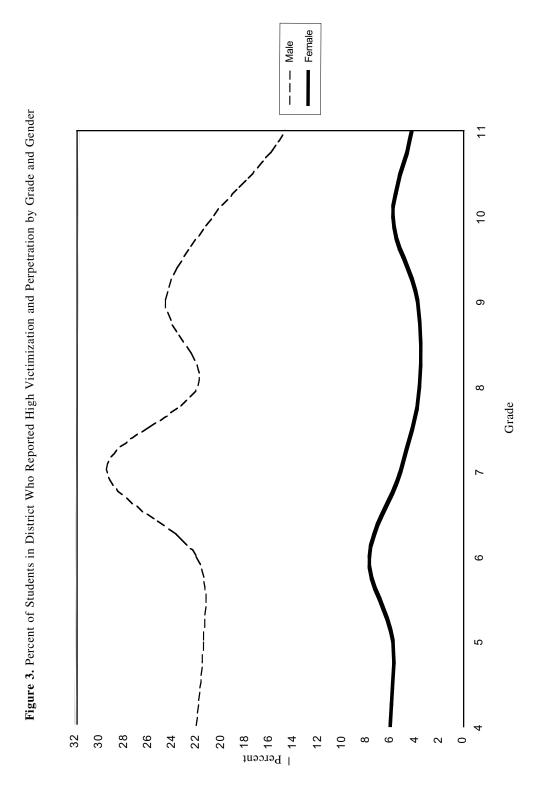
Figure 2. Sexual Harassment: A Comparison Between the School and District

At least once a month

■ School
□ District

Threatened to hurt you physically if you do not consent

Threatened to spread rumors about you if you do not consent

A student tried to remove part of your clothes without your consent

A student tried to touch you without your consent

A student tried to kiss you without your consent

Students made unwanted sexual comments

Students peeped in the locker or bathroom

Spread sexual rumors about you

Showed pornography or sent obscene letters

Figure 3. Percent of Students in District Who Reported High Victimization and Perpetration by Grade and Gender

should begin at least by the 4th grade. This information was extremely helpful for the district in addressing their particular concerns surrounding students who were both bullies and victims. As a result, teachers and parents decided to develop policies and procedures focused on the process of provocation and retribution. They also had forums where teachers and students could address ways to help students who were both bullies and victims.

Evaluation: Assessing change following interventions. A school could use this monitoring system to identify particular problem areas in their school. They could then track progress in reducing bullying in this location over time. For example, one junior high school wanted to know where violence occurred most frequently. This school used the data to develop specific interventions generated by teachers and students around certain locations (e.g., increased monitoring, school beautification projects, alterations to the schedule so there were less students in the hallways at the same time). Then the progress in terms of reducing violence in specific areas in their school over time was monitored. Figure 4 represents a comparison between the 1999-2000 and 2000-2001 academic years in a school that implemented intervention programs during 2000-2001. Figure 4 suggests that the students' perceptions of danger decreased in all the targeted areas when compared to the prior year, before the intervention was initiated. This was not readily evident by data collected from focus groups. Figure 4 represented the views of the entire student body.

Concepts Surrounding Mapping Violence-Prone Locations

Undefined public spaces. There are many spaces in schools, such as auditoriums, playgrounds, and lunchrooms, where both staff and students congregate. However, because of the social hierarchy, mission, and professional roles and structure of schools, these spaces may not foster informal interactions among students or between students and staff. Furthermore, school professionals may not believe it is their role to interact with students in these spaces unless administrators have assigned them to monitor those times and spaces.

