

10 Threat Assessment Research Publications

Articles 1-10 are reports of original research on the Virginia Student Threat Assessment Guidelines. There are many other articles and book chapters that describe the Guidelines or summarize research about it, but the ones listed below constitute the primary sources for our research findings.

1. Cornell, D., Sheras, P., Kaplan, S., McConville, D., Douglass, J., Elkon, A., Knight, L., Branson, C., & Cole, J. (2004). Guidelines for student threat assessment: Field-test findings. *School Psychology Review*, 33, 527-546.
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3. Strong, K., & Cornell, D. (2008). Student threat assessment in Memphis City Schools: A descriptive report. *Behavioral Disorders*, 34, 42-54.
4. Allen, K., Cornell, D., Lorek, E., & Sheras, P. (2008). Response of school personnel to student threat assessment training. *School Effectiveness and School Improvement*, 19, 319-332.
5. Cornell, D., Sheras, P., Gregory, A., & Fan, X. (2009). A retrospective study of school safety conditions in high schools using the Virginia Threat Assessment Guidelines versus alternative approaches. *School Psychology Quarterly*, 24, 119-129.
6. Cornell, D., Gregory, A., & Fan, X. (2011). Reductions in long-term suspensions following adoption of the Virginia Student Threat Assessment Guidelines. *Bulletin of the Nat Assoc of Secondary School Principals*, 95, 175-194.
7. Cornell, D., Allen, K., & Fan, X. (2012). A randomized controlled study of the Virginia Student Threat Assessment Guidelines in grades K-12. *School Psychology Review*, 41, 100-115.
8. JustChildren and Cornell, D. (2013). *Prevention v. punishment: Threat assessment, school suspensions, and racial disparities*. Retrieved from http://curry.virginia.edu/uploads/resourceLibrary/UVA_and_JustChildren_Report_-_Prevention_v._Punishment.pdf
9. Nekvasil, E., Cornell, D. (2015). Student threat assessment associated with positive school climate in middle schools. *Journal of Threat Assessment and Management* 2, 98-113. doi: <http://dx.doi.org/10.1037/tam0000038>
10. Burnette, A. G., Datta, P. & Cornell, D. G. (2017 online advance publication). The distinction between transient and substantive student threats. *Journal of Threat Assessment and Management*. <http://psycnet.apa.org/record/2017-56103-001>

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Guidelines for Student Threat Assessment: Field-Test Findings

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Abstract. A demonstration project was conducted to field-test guidelines for schools to use in responding to student threats of violence. Results from 188 student threats occurring in 35 schools over the course of one school year are described. School-based teams used a decision-tree model to evaluate the seriousness of a threat and take appropriate action to reduce the threat of violence. Using threat assessment guidelines, the majority of cases (70%) were resolved quickly as transient threats. More serious cases, termed substantive threats (30%), required a more extensive evaluation and intervention plan. Follow-up interviews with school principals revealed that almost all students were able to continue in school or return to school after a brief suspension. Only 3 students were expelled, and none of the threatened acts of violence were carried out. These findings indicate that student threat assessment is a feasible, practical approach for schools that merits more extensive study.

In the late 1990s, a series of school shootings stimulated authorities nationwide to review school safety policies and to seek new practices for preventing student violence (Mulvey & Cauffman, 2001; Walker & Epstein, 2001). The National Center for the Analysis of Violent Crime (NCAVC) of the Federal Bureau of Investigation (FBI) con-

vened a national conference on school shootings in 1999, and recommended in its report (O'Toole, 2000) that schools adopt a threat assessment approach to prevent similar acts of violence. Likewise, the U.S. Secret Service, in collaboration with the U.S. Department of Education, advocated the use of threat assessment, and in 2002 began offering threat

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assessment training to schools nationwide (Fein et al., 2002). The present study reports on the field-testing of a set of guidelines for schools to use in responding to student threats of violence. The guidelines were developed to implement recommendations of the FBI report (O'Toole, 2000). This appears to be the first demonstration of this threat assessment approach in schools.

The initial reaction to the school shootings by many authorities was to develop a profile or set of characteristics that could be used to identify potentially dangerous students before they engaged in a violent act. The U.S. Department of Education and Department of Justice disseminated to every public school in the nation a series of "warning signs" for identifying potentially violent youth (Dwyer, Osher, & Warger, 1998). The American Psychological Association (APA) released a "warning signs" pamphlet (APA, n.d.) and the National School Safety Center (NSSC, 1998) published its *Checklist of Characteristics of Youth Who Have Caused School-Associated Violent Deaths*. Other state and national organizations have released their own checklists and warning signs (Sewell & Mendelsohn, 2000).

Profiling of potentially violent students is problematic. Sewell and Mendelsohn (2000) pointed out that the pressure to publish such profiles or warning signs has resulted in lists that exceed the boundaries of existing knowledge. There is no body of research demonstrating the validity of these profiles or lists of warning signs, and there is concern that profiling will result in the false identification of students as violent who are not in fact dangerous (O'Toole, 2000). Because serious acts of violence are relatively infrequent, and committed by a small proportion of students, it is difficult to identify items or signs that are sufficiently specific to them. Many risk factors correlated with violence are not specific indicators of violence, and can be found in a much larger population of students. The broader or more general the items in a checklist, the greater the rate of false-positive identification one can expect (Sewell & Mendelsohn, 2000).

Inspection of the existing profiles and warning signs checklists reveals that there are

many broad, general items that could result in false-positive identifications. For instance, the 16 warning signs in the federal government's guide (Dwyer et al., 1998) include such general criteria as "history of discipline problems," "drug use and alcohol use," "feelings of being picked on and persecuted," and "excessive feelings of rejection." The authors of this list cautioned about their potential misuse (Dwyer et al., 1998), but such cautions are easily overlooked by school officials anxious to prevent violence. The APA's warning signs pamphlet (APA, n.d.) was prefaced by the alarming statement, "If you see these immediate warning signs, violence is a serious possibility." Among the warning signs listed were "increase in risk-taking behavior," "increase in use of drugs or alcohol," "significant vandalism or property damage," and "loss of temper on a daily basis." The National School Safety Center's 20-item *Checklist of Characteristics of Youth Who Have Caused School-Associated Violent Deaths* (NSSC, 1998) included "has previously been truant, suspended, or expelled from school," "has little or no supervision from parents or a caring adult," and "tends to blame others for difficulties she or he causes." Although all of these items may be correlates of youth aggression, they are not specific indicators of violence and cast too broad a net in identifying potentially violent youth. For such items to be useful, a more focused approach that identifies a narrower group for evaluation and potential intervention is essential.

Reports by the FBI (O'Toole, 2000) and the U.S. Secret Service and Department of Education (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002) concluded that valid profiles of homicidally violent students are impossible to construct, and that profiling is not a viable strategy for preventing school violence. The FBI report stated:

One response to the pressure for action may be an effort to identify the next shooter by developing a "profile" of the typical school shooter. This may sound like a reasonable preventive measure, but in practice, trying to draw up a catalogue or "checklist" of warning signs to detect a potential school shooter can be shortsighted, even dangerous. Such lists, publicized by the media, can end up unfairly labeling many nonviolent stu-

dents as potentially dangerous or even lethal. In fact, a great many adolescents who will never commit violent acts will show some of the behaviors or personality traits included on the list. (O'Toole, 2000, pp. 2-3)

Likewise, the U.S. Secret Service (Vossekuil, Reddy, Fein, Borum, & Modzeleski, 2000) concluded:

The use of profiles is not effective either for identifying students who may pose a risk for targeted violence at school or—once a student has been identified—for assessing risk that a particular student may pose for school-based targeted violence. The personality and social characteristics of the shooters varied substantially. Knowing that an individual shares characteristics, features, or traits with prior school shooters does not advance the appraisal of risk. Moreover, the use of profiles carries a risk of over-identification—the great majority of students who fit any given profile will not actually pose a risk of targeted violence. Finally, use of profiles will fail to identify some students who in fact pose a risk of violence—but who share few if any characteristics with prior attackers. (p. 5)

In July 1999, shortly after the shooting at Columbine High School in Littleton, Colorado, the FBI's NCAVC convened a symposium on school shootings composed of experts in law enforcement, education, mental health, and related fields, as well as professionals who had been involved in a school shooting incident. The Critical Incident Response Group of the NCAVC released a report in September 2000 that advised schools to adopt a threat assessment approach to deal with potential violence, as distinguished from a profiling approach. This report, entitled *The School Shooter: A Threat Assessment Perspective* (O'Toole, 2000), has been widely disseminated and is available at <www.fbi.gov>. On page 1, the report states:

This model is not a "profile" of the school shooter or a checklist of danger signs pointing to the next adolescent who will bring lethal violence to a school. Those things do not exist. Although the risk of an actual shooting incident at any one school is very low, threats of violence are potentially a problem at any school. Once a threat is made, having a fair, rational, and standardized method of evaluating and responding to threats is critically important.

In this report, the FBI recommended that schools establish multidisciplinary teams to

manage student threats of violence. The report gave considerable latitude to schools in determining the composition of the teams and how they would function. In general, teams would be headed by a threat coordinator selected from the school staff and would include a mental health professional and a representative from law enforcement. Teams would evaluate reported threats of violence using a "four-pronged assessment model." The four prongs are: (a) the personality and behavior of the student who made the threat, (b) the student's family dynamics, (c) the culture and climate of the school, and (d) the social dynamics of the larger community. The FBI report did not determine how the evaluation would be conducted, but emphasized that no specific combination of factors would definitively identify a student as violent. The FBI report concluded, "There is a compelling need to field test, evaluate, and further develop these threat assessment recommendations, and to develop appropriate interventions designed to respond to the mental health needs of the students involved. This is a pressing public health need which could be addressed through multidisciplinary collaboration by educators, mental health professionals and law enforcement" (p. 31).

The purpose of the present study is to report the results of a demonstration project in which guidelines were field-tested for schools to use in responding to student threats of violence. A demonstration project is an important step prior to conducting a controlled study because it provides an opportunity to field-test, observe, and refine the procedures and methods that constitute the proposed intervention, and in this case, to show that threat assessment is a viable procedure that could be used by schools and is worthy of further study. This study reports on the successful implementation of threat assessment guidelines and on the resolution of 188 cases of student threats during one school year.

Threat assessment represents a potentially valuable component of a comprehensive approach to school violence prevention (Osher, Dwyer, & Jackson, 2004). Sprague and colleagues (Sprague et al., 2001) investigated the effects of a school-wide approach that included

a school-wide discipline plan based on Effective Behavioral Support (Sugai & Horner, 1994) and a violence prevention curriculum. They studied the effects of the program in nine schools and reported both reductions in school discipline referrals and improvement in student knowledge of social skills (Sprague et al., 2001). Sugai, Sprague, Horner, and Walker (2000) recommended that school discipline referrals could serve an important role as a means of monitoring the effectiveness of school-wide interventions to reduce violent behavior.

More broadly, a recent meta-analysis of 221 school-based interventions that attempted to reduce aggressive behavior found an average effect size of .25 for well-implemented demonstration programs (Wilson, Lipsey, & Derzon, 2003). These authors (Wilson et al., 2003) estimated that an effect size of this magnitude would eliminate approximately half the incidents of fighting in a typical school year. School-based violence prevention programs can serve at least two functions related to threat assessment: (a) *threat prevention* in the form of school-wide programs to maintain an orderly and positive school climate and thereby minimize the conditions and circumstances in which threats develop; and (b) *threat intervention* in the form of programs to work with individual students to resolve student conflicts after a threat has been reported.

Method

Sample

The participating schools consisted of four high schools (Grades 9–12), six middle schools (Grades 6–8), 22 elementary schools (Grades K–5), and three alternative schools (Grades 7–12) in two adjacent school divisions. The two school divisions span a single county in central Virginia of 736 square miles that includes a population of 129,000 in urban, suburban, and rural areas. The combined enrollment of the two school divisions was 16,273 students, of which 71% were Caucasian, 22% African American, and 7% other groups. Approximately 26% of the students were eligible for free or reduced meals.

The sample consisted of all 188 cases of student threats reported by school principals (or assistant principals) during the 2001–2002 school year. These cases included 146 boys and 42 girls distributed across grade levels as displayed in Table 1. The students making the threats were identified as Caucasian (54.8%), African American (43.1%), or Hispanic (1.1%). Fifty-one percent of these students were eligible for free or reduced school meals.

Procedures

Following release of the FBI's report, the Virginia Youth Violence Project developed specific guidelines and procedures for schools derived from the FBI's threat assessment recommendations. The process is described in more detail elsewhere (Cornell et al., in press). In brief, the purpose of this study was to translate general principles of threat assessment into practices that could guide the actions of school personnel in dealing with student threats of violence. This study began by convening a school work group consisting of school personnel from two local school divisions. Each school division assigned an assistant superintendent, a school principal, and a school psychologist to the group. The group also included the supervisor of school resource officers for each of the law enforcement agencies that serve the two divisions. In addition, over the course of 2 months of meetings, the group invited other school personnel and community leaders (e.g., special education personnel and local prosecutors) to participate in discussions.

The school work group was assisted by an expert advisory group that included two nationally recognized experts in violence risk assessment, two FBI authorities (the primary author of the FBI's school shooting report and another expert on juvenile crime), and three state officials with leadership roles in school safety and juvenile justice. These individuals provided invaluable advice and constructive criticisms as the guidelines were formulated.

The process of developing guidelines began by conducting telephone interviews with all of the school principals and psychologists in the two divisions. Principals were surveyed about the kinds of student threats that had come

Table 1
Student Threats of Violence in 35 Schools

Grade	Student Gender		Threatened Behavior						Total
	Girls	Boys	Hit	Kill	Shoot	Stab	Vague	Other	
Elementary									
K	3	2		4		1			5
1	0	6	1	1	2	1	1		6
2	0	7	3			2	2		7
3	3	24	11	4	5	4	1	2	27
4	5	22	11	6	4	1	3	2	27
5	3	11	8	2	2		2		14
Middle									
6	4	7	2	3	4	1	1		11
7	6	21	14	3	1		8	1	27
8	7	16	7	2	3	3	6	2	23
High									
9	5	15	10	1	1	2	4	2	20
10	2	8	6	1	2	1			10
11	3	5	1			2	4	1	8
12	1	2	3						3
Total	42	146	77	27	24	18	32	10	

Note. Threats to hit include physical assault without weapons. Vague threats include nonspecific threats to hurt or "get" another person. Other threats include bomb threats, kidnapping, or other indirect forms of injury.

to their attention in the past year and how these threats were resolved. They were asked what kinds of guidelines or policies would have helped them respond. The principals reported that student threats to hurt someone were a relatively common event, although few threats were regarded as serious. The most significant concerns were how to identify serious threats and how to respond to them. Principals from elementary, middle, and high schools expressed concern that there were no guidelines for evaluating student threats, and said that they relied on intuition in making decisions about the seriousness of a student's risk for violence. The

school psychologists expressed concern that they had little training in how to conduct psychological evaluations of students who made threats of violence.

The concerns of principals and psychologists made it clear that threat assessment required a set of written guidelines to assist staff in making triage determinations of the seriousness of a threat. It was recognized that an elaborate process of threat assessment would be burdensome to school authorities and that it would be necessary to design an efficient process to distinguish the commonplace threats, which could be easily resolved, from more seri-

ous threats, which would require a more labor-intensive response. It was decided that the school principals would conduct the initial evaluation of a threat and make a triage decision, either resolving the threat immediately because it was not serious or initiating a more comprehensive team assessment if the threat was serious.

The group considered the work of the Dallas Independent School District, which developed a risk assessment instrument based on 18 items that a literature review suggested would be predictive of student violence (Ryan-Arredondo et al., 2001). Under the Dallas system, a school staff member rates each item and derives a summary score that is used to classify the student's risk of violence as low, medium, or high. When work on the present study began in the spring of 2001, there were no data available on the reliability or validity of this instrument (Bert Rakowitz, personal communication, May 29, 2001), but the items chosen for the scale and the experiences of the Dallas school personnel were informative and useful in developing the guidelines.

Ultimately, it was decided not to adopt a formally scored instrument such as the DVRA, in part because of the complexity of the threat assessment process (O'Toole, 2000; Reddy et al., 2001) and the limited state of knowledge in the field of student threat assessment. It was concluded that a set of guidelines would be more consistent with the recommendations of the FBI report and also would offer school authorities greater flexibility in considering contextual and situational factors associated with a student's threat of violence, which might not be reflected in a single risk score.

Decision-tree model. A decision tree was developed that would guide school officials through the threat assessment process, starting with the report of a threat to the school principal or assistant principal. The decision tree was designed to follow a procedure that school staff would find to be most consistent with existing school practices and would permit them to make practical decisions in an efficient manner. The first step in the threat assessment process was for the principal (or assistant principal) to gather information about the threat for triage purposes—to determine

whether the threat could be quickly resolved or would require protective action and further evaluation and intervention.

As discussed elsewhere (Cornell et al., in press), the principal (or assistant principal) was identified as the head of the threat assessment team because principals are in charge of discipline and have ultimate responsibility for student safety and security. Our work group did not believe it would be feasible to have someone other than the school principal in charge of such a critical matter. Furthermore, it was anticipated that in most cases the principal would be able to investigate and resolve a nonserious threat with little or no involvement by the full threat assessment team, but that in more serious cases, the principal would involve the full team. This arrangement gives broad discretion and authority to the principal, but in fact, this is not a change from standard procedure in most schools for student discipline and safety matters.

The model specified important information the principal should obtain in interviewing the student who made the threat, but no formal training of school principals was attempted, recognizing that principals are experienced in interviewing children about disciplinary and behavioral matters. The *Guidelines* for the present study directed the principal to ask a series of questions intended to cover what happened, what the student meant by the threat, how the student perceived others to feel about the threat, the student's reasons for making the threat, and whether the student intended to carry out the threat. Therefore, the questions began with asking the student *what happened*—what he or she said, and what he or she did. The principals were instructed to write down exactly what the student admitted, and then to inquire what the student *meant* by his or her statements and actions (e.g., "What did you mean when you said that?") and what did the student think the other person or persons who were threatened (or who witnessed the threat) felt about what was said. Next, the principal should ask the *reasons* for what the student said and in particular, to find out if there was a prior history of conflict. Finally, the principal should ask what the student *intends* to do. All of this information would be consid-

ered in determining whether the student had made a transient threat that could be readily resolved or a more serious, substantive threat.

It was recognized that students might not be completely accurate or truthful participants in the interview, and principals were advised to interview witnesses using a parallel set of questions. Principals were also directed to err on the conservative side and to assume that a threat was serious if they had doubt about the accuracy of the information they obtained. A key point in training principals and all team members is that each threat must be evaluated within its own context; a threatening statement could not be judged out of context—the circumstances and manner in which the threat was expressed could completely alter the seriousness of the threat and how to respond to it.

A threat was defined as any expression of intent to harm someone. Consistent with the FBI report (O'Toole, 2000), it was recognized that threats could be spoken, written, or expressed in behavior such as gestures. Threats could be made directly to the intended victim, communicated to third parties, or expressed in private writings. Possession of a weapon such as a firearm or knife on school grounds would be presumed to constitute a threat, unless subsequent investigation found otherwise. In contrast to zero tolerance policies, toy guns were not considered the same as real guns, and common objects such as nail files or plastic knives were not necessarily considered to be threatening weapons. Any potential weapon was to be judged based on the threat of injury it posed to others. How the student used or threatened to use the weapon was most important.

If there was doubt whether a student's actions constituted a threat, the guidelines called for the team to investigate the behavior as a threat. However, all forms of aggressive behavior would not necessarily indicate a threat of future violence. For example, if two students insulted one another or even got into a fight, their behavior would not be investigated as a threat unless one of them expressed intent to harm the other in the future. Schools would follow their regular discipline practices for disruptive behavior or fighting; threat assessment would function as an additional component of

the school's response when there was some indication of future action. From this perspective, threat assessment is not an approach to student discipline, but rather a means of preventing future acts of violence.

Transient versus substantive threats.

Based on triage interviews and consideration of the overall context of the threat, the principal's next step was to classify the threat as *transient* or *substantive* (Cornell et al., in press). Transient threats were statements that do not express a lasting intent to harm someone and can be resolved with an apology or explanation. These were the threats that principals told us they encountered frequently and were able to address as a routine disciplinary matter. Transient threats reflect feelings that dissipate rapidly when the student considers what he or she has said. Transient statements might be made in a moment of anger, but are retracted when the student calms down. Transient threats also might be made as a tactic in an argument or during an exchange of insults, or they might be intended as jokes or figures of speech. The most important feature of a transient threat is that the student does not have a sustained intention to harm someone. Transient threats might merit a disciplinary response, but there is no need to take protective action to prevent a future act of violence because the threat is short-lived.

Substantive threats are serious in the sense that they represent a sustained intent to harm someone beyond the immediate situation where the threat was made. If there is doubt whether a threat is transient or substantive, the threat is treated as a substantive threat. Substantive threats could be identified by five *presumptive* indicators, derived from the FBI report (O'Toole, 2000): (a) the threat has specific plausible details, such as a specific victim, time, place and method of assault; (b) the threat has been repeated over time or related to multiple persons; (c) the threat is reported as a plan, or planning has taken place; (d) the student has recruited accomplices or has invited an audience to observe the threat being carried out; or (e) there is physical evidence of intent to carry out the threat, such as a weapon, bomb materials, a map or written plan, or a list of intended victims. Although the presence

of any one of these features may lead the school administrator to presume the threat is substantive, none are absolute indicators and it is possible that with additional investigation other facts could indicate that the threat is transient. For example, a student who seeks an accomplice to help in carrying out a threat might be presumed to have a serious intent to harm someone, but several cases were observed in which an angry student enlisted a classmate to help send a threatening letter to another student as an act of revenge or intimidation. Such an incident would be handled as a serious disciplinary matter, but not as a serious threat. In essence, threat assessment teams must always take into account the context of the threat and make reasoned judgments based on all available information. The guidelines assist the team in its investigation and guide it through a series of decisions, but permit flexibility in considering situational factors and circumstances.

The distinction between transient and substantive threats captured an important difference in how schools can respond to student threats at the lower end of the risk continuum, but how should schools differentiate among threats at the higher end? A genuine threat to shoot someone clearly warrants a more extensive response than a threat to hit someone. Therefore, a further distinction within the category of substantive threats was needed. The legal distinction between simple assault and aggravated or felonious assault was considered, and a legal requirement in Virginia for school officials to report felonious assaults to law enforcement was recognized. This led to the designation of substantive threats to assault someone as *serious* substantive threats, and to the classification of substantive threats to commit an aggravated or felonious assault as *very serious* substantive threats. Very serious threats would include all substantive threats to kill, sexually assault, or inflict major injury on someone. Threats to injure someone with a weapon also would be regarded as very serious, because of the potential to inflict severe injury.

All substantive threats require the school administrator to take some form of protective action to prevent the threatened act of violence from being carried out. Protective action would

begin with counseling the student against carrying out the threat and contacting the student's parents to enlist their assistance. In addition, the school administrator would contact the intended target of the threat, and if the target was a student, the student's parents. Further protective steps would be taken according to the nature of the threat, but generally involve consultation with other threat assessment team members, such as the school resource officer, the school psychologist, and the school counselor. After initial efforts to assure the immediate safety of all parties, the threat assessment team would conduct further assessment in order to develop an intervention plan to address any problems or issues (e.g., bullying) that precipitated the threat. In cases of very serious substantive threats, it is recommended that the student be suspended from school until a plan can be formulated.

Mental health assessment of very serious threats. The guidelines for the present study specify the role and function of school psychologists in threat assessment. As a threat assessment team member, the school psychologist may be asked to consult on any case in an advisory capacity, but responsibility for team leadership resides with the school principal. The school psychologist has the specific function of conducting a mental health assessment of students who make very serious substantive threats. The purpose of this assessment is twofold: (a) to determine if the student has mental health treatment needs associated with the threat (e.g., a student is psychotic or suicidal and in need of immediate treatment); and (b) to gather information about the student's motives in making the threat, so that the team might identify strategies for reducing the risk of violence (e.g., resolving a peer dispute or identifying a bully-victim relationship). This function was carefully delineated in order to prevent situations in which school psychologists might be asked to undertake evaluations that go beyond typical expertise and training (Morrison, Furlong, & Morrison, 1994).

The training for this project emphasized that the mental health assessment conducted by the school psychologist is not intended to render a prediction whether the student will or will not commit a violent act. The prediction

of violence is a complex and uncertain task, and communications about violence risk are easily misstated or misinterpreted (Borum, 1996). Although there is evidence that clinicians can make reasonably accurate short-term predictions of violence in some situations (Borum, 1996), little is known about the prediction of student violence, particularly in the context of active school intervention aimed at preventing violence (Mulvey & Cauffman, 2001).

A 10-page outline of topics and accompanying questions that the school psychologist should consider in interviewing the student was devised. These topics included a review of the threat and a history of the student's relationship with the intended victims, but also a broader review of the student's mental status, current level of stress, and family relations. Students were to be asked about their access to weapons, their exposure to violence, and their previous involvement in aggressive behavior and bullying as either victims or perpetrators. There were no specific psychological tests for this assessment, but psychologists were advised to make use of specialized tests (e.g., a depression inventory or an anger scale) that are clinically indicated. There were also recommendations for interviewing the student's parents covering a parallel set of topics. The results of the mental health assessment were summarized in a written report prepared for the threat assessment team. There was a report template and a sample report in the training materials.

Staff Training

A training manual was created and a series of training sessions conducted for all principals, assistant principals, psychologists, counselors, and school resource officers in the 35 participating schools in two school divisions. Each training participant received a training manual, *Guidelines for Responding to Student Threats of Violence*¹ (hereafter *Guidelines*). The initial version of the training manual, used in this study, consisted of four sections. The first section was an 18-page description of the threat assessment guidelines that explained each stage of the decision tree and provided short case examples. The second section described the process for conducting a

mental health assessment of students judged to have made very serious substantive threats. This section explained the purpose of the mental health assessment and presented a list of topics to cover in interviewing the student and the student's parents. The section concluded with a report template and a sample report. The third section contained copies of electronic/digital slides used in the training sessions, followed by a short paper entitled "Patterns of youth violence." This paper integrated key points from the FBI report on school shootings (O'Toole, 2000) with the broader research literature on juvenile homicide (Cornell, 1999).

Due to scheduling constraints, training was provided in somewhat different formats for the two school divisions. For the larger school division, consisting of 24 schools, a series of half-day training sessions was held. Separate sessions were held for school principals, assistant principals, school psychologists, and school counselors. School resource officers attended one of the sessions for principals or assistant principals. The session for the school psychologists included staff from both school divisions and covered additional material on the mental health assessment of student threats that was not covered in the other sessions. For the smaller school division (11 schools), individual sessions were held at each school for the school's threat assessment team members. Several weeks later, there was a final 1-hour session held during an annual division-wide training day that brought staff together from all schools. Although the training sessions followed a different schedule in each school division, the same information was presented in both divisions and all participants received the same training manual.

The initial training session for all groups consisted of a presentation that began with the rationale for student threat assessment; this included a review of research on rates of school violence and a summary of the findings and recommendations of the FBI study of school shootings (O'Toole, 2000). Next, the trainers presented a step-by-step review of the *Guidelines*, beginning with the definition of a threat and the steps taken when a threat is reported to school authorities. The *Guidelines* are anchored

by a decision tree that leads from the evaluation of a reported threat to a determination of whether the threat is transient or substantive and, in the case of a substantive threat, to the development of a plan to reduce the risk of violence. The training session reviewed examples of transient and substantive cases, and the steps to follow in response to each type of threat.

After presentation of the decision tree and a review of sample cases, there was a session on legal issues, with particular emphasis on very serious substantive cases. There was a review of the school's legal obligation and authority to maintain school safety, followed by discussion of the circumstances in which school authorities would contact law enforcement, disclose confidential information, and initiate an emergency mental health assessment of a potentially dangerous student.

After the session on legal issues, the participants met in small groups to simulate their responses to a series of practice cases. The group leader presented participants with a hypothetical report of a threat and asked them to identify the first steps they would take in evaluating the threat. The group leader then presented more information about the threat as the group worked its way through the decision tree to the resolution of the threat. After the groups completed three cases, they reconvened in full session to compare and discuss the practice cases. Immediately after this discussion, participants completed a written quiz on their knowledge of the *Guidelines*.

Data Collection

Several procedures were in place to monitor school use of the *Guidelines* and assure reasonable compliance. The superintendents of each school division directed the principals to use the *Guidelines* and the associate superintendents reinforced this expectation in meetings and phone calls. The most common problem observed was that principals would use the *Guidelines* to resolve a student threat, but delay completing the paperwork needed to document the case. School principals reported cases by completing an electronic form at a secure website maintained by the researchers. This form served the dual purpose of provid-

ing schools with printed documentation of their response to a student threat and informing researchers of a new case, so that they could follow up with the principal.

The website form provided an additional check on school compliance with the *Guidelines*, because the form required principals to identify key information about the threat and report what actions had been taken. The form collected demographic information (age, gender, grade, race) on the student who made the threat and the intended threat victim and provided space for a description of the threat incident and the classification of the threat as transient or substantive. The form also presented a checklist of actions taken in response to the threat (e.g., suspending or expelling the student, assigning detention, contacting police).

A graduate student research liaison was assigned to each school and remained in contact with the school principals over the course of the school year. The liaison was available to assist team members in interpreting the *Guidelines* and help assure that they were being followed. The liaisons conducted face-to-face follow-up interviews to collect additional case information. Follow-up interviews were conducted for each case on two occasions, during the final weeks of the school year and again the following fall. The average follow-up period from the date of the threat incident to the principal interview at the end of the school year was 148 days (range 3 to 282 days). The second follow-up interview occurred an average of 424 days after the threat incident.

In the follow-up interviews, researchers asked the school principals to describe the threat incident and what actions they took in response to the incident. Principals were asked whether the student carried out the threat and whether the student's relationship with the threat recipient was improved, about the same, or worse than prior to the threat. They were asked to rate the student's overall behavior at school after the incident as improved, about the same, or worse than prior to the threat.

Researchers were given an electronic data file extracted from the school's record of all disciplinary infractions for the school year. The file contained the disciplinary infractions

recorded for each student who made a threat and for a matched comparison group from each school. The comparison group consisted of students who had not made threats, selected at random from the homerooms of each student who made a threat. The comparison students were matched to students who made threats on gender, race, and grade level. Disciplinary infractions were grouped into violent incidents (such as fighting and battery), disorderly conduct (such as disrespect, using obscene language or gestures, and insubordination), and other incidents (such as vandalism, tardiness, and truancy).

Results

Description of Student Threats

There were 188 threats documented by school principals during the school year. Grade level, gender, and race (Caucasian versus non-Caucasian) for students who made threats and their intended victims were examined. Students at all grade levels made threats, as reported in Table 1. In 16 cases, a student made more than one threat, but for purposes of this study, each threat incident was treated as a separate case. Most of the victims of threats were other students (143), but there were 23 teachers, 6 other school staff members, and 16 cases involving multiple or nonspecific victims (e.g., "blow up the school"). In the 143 cases of a student threatening another student, the students tended to be in the same grade level; there were 23 cases in which a student threatened a student in a lower grade, 105 threats of students in the same grade, and 15 threats of students in a higher grade.

There were 146 threats made by boys and 42 by girls. Excluding 22 cases where a student threatened both a male and female victim, students tended to threaten persons of the same sex; in 84 cases (51%) boys threatened other males, in 44 cases (27%) boys threatened females, in 22 cases (13%) girls threatened other females, and in 16 cases (10%) girls threatened males. Gender concordance was 64%, $\kappa = .19, p < .01$.

There were 103 threats made by Caucasian students and 85 by non-Caucasian students. Excluding 20 cases where a student threatened victims of multiple races, students

tended to threaten persons of the same race category (70%), $\kappa = .40, p < .001$. In 76 cases (45%) Caucasian students threatened other Caucasians, in 16 cases (10%) Caucasians threatened non-Caucasian or minority students, in 34 cases (20%) minority students threatened Caucasians, and in 42 cases (25%) minority students threatened other minority students.

The most common threat was to hit or beat up the victim (77 cases, 41%). In addition, there were 27 threats to kill, 24 threats to shoot, and 18 threats to cut or stab. There were 32 cases in which the threat was vague or nonspecific ("I'm going to get you"), and 10 miscellaneous other threats, such as setting fires or detonating bombs.

Disciplinary Consequences

In 188 threat cases, only 3 students were expelled from school. The first case involved a sixth grade boy who was expelled after picking up a pair of scissors and threatening to stab a classmate. The second student was an eighth grade girl who was expelled for telling a classmate that she was going to shoot him. In the third case, a ninth grade girl was expelled after threatening to stab another student and found to have a knife in her locker. In each case, the decision to expel the student was based on consideration of the student's prior discipline infractions, as well as their behavior in making the threat.

Students were suspended from school in 94 (50%) cases. The modal suspension (32 cases) was 1 day, with a range of 1 to 10 days. In most cases, students were suspended from school as a disciplinary consequence determined by the school principal. In cases judged to be very serious substantive threats, students were suspended automatically according to the *Guidelines*. During this suspension, the school threat assessment team conducted a safety evaluation to determine whether it was safe for the student to return to school, and if not, what alternative educational arrangements would be appropriate. Out of 188 cases, only 12 students were placed in an alternative educational setting. This decision was not based solely on the threat incident, but took into consideration the student's entire disciplinary history and academic record.

Follow-up Reports

At the end of the school year school principals were interviewed to obtain follow-up information on each threat case in their school. In order to extend the follow-up period, each principal was interviewed a second time the following fall. Because of Institutional Review Board restrictions, no effort was made to contact students involved in the threats. School principals were asked three basic questions: (a) How has the student's behavior changed since the threat assessment? (b) How has the student's relationship with the threat recipient changed? and (c) Did the student carry out the threatened act of violence? In some cases, the principal did not feel he or she had sufficient information to answer the question (for example, if the student left school). In most cases ($n = 176$), the student's behavior was rated as improved (43%) or the same (39%), and in only 18% of cases did the student's behavior worsen. Principals rated the student's relationship with the threat recipient in 126 cases (excluding cases in which the principal did not feel sufficiently informed or the student did not threaten a specific individual). In nearly two-thirds (63%) of cases, the relationship was judged to be the same, in about one-third (32%) of cases it was improved, and in only 6 cases (5%) it was judged to be worse.

Perhaps the most critical question was whether the student carried out the threatened act of violence. According to the principals, none of the threats were carried out. (Data were available for 185 student threats; in three cases the principal was not sure if a student's threat to hit another student was carried out.)

Comparison of Transient and Substantive Threats

Of the 188 threat cases, 131 (70%) were judged by school authorities to be transient and 57 (30%) were judged to be substantive. The frequency of transient and substantive threats for each grade level is reported in Figure 1. Using school enrollment data, the rate of threats per 1,000 students for elementary, middle, and high schools was calculated. For transient threats, the rate was 11.33 per 1,000 students

(90% confidence interval 9.24 to 13.90) for elementary school, 11.97 (confidence interval 8.84 to 16.15) for middle school, and 6.73 (4.77 to 9.46) for high school. For substantive threats, the rate was 2.10 per 1,000 students (confidence interval 1.30 to 3.38) for elementary school, 7.86 (5.44 to 11.36) for middle school, and 4.27 (2.80 to 6.51) for high school.

A chi-square test comparing elementary, middle, and high schools in type of threat was statistically significant, $\chi^2(1, N=188) = 16.41$, $p < .001$; contingency coefficient $C = .28$. At the elementary school level, only 15% (13 of 86) of threats were substantive, whereas at the middle and high school levels, the proportion of substantive threats was much higher, 41% (25 of 61) and 44% (18 of 41), respectively.

Transient and substantive cases in the gender and race of both the student who made the threat and the recipient or victim of the threat were compared. Male students made the majority of both transient (104 of 132, 79%) and substantive (42 of 56, 75%) threats; the association between gender and threat type was not statistically significant, $\chi^2(1, N=188) = .33$, $p = .57$. Minority students made 51% (67 of 132) of transient threats and 41% (23 of 56) of substantive threats, $\chi^2(1, N=188) = 1.48$, $p = .22$.

Males were recipients of 60% (73 of 121) of transient threats and 60% (27 of 45) of substantive threats, $\chi^2(1, N = 166) = .01$, $p = .97$. (The N was 166 because some cases involved both male and female victims.) Minority students were recipients of 40% (53 of 132) of transient threats and 45% (25 of 56) of substantive threats, $\chi^2(1, N=188) = .33$, $p = .57$.