Consequently, we believe an important concept in understanding school violence is undefined

public space (Newman, 1973, 1995; Newman & Franck, 1982). This concept asserts that within any community there are physical areas that may not be seen as anyone's responsibility to monitor or maintain. In his early studies of housing projects, for example, Newman (1973, 1995) found that most criminal activity occurred in semipublic, undefined areas of buildings (e.g., lobbies, stairwells, halls, and elevators).
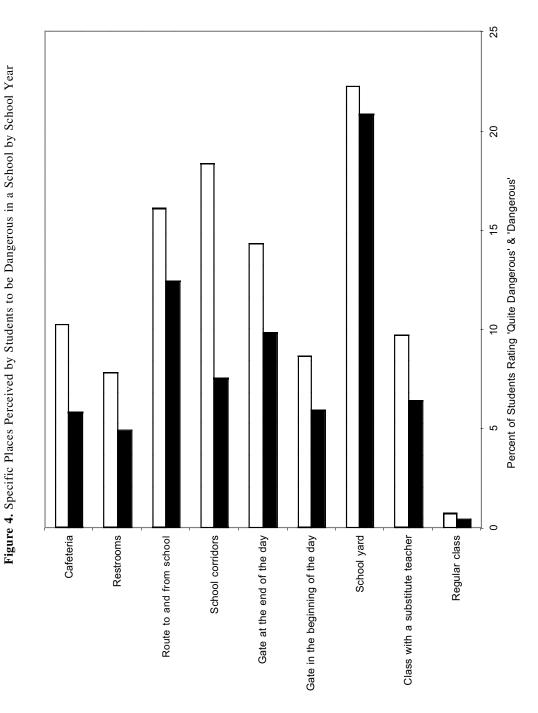
Previous studies on school violence have suggested that violent events occur repeatedly in specific places in and around school buildings (Arnette & Walsleben, 1998; Astor, Meyer, & Behre, 1999; Lockwood, 1997). Some studies in the United States and abroad have suggested that students who attend urban schools report the highest rates of avoiding particular areas in and around their school due to fear (e.g., Astor, Benbenishty, Zeira, & Vinokur, 2002; Benbenishty, Astor, Zeira, & Vinokur, 2002; Chandler, Chapman, Rand, & Taylor, 1998). Astor, Meyer, and Behre (1999) found that violence-prone areas in high schools were also "undefined" and "unowned" by members of the school community (i.e., students, teachers, staff, and parents).

The concepts of territoriality and undefined space could have theoretical and practical implications for school-related spaces such as hallways, cafeterias, playgrounds, or routes to and from school. One obvious and important strategy implied by this approach is to identify these locations and work with members of the community to reclaim them. Are certain school spaces violence-prone due to a lack of perceived student or adult responsibility for keeping these areas safe? If so, can these spaces be reclaimed by students and teachers simply by identifying them and developing strategies around the behaviors that occur in those spaces?

Applications of Mapping

This procedure is designed to involve school constituents in revealing how bullying/victimization issues and other forms of violence within a school building interact with locations, patterns of the school day, and social organizational variables (e.g., teacher and student relationships, teachers' professional roles, and the school's organizational response to violence). An important goal of this

Figure 4. Specific Places Perceived by Students to be Dangerous in a School by School Year

procedure is to allow students and teachers to convey their personal theories about why specific locations and times in their schools are more dangerous. This approach assumes that students, teachers, school staff, and administrators have important information that should be the foundation for setting specific interventions. Most successful bullying prevention programs involve a spatial and temporal analysis because many of the interventions are centered around specific bullying/victimization prone locations.

Mapping, interviews, and interventions. The first step in this assessment procedure is obtaining a map of the school. Ideally, the map should contain all internal school territory and the areas surrounding the school and playground facilities. In some communities where the routes to and from school are dangerous, a simple map of the surrounding neighborhood may be added to the assessment process (see Meyer & Astor, 2002, for a description of this process). The school maps are an essential part of the interviewing process in order to anchor discussions to places and times in ways that interviews about issues alone cannot. The focus groups should begin with the facilitator distributing two sets of identical school maps to each individual.