The next analyses compared transient and substantive cases in disciplinary consequences. All 3 students who were expelled from school made substantive threats. Students who made substantive threats (45 of 56 cases, 80%) were more likely to be suspended from school than were students who made transient threats (49 of 132 cases, 37%), $\chi^2(1, N=188) = 29.40$, $p < .001$, $C = .37$. Students who made transient threats (16 of 132 cases, 12%) received more after-school detentions than students who made substantive threats (2 of 54 cases, 4%), but the difference was not statistically significant, $\chi^2(1, N=188) = 3.32$, $p = .068$. Similarly, stu-

dents (22 of 132 cases, 17%) who made transient threats were more likely to receive an in-school detention or time-out than students who made substantive threats (3 of 56 cases, 5%); this difference was statistically significant, $\chi^2(1, N=188) = 4.36, p = .037, C = .15$.

Finally, principals' ratings of student behavior during the remainder of the school year were examined. Principals rated the student's behavior as improved, about the same, or worse during the remainder of the school year following the threat. The ratings for students who made transient threats (51 improved, 57 same, 16 worse) indicated more positive behavior than for the students who made substantive threats (25 improved, 12 same, 15 worse), $\chi^2(1, N=176) = 10.59, p = .005, C = .24$. Similarly, when principals rated the student's relationship with the threat recipient, the ratings for transient cases (31 improved, 57 same, 1 worse) were more positive than for substantive cases (9 improved, 23 same, 5 worse), $\chi^2(1, N=126) = 9.35, p = .009, C = .26$.

Discussion

This field-test study was intended to demonstrate the viability of threat assessment as a school-based procedure for responding to student threats of violence. School administrators were trained to lead threat assessment teams composed of school psychologists, counselors, and resource officers. The teams used a decision tree to distinguish between transient threats that could be quickly resolved and sub-

stantive threats that required protective action. Substantive threats were classified as serious if they involved a threat of assault and very serious if they involved a threat of felonious assault that could result in severe injury or death to the victim. In very serious cases, students were referred for a mental health assessment designed to gain insight into the reasons for the student's threat and to identify strategies for reducing the risk of violence.

Threat assessment teams consisted of a principal, a school psychologist, a school resource officer, and a school counselor. Conceivably, team roles can be adapted to match the resources available in each school, but it was found that this arrangement worked well. A more detailed rationale for team roles is presented elsewhere (Cornell et al., in press). The teams were led by the principal or by an assistant principal designated with responsibility for student discipline. The team leader conducts the initial assessment of the threat to determine whether the threat should be classified as transient or substantive and then engages other team members as needed.

The school resource officer is contacted in an emergency, in substantive cases, or whenever a student's threat raises concern about a legal violation. In Virginia, threats can be legal violations if they put the victim in fear. In most cases, however, a school resource officer will not seek charges against a student unless there are additional accompanying violations, such as illegal possession of a weapon or bat-

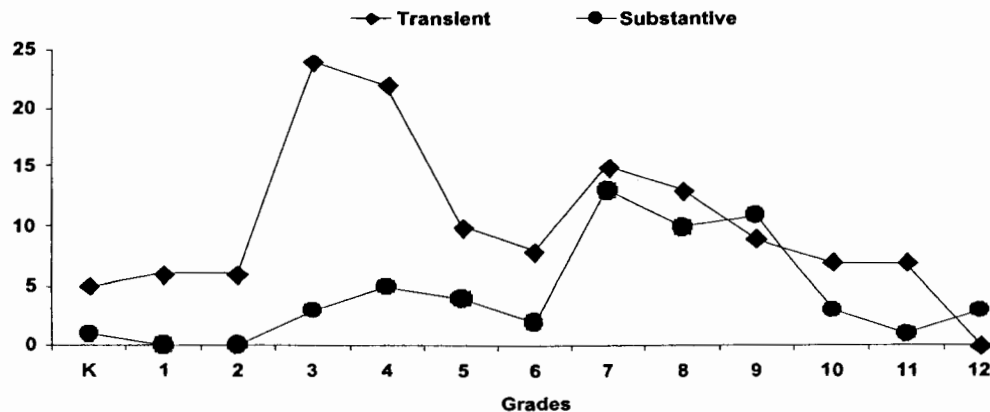


Figure 2. Number of transient and substantive threats for each grade level.

tery of the victim. Beyond law enforcement functions, the school resource officer assists in prevention efforts by monitoring students who have made threats and by warning and counseling students about conflicts that engendered threats. For example, in a number of cases the student who made a threat complained that he or she was being bullied by other students. The school resource officer became involved in making sure that the bullying did not continue.

In many cases, the school psychologist served as a consultant to the principal, clarifying the *Guidelines* and helping to identify indications that a threat was transient or substantive. This role is consistent with the view that school psychologists should have a central role in school violence prevention efforts (Cole, 2003; Furlong, Morrison, & Pavelski, 2000). The school psychologist becomes most fully involved in very serious substantive cases. The school psychologist should be notified immediately in such cases so that he or she can begin a mental health assessment of the student. It should be emphasized that this assessment is not designed to predict whether the student will carry out the threat, but has different objectives. The immediate objective is to determine if the student has mental health treatment needs that require services such as hospitalization or referral for other mental health treatment. School psychologists routinely engage in these kinds of evaluations when a student threatens suicide or is referred for immediate evaluation in a crisis situation, and increasingly they are asked to conduct some form of assessment of potentially dangerous students (Barnhill, 2003; Sandoval & Brock, 1996).

The school psychologist's secondary objective is to ascertain as much information as possible about the reasons for the student's threat, so that a plan can be formulated by the team to address the problems or concerns that underlie the threat. This objective can be understood as a *risk reduction* or *risk management* approach, as distinguished from purely a prediction approach (Heilbrun, 1997). This objective is consistent with the school psychologist's role, specifically in planning violence prevention programs (Furlong et al., 2000; Furlong, Paige, & Osher, 2003) and more

generally in conducting a functional behavioral assessment and developing behavior intervention plans to address problems in a student's relationships with others (Drasgow & Yell, 2001). These two objectives—identification of immediate treatment needs and development of a threat reduction plan—are consistent with school psychology training and practice, and so capitalize on the school psychologist's strengths and expertise (Cole, 2003; Furlong et al., 2000).

The school counselor is usually involved in counseling the student or providing other services—such as conflict mediation or resolution of bullying. In some cases, the counselor was the direct provider of these services and in other cases, the counselor facilitated services provided by others and monitored the student. It is recommended that threat assessment teams make use of well-established violence intervention programs as part of a comprehensive, school-wide approach (Nelson, 1996; Sprague et al., 2001; Walker & Epstein, 2001; Wilson et al., 2003).

The most extensively studied programs to reduce student violence are designed to enhance students' social competence (Wilson et al., 2003). A typical social competence program includes lesson plans to teach students how to resolve peer conflicts. Such lessons may use role-playing and demonstration exercises, and engage students in practicing communication skills such as how to deflect criticism and assert their opinions in a nonprovocative manner. An excellent example of a social competence program is the Second Step program described by Frey, Hirschstein, and Guzzo (2000) and used by Sprague et al. (2001). Some social competence programs include a cognitive-behavioral component in which students learn relaxation techniques, practice self-monitoring, or rehearse step-by-step procedures for thinking through problems (Wilson et al., 2003).

Data collected from 35 schools over the course of 1 school year revealed 188 student threats of violence reported to school authorities. These cases involved threats to hit (41%), kill (14%), shoot (13%), stab (10%), or harm someone in some other way (22%). Nevertheless, threat assessment teams demonstrated differential decision making in how they re-

garded these threats and considerable restraint in the disciplinary consequences they imposed. The overwhelming majority of threats (70%) were judged to be transient threats that could be quickly and easily resolved. Only 3 students were expelled from school. School suspension was used in 50% of the cases, with a modal suspension of just 1 day.

Follow-up interviews with school principals (185 of 188 cases) indicated generally positive outcomes from the threat assessment at the end of the school year. Student behavior was judged to be improved in 43% of cases and worse in only 18% of cases. The student's relationship with the intended victim was judged to be improved in 32% of cases and worse in just 5% of cases. Of most importance, the principals reported that none of the threats were carried out.

These positive findings must be tempered by recognition of several limitations. First and foremost, this was a field-test study and not an experimental comparison between different approaches to student threats. There was no comparison group to assess how threats would have been resolved using some other method. A formal comparison with one or more alternative methods would be an appropriate next step, now that the threat assessment model has been devised and field-tested. However, it is noteworthy that any school division following a strict zero tolerance policy for student threats would have had a much higher rate of expulsion.

The finding that none of the threats were carried out is encouraging, but we acknowledge that we relied on the observation of school principals. Although it is conceivable that some threats to hit a classmate were carried out without anyone having reported the incident to school authorities, it is highly unlikely that any of the threatened parties were injured, shot, or stabbed. The absence of violent outcomes in this study is difficult to interpret without knowledge of the base rate for student threats and the likelihood that threats will be carried out, topics that have received little research attention.

Student threats were investigated after they were brought to the attention of school authorities. Several studies have relied upon office referrals as an index of school climate or a marker of effective school discipline (Sprague et al.,

2001; Sugai et al., 2000). However, office referrals do not encompass the full range of students identified by teachers as exhibiting behavior problems warranting intervention (Nelson, Benner, Reid, Epstein, & Currin, 2002).

Anonymous self-report studies do indicate that student threats of violence occur with surprising frequency. Cornell and Loper (1996) reported results from a survey of 10,909 students (Grades 7, 9, and 11) in which more than one-fourth of students replied "yes" to the item "Someone threatened to hurt you at school" in the past 30 days. Singer and Flannery (2000) presented results of three school surveys totaling 9,487 students in three states; they found that among male students, more than one-third of elementary school students and more than one-half of high school students reported threatening someone within the past year. Among female students, more than one-quarter of elementary students and more than one-third of high school students reported making a threat in the past year. More than 10% of all students reported threatening someone frequently ("often" or "almost every day"). These findings suggest that students make far more threats of violence than are reported to school authorities. In the present study, 188 threats were reported in schools with a total enrollment of 16,273. If just 10% of students made a threat at school every month, one could very conservatively expect more than 14,600 threats over the course of the school year. Clearly there is a chasm between the numbers of threats that students report on self-report surveys and the numbers that come to the attention of school authorities for intervention. We do not conclude from this that students are in grave danger due to a multitude of serious, undetected threats. On the contrary, we believe that the pervasiveness of student threats indicates that most threats are not serious. This is a topic worthy of further study.

Singer and Flannery (2000) did not ask students whether they carried out their threats, but they did obtain reports of other aggressive behaviors during the same period. Their findings suggest that threats are linked to other aggressive behavior. Students who reported threatening others were 3 to 4 times more likely

to report aggressive behaviors such as hitting, beating, and attacking with a knife. Notably, high school students who threatened others frequently were nearly 20 times more likely to report beating someone, and 24 times more likely to report attacking someone with a knife, than students who had never threatened anyone. These findings must be tempered by recognition of the limitations of student self-report and the potential for exaggerated student responses (Cornell & Loper, 1998; Furlong, Morrison, Cornell, & Skiba, 2004), but they indicate the need for direct study of student threats, how threats come to the attention of school authorities, and how frequently threats are carried out.

Threat assessment seems to be relevant for elementary, middle, and high schools, because threats were reported in all grade levels. Even substantive threats were identified at all school levels, from kindergarten through 12th grade. As might be expected, transient threats outnumbered substantive threats by about six to one in elementary school; however, for middle and high schools, the proportion of substantive threats was more than 40%. A particular increase in transient threats was noticed at Grades 3 and 4. Anecdotally, school authorities reported that when students reached these grade levels, they began to demonstrate more competitive friendship networks. Students seemed more likely to make threatening remarks to one another in response to rivalries for friendship and peer status. Another spike in threats was observed in middle school, particularly Grades 7 and 8. Middle school principals observed that the increase in threats mirrored a general increase in disciplinary violations in these grades. Similarly, a decline in threats from Grades 9 to 12 is consistent with disciplinary trends in high school.

One implication of the findings in the present study is that students may benefit from instruction about the use of threatening language. Just as air travelers have learned not to make threatening remarks in airports—even in jest—so students may need to learn that threatening statements are taken seriously at school. One middle school invited a juvenile court prosecutor and a police officer to a school assembly, where they explained to students the

legal consequences of threatening others, stalking, assault, and related criminal behavior.

Threat assessment should be clearly distinguished from discipline. Discipline involves punishment for prohibited behavior, whereas the goal of threat assessment is the prevention of future behavior that would harm others. A threatening behavior might deserve serious disciplinary consequences even if the risk of future violence is determined to be negligible. For example, a student who makes a bomb threat may receive serious disciplinary consequences, even though the bomb is nonexistent and the student's behavior was intended only as a prank. Implementation of threat assessment is no substitute for an effective school discipline policy, and ideally should be used in coordination with a proactive and systematic discipline system (Nelson, 1996; Sprague et al., 2001; Sugai et al., 2000).

Transient and substantive threats.

These threat assessment guidelines introduce a distinction between substantive and transient threats. Although this is new terminology, we hoped it would reflect an implicit, practical distinction that school authorities have long made between threats that are considered serious and those that do not appear to communicate a sustained intent to injure someone. Further distinctions were considered, such as between threats that are communicated as jokes, sarcasm, insults, figures of speech, angry rhetoric, and so forth, but a practical advantage was not seen in doing so because for the purposes of threat assessment, the critical issue is whether the threat incident can be resolved immediately or requires that school authorities take protective action and conduct further assessment.

These findings lend support to the construct validity of the transient/substantive distinction, although certainly more study is needed. Students who made transient threats in this study generally exhibited fewer behavior problems during the remainder of the school year than did students who made substantive threats, and principals gave them more positive ratings for their overall behavior and for their relationship with the threat recipient. It is important to study the interpersonal circumstances and student behaviors that help distin-

guish transient and substantive threats, and how students who make a transient threat differ from those who make a substantive threat.

One of the important practical implications of this study is that school authorities need not respond to all threats in the same manner or with the same consequences. Most threatening statements can be addressed as transient threats in which the student retracts the threat and offers an appropriate apology or explanation that resolves the incident. Even in cases of substantive threats, where school authorities have an obligation to take protective action and formulate a plan to prevent an act of violence from occurring, the threat incident can be handled without resorting to expulsion or long-term suspension.

The qualitative distinction between transient and substantive threats shifts the focus of threat assessment away from highly uncertain efforts to quantify the risk of violence along a continuum from 0 to 100% and instead concentrates staff efforts on identifying interventions appropriate to the nature and circumstances of the threat. In essence, transient threats are cases in which the risk of violence after the threat incident is negligible, either because the student never intended to harm someone or some immediate intervention was successful in resolving the conflict or dispute that generated the threat. All cases in which there is a continuing risk of violence are regarded as substantive, and the further distinction between serious and very serious substantive cases is concerned with severity of injury, not a hypothesized likelihood of violence. Whether the risk of violence is 25%, 50%, or some other value, school authorities have a responsibility to take protective actions that are appropriate to the circumstances of the case. Such actions typically include counseling and warning the student, consulting with the school resource officer, and notifying potential victims. The threat assessment team also determines whether there is an appropriate psychological service or behavioral intervention that is reasonably related to the source of the threat or has the potential to reduce the likelihood that the threat will be carried out.

This approach to threat assessment does not preclude the possibility of developing quantitative measures of the risk of student

violence in future research, and using those measures to guide student interventions. However, schools have an immediate need to deal with student threats, and we contend that the distinction between transient and substantive threats has both practical and heuristic value in guiding school responses to student threats.

Future study. There are several directions for future study, beginning with the need for investigation of the rates of reported and unreported student threats. It seems important to learn how students respond to threats, how they determine that a threat is serious, and what factors influence their decision to seek help. Studies of bullying indicate that a large proportion of students do not seek help from adults when they are bullied, although most students do seek help if the bullying continues (Unnever & Cornell, 2004). Evidently, most students do not seek help in response to student threats, perhaps because they do not regard the threat as serious or feel that they can resolve the situation without adult assistance.

More insight is needed into various means of resolving threats that do come to the attention of school authorities. Are there qualitative differences between reported and unreported threats, and do reported threats carry a greater risk of violence? And what methods (e.g., mediation, individual counseling, disciplinary consequences) are most effective for each kind of threat? Schools have an obligation to respond to reported threats, so a "no-response" comparison is not possible. However, it would be useful to compare threat-resolution strategies, recognizing that the critical outcome variables should go beyond whether the threat is carried out, because violent outcomes should be very low in all circumstances. It would be particularly useful to study emotional, social, and academic outcomes for the students who made threats as well as for threat recipients.

Finally, it would be useful to identify the key systems variables that contribute to the successful implementation of a threat assessment program. Our observations lead us to emphasize three factors. First, it is important for the team to have a common base of information about the nature and scope of school violence, and a shared conceptual framework

concerning student threats, to resist fears of school shootings that provoke extreme responses. Second, a multidisciplinary team-oriented approach is helpful for a variety of reasons, including the greater expertise and resources that can be brought to bear on a problem and the increased confidence of decision makers (i.e., school administrators) that they are taking a safe and appropriate course of action. Third, strong administrative leadership in the superintendent's office of each school division is critical in supporting the implementation of a division-wide approach.

In 1994, *School Psychology Review* published a prescient miniseries on school violence (Furlong & Morrison, 1994) several years in advance of the school shootings in Paducah, Jonesboro, Littleton, and other communities that gained nationwide attention and greatly stimulated the use of zero tolerance practices. In retrospect, the miniseries was a useful call for action in school psychology, and anticipated current concerns with topics ranging from bullying to crisis intervention to violence prevention. It is hoped that the positive results of this study will stimulate further work on threat assessment guidelines as a safe and effective means of responding to student threats of violence.

Footnote

¹ The training manual was devised for use when accompanied by direct training in use of the threat assessment guidelines. Based on field-test experiences, the manual was revised to include two dozen case examples that were resolved by threat assessment and a section with answers to frequently asked questions. A more extensive, stand-alone publication is in preparation (Cornell & Sheras, in press).

References

- American Psychological Association. (n.d). Warning signs of teen violence. Retrieved November 15, 2004, from <http://www.apahelpcenter.org/featuredtopics/feature.php?id=38&ch=3>
- Barnhill, M.W. (2003). A national survey of dangerousness assessment practices of school psychologists. *Dissertation Abstracts International*, 64, 1524.
- Borum, R. (1996). Improving the clinical practice of violence risk assessment: Technologies, guidelines and training. *American Psychologist*, 51, 945-956.
- Cole, E. (2003). Violence prevention in schools: Knowledge, skills and interventions. In E. Cole & J. Siegal (Eds.), *Effective consultation in school psychology* (2nd ed., pp. 462-476). Ashland, OH: Hogrefe & Huber.
- Cornell, D. (1999). Child and adolescent homicide. In V. B. Van Hasselt & M. Hersen (Eds.), *Handbook of psychological approaches with violent criminal offenders: Contemporary strategies and issues* (pp. 131-152). New York: Kluwer Academic.
- Cornell, D. G., & Loper, A. B. (1996). *High risk behavior in Virginia schools: A survey of middle and high school students*. Charlottesville: Curry School of Education, University of Virginia.
- Cornell, D. G., & Loper, A. B. (1998). Assessment of violence and other high-risk behaviors with a school survey. *School Psychology Review*, 27, 317-330.
- Cornell, D. G., & Sheras, P. (in press). *Guidelines for responding to student threats of violence*. Longmont, CO: Sopris West.
- Cornell, D., Sheras, P., Kaplan, S., Levy-Elkon, A., McConville, D., McKnight, L., & Posey, J. (in press). Guidelines for responding to student threats of violence: Field test of a threat assessment approach. In M. J. Furlong, P. M. Kingery, & M. P. Bates (Eds.), *Appraisal and prediction of school violence: Context, issues, and methods*. Binghamton, NY: Haworth Press.
- Drasgow, E., & Yell, M. L. (2001). Functional behavioral assessments: Legal requirements and challenges. *School Psychology Review*, 30, 239-251.
- Dwyer, K., Osher, D., & Warger, C. (1998). *Early warning, timely response: A guide to safe schools*. Washington, DC: U.S. Department of Education.
- Fein, R., Vossekuil, B., Pollack, W., Borum, R., Modzeleski, W., & Reddy, M. (2002). *Threat assessment in schools: A guide to managing threatening situations and to creating safe school climates*. Washington, DC: U.S. Secret Service and Department of Education.
- Frey, K., Hirschstein, M., & Guzzo, B. (2000). Second Step: Preventing aggression by promoting social competence. *Journal of Emotional and Behavioral Disorders*, 8, 102-112.
- Furlong, M., Morrison, G., Cornell, D., & Skiba, R. (2004). Methodological and measurement issues: Moving beyond the social problem era of school violence research. *Journal of School Violence*, 3, 5-12.
- Furlong, M. J., & Morrison, G. M. (1994). Introduction to mini-series: School violence and safety in perspective. *School Psychology Review*, 23, 139-150.
- Furlong, M. J., Morrison, G. M., & Pavelski, R. (2000). Trends in school psychology for the 21st century: Influences of school violence on professional change. *Psychology in the Schools*, 37, 81-90.
- Furlong, M. J., Paige, L. Z., & Osher, D. (2003). The Safe Schools/Healthy Students (SS/HS) Initiative: Lessons learned from implementing comprehensive youth development programs. *Psychology in the Schools*, 40, 447-456.
- Heilbrun, K. (1997). Prediction versus management models relevant to risk assessment: The importance of legal decision-making context. *Law and Human Behavior*, 21, 347-360.
- Morrison, G. M., Furlong, M. J., & Morrison, R. L. (1994). School violence to school safety: Reframing the issue for school psychologists. *School Psychology Review*, 23, 236-256.

- Mulvey, E. P., & Cauffman, E. (2001). The inherent limits of predicting school violence. *American Psychologist, 56*, 797-802.
- National School Safety Center. (1998). *Checklist of characteristics of youth who have caused school-associated violent deaths*. Westlake Village, CA. Retrieved January 29, 2003 from <http://www.nsscl.org>
- Nelson, J. (1996). Designing schools to meet the needs of students who exhibit disruptive behavior. *Journal of Emotional and Behavioral Disorders, 4*, 147-161.
- Nelson, J., Benner, G., Reid, R., Epstein, M., & Currin, D. (2002). The convergent validity of office discipline referrals with the CBCL-TRF. *Journal of Emotional and Behavioral Disorders, 10*, 181-188.
- Osher, D., Dwyer, K., & Jackson, S. (2004). *Safe, supportive, and successful schools step by step*. Longmont, CO: Sopris West.
- O'Toole, M. E. (2000). *The school shooter: A threat assessment perspective*. Quantico, VA: National Center for the Analysis of Violent Crime, Federal Bureau of Investigation.
- Reddy, M., Borum, R., Berglund, J., Vossekuil, B., Fein, R., & Modzeleski, W. (2001). Evaluating risk for targeted violence in schools: Comparing risk assessment, threat assessment, and other approaches. *Psychology in the Schools, 38*, 157-172.
- Ryan-Arredondo, K., Renouf, K., Egyed, C., Doxey, M., Dobbins, M., Sanchez, S., & Rakowitz, B. (2001). Threats of violence in schools: The Dallas Independent School District's response. *Psychology in the Schools, 38*, 185-196.
- Sandoval, J., & Brock, S. (1996). The school psychologist's role in suicide prevention. *School Psychology Quarterly, 11*, 169-185.
- Sewell, K. W., & Mendelsohn, M. (2000). Profiling potentially violent youth: Statistical and conceptual problems. *Children's Services: Social Policy, Research, and Practice, 3*, 147-169.
- Singer, M. I., & Flannery, D. J. (2000). The relationship between children's threats of violence and violent behaviors. *Archives of Pediatric and Adolescent Medicine, 154*, 785-790.
- Sprague, J., Walker, H., Golly, A., White, K., Myers, D., & Shannon, T. (2001). Translating research into effective practice: The effects of a universal staff and student intervention on indicators of discipline and school safety. *Education & Treatment of Children, 24*, 495-511.
- Sugai, G., & Horner, R. (1994). Including students with severe behavior problems in general education settings: Assumptions, challenges, and solutions. In J. Marr, G. Sugai, & G. Tindal (Eds.), *The Oregon conference monograph* (Vol 6., pp. 102-120). Eugene: University of Oregon.
- Sugai, G., Sprague, J., Horner, R., & Walker, H. (2000). Preventing school violence: The use of office discipline referrals to assess and monitor school-wide discipline interventions. *Journal of Emotional and Behavioral Disorders, 8*, 94-101.
- Unnever, J., & Cornell, D. (2004). Middle school victims of bullying: Who reports being bullied? *Aggressive Behavior, 30*, 373-388.
- Vossekuil, B., Fein, R. A., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States*. Washington, DC: U.S. Secret Service and U.S. Department of Education.
- Vossekuil, B., Reddy, M., Fein, R. A., Borum, R., & Modzeleski, W. (2000). *United States Secret Service Safe Schools Initiative: An interim report on the prevention of targeted violence in schools*. Washington, DC: U.S. Secret Service, National Threat Assessment Center.
- Walker, H., & Epstein, M. (Eds.). (2001). *Making schools safer and violence free: Critical issues, solutions, and recommended practices*. Austin, TX: PRO-ED.
- Wilson, S. J., Lipsey, M. W., & Derzon, J. H. (2003). The effects of school-based intervention programs on aggressive behavior: A meta-analysis. *Journal of Consulting and Clinical Psychology, 71*, 136-149.

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Threats of Violence by Students in Special Education

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ABSTRACT: We compared threats of violence made by K–12 students in special education (120 cases) or general education (136 cases) in schools that were implementing threat assessment guidelines for managing student threats of violence (Cornell, Sheras, Kaplan, McConville, Posey, Levy-Elkon, et al., 2004; Cornell & Sheras, in press). Students in special education made disproportionately more threats, as well as more severe threats, than peers in general education. Students classified as emotionally disturbed (ED) exhibited the highest threat rates. Nevertheless, use of school suspension as a disciplinary consequence for threats was consistent for students in special and general education, and few students were expelled. Our findings support the use of threat assessment to manage threats of violence by students in special education.

■ Based on its study of school shooting incidents, the Federal Bureau of Investigation (FBI; O’Toole, 2000) advised schools to abandon efforts to develop profiles of potentially violent students and instead to focus intervention efforts on students who communicate explicit threats of violence. Similarly, a joint report of the U.S. Secret Service and the U.S. Department of Education recommended that schools establish threat assessment teams (Fein, Vossekuil, Pollack, Borum, Modzeleski, & Reddy, 2002). In response to these recommendations, the Virginia Youth Violence Project at the University of Virginia developed detailed practice guidelines for schools to use in conducting threat assessments (Cornell & Sheras, in press). These guidelines were successfully field-tested in 35 schools for one academic year (Cornell, Sheras, Kaplan, McConville, Posey, Levy-Elkon, et al., 2004). The purpose of the present study is to compare the threat behaviors of students receiving special education services and students in general education programs in schools that use these threat assessment guidelines.

Students receiving special education services incur a disproportionate number of school discipline infractions (Skiba, Peterson, & Williams, 1997; Wright & Dusek, 1998). For example, Skiba et al. found that 38.6% of a middle school’s office referrals for discipline violations were for students in special education, even though only 15.6%

of the school’s population received special education services. Wright and Dusek found that in a sample of 230 discipline referrals for aggression collected over a two-year period in an elementary school, an average of 26% of students in special education had at least one referral for aggression per year versus only 8% of students in general education.

Students with disabilities are also more likely to receive out-of-school suspensions for endangering others and bringing weapons to school than are nondisabled peers (Rose, 1988). The 1994 Gun-Free Schools Act mandated that schools implement a one-year expulsion, with provisions for a shortened exclusionary period on a case-by-case basis, for any student in possession of a weapon on school grounds. Although the mandated federal report does not include the number of students with disabilities who are expelled, it does provide data on the disability status of those who receive a shortened expulsion. During the 2000–2001 school year, students with disabilities represented 28% of the shortened expulsions under the act (U.S. Department of Education, 2003).

Morrison and D’Incau (1997) found that students with disabilities received recommendations for expulsion at nearly twice the expected rate over a two-year period in a school district that implemented a zero-tolerance policy. The authors attributed several risk factors to the 158 students recommended for expulsion, including below-average grades

and achievement scores and truancy. In particular, records of students with disabilities often identified chronic emotional and family problems beginning at early ages. Although the authors did not conclude that the students with disabilities were unfairly treated under the school's discipline policy, they stated that these students' overrepresentation in the sample recommended for expulsion should not come as a surprise, given the academic and emotional challenges they faced.

Furthermore, McFadden, Marsh, Price, and Hwang (1992) reported differences in the administration of punishment to students with and without disabilities for equivalent offenses. A higher proportion of students with a disability (56%) received corporal punishment for fighting than students without a disability (36%). In fact, corporal punishment was the most common consequence for misbehavior by students with disabilities (40%). Students with disabilities (18%) were less likely to receive in-school suspension for defiance of school authority than were nondisabled peers (45%). The authors concluded, "Commission of the most common school offenses would more likely result in corporal punishment for the handicapped and internal suspension for the non-handicapped" (p. 247).

Zero-tolerance policies are intended as a means of protecting students from threatening or potentially dangerous behavior, but in practice such policies can result in harsh punishment for seemingly minor infractions such as accidentally bringing a plastic knife or toy gun to school (Skiba & Peterson, 1999). For instance, a second grader was suspended and sent to an alternative school for one month for bringing to "show and tell" a watch attached to a one-inch pocketknife (Skiba & Peterson, 1999). Another school division implemented a zero-tolerance policy for all use of threatening statements but had to repeal the policy when it led to 50 suspensions in a period of six weeks, largely of students from kindergarten through third grade (Zernike, 2001). The widespread use of zero-tolerance policies poses particular risk for students whose disabling condition might predispose them to engage in impulsive behavior or make rash statements that are interpreted as threats.

Special Education Classification

Among students in special education,

several groups appear to experience higher rates of disciplinary violations. Students who suffer from an emotional disturbance are particularly at risk for discipline violations (McFadden et al., 1992; Conroy, Katsiyannis, Clark, Gable, & Fox, 2002) and often receive harsh punishments for their infractions (Skiba et al., 1997). Research has also shown that students who receive special education services for learning disabilities (LD) also have elevated rates of disciplinary infractions (McFadden et al., 1992; Skiba et al., 1997; Sprague, Walker, Stieber, Simonsen, Nishioka, & Wagner, 2001). Children diagnosed with attention deficit-hyperactivity disorder (ADHD), who may receive services under the other health impaired (OHI) classification, have significantly greater rates of disciplinary violations, suspensions, and expulsions than other students (Barkley, Fischer, Edelbrock, & Smallish, 1990; Murphy & Barkley, 1996). Although these studies identify special education classifications with a higher rate of disciplinary violations, no study has investigated the frequency of threats of violence and the associated disciplinary consequences for these threats.

Discipline and Special Education

What is an appropriate response to a student in special education who has made a threat of violence? According to the Individuals with Disabilities Education Act (IDEA Amendments, 1997) and the Office of Special Education Programs (OSEP), disciplinary decisions for students in special education require that "there must be a balanced approach to the issue of discipline of students with disabilities that reflects the need for orderly and safe schools and the need to protect the right of students with disabilities to a free and appropriate public education" (OSEP, 1997).

Difficulties in maintaining a balance between school safety and the student's right to a free and appropriate public education have led to confusion and frustration for many school administrators in deciding on appropriate disciplinary consequences for students in special education (Skiba, 2002; Taylor & Baker, 2002). A student with a disability cannot receive standard disciplinary consequences for behavior that is a manifestation of his or her disability. Skiba cited the lack of available measures for the purpose of manifestation determination decisions as a flaw in the IDEA

disciplinary requirements. Skiba observed that some school authorities feel that IDEA deprives “schools and school districts of tools—school suspension and expulsion—needed to ensure school discipline” (p. 87).

Threat Assessment

Threat assessment is an approach to violence prevention originally developed by the U.S. Secret Service based on studies of persons who attacked or threatened to attack public officials (Fein, Vossekuil, & Holden, 1995). Threat assessment has evolved into a standard approach to analyze many different dangerous situations, such as threats of workplace violence, and more recently, school violence (Reddy, Borum, Berglund, Vossekuil, Fein, & Modzeleski, 2001). A threat assessment is conducted when a person (or persons) threatens to commit a violent act or engages in behavior that appears to threaten an act of violence. Threat assessment is a process of evaluating the threat and the circumstances surrounding the threat to uncover any facts or evidence that indicate the threat is likely to be carried out.

Threat assessment differs from a zero-tolerance approach because of its emphasis on the context and meaning of the student’s behavior. For example, under a zero-tolerance approach, a student would be disciplined for any possession of a weapon, regardless of the reason or circumstances of the behavior. Under a threat-assessment approach, however, school authorities would consider the reason why the student had a weapon, the danger posed by the weapon, and what the student intended to do with it. Threat assessment distinguishes toy guns from real guns and unintentional possession of a weapon from use of a weapon to threaten or intimidate someone (Cornell & Sheras, in press). Threat assessment may be particularly relevant for students in special education who make threats of violence, because administrators are guided to make informed disciplinary decisions based on a careful review of the details and context in which the threat occurred. In contrast, a zero-tolerance policy would impose harsh penalties without consideration of the context and meaning of the behavior, and it thus runs the risk of punishing a disabled student for behavior that is a manifestation of his or her disability.

A literature search identified only one study reporting the frequency of threats made by

students receiving special education services. Ryan-Arredondo, Renouf, Egyed, Doxey, Dobbins, Sanchez, et al. (2001) reported on the implementation of a risk assessment instrument in the Dallas Independent School District. The authors examined the results of 139 threats, of which 27% were made by students receiving special education services. Presumably, the proportion of threats made by students receiving special education services was higher than the proportion of such students in the school population, although this comparison was not reported. Of those students receiving special education services, 42% were classified ED and 34% LD.

The current study addressed four main questions: (1) Do students in special education make threats more frequently than students in general education? (2) Do students in special education make different kinds of threats than students in general education? (3) Do students in special education and general education receive different disciplinary consequences for their threats? (4) How do students in special and general education differ in their postthreat behavior?

Method

Participants

The core sample for this study was obtained from two school divisions participating in the original demonstration project to field-test threat assessment guidelines (Cornell, Sheras, Kaplan, Levy-Elkon, McConville, McKnight, et al., 2004). These school divisions consisted of 35 schools (22 elementary, 6 middle, 4 high, and 3 alternative schools) with a total student population of 16,273 students, of which 71% were Caucasian, 22% African American, and 7% other groups. Approximately 26% of the students were eligible for free or reduced-price meals. The two school divisions together served a small city and the surrounding county in central Virginia with a combined population of 129,000.

As described in detail elsewhere (Cornell, Sheras, Kaplan, Levy-Elkon et al., 2004; Cornell, Sheras, Kaplan, McConville et al., 2004), each school had a threat assessment team consisting of the school principal or assistant principal who led the team, the school’s resource officer or a liaison police officer, a school psychologist, and a school counselor. A threat was defined

as any communication of intent to harm someone. Threats could be spoken, written, or expressed through gestures or possession of a weapon. Threats could be made directly to an individual or expressed to third parties. Whenever school authorities learned that a student had threatened to harm someone, the team leader began a threat assessment and documented the case on a standard form (described in a subsequent section).

The 35 team leaders reported 188 threats of violence during the school year. As shown in Table 1, boys made 78% ($n = 146$) of the threats and girls made 22% ($n = 42$). In addition, Caucasian (55%) and African American (43%) students made nearly all threats; a small number were made by students of Hispanic (1%) and other (1%) ethnic backgrounds.

To ensure a sufficiently large sample of threats from students receiving special education services, we supplemented the core sample with 68 cases collected over the next two years from the two original school divisions and two additional Virginia school divisions that received threat assessment training. These additional divisions consisted of 14 schools, of which 6 (1 high school, 3 middle schools, and 2 elementary schools) participated in reporting of threats. In these school divisions, 70% of the students were Caucasian, 28% were African American, and 2% were from other ethnic backgrounds. Thirty-nine percent of students received free and reduced-price lunch.

After the initial field-test year, schools were not required to document and report all student threats to the researchers, and as a result, some school principals did not participate in the reporting process. For this reason, the threats obtained in the supplemental sample were not included in analyses intended to measure the rate of threats relative to the general school population. The supplemental cases (also in Table 1) involved 53 boys and 15 girls, with an ethnic breakdown of Caucasian (68%), African American (28%), Hispanic (3%), and other (1%) ethnic backgrounds.