Map A and B. Two photocopied maps of the school are needed for each student and teacher. The first map should be used to determine where students and teachers believe bullying events in or around the school building occur. Participants should be asked to identify on the maps the locations of up to three of the most violent events that have occurred within the past academic year. Next to each event marked on the map, participants should be asked to write the following information:

1. the general time frame of the event (e.g., before school, after school, morning period, afternoon period, between classes, etc.)
2. the grade and gender of those involved in the violence
3. their knowledge of any organizational response to the event (e.g., sent to principal's office, suspended, sent to peer counselor, nothing, etc.)

On the second map, members should be asked to circle areas or territories they perceive to be unsafe or potentially dangerous. This second map provides information about areas within the school that participants avoid or fear even though they may not possess knowledge of a particular event.

Discussion of violent events and areas. The first part of the group discussion should center on the specific bullying events and the areas marked as unsafe or dangerous on their personal maps. We have asked questions such as, "Are there times when those places you've marked on the maps are less safe?" "Is there a particular group of students that is more likely to get hurt there?" "Why do you think that area has so many incidents involving bullies and victims?" The overall purpose of the group interviews is to explore why bullying or victimization occurs at those specific times and in those specific spaces. Consequently, the interview questions should also focus on gathering information regarding the organizational response to the event (e.g., "What happened to the students after the event?" or "Did the hall monitors intervene when they saw what happened?"), procedures (e.g., "What happens when the students are sent to the office after a fight?" "Did anyone call the parents of the bully or victim?"), follow-up (e.g., "Do the teachers, hall monitors, and/or administrators follow up on any consequences given to the students?" or "Did anyone check on the welfare of the victim?"), and clarity of procedures (e.g., "Does it matter who stops the bullying—a volunteer, security guard, teacher, or principal?").

Interviewers should also explore participants' ideas for solutions to the specific bullying problems (e.g., "Can you think of ways to avoid bullying or victimization in that place?" or "If you were the principal what would you do to make that place safer?"). In addition, the interviewer should explore any obstacles participants foresee with implementation (e.g., "Do you think that type of plan is realistic?" "Has that been tried before? What happened?" or "Do you think that plan would work?"). Such obstacles could range from issues related to roles (e.g., "It's not my job to monitor students during lunch."), to discipline policy and issues of personal safety (e.g., "I don't want to intervene because I may get hurt.").

In schools that already have programs designed to address school violence, specific questions should be asked about the effectiveness of those

interventions, why they work or do not work, and what could be done to make the current measures more effective. We recommend that the interviewer ask both subjective questions (e.g., "Do you think the anti-bullying program is working? Why do you think it works or why does it not work?") as well as specific questions related to the reduction of bullying/victimization (e.g., "Do you believe the anti-bully program has reduced the number of bullying events on the playground? Why or why not?").

Transferring all of the reported events onto one large map of the school enables students and staff to locate specific hot spots for violence and dangerous time periods within each individual school. The combined data are presented to all school constituents, and they are asked to once again discuss and interpret the maps. Teachers and students use the maps and interviews to suggest ways to improve the settings.

Compiling all the interview suggestions into themes is an important second step in creating context-relevant interventions. Students, teachers, and administrators may have differing viewpoints regarding the organizational response of the school when victimization happened. Relaying the diversity of responses to students, teachers, and administrators can provide an opportunity for reflection and may generate ways to remedy the bullying/victimization problem in certain situations. When the data is presented, students, teachers, and administrators can center their discussions on why those areas are dangerous and what kinds of interventions could make the location safer. The data are collected and used in different stages of the process outlined in Figure 1. Both the monitoring and mapping methods provide data-based approaches to gathering information about bullying/victimization in schools. Moreover, they provide site-specific information, which makes it easier for schools to address these problems.

Conclusion

One major difference between international bullying/victimization programs and ones in the United States are that the international programs are based on school site data. Therefore, all interventions are (a) created and adapted to fit the school site and (b) involve the entire school setting. This requires a high degree of commitment and awareness of school staff to change the organizational response of the school to bullying. Many of the currently popular U.S. anti-school violence programs are curricular-based and geared at improving students' social skills. Few U.S. violence prevention programs are focused on altering the whole school climate, policy, and procedures. Moreover, few U.S. programs involve the principal and the entire teaching staff during the adaptation and implementation phase. Programs that focus on the entire school community have a greater likelihood of being sustained over time and showing significant reductions in victimization.