Measures

Threat ratings. Threats were coded for seriousness and content. On receiving a report of a student threat of violence, the team leader interviewed the student who made the threat and all available witnesses, guided by a standard set of questions. The team leader then prepared a written summary of the threat

and completed a checklist of actions taken in response to the threat (Cornell & Sheras, in press). Based on this initial investigation, the team leader made an important distinction between threats that are serious, in the sense that they pose a continuing risk or danger to others, and those that are not serious, because they are readily resolved and do not pose a continuing risk. Threats that were not serious and were readily resolved were classified as transient threats. Serious threats were called substantive threats.

Transient threats are defined as behaviors that can be readily identified as expressions of anger or frustration—or perhaps inappropriate attempts at humor—but that dissipate quickly when the student has time to reflect on the meaning of what he or she has said. The most important feature of a transient threat is that the student does not have a sustained intention to harm someone. In contrast, substantive threats represent a sustained intent to harm someone beyond the immediate incident during which the threat was made. If there is doubt whether a threat is transient or substantive, the threat is regarded as substantive. Substantive threats were further classified as serious if they involved a threat to assault or beat up someone and very serious if they involved a threat to kill, use a weapon, severely injure, or rape someone.

Threat content was coded by the researchers with six categories: threats to kill, hit, shoot, or stab, vague threats in which the intended action was unclear (e.g., “you’d better watch your back”), and other threats (e.g., bomb threats) that did not fall into one of the first five categories.

Follow-up information. Discipline records were available for 184 out of 188 cases in the core sample, but not for the supplemental sample. Because schools used somewhat different discipline categories, we classified infractions into four categories: violence/weapons (e.g., fighting, battery, weapon possession), disorderly conduct (e.g., disrespect, using obscene language or gestures), bullying (e.g., bullying, threats, harassment), and other (e.g., tardiness, truancy, vandalism, drug/alcohol use). Schools also reported whether the student received a suspension (or expulsion) from school for the threat.

For cases in the core sample, research assistants conducted follow-up interviews with principals at the end of the school year. Principals were asked to rate each student’s behavior as improved, about the same, or worse

TABLE 1
Demographic Information

	<i>Core sample (n=188)</i>	<i>Supplemental sample (n=68)</i>	<i>Full sample (n=256)</i>	χ^2
Age				
Range	5 to 18	5 to 17	5 to 18	
Mean (SD)	11.6 (3.1)	11.8 (2.8)	11.6 (3.0)	
Race				
Caucasian	103 (55%)	46 (68%)	149 (58%)	6.2
African American	81 (43%)	19 (28%)	100 (39%)	
Hispanic	2 (1%)	2 (3%)	4 (2%)	
Other	2 (1%)	1 (1%)	3 (1%)	
Gender				
Male	146 (78%)	53 (78%)	199 (78%)	0.0
Female	42 (22%)	15 (22%)	57 (22%)	
Education status				
General education	95 (50.5%)	41 (60%)	136 (53%)	1.9
Special education—all	93 (49.5%)	27 (40%)	120 (47%)	
Classification				
ED	46	14	60	
LD	21	9	30	
OHI	16	4	20	
Other	10	0	10	
School level				
Elementary	86 (46%)	26 (38%)	112 (44%)	1.2
Middle	61 (33%)	25 (37%)	86 (34%)	
High	41 (21%)	17 (25%)	58 (22%)	
Grade				
K	5 (2.7%)	2 (2.9%)	7 (2.7%)	
1	6 (3.2%)	0 (0%)	6 (2.3%)	
2	7 (3.7%)	5 (7.4%)	12 (4.7%)	
3	27 (14.4%)	3 (4.4%)	30 (11.7%)	
4	27 (14.4%)	3 (4.4%)	30 (11.7%)	
5	14 (7.4%)	12 (17.6%)	26 (10.2%)	
6	10 (5.3%)	4 (5.9%)	14 (5.5%)	
7	27 (14.4%)	8 (11.8%)	35 (13.7%)	
8	24 (12.8%)	13 (19.1%)	37 (14.5%)	
9	19 (10.1%)	8 (11.8%)	27 (10.6%)	
10	11 (5.9%)	7 (10.3%)	18 (7.0%)	
11	8 (4.3%)	2 (2.9%)	10 (3.9%)	
12	3 (1.6%)	0 (0%)	3 (1.2%)	

Note. SD = standard deviation; ED = emotionally disturbed; LD = learning disabled; OHI = other health impaired

after the threat. Principals provided ratings on 94% of cases, omitting cases involving students who had moved, transferred, or for some other reason left school. Principals also provided ratings (improved, same, or worse) of the students' relationship with their victims following the threat in 67% of cases.

Procedure

All schools received approximately six hours of training on the threat assessment guidelines (Cornell, Sheras, Kaplan, Levy-Elkon, et al., 2004; Cornell, Sheras, Kaplan, McConville, et al., 2004). A research assistant assigned to each school provided consultation on the guidelines throughout the school year. School principals reported cases by completing an electronic form at a secure Web

site maintained by the researchers. This form served the dual purpose of providing schools with printed documentation of their response to a student threat and informing researchers of a new case so they could follow up with the principal. The Web site form collected demographic information (i.e., age, gender, grade, race) on the student who made the threat and the intended threat victim and provided space for a description of the threat incident and the classification of the threat as transient or substantive. The form also presented a checklist of actions taken in response to the threat (e.g., suspending the student, contacting parents).

For the core sample, the research assistant conducted two follow-up interviews with the principals—one at the end of the school year and another the following fall. The average follow-up period from the date of the threat incident to the interview with the principal at the end of the school year was 148 days (range 3 to 282 days). The second follow-up interview occurred an average of 424 days after the threat incident. In the follow-up interviews, researchers asked the school principals to describe their response to the threat incident, whether the student carried out the threat, and whether the student's relationship with the threat recipient was improved, about the same, or worse than prior to the threat. They were asked to rate the student's overall behavior at school after the incident as improved, about the same, or worse than prior to the threat.

Results

As shown in Table 1, preliminary analyses found no significant differences between the core and supplemental samples in gender, race, special education status, special education classification, and school level (elementary, middle, and high). Table 1 also contains demographic information for the core, supplemental, and full samples. For the full sample, males committed 78% of threats versus 22% by females. Caucasian (58%) and African American (40%) students committed nearly all threats, with only 2% committed by Hispanic students and 1% by students of other ethnic backgrounds. Grade placement of students committing threats ranged from kindergarten to twelfth grade, with 44% occurring in elementary school, 34% in middle school, and 23% in high school.

Students in general education programs made 53% of threats versus 47% by students in special education. Of those students receiving special education services who committed threats, one-half were classified as ED and one-fourth as LD, with the remaining students having OHI (16%) or other (8%) classifications. Those students with other classifications included six with mental retardation, two receiving solely speech and language services, one with autism, and one with developmental delay.

Threat Rates of Students in General and Special Education Programs

The first question investigated whether students in special education exhibited higher threat rates than general education students. These analyses were conducted on the core sample because it represented all of the threats reported to the participating schools for one school year and because data were available for the size of special education population in these schools. Students in special education committed 49.5% of threats versus 50.5% by students in general education.

Students receiving special education services did not make threats at similar rates. Students with an ED classification were most likely to make threats relative to other students in special education programs. Specifically, although students with an ED classification made up only 10% of the special education population in these schools, they accounted for 50% of the threats made by the special education population. In contrast, students with an LD classification made up 37% of the special education population, yet they only accounted for 23% of the threats made by students receiving special education services.

Students with OHI classifications made up 14% of the special education population and accounted for a similar percentage (17%) of the threats made by students in special education. Students with classifications other than ED, LD, and OHI committed disproportionately fewer threats than would be expected; they constituted 39% of all students receiving special education services, but committed only 11% of the threats made by students in special education.

Comparisons with full school enrollment of the four special education classification groups also revealed disproportionate percentages, particularly for students receiving ED services. Students with an ED classification constituted

only 2% of the student enrollment but made one-fourth (46 of 188) of the threats in the core sample. The percentage of students receiving LD services that made threats (21 of 188, 11%) was closer to their proportion within the student population (6%). Students classified as OHI made 9% (16 of 188) of threats and comprised 2% of the student enrollment. The number of students receiving services for other disabling conditions who made threats (10 of 188, 7%) was consistent with the proportion of these students in the core sample (5%).

Of the 188 reported threats, school officials judged 70% to be transient and 30% substantive. Table 2 shows the threat rate for general and special education students, as well as for ED, LD, and OHI classifications, in threats per 1,000 students. Too few students with other classifications were available to enable calculation of a threat rate. We compared threat rates for students in special education using chi-square and z-test formulas from Glass and Hopkins (1996). Students in special education exhibited a significantly higher total threat rate than general education peers, $z(1, n = 188) = 4.33, p < .0001$. The transient threat rate for students in special education also differed significantly from general education students, $z(1, n = 188) = 2.33, p < .05$, as did the substantive threat rate, $z(1, n = 188) = 6.00, p < .0001$.

There were no statistical differences in

threat content between students in general and special education, $\chi^2(5, n = 169) = 2.81, p > .70$. Overall, the most frequent threat was a threat to hit (41%), followed by an unspecified, vague threat (15%, e.g., "I'm going to hurt you") and a threat to kill (15%).

Students receiving ED services exhibited significantly higher total threat rates than students receiving LD or OHI services, $\chi^2(2, n = 83) = 17.30, p < .001$. Students in ED programs exhibited disproportionately higher rates of both transient, $\chi^2(2, n = 49) = 8.79, p < .05$, and substantive, $\chi^2(2, n = 33) = 8.29, p < .05$, threats. The variances accounted for in total, transient, and substantive threats were 32%, 30%, and 35% respectively. In follow-up analyses, no significant differences existed between students receiving LD and OHI services for total, transient, or substantive threat rates.

In follow-up to the threat rate differences between students in general and special education, we conducted a hierarchical logistic regression analysis to examine whether special education status improved the prediction of principal threat ratings beyond demographics and threat content (see Table 3). At Step 1 we entered student age, gender, race, and threat content, which accounted for 19% of the variance in principal ratings. Age and gender were both statistically significant predictors in this model. At Step 2, special education

TABLE 2
Threat Rates

	<i>Education status</i>		<i>Cohen's Z</i>	<i>Cohen's D</i>	<i>Classification</i>			<i>Cramer's X²</i>	<i>phi</i>
	<i>General education</i>	<i>Special education</i>			<i>ED</i>	<i>LD</i>	<i>OHI</i>		
Total enrollment	13,612	2,788			271	1,028	399		
Total threats	95	93	4.33**	.31	46	21	16	17.30**	.32
Rate per 1,000 students	7/1,000	33/1,000			170/1,000	20/1,000	40/1,000		
Transient threats	76	56	2.33*	.18	26	12	11	8.79*	.30
Rate per 1,000 students	6/1,000	20/1,000			96/1,000	12/1,000	28/1,000		
Substantive threats	19	37	6.00**	.38	20	9	5	8.29*	.35
Rate per 1,000 students	1/1,000	13/1,000			74/1,000	9/1,000	13/1,000		

Notes: School enrollment is based on the total number of students in the two school divisions (35 schools) that participated in the field-test project. χ^2 = chi square; SD = standard deviation; ED = emotionally disturbed; LD = learning disabled; OHI = other health impaired

* $p < .05$ ** $p < .00$

status accounted for an additional 4% of the variance.

Disciplinary Infractions

The next question considered whether students in special education who made threats committed more disciplinary infractions throughout the school year than students in general education. These analyses were limited to the core sample because disciplinary data were not available for the supplemental sample.

A multivariate analysis of variance (MANOVA) comparing students in general and special education on the four disciplinary categories was statistically significant, $f(3) = 5.59, p < .001, \eta^2 = .11$. As shown in Table 4, univariate analyses showed more disciplinary infractions by special education students for three out of four discipline categories. Students in special education committed an average of .87 infractions ($SD = 1.37$) for violence/weapons offenses compared with .37 infractions ($SD = .73$) for general education students, $f(1) = 9.70, p < .01, \eta^2 = .05$. The special education group also committed more disorderly conduct violations ($M = 6.04, SD = 6.64$) than the general education group ($M = 2.95, SD = 4.28$), $f(1) = 14.22, p < .001, \eta^2 = .07$. Likewise, the special education cohort incurred more bullying infractions ($M = 1.10, SD = 1.09$) than general education peers ($M = .82, SD = .75$), $f(1) = 4.20, p < .05, \eta^2 = .02$. There were no statistically significant

differences between the two groups in other disciplinary violations.

A follow-up multivariate analysis of covariance (MANCOVA) tested differences between general and special education students on disciplinary infractions for the 2001–2002 school year using age, threat type, gender, and race as covariates. As shown in Table 5, special education students exhibited significantly higher violent and disorderly conduct infractions. General and special education students no longer differed in bullying infractions.

The next analyses considered whether schools administered more severe disciplinary consequences to students in special education than students in general education within the full sample. No statistical differences existed in school use of suspension between the core and supplemental samples. School expulsions were not analyzed because there were only three cases. Students receiving special education services were about as likely to be suspended from school for making a threat (36%) as students in general education (31%). For those students who received a suspension, we conducted a two-step hierarchical regression analysis to determine whether special education status would predict length of suspension beyond age, gender, race, and seriousness of threat (transient or substantive). As shown in Table 6, age and principal ratings of threat severity were statistically significant predictors of length of suspension at Step 1. Mean length of suspension for substantive threats was 4.7 days

TABLE 3
Hierarchical Logistic Regression Analysis for Principal Threat Ratings

	<i>B</i>	<i>SE</i>	<i>W</i>	<i>OR</i>	<i>CI(95%)</i>
Step 1					
Age	0.30	0.06	24.13	1.35***	1.20–1.51
Gender	–1.03	0.41	6.38	0.36*	0.16–0.80
Race	0.02	0.28	0.01	1.40	0.56–1.70
Threat content	0.00	0.10	0.00	1.00	0.83–1.21
Step 2					
Age	0.32	0.07	24.01	1.37***	1.21–1.56
Gender	–1.02	0.41	6.11	0.36*	0.16–0.81
Race	–0.11	0.29	0.14	0.90	0.51–1.58
Threat content	–0.01	0.10	0.00	0.99	0.81–1.21
Special education status	0.94	0.33	8.37	2.57**	1.36–4.87

Notes: *W* = Wald statistic; *B* = unstandardized beta; *SE* = standard error; *OR* = odds ratio; *CI* = confidence interval.

* $p < .05$. ** $p < .01$ *** $p < .001$

(SD = 3.35) versus 2.5 days (SD = 2.45) for transient threats. However, special education status did not significantly contribute to the prediction of number of days suspended.

Postthreat Behavior

The next analysis compared behavioral changes of threat perpetrators after the threat incident. School officials were more likely to rate students in general education (53%) than in special education (33%) as exhibiting improved behavior, and more likely to rate special education (28%) than general education (8%) students as displaying worse behavior following the threat, $\chi^2(2, n = 188) = 13.6, p < .001$.

We then conducted a two-step hierarchical regression analysis to determine whether special education status was a significant

predictor of postthreat behavior beyond student age and threat severity. At Step 1 we entered age and threat severity, which together significantly predicted principal ratings of postthreat behavior, $F(2) = 3.87, p < .05, r^2 = .04$. At Step 2, special education status produced a statistically significant change, $F(1) = 12.40, r^2 = .06$.

Another important question related to postthreat behavior concerns whether any of the threats were actually carried out. For the core sample, we conducted interviews with school principals during the final weeks of the school year and during the following fall. According to the school principals, none of the 188 threats of violence were carried out (see Cornell, Sheras, Kaplan, McConville, et al., 2004 for further information).

TABLE 4
Comparison of Discipline Infractions Between Students in General and Special Education

	<i>General education</i> <i>M (SD)</i>	<i>Special education</i> <i>M (SD)</i>	<i>F</i>	<i>eta</i> ²
Disciplinary infraction				
Violence/weapons	.37 (.73)	.87 (1.37)	9.70**	.05
Disorderly conduct	2.95 (4.28)	6.04 (6.64)	14.22***	.07
Bullying	.82 (.75)	1.10 (1.09)	4.20*	.02
Other	1.76 (3.62)	2.08 (3.55)	.35	.00

Notes: M = mean; SD = standard deviation.

* $p < .05$ ** $p < .01$ *** $p < .001$

TABLE 5
Comparison of Discipline Infractions Between Students in General and Special Education Controlling for Age, Gender, Race, and Threat Type

	<i>Education status</i>		<i>Age</i>		<i>Threat Type</i>		<i>Race</i>		<i>Gender</i>		
	<i>General education</i> <i>M (SD)</i>	<i>Special education</i> <i>M (SD)</i>	<i>F</i>	<i>eta</i> ²	<i>F</i>	<i>eta</i> ²	<i>F</i>	<i>eta</i> ²	<i>F</i>	<i>eta</i> ²	
Disciplinary infraction											
Violence/weapons	.37 (.73)	.87 (1.37)	6.31*	.03	.29	.00	7.47**	.04	2.21	.01	3.08 .02
Disorderly conduct	2.95 (4.28)	6.04 (6.64)	15.62***	.08	26.38***	.13	.39	.00	15.05***	.08	1.45 .01
Bullying	.82 (.75)	1.10 (1.09)	1.62	.01	.01	.00	5.72*	.03	.72	.00	1.18 .01
Other	1.76 (3.62)	2.08 (3.55)	.03	.00	37.43***	.18	.33	.00	2.90	.02	.16 .00

Notes: M = mean; SD = standard deviation.

* $p < .05$ ** $p < .01$ *** $p < .001$

TABLE 6
Hierarchical Regression Analysis for Comparison of School Use of Suspension for Threats Made by Students in General Versus Special Education

	<i>B</i>	<i>SE</i>	β	<i>t</i>
Step 1				
Age	.34	.12	.32	2.74**
Gender	-1.08	.78	-.16	-1.40
Race	.85	.61	.15	1.40
Threat type	1.72	.68	.28	2.52*
Step 2				
Age	.34	.13	.32	2.73**
Gender	-1.10	.79	-.16	-1.40
Race	.83	.62	.15	1.33
Threat type	1.70	.69	.28	2.45*
Special education status	.14	.68	.02	.21

Notes: $R^2 = .23$ for Step 1; $\Delta R^2 = .23$ for Step 2 (ns); *B* = unstandardized beta; *SE* = standard error; β = standardized beta.

* $p < .05$ ** $p < .01$

Discussion

Threats of violence appear to be more prevalent among students in special education than general education. Students in special education made nearly half of all threats reported to school principals, even though students in special education represented only 17% of school enrollment. It should be noted that these were threats that came to the attention of school authorities and do not represent all threats that might have occurred. Although no previous research has compared students in special and general education on threats of violence, our findings are consistent with those of previous reports that find elevated rates of disciplinary infractions among students in special education (Skiba et al., 1997; Wright & Dusek, 1998). These results support further attention to the issue of threats of violence by students who receive special education services.

Students receiving ED services made more threats than any other group. The high rate of threatening behavior by these students is not surprising in light of the criteria used to identify a student as eligible for services under this category. The federal definition of an emotional disturbance recognized by IDEA involves a condition that is present over a long period of time, adversely affects academic performance, and involves one of the following:

- An inability to learn that cannot be

explained by intellectual, sensory, or health factors.

- An inability to build or maintain satisfactory relationships with peers and teachers.
- Inappropriate types of behavior or feelings under normal circumstances.
- A general pervasive mood of unhappiness or depression.
- A tendency to develop physical symptoms or fears associated with personal or school problems (Hallahan & Kauffman, 2000, p. 250).

Students receiving services for an ED classification likely experience relationship difficulties and interpersonal conflicts, and they may use inappropriate strategies for dealing with conflicts such as threatening others. As a result, IEP teams could interpret a threat of violence as a symptom of the child's emotional disturbance.

However, schools must balance the rights of a student classified as ED with school safety. An IEP team has additional options beyond standard disciplinary techniques if a threat is determined to be a manifestation of a student's disability. A school can place a student with a disability in an interim alternative educational setting (IAES) for up to 45 days if the student possesses weapons or drugs or if "substantial evidence" exists that the student is a danger to self or others (Skiba, 2002). Schools may place the student in an IAES without parental consent in response to weapons or drug

violations. However, the school must obtain parental consent for an IAES placement for dangerousness, initiate an expedited due process hearing, and petition a hearing officer (Skiba, 2002). Parents also have the right to appeal any decision that constitutes a change of placement for students with disabilities, although the change in placement can proceed during the appeals process. Furthermore, the school may procure a court injunction to remove a student who is deemed dangerous and whose parents refuse to comply with the removal process, regardless of IDEA protection (see Skiba, 2002, for review).

The high rate of reported threats by students with ED classifications could be a result of their comparatively high rate of disciplinary violations. Students may be more concerned about a threat from a student with an ED classification than a student in general education without a similar history of infractions or peer conflict. Threat recipients or witnesses might perceive a student with an ED classification as more likely to carry out a threat and therefore might be more likely to report the threat to school authorities. Similarly, teachers may feel less able to manage a threat from a student with a history of disciplinary problems.

Students in special and general education exhibited no significant differences in what they threatened to do. This finding is important in light of the significantly higher rates of substantive threats for students in special education. The threat assessment guidelines direct school authorities to place more weight on the context and meaning of the threat than the content of the threat (Cornell & Sheras, in press). For example, threats to kill or shoot someone were frequently judged to be transient threats (Cornell, Sheras, Kaplan, McConville et al., 2004), despite the extreme content of the threat, if it was clear from the context that the student did not mean to carry out the threat.

The guidelines indicate that if the context or meaning of the threat is not clear, a threat should be classified as substantive. Cornell, Sheras, Kaplan, McConville et al. (2004) found that 30% of the 188 threats collected during the 2001–2002 school year were substantive and required more extensive intervention and follow-up. The higher rate of substantive threats by students in special education suggests that school authorities took these threats more seriously. Perhaps students receiving special education services had a more extensive

history of violent behavior that increased the likelihood of a principal judging their threats to be substantive. For a more detailed discussion on how schools responded to both transient and substantive threats, please see Cornell, Sheras, Kaplan, McConville et al. (2004).

Students in special education who made threats committed more disciplinary infractions over the course of the 2001–2002 school year than peers in general education. Differences between the two groups also existed for infractions involving violence and weapons, disorderly conduct, and bullying. These results are again consistent with the Skiba et al. (1997) study involving office referrals. However, future research could compare disciplinary infractions between students in special education who do and do not make threats to assess whether the threat group represents a more challenging cohort within the student population.

In light of previous studies, it was surprising that students receiving special education services were not more likely to incur an external suspension than students in general education, or that the lengths of suspensions did not differ between groups. Several studies have identified a disproportionate number of students in special education receiving suspensions (Cooley, 1995; Leone, Mayer, Malmgren, & Meisel, 2000) and other harsh consequences such as corporal punishment (McFadden et al., 1992), even for relatively similar infractions such as endangering others and weapons violations (Rose, 1988). Principals in our study did not appear to apply disproportionately harsh consequences to students in special education for behavior comparable to that of general education students. It is possible that with the threat assessment guidelines, the principals were able to avoid the disproportionate disciplinary consequences found in other studies.

Study Limitations

This study was limited to a sample of schools that were implementing a new procedure for managing student threats of violence. There was no comparison group of schools using a different procedure, so it is not possible to conclude that the outcomes observed in this study were attributable to the use of threat assessment guidelines. The original study was a demonstration project to field-test threat assessment guidelines and show that this approach was a viable procedure

and therefore should be followed up with a controlled study (Cornell, Sheras, Kaplan, McConville et al., 2004). Because the schools were participating in the field-test project, it was possible to gather data that otherwise would not be available on threats of violence by students in special education.

Any study of student threats is limited by the nature of threat reporting. This study only examined threats that were reported to school authorities, and undoubtedly there are student threats that never come to the attention of school personnel. Cornell and Loper (1996) reported results from a survey of 10,909 students (grades 7, 9, and 11) in which more than one-fourth of students replied "yes" to the statement "Someone threatened to hurt you at school in the past 30 days." Singer and Flannery (2000) found that more than one-quarter of elementary school students and more than one-third of high school students reported threatening someone within the past year. It would be useful in future studies to study the incidence of student threats and the distinguishing characteristics of threats that are reported to school authorities. It would also be useful to gather more information on teacher and student perceptions of threats and how they judge the seriousness of a threat.

Conclusion

Can a threat assessment approach reduce the incidence of exclusionary discipline practices and disproportionately harsh discipline among students receiving special education services? This study cannot provide a conclusive answer to this question, but the results suggest that threat assessment is worthy of further study. It is possible that structured guidelines that emphasize the context and meaning of a threat over the content of the threat may be helpful to school authorities in responding to threats by students in special education.

It may be particularly useful to compare schools employing threat assessment with schools following a zero-tolerance approach. Skiba and Peterson (2000) cautioned that a zero-tolerance environment in schools would clash with IDEA principles and provisions. In particular, IDEA emphasizes positive behavioral interventions for disruptive behavior and increased instructional inclusion of special education students, whereas a zero-tolerance policy takes the opposite approach.

Skiba and Peterson argued that "without general reform of school discipline practice, increased instructional inclusion for students with emotional and behavioral problems may lead to increased exclusion when those students engage in disruptive behavior in general education settings" (p. 340).

NOTES

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REFERENCES

- Barkley, R. A., Fischer, M., Edelbrock, C. S., & Smallish, L. (1990). The adolescent outcome of hyperactive children diagnosed by research criteria: I. An 8-year prospective follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry, 29*, 546-557.
- Conroy, M. A., Katsiyannis, A., Clark, D., Gable, R. A., & Fox, J. J. (2002). State office of education practices implementing the IDEA disciplinary provisions. *Behavioral Disorders, 27*, 98-108.
- Cooley, S. (1995). *Suspension/expulsion of general and special education students in Kansas: A report to the Kansas state board of education*. Topeka: Kansas State Board of Education.
- Cornell, D. G., & Loper, A. B. (1996). *High risk behavior in Virginia schools: A survey of middle and high school students*. Charlottesville: Curry School of Education, University of Virginia.
- Cornell, D. G., & Sheras, P. L. (in press). *Guidelines for responding to student threats of violence*. Longmont, CO: Sopris West.
- Cornell, D., Sheras, P., Kaplan, S., Levy-Elkon, A., McConville, D., McKnight, L., & Posey, J. (2004). Guidelines for responding to student threats of violence: Field test of a threat assessment approach. In M. J. Furlong, P. M. Bates, D. C. Smith, & P. M. Kingery (Eds.), *Appraisal and*

- prediction of school violence: Methods, issues, and contexts* (pp. 11–36). Hauppauge, NY: Nova Science.
- Cornell, D. G., Sheras, P. L., Kaplan, S. G., McConville, D., Posey, J., Levy-Elkon, A., et al. (2004). Guidelines for student threat assessment: Field-test findings. *School Psychology Review, 33*, 527–546.
- Fein, R. A., Vossekuil, F., & Holden, G. A. (1995). *Threat assessment: An approach to prevent targeted violence*. National Institute of Justice: Research in Action, 1-7 (NCJ 155000). Retrieved October 6, 2005, from <http://www.ncjrs.org/txtfiles/threat.txt>
- Fein, R. A., Vossekuil, F., Pollack, W. S., Borum, R., Modzeleski, W., & Reddy, M. (2002). *Threat assessment in schools: A guide to managing threatening situations and to creating safe school climates*. Washington, DC: U.S. Secret Service and U.S. Department of Education.
- Glass, G. V., & Hopkins, K. D. (1996). *Statistical methods in education and psychology*. Boston: Allyn and Bacon.
- Hallahan, D. P., & Kauffman, J. M. (2000). *Exceptional learners: Introduction to special education* (8th ed.). Boston: Allyn and Bacon.
- Individuals with Disabilities Education Act (IDEA) Amendments of 1997. Public Law 105-17.
- Leone, P. E., Mayer, M. J., Malmgren, K., & Meisel, S. M. (2000). School violence and disruption: Rhetoric, reality, and reasonable balance. *Focus on Exceptional Children, 33*, 2–20.
- McFadden, A. C., Marsh, G. E., Price, B. J., & Hwang, Y. (1992). A study of race and gender bias in the punishment of handicapped children. *Urban Review, 24*, 239–251.
- Morrison, G. M., & D'Incau, B. (1997). The web of zero-tolerance: Characteristics of students who are recommended for expulsion from school. *Education and Treatment of Children, 20*, 316–335.
- Murphy, K. & Barkley, R.A. (1996). Attention deficit hyperactivity disorder in adults: Comorbidities and adaptive impairments. *Comprehensive Psychiatry, 37*, 393–401.
- Office of Special Education Programs (OSEP). (1997). *Initial disciplinary guidance related to removal of children with disabilities from their current educational placement for ten school days or less*. (OSEP Memorandum 97-7). Washington, DC: Author.
- O'Toole, M. E. (2000). *The school shooter: A threat assessment perspective*. Quantico, Virginia: National Center for the Analysis of Violent Crime, Federal Bureau of Investigation.
- Reddy, M., Borum, R., Berglund, J., Vossekuil, B., Fein, R., & Modzeleski, W. (2001). Evaluating risk for targeted violence in schools: Comparing risk assessment, threat assessment, and other approaches. *Psychology in the Schools, 38*, 157–172.
- Rose, T. L. (1988). Current disciplinary practices with handicapped students: Suspensions and expulsions. *Exceptional Children, 55*, 230–239.
- Ryan-Arredondo, K., Renouf, K., Egyed, C., Doxey, M., Dobbins, M., Sanchez, S., et al. (2001). Threats of violence in schools: The Dallas Independent School District's Response. *Psychology in the Schools, 38*, 185–196.
- Skiba, R. J. (2002). Special education and school discipline: A precarious balance. *Behavioral Disorders, 27*, 81–97.
- Skiba, R. J., & Peterson, R. L. (1999). The dark side of zero tolerance: Can punishment lead to safe schools? *Phi Delta Kappan, 80*, 372–382.
- Skiba, R. J., & Peterson, R. L. (2000). School discipline at a crossroads: From zero tolerance to early response. *Exceptional Children, 66*, 335–347.
- Skiba, R. J., Peterson, R. L., & Williams, T. (1997). Office referrals and suspension: Disciplinary intervention in middle schools. *Education and Treatment of Children, 20*, 295–315.
- Singer, M. I., & Flannery, D. J. (2000). The relationship between children's threats of violence and violent behaviors. *Archives of Pediatric and Adolescent Medicine, 154*, 785–790.
- Sprague, J., Walker, H. M., Stieber, S., Simonsen, B., Nishioka, V., & Wagner, L. (2001). Exploring the relationship between school discipline referrals and delinquency. *Psychology in the Schools, 38*, 197–206.
- Taylor, J. A. & Baker, R. A. (2002). Discipline and the special education student. *Educational Leadership, 59*(4), 28–30.
- U.S. Department of Education, Office of Elementary and Secondary Education and Planning and Evaluation Service. (2003). *Report on state/territory implementation of the Gun-Free Schools Act: School year 2000–2001*. Author.
- Wright, J. A., & Dusek, J. B. (1998). Compiling school base rates for disruptive behaviors from student disciplinary referral data. *School Psychology Review, 27*, 138–147.
- Zernike, K. (2001, May 17). Crackdown on threats in schools fails a test. *New York Times*. Available from <http://www.nytimes.com/ref/membercenter/nytarchive.html>

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Student Threat Assessment in Memphis City Schools: A Descriptive Report

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ABSTRACT: Threat assessment has been widely recommended as a violence prevention approach for schools, but there are few reports of its implementation. Memphis City Schools adapted the Virginia threat assessment guidelines (Cornell & Sheras, 2006) for use by a centralized team serving 194 schools and a student population of 118,000. This article describes 209 student threats referred for assessment during a single school year and the resulting educational placements and disciplinary consequences. There were no reports of students carrying out any of the violent threats. These results support further examination of student threat assessment as a promising approach to dealing with student threats.

■ Since the 1999 shootings at Columbine High School, school administrators have been under pressure to assure the public that schools are safe and secure (Cornell, 2006). The shootings in 2005 at Red Lake High School in Minnesota, in 2006 at the Amish school in Pennsylvania, and in 2007 at Virginia Tech received worldwide attention and have kept the issue of school safety in the foreground of national concerns. The purpose of this study is to report on the implementation of a student threat assessment program designed to prevent acts of violence in Memphis city schools.

Both the FBI (O'Toole, 2000) and the Secret Service (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002) studies remarked on the diverse backgrounds and circumstances of students who engaged in acts of targeted violence but identified some general characteristics seen in many, but not all, of the student perpetrators. Many of the students were victims of bullying who had become angry and depressed, had family relationship problems, and were negatively influenced by peers. More than half displayed a preoccupation with violence through movies or video games. Unfortunately, both law enforcement agencies concluded that, because these characteristics can be found in so many students, it is not possible to develop a profile or checklist that could be used to pinpoint the small number of truly violent students among them.

Any checklist of warning signs would falsely identify many students who were not dangerous.

Nevertheless, the FBI and Secret Service emphasized that almost all of these students communicated their intentions to attack through threats and warnings. In most cases, the threats were not communicated directly to the intended victims but to third parties such as their peers. Had these threats been reported to authorities and investigated, the shootings might have been prevented; the FBI identified a series of potential school shootings that were prevented because students reported a threat to authorities that was investigated and determined to be serious (O'Toole, 2000). Based on these observations, both the FBI and the Secret Service, in collaboration with the Department of Education, recommended that schools adopt a threat assessment approach to prevent targeted acts of violence (Fein et al., 2002; O'Toole, 2000).

What is threat assessment? Threat assessment was developed by the Secret Service to deal with persons who threaten to attack public officials, and it has evolved into a standard law enforcement approach to analyze a variety of dangerous situations, such as threats of workplace violence. Threat assessment is a process of evaluating a threat and the circumstances surrounding the threat to uncover any facts or evidence that indicate the threat is likely to be carried out. Student threat

assessment can be distinguished from profiling in part because the investigation is triggered by the student's own threatening behavior rather than some broader combination of student characteristics.

Threat assessment is ultimately concerned with whether a student poses a threat, not whether he or she has made a threat (O'Toole, 2000; Randazzo et al., 2006). Any student can make a threat, but relatively few will engage in the planning and preparation necessary to carry out the threat. Threat assessment is concerned with determining whether a student has the intent and means to carry out the threat. Moreover, threat assessment includes efforts to prevent the threat from being carried out. Prevention efforts range from immediate security measures, such as notifying law enforcement and warning potential victims, to the development of an intervention plan designed to resolve the conflict or problem that precipitated the threat.

Although both the FBI and Secret Service reports (Fein et al., 2002; O'Toole, 2000) made a compelling case for student threat assessment, schools had no experience with this approach, and there were many questions concerning the practical procedures that should be followed and how the process would work. In response to these questions, researchers at the University of Virginia developed a set of guidelines for school administrators to use in responding to a reported student threat of violence. Threat assessment teams are trained in a 6-hour workshop that prepares them to use a 145-page threat assessment manual (Cornell & Sheras, 2006).

The guidelines include a decision tree that consists of seven steps. At Step 1, the team leader (typically a school administrator) investigates a reported threat by interviewing the student who made the threat and any witnesses to the threat. The guidelines manual includes a basic set of interview questions that consider both the actual threat behavior and questions about the meaning and intent of the threat from each observer's perspective.

At Step 2, the team leader decides whether the threat is transient or substantive. A threat is considered transient if it is not a serious threat and can be easily resolved. Examples of transient threats are jokes or statements made in anger that are expressions of feeling or figures of speech rather than expressions of a genuine intent to harm someone. Any threat

that cannot be clearly identified as transient is treated as a substantive threat.

If a threat is transient, it is resolved at Step 3 through a brief counseling process intended to resolve the conflict or clarify the misunderstanding that might have stimulated the threat. The student might be reprimanded and could receive a disciplinary consequence appropriate to the seriousness of the behavior (e.g., creating a disturbance or being disrespectful to others). If this process is deemed successful by the team, the incident is resolved, and no further action is needed.

The first three steps are essentially a triage process designed to address simpler cases without an extended process. If a threat cannot be resolved as transient or appears to be substantive, the process becomes more complex. Substantive threats always require protective action to prevent the threat from being carried out. At Step 4, the threat is determined to be serious or very serious. A threat to hit, assault, or beat up someone is serious, whereas a threat to kill, rape, use a weapon, or severely injure someone is considered very serious. Serious threats are addressed at Step 5, whereas very serious threats are addressed at Step 6.