References

Alexander, R., & Curtis, C.M. (1995). A critical review of strategies to reduce school violence. *Social Work in Education, 17,* 73-82.

Arnette, J., & Walsleben, M. (1998). *Combating fear and restoring safety in schools.* (NCJ-167888). Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Astor, R.A., Benbenishty, R., & Marachi, R. (2004). Violence in schools. In P.A. Meares (Ed.), *Social work services in schools* (4th ed., pp. 149-182). Boston: Allyn & Bacon.

Astor, R.A., Benbenishty, R., Zeira, A., & Vinokur, A. (2002). School climate, observed risky behaviors, and victimization as predictors of high school students' fear and judgments of school violence as a problem. *Health Education and Behavior, 29*(6), 716-736.

Astor, R.A., Meyer, H.A., & Behre, W.J. (1999). Unowned places and times: Maps and interviews about violence in high schools. *American Educational Research Journal, 36,* 3-42.

Astor, R.A., Pitner, R.O., Benbenishty, R., & Meyer, H.A. (2002). Public concern and focus on school violence. In R. Rapp-Paglicci, A. Roberts, & J. Wodarski (Eds.), *Handbook of violence* (pp. 262-302). New York: Wiley & Sons.

Benbenishty, R., & Astor, R.A. (2003). The view from Israel. In P.K. Smith (Ed.), *Violence in schools: The response in Europe* (pp. 317-331). New York: Routledge Falmer.

Benbenishty, R., Astor, R.A., Zeira, A., & Vinokur, A. (2002). Perceptions of violence and fear of school attendance among junior high school students in Israel. *Social Work Research, 26*(2), 71-88.

Chandler, K., Chapman, C., Rand, M., & Taylor, B. (1998). *Students' reports of school crime: 1989 and 1995* (National Center for Education Statistics 98-241). Washington, DC: U.S. Departments of Education and Justice.

Gegax, T., Adler, J., & Pedersen, D. (1998, April 6). The boys behind the ambush. *Newsweek, 131,* 21-24.

Larson, J. (1998). Managing student aggression in high schools: Implications for practice. *Psychology in the Schools, 35,* 283-295.

Lockwood, D. (1997). *Violence among middle school and high school students: An analysis of implications for prevention.* Washington DC: U.S. Department of Justice, Office of Justice Programs, National Institute for Justice.

Meyer, H.A., & Astor, R.A. (2002). Child and parent perspectives on routes to and from school in high crime neighborhoods. *Journal of School Violence, 1*(4), 101-128.

Newman, O. (1973). *Architectural design for crime prevention.* Washington, DC: U.S. Department of Justice.

Newman, O. (1995). Defensible space: A new physical planning tool for urban revitalization. *Journal of the American Planning Association, 61,* 149-155.

Newman, O., & Franck, K.A. (1982). The effect of building size on personal crime and fear of crime. *Population and Environment, 5,* 203-220.

Olweus, D., Limber, S., & Mihalic, S.F. (1999). *Blueprints for violence prevention, book nine: Bullying prevention program.* Boulder, CO: Center for the Study and Prevention of Violence.

Sack, K. (1999, May 21). Youth with 2 guns shoots 6 at Georgia school. *The New York Times,* p. 1.

Sharp, S., & Smith, P.K. (1994). *Tackling bullying in your school: A practical handbook for teachers.* London: Routledge.

Smith, P.K., Morita, Y., Junger-Tas, J., Olweus, D., Catalano, R., & Slee, P. (1999). *The nature of school bullying: A cross-national perspective.* New York: Routledge.

Verhovek, S. (1999, April 23). Terror in Littleton: The Overview. *The New York Times,* p. A1.

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