At Step 5, serious substantive threats require protective action to prevent violence, including notification of potential victims and other actions to address the conflict or problem that generated the threat. The response to serious threats is completed at this step.

Steps 6 and 7 are reserved for very serious substantive threats. At Step 6, the team takes immediate protective action, including contact with law enforcement followed by a comprehensive safety evaluation. The student may be suspended from school pending completion of a safety evaluation, which includes a mental health assessment following a prescribed protocol. At Step 7, the threat assessment team uses the results of the safety evaluation to develop and implement an action plan that is designed both to protect potential victims and to meet the student's educational needs. The plan includes provision for monitoring the student and revising the plan as needed.

The Virginia threat assessment guidelines were field tested in 35 public schools, encompassing an enrollment of more than 16,000 students in Grades K through 12 (Cornell et al., 2004). School-based teams evaluated 188 student threats that involved threats to hit, stab, shoot, or harm someone in some other

way. Most of the threats (70%) were resolved as transient threats such as comments made in jest or in a fleeting moment of anger. The remaining 30% were substantive threats that required more extensive assessment and protective action to prevent the threat from being carried out. The threat assessment teams placed special emphasis on understanding the context and meaning of the threat and developing a plan to address the underlying conflict or problem that stimulated the student to resort to threatening behavior. Use of this problem-solving approach meant that relatively few students received long-term suspensions or expulsions from school. Only three students were expelled from school, although half of the students (94) received short-term suspensions (typically 1–3 days). Notably, follow-up interviews with the school principals found no cases in which the threats were carried out.

Adaptation of the Threat Assessment Guidelines to Memphis City Schools

The present study examines the implementation of the Virginia guidelines for student threat assessment in Memphis City Schools (MCS). This was an uncontrolled feasibility study designed to determine whether the guidelines could be adapted and applied in a challenging setting such as Memphis. With 118,000 students, MCS is Tennessee's largest school district and the 21st largest in the nation. At the time of the study, there were 194 schools (115 elementary schools, 29 middle/junior schools, 2 KK-8 schools, 34 high schools, 6 career and technology schools, 6 alternative schools, and 2 special category) within the city's 280 square miles. The student body is predominantly African American (87%), followed by White (8.5%), Hispanic (4.5%), and other (1%) groups.

The MCS serves a largely disadvantaged population. Approximately 75% of students are eligible for free or reduced lunch, and 29% of students have been retained at least one grade. These students reside in a community with a high crime rate. In 2005, the city's murder rate (20.2 per 100,000) was nearly three times the national average (6.9) and 13th highest in the nation (Morgan Quitno Press, 2006).

During the 2004–2005 school year, the school district recorded 225,405 disciplinary office referrals for student misbehavior. Six percent (13,659) of these referrals resulted in

suspensions of 4 or more days, which were termed *board suspensions*. All students whose infraction resulted in a board suspension were referred to the Memphis Pupil Services Center (PSC), which serves as the disciplinary hearing authority for the school division to ensure due process.

Prior to the 2004–2005 school year, the mental health team located at the PSC decided to adopt a threat assessment approach to evaluating students who appeared to pose a risk of violence. The mental health staff identified the Virginia guidelines as a promising model because it included a detailed set of procedures based on recommendations from the FBI (O'Toole, 2000) and Secret Service (Fein et al., 2002) studies. The mental health staff obtained training from the principal author (Cornell) of the Virginia guidelines and established administrative procedures for conducting threat assessments in their setting.

Because Memphis is such a large system and was not ready to train threat assessment teams in every school, the threat assessment program was implemented on a trial basis through a single centralized facility. One consequence of this decision is that threat assessments were conducted only on students whose behavior was judged serious enough by the school principal to have merited a suspension of 4 or more days. Nevertheless, the Memphis procedures were designed to follow as closely as possible the Virginia principles by using the same decision tree model and the same criteria for distinguishing transient and substantive threats (Cornell et al., 2004).

Each case that was referred to the PSC for disciplinary violations was reviewed by a hearing officer who had the authority to uphold, modify, or overturn the principal's decision to suspend the student. As part of the hearing process, the student was seen for evaluation by the Threat Assessment Team (TAT). The TAT was charged with screening student threats and conducting mental health assessments in those cases in which there was concern about a continued threat to others. (A case example is included in the appendix.)

The TAT was composed of two school psychologists, two school social workers, and a supervising psychologist who served as clinical staff of the MCS Mental Health Center within the Division of Exceptional Children and Health Services. This team makeup differs from the original recommendations of the guidelines (Cornell & Sheras, 2006), which

suggest that each school-based team should include an administrator (principal or assistant principal) and a law enforcement representative (such as a school resource officer) in addition to one or more mental health professionals (such as school psychologists, counselors, or social workers).

The purpose of this article is to demonstrate the viability of a threat assessment approach using the Virginia guidelines and based on a sample of 209 cases. Although the guidelines had previously been field tested in 35 public schools (Cornell et al., 2004), the application of threat assessment in Memphis public schools posed new challenges because of the size and urban nature of the school system. The present study describes the kinds of threat cases referred for assessment and the grade level, special education status, disciplinary history, and school attendance of the students who made the threats. Follow-up examination of the threat assessment process includes the mental health treatment recommendations and subsequent school placement of these students and the available information on whether the threats were carried out.

Method

Participants

The participants were drawn from the pool of 13,659 students in the MCS who received a board suspension (4 days or more) from their principal and as a result were sent for a disciplinary hearing at the PSC during the 2004–2005 school year.¹ The hearing officer made 209 referrals to the TAT because the student had communicated a threat to commit a violent act. The 209 referrals involved 204 students (four boys and one girl were referred twice), ranging in age from 5 to 18 years old and including 159 boys (78%) and 45 girls (22%). One hundred ninety-six (94%) of the referred students were African American, 10 (5%) were White, and 3 (1%) were Hispanic. The students were referred from 103 different schools: 106 (52%) in grades pre-K through 6, 77 (38%) in Grades 7 to 9, and 21 (10%) in Grades 10 to 12.

¹ There were 45 additional cases evaluated by the TAT involving students who had not made a threat of violence but who had a history of repeated aggressive behavior that was cause for concern.

Measures

Threats were classified according to the *Guidelines for Responding to Student Threats of Violence* (Cornell & Sheras, 2006) as transient or substantive. According to this manual, a member of the TAT interviews the student who made the threat using a series of open-ended, nonleading questions to assess the student's intent. The interview can be modified as appropriate to the circumstances but includes the following basic questions as a guide:

1. Do you know why I wanted to talk with you? Tell me.
2. What happened today when you were [place of incident]?
3. What exactly did you say? And what exactly did you do?
4. What did you mean when you said or did that?
5. How do you think [person who was threatened] feels about what you said or did? (See if the student believes it frightened or intimidated the person who was threatened.)
6. What was the reason you said or did that? (Find out if there is a prior conflict or history to this threat?)
7. What are you going to do now that you have made this threat? (Ask if the student intends to carry out the threat.) (Cornell & Sheras, 2006, p. 111)

Transient threats are defined as behaviors that do not express a sustained intention to harm someone. Transient threats may be figures of speech, attempts at humor, or expressions of anger or frustration. If the student is angry or frustrated, the threat is transient if the student calms down and retracts the threat. The key indication that a threat is transient is that the student is able to explain the reason for his or her statement and retract the threat. Threats can be classified as transient only if the team member is confident that the threat has been resolved and the student has no ongoing intent to hurt someone. If the team member doubts the student's explanation or is uncertain whether the threat is transient, the threat is considered substantive.

Substantive threats are defined as threats that have substance (i.e., an ongoing intent to harm someone). Any threat that clearly conveys a serious intent to harm someone and that cannot be easily resolved as transient is

considered substantive. Substantive threats are distinguished from transient threats because they require protective action to prevent the threat from being carried out. Substantive threats may be identified by one or more presumptive indicators, derived from the FBI report (O'Toole, 2000):

- the threat includes plausible details, such as a specific victim, time, place, and method of assault;
- the threat has been repeated over time or communicated to multiple persons;
- the threat is reported as a plan or planning has taken place;
- the student has accomplices or has attempted to recruit accomplices;
- the student has invited an audience of peers to watch the threatened event;
- there is physical evidence of intent to carry out the threat, such as a weapon, bomb materials, map, written plan, or list of intended victims.

Although the presence of any one of these features may lead the team to presume the threat is substantive, none are absolute indicators, and all require additional investigation. Examples of transient and substantive threats and more detailed evaluation criteria are contained in the manual (Cornell & Sheras, 2006).

Procedure

The Memphis threat assessments began when a hearing officer made a referral to the PSC's TAT because a student had engaged in threatening behavior. A TAT member consulted with the hearing officer to clarify what the student was reported to have said or done. Typically, this consultation took place while the students and his or her parents/guardians were meeting with the hearing officer, so that the TAT member could conduct a brief interview with the student and his or her parents/guardians to obtain the student's account of what happened. Next, one of the TAT staff conducted an interview with the school administrator and/or other school personnel with pertinent knowledge of the student and reviewed the student's school records.

After collecting all of the above information, the TAT conducted a case conference to determine whether the threat was transient or substantive. If the threat was deemed to be transient (e.g., the student's threatening state-

ment was made in a moment of anger and had since been resolved), the team concluded the assessment with recommendations for working with the student to avoid future problems. Recommendations could be directed to the school, the student, parents, or other professionals who were working with the student (e.g., mental health staff within MCS or in a community agency). The case then proceeded with the PSC disciplinary hearing for adjudication by the hearing officer.

When the TAT determined that a student's threat was substantive, the disciplinary hearing was postponed while a more complete assessment was conducted. The student and his or her parents were interviewed by a psychologist and a social worker at the PSC. After an initial meeting to obtain parental consent and advise them of the limits of confidentiality, the student and parents were interviewed separately. The interviews covered a standard list of topics derived from the literature on threat assessment and youth violence (Augimeri, Koegl, Webster, & Levene, 2001; Borum, Bartel, & Forth, 2000; Cornell & Sheras, 2006). In addition, the student and parents were asked detailed questions about the events leading to the disciplinary action.

The psychological evaluation of the student also included a mental status exam and an assessment of the student's social and emotional functioning. Depending on the student's age and clinical presentation, the psychologist administered a series of psychological instruments to the student, and the parents completed a behavioral inventory.

Within a few days, the team met with the student and parents to give them a summary of their findings and recommendations, including a written report. This meeting often occurred in conjunction with the disciplinary hearing, so that the hearing officer could consider the results of the threat assessment in making a decision about the suspension. The team made recommendations concerning the child's social support networks, peer affiliations, and mental health needs. Referrals to the MCS Mental Health Center and/or community agencies were commonly a part of the team's recommendations. The team also made recommendations to the school administrator that included instructions for implementing a safety plan intended to address specific risk factors within the school setting (e.g., addressing a problem with bullying or a peer conflict that precipitated the threat).

TABLE 1
Distribution of Threat Cases Across Grades

Grade Level	Total Students in the District		Threat Cases	
	<i>n</i>	Column %	<i>n</i>	Column %
Pre-k	1,463	<1	1	1
K	9,690	1	2	8
1	9,780	2	5	8
2	9,216	3	6	8
3	9,106	7	14	8
4	9,075	7	14	8
5	9,480	19	40	8
6	9,721	12	26	8
7	9,892	10	20	8
8	9,081	12	25	8
9	10,326	17	35	9
10	8,428	6	13	7
11	6,793	2	5	6
12	6,073	1	3	5
Total	118,124	100	209	100

Results

The 209 student threats of violence included 60 (29%) threats to hit or beat up someone, 48 (23%) threats to cut or stab, 32 (15%) threats to shoot, and 30 (14%) threats to kill. There were 17 (8%) vague threats (e.g., "I'm going to get you"), 14 (7%) sexual threats, and 8 (4%) other threats (such as to blow up or burn down the school). The students who made threats came from each grade level from preschool to 12th grade, although the frequency of threats increased through the elementary grades, peaked at Grade 5, and was maintained at a high rate until after the ninth grade (see *Table 1*).

The first set of analyses described the students who made threats of violence and compared them to the school district population. More than one-third of the referred students (38%) were receiving special education services, compared with 12% of the school system as a whole. The overall rate of students referred for threat assessment was 1.7 per 1,000 students, whereas among students receiving special education services, the rate was 5.6 per 1,000 students. A breakdown of special education service categories (see *Table 2*) indicates that the highest rate was among students receiving services for other health impairments: 12.8 cases per 1,000. The

next highest rate was 10 per 1,000 among students receiving services as functionally delayed. This category is used in Tennessee to identify a group of students who can be distinguished from those in the categories of emotional disturbance, developmental delay, mental retardation, or other standard categories. Functional delay means "a continuing disability in intellectual functioning and achievement which significantly affects the ability to think and/or act in the general school program, but who is functioning socially at or near a level appropriate to his/her chronological age" (Tennessee Department of Education, 2003, p. 45). The eligibility standards required intellectual functioning at a level comparable to the category of mental retardation but with adaptive behavior above the level of mental retardation.

Nearly three-fourths (149; 71%) of the referred students had been academically retained one or more times, as compared with 29% of the district's students. Forty-four percent (92) of the students had repeated one grade, 22% (47) had two retentions, and 5% (10) had been retained three times. For the district, retention rates were one grade (23%), two grades (6%), and three grades (0.3%).

Threat assessment findings. Of the 209 threat cases, 102 (49%) were classified as transient by the TAT and 107 (51%) were

TABLE 2
Special Education Services for Students Who Made Threats of Violence

Special Education Category	School District Population		Threat Cases		
	<i>n</i>	Column %	<i>n</i>	Column %	Rate per 1,000 Students
Autism	199	1	—	—	—
Blind	24	<1	—	—	—
Deaf	4	<1	—	—	—
Deaf-blind	1	<1	—	—	—
Developmentally delayed	493	4	—	—	—
Emotional disturbance	230	2	11	5	4.8
Functionally delayed	679	5	7	3	10
Hearing impaired	206	2	—	—	—
Learning disability	4,733	34	28	14	5.9
Mental retardation	4,138	30	19	9	4.6
Multidisabled	223	2	—	—	—
Other health impairment	705	5	9	4	12.8
Physically impaired	57	<1	—	—	—
Speech and language	2,005	15	3	1	1.5
Traumatic brain injured	16	<1	—	—	—
Visually impaired	81	1	—	—	—
All special education	13,794	12	77	38	5.6
Not special education	104,330	88	127	62	1.2
Total	118,124	100	204	100	1.7

considered substantive. A breakdown of transient and substantive threats (see *Table 3*) showed a preponderance of transient threats in the lower grade levels up until Grade 5, at which point substantive threats began to outnumber transient threats.

The substantive threats were further classified as serious (30 cases, 14%) or very serious (77 cases, 37%) substantive threats. According to the published threat assessment guidelines (Cornell & Sheras, 2006), a mental health assessment of the student is usually conducted only in very serious substantive cases. However, because they wanted to take a more inclusive and cautious approach, the team elected to broaden the criteria for conducting a mental health assessment. They conducted mental health assessments in all substantive cases and in 20 of the transient cases in which the student appeared to have a history of escalating violence or serious emotional adjustment problems.

In each case, the team made recommendations to the schools, students, and parents related to violence prevention and safety. Most of these recommendations included specific

advice on resolving an interpersonal conflict or dispute that was the basis for the threat. In addition, the team frequently recommended mental health services. A total of 37 students were referred for counseling or treatment with the MCS Mental Health Center, 15 students were referred for a psychiatric consult through the University of Tennessee Department of Child/Adolescent Psychiatry or a community mental health center, and 3 cases were reported to the Tennessee Department of Children's Services due to suspected abuse/neglect. There were 41 students who were referred for school-based services through the Student Support Team program, which is a regular education service designed to assist students with academic or behavioral problems that affect their success in school.

In 128 (61%) of the 209 cases, students returned to their previous school, and in the remaining 81 cases, the students had a change in school placement. These changes included placement in an alternative school (37 cases), transfer to a different regular school (14 cases), hospitalization or day treatment (8 cases), homebound instruction (3 cases), home

TABLE 3
Distribution of Threat Types Across Grades

Grade Level	Transient	Serious Substantive	Very Serious Substantive	Total Cases
Pre-k	1	0	0	1
K	2	0	0	2
1	5	0	0	5
2	4	1	1	6
3	9	2	3	14
4	9	2	4	15
5	17	4	17	38
6	13	5	10	28
7	8	5	7	20
8	11	5	9	25
9	15	5	14	34
10	4	1	8	13
11	2	0	3	5
12	2	0	1	3
Total	102	30	77	209

schooling (2 cases), and job corps placement (2 cases). Only 5 students were not recommended for placement during their expulsion period, and just 3 students were incarcerated. Four students withdrew from compulsory attendance, and 3 stopped attending school without withdrawing and could not be contacted.

Attendance and discipline data were available for 198 of the students. For the year, these 198 students averaged 17 days of unexcused absences. Only 41% (80) of the students attended the same school all year, whereas the remaining 59% (118) had attended two or more schools.

The students averaged 9.3 office referrals for disciplinary problems during the school year, not including the referral for the threat incident. This included an average of 6.4 referrals accumulated before the threat incident and 2.9 referrals from the time of the threat assessment until the end of the school year. A paired *t* test indicated a statistically significant decrease in discipline referrals, $t(197) = 6.6, p < .001$. One possible explanation for the higher number of discipline referrals prior to the threat assessment could be that the incidents occurred close to the end of the school year, so that there was less time for students to generate discipline referrals. To rule out this possibility, the date of each threat case was examined and the average referral

date was determined. With a school year spanning 285 calendar days, the average threat incident date was at day 151, just past the midpoint for the school year.

Another possible explanation for the lower rate of postthreat discipline referrals is that it included students who did not return to school or continued in an alternative education setting with different disciplinary referral practices. There were also approximately 35 students who attended more than one school before the threat referral. Therefore, discipline referrals were examined for the subgroup of 80 cases in which the student attended the same school all year. There were an average of 6.3 discipline referrals prior to the threat assessment and 2.8 referrals after the assessment, $t(79) = 3.9, p < .001$.

A critical follow-up question was whether any of the students carried out their threats. The information available to address this question was based on follow-up reports from school principals and school discipline records, as well as information obtained directly from the students and parents who participated in the threat assessments. Across all sources of information, there was no report of any of the threats being carried out during the course of the school year. For the 110 cases involving a threat to kill, shoot, or stab someone, school personnel can be reasonably certain that the threats were not carried out, but in cases of

threats to hit or fight someone, it is conceivable that a threat could have been carried out without detection by school personnel or report from a victim or witness.

Discussion

This study documents the viability of a threat assessment approach in a large urban school system. A centralized threat assessment team serving MCS evaluated 209 cases of student threats of violence. Student threats were recorded at all grade levels and included a wide range of threats, including threats to kill, shoot, stab, or in some other way injure someone. The threat assessment included a review of school records, consultation with school authorities and, in the most serious cases, a mental health assessment of the student and accompanying parent interviews. The threat assessment team followed a decision tree model to determine the seriousness of the threat and to make recommendations for protective action, school placement, counseling, and mental health treatment.

The results of this study can be compared with the original field-test findings for the Virginia threat assessment guidelines reported by Cornell et al. (2004). Both studies reported successful implementation of the threat assessment approach and found that teams were able to distinguish transient from substantive threats using the same decision tree model. In the Virginia study, 70% of the threats were determined to be transient, and 30% were deemed substantive. In contrast, the present study found a nearly even split between transient (49%) and substantive (51%) cases. It is likely that the larger proportion of more serious, substantive cases in Memphis was due to the more selective sample of cases in Memphis. The Memphis cases were deemed serious enough by their school principal that the students were given a suspension of 4 or more days and therefore were sent to the school district's centralized pupil services center, where a hearing officer referred them for evaluation by the threat assessment team. In contrast, the Virginia cases were evaluated by site-based teams headed by the principal or assistant principal at each school, and all cases brought to administrative attention were included in the sample.

Notably, both studies reported that the vast majority of students were able to return to school or continue their education in an alternative setting. In the Virginia study of

188 cases, only three students were subject to long-term suspension (expulsion), and in Memphis, only five students received this outcome. Memphis had a higher number (66) of students placed in an alternative setting than the Virginia study (12 cases), which may reflect both the greater number of resources available in a large urban school system and the more serious nature of the cases seen for assessment in Memphis. Nevertheless, these are positive findings in light of concerns that American schools have widely adopted a zero-tolerance approach that has resulted in a substantial national increase in long-term suspensions or expulsions of students (Advancement Project & Civil Rights Project, 2000; American Psychological Association Zero Tolerance Task Force, 2006). These findings support the view that threat assessment can serve as a less punitive alternative to a zero-tolerance approach.

A disproportionate number of cases involved students who received special education services. Although only 12% of Memphis students received special education services, this population produced 38% of the threat cases. The rate of threats among students in the regular education population was 1.2 cases per 1,000 students, whereas the rate in the special education population was more than 4 times higher, 5.6 per 1,000. However, the rate was not consistent among the students receiving special education services. The highest rate was observed in the small number of students identified as other health impaired (OHI). A review of these cases indicated that they consisted primarily of students diagnosed with attention-deficit hyperactivity disorder.

A study by Kaplan and Cornell (2005) also examined the special education status of students who made threats of violence. (This study's sample of 256 threat cases included the 188 cases in the Cornell et al. [2004] study as well as additional cases collected from other Virginia schools that subsequently adopted the same threat assessment model.) Kaplan and Cornell (2005) found that 47% of threat cases involved students receiving special education services, slightly higher than the 38% in the current study. The Virginia schools did not use the category of functionally delayed but found that students receiving services for emotional disturbance were the most likely to make threats, followed by students with an attention-deficit disorder diagnosis receiving services under the OHI classification.

The high rate of threatening behavior among students receiving special education may not be news to experienced special educators, but it does indicate the need to address threat behavior in behavior support plans and individualized education plans. Such plans could specify the use of a threat assessment approach to distinguish serious threats that require protective action from threats that can be more easily resolved and do not pose a risk to the safety of others. It would be useful for future research to examine the rates of transient versus substantive threats among students receiving special education services in a more representative sample than was available for this study. Students who make even transient threats jeopardize their educational progress because of the potential for severe disciplinary consequences and long-term suspension, particularly in school systems relying on a zero-tolerance approach.

Threats of violence understandably raise concern about the risk of violent outcomes. The intense publicity given to school shootings has aroused considerable concern among educators and fear among the public that schools are not safe and that there is a growing risk of violence by students (Cornell, 2006). These perceptions stand in contrast to multiple studies that indicate that schools have experienced declining rates of violence over the past decade and are comparatively safe places with a low level of serious violent crime (Cornell, 2006; Dinkes, Forrest Cataldi, Kena, & Baum, 2006). In both Virginia and Memphis schools, the available follow-up information revealed no cases in which a student's threat was carried out. Although it is conceivable that some threats of a less serious nature, such as threats to hit or fight someone, were carried out without the knowledge of school authorities, they are reasonably certain that none of the more serious threats to kill, shoot, stab, or in some other way seriously injure the intended victim were carried out.

Threat assessment may be helpful in preventing a threat from being carried out, but it does not preclude further disciplinary problems. In the present study, students averaged 2.9 disciplinary referrals in the remainder of the year following their threat assessment. One positive sign is that the average number of disciplinary violations after the threat assessment (2.9) was about 55% lower than prior (6.4) to the assessment. This suggests some positive impact of the threat

assessment on the student's behavior, but a controlled study is needed to confirm this possibility.

Overall, the present study produced encouraging results and supports the feasibility of a threat assessment approach, but more research is needed. The present study was limited to a single school district in a large urban area serving a challenging population. Research in a variety of communities and school systems is needed. It would also be useful to collect data on the reliability and consistency of staff in carrying out the threat assessment guidelines and to collect more detailed information on the students' response to the threat assessment process.

It would be informative to carry out a controlled study that compares groups of schools randomly chosen to use or not use a threat assessment approach. However, there are obvious practical limits to the kind of study that can be conducted on a violence prevention method such as threat assessment because in every case of a serious student threat, authorities are compelled to take some form of protective action. The outcomes under study must go beyond the prevention of violence to include additional benefits, including the student's continuation in school, academic achievement, and avoidance of further disciplinary problems.

Limitations in the Memphis adaptation of threat assessment. The Memphis schools adapted the threat assessment model for use by a centralized team serving the entire district. This decision was necessary for practical reasons because the school division already had a centralized program for serious discipline cases and was not prepared to train teams in every school. One advantage of a centralized team is that its members develop substantial experience and expertise in assessing threats. However, there are some limitations to a centralized approach that make school-based teams preferable (Cornell & Williams, 2006). In brief, school-based teams have greater knowledge of the school and of the individual students involved. They are able to respond more quickly to a threat situation and can muster resources to assist them in planning and carrying out a safety plan. School-based teams can more readily include a school resource officer or law enforcement officer who is assigned to the school and knows the students and the surrounding community.

Furthermore, site-based teams can remain involved in the case and make sure that safety plans are implemented and that prevention efforts are effective. Finally, a single centralized team might not be able to respond to all of the threats that occur in a large school district. It seems doubtful that there were only 209 threats in the Memphis school division because the Virginia study, using a site-based approach, identified 188 threats in a sample of just 35 schools. For these reasons, the Memphis staff suggested that the district study the feasibility of implementing site-based teams to handle the majority of cases and allow the central team to serve in a consultative role in the most serious or complex cases.

Conclusions

There is a dearth of information about violent threats made by students. This study examined 209 serious incidents that were resolved using a modified application of the Virginia guidelines. Although a controlled study is needed, these field-test findings indicate that threat assessment appears to be a promising approach to responding to student threats of violence.

REFERENCES

- Advancement Project & Civil Rights Project. (2000). *Opportunities suspended: The devastating consequences of zero tolerance and school discipline policies*. Cambridge, MA: Harvard University Civil Rights Project.
- American Psychological Association Zero Tolerance Task Force. (2006). *Are zero tolerance policies effective in schools? An evidentiary review and recommendations*. Washington, DC: American Psychological Association. Internet site: <http://www.apa.org/ed/cpse/zttfreport.pdf>.
- Augimeri, L., Koegl, C., Webster, C. D., & Levene, K. (2001). *The Early Assessment of Risk List for Boys (EARL-20B), version 2*. Toronto, Canada: Earls court Child and Family Center.
- Borum, R., Bartel, P., & Forth, A. (2002). *Manual for the Structured Assessment of Violence Risk in Youth (SAVRY)*. Tampa, FL: University of South Florida.
- Cornell, D. (2006). *School violence: Fears versus facts*. Mahwah, NJ: Lawrence Erlbaum.
- Cornell, D., & Sheras, P. (2006). *Guidelines for responding to student threats of violence*. Longmont, CO: Sopris West.
- Cornell, D., Sheras, P., Kaplan, S., McConville, D., Douglass, J., Elkon, A., et al. (2004). Guidelines for student threat assessment: Field-test findings. *School Psychology Review*, 33, 527–546.

- Cornell, D., & Williams, F. (2006). Student threat assessment as a strategy to reduce school violence. In S. R. Jimerson & M. J. Furlong (Eds.), *The handbook of school violence and school safety: From research to practice* (pp. 587–602). Mahwah, NJ: Erlbaum.
- Dinkes, R., Forrest Cataldi, E., Kena, G., & Baum, K. (2006). *Indicators of school crime and safety: 2006* (NCES 2007-003/NCJ214262). U.S. Departments of Education and Justice. Washington, DC: Government Printing Office. Internet site: <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2007003> (Accessed July 21, 2007).
- Fein, R., Vossekuil, B., Pollack, W., Borum, R., Modzeleski, W., & Reddy, M. (2002). *Threat assessment in schools: A guide to managing threatening situations and to creating safe school climates*. Washington, DC: U.S. Secret Service and Department of Education.
- Kaplan, S., & Cornell, D. (2005). Threats of violence by students in special education. *Behavioral Disorders*, 31, 107–119.
- Morgan Quitno Press. (2006). *13th annual safest (and most dangerous) cities*. Internet site: <http://www.infoplease.com/ipa/A0934323.html> (Accessed September 2, 2007).
- O'Toole, M. E. (2000). *The school shooter: A threat assessment perspective*. Quantico, VA: National Center for the Analysis of Violent Crime, Federal Bureau of Investigation.
- Randazzo, M. R., Borum, R., Vossekuil, B., Fein, R., Modzeleski, W., & Pollack, W. (2006). Threat assessment in schools: Empirical support and comparison with other approaches. In S. R. Jimerson & M. J. Furlong (Eds.), *The handbook of school violence and school safety: From research to practice* (pp. 147–156). Mahwah, NJ: Erlbaum.
- Tennessee Department of Education. (2003). *Special education manual*. Nashville, TN: Author.
- Vossekuil, B., Fein, R. A., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States*. Washington, DC: U.S. Secret Service and U.S. Department of Education.

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Services for their support. Dr. Cornell is co-author of *Guidelines for Responding to Student Threats of Violence* and hence receives royalties for sales of this publication. Address correspondence to Ken Strong, EdD, Memphis City Schools Mental Health Center, 205 North Claybrook, Memphis, TN 38104-7158. E-mail: strongk@mcsk12.net.

MANUSCRIPT

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APPENDIX

Case Example of a Typical Threat Assessment

Shawn was a 12-year-old sixth-grader suspended for bringing a pellet pistol onto school grounds and threatening other children. He was in juvenile detention for 2 days before being seen for evaluation. A member of the threat assessment team conducted an initial interview with Shawn and his custodial grandmother to obtain their account of what happened. This account was compared with information obtained from school officials and the juvenile authorities. The team then decided that the threat merited a complete assessment.

Shawn reported that some older students had been picking on him and other students since he started middle school a few months ago. They referred to him and his friends as "fresh meat" and called him their "food boy," meaning that he should get extra food for them in the cafeteria. They had pushed and shoved him on several occasions. In retaliation, Shawn brought an unloaded pellet gun to school, pointed it at his antagonists, and threatened to shoot them. Shawn explained that if he had not stood up to the bullies, everyone would call him a "sissy" and that the girls would have no interest in him.

Shawn said that he had no intention of hurting anyone and feels badly because, "I could have caused someone to have a heart attack." He also recognized that he could have provoked someone else to use a real gun. Shawn denied holding a grudge against any of the students

involved but feels that he must try to avoid them in the future. He agreed that the school was justified in suspending him but felt that the other students deserved similar punishment.

Shawn participated in a mental health assessment that included clinical interviews and testing, interviews with his custodial grandparents and school personnel, and a review of all available records. During clinical interviews, Shawn displayed a full range of emotion appropriate to the situation. He seemed bright and articulate and displayed no indication of oppositional or defiant behavior. The assessment indicated a history of attention-deficit hyperactivity disorder (ADHD) in the first grade that had been discontinued after Shawn's mother had died in a car accident and his grandmother assumed custody. Shawn had been in several fights during elementary school and admitted a history of shoplifting. He denied alcohol or drug use. Shawn acknowledged being quick to anger and feeling that other kids are "always messing" with him.

The threat assessment team concluded that Shawn regretted what he had done and was willing to work toward a resolution of the problem without resorting to violence. He was not expelled but received a brief suspension contingent on his good behavior and compliance with the safety plan that was developed to facilitate his return to school. The team had concerns about Shawn returning to his middle school because he had been the victim of bullying and might be the target or retaliation for his threatening behavior. He attended an alternative school for approximately 1 month before returning to middle school. During this time, the prevention coordinator at the middle school worked with the boys who had been involved in bullying. The team also provided Shawn's grandmother with information about ADHD and referred her to a community mental health agency where he could receive further evaluation and treatment. Shawn eventually returned to the middle school and completed the year without any serious problems at school.

This case illustrates the problem-solving approach to student threats that differs substantially from a zero-tolerance approach. In many school divisions, a student who brought a pellet gun to school would automatically be expelled regardless of the circumstances. The assumption underlying this approach is that strict discipline and severe punishment will send a

strong message to the offender and to other students that will deter future misbehavior and maintain a safe school environment. However, a comprehensive review of research on student expulsion found no evidence in support of a

zero-tolerance approach and considerable evidence that long-term suspensions and expulsions can have a damaging effect on student achievement (American Psychological Association Zero Tolerance Task Force, 2006).

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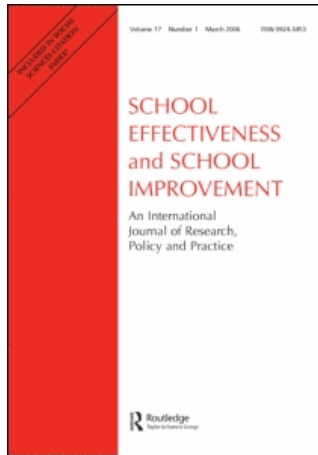
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Response of school personnel to student threat assessment training

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Response of school personnel to student threat assessment training

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School safety has become an important area of concern for school improvement. This study examined the effects of staff training as means of improving school responses to student threats of violence. A multidisciplinary sample of 351 staff from 2 school divisions completed pre-post training surveys as part of a 1-day training program using the *Guidelines for Responding to Student Threats of Violence* (Cornell & Sheras, 2006). Analysis of pre-post surveys found large changes in staff attitudes toward school safety and violence prevention efforts. There was a substantial decrease in concerns about school homicide and increased awareness of effective violence prevention efforts. There was a drop in support for zero tolerance and profiling approaches, along with increased knowledge of threat assessment principles and concepts. These changes were sustained across school divisions serving a challenging urban population and a more affluent, suburban population. Similar effects were found across all school personnel. These findings demonstrate the viability of training staff in a student threat assessment approach.

Keywords: student violence; threat assessment; school safety; professional developments

Introduction

School safety is a relatively new topic for the field of school effectiveness and school improvement research. Traditionally, school effectiveness research has focused on student achievement, and school improvement efforts have aimed at teaching and learning outcomes (Creemers, 2002). In previous decades, safety may have been taken for granted and its role overlooked in effective schools, but as Roland and Galloway (2004) observed, “positive social behaviour may be a necessary, but not a sufficient condition for good academic outcomes” (p. 243). A developing body of evidence points to school safety as an important condition for learning. Safe and orderly schools are necessary so that teachers can devote their time and energy to instruction and students can engage in learning without being distracted by safety concerns (Bowen, Bowen, & Ware, 2002; Osher, Dwyer, & Jackson, 2004). School safety can affect all students (and teachers), whether they are victims, nonvictims, or violators. Many studies show that victims of aggression suffer from impaired concentration, motivation, and engagement in learning that leads to lower academic achievement (Graham, Bellmore, & Mize, 2006; Juvonen, Nishina, & Graham, 2000).

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The most prominent school improvement efforts concerning student aggression and school safety have taken place in the field of bullying prevention, starting with the Olweus Bullying Prevention Program (Olweus, 1993) and a series of nationwide school improvement efforts in Norway (Roland, 2000). A common theme across school improvement initiatives aimed at bullying has been efforts to increase teacher awareness of bullying as a problem and willingness to intervene when bullying is identified (Olweus, 1993; Smith, Schneider, Smith, & Ananiadou, 2004). Ma's (2002) research on middle school bullying found that a positive disciplinary climate was associated with reduced levels of bullying. Roland and Galloway (2004) emphasized the importance of consensus and cooperation among school staff for school effectiveness and school improvement. This is particularly important for school safety because consensus among school staff is vital to implementing efficient and effective responses to student threats of violence.

The present study investigated a relatively new model to address student threats and improve school effectiveness through the use of a threat assessment approach. Threat assessment focuses on using a problem-solving approach to investigate student threats of violence rather than methods such as zero tolerance (i.e., suspension or expulsion). We evaluated whether threat assessment training would make school personnel more willing to distinguish serious from less serious threats and to endorse attitudes consistent with a problem-solving approach to student threats of violence.

Student threats of violence

The landscape of school safety in the USA changed dramatically with the eruption of a series of rampage school shootings in the 1990s. Especially after the 1999 shooting at Columbine High School, educational administrators in the USA came under pressure to assure the public that schools are safe and secure (Cornell, 2003). The shootings in 2005 at Red Lake High School in Minnesota, in 2006 at the Amish school in West Nichols Mines, Pennsylvania, and in 2007 at Virginia Tech, garnered worldwide attention and have kept the issue of school safety in the foreground of national concerns. School shootings that killed 18 people in Erfurt, Germany, in 2002 (CNN, 2002) and 8 people in Tuusula, Finland, in 2007 (CNN, 2007) demonstrated that the problem is not confined to the USA. For these reasons, school safety is a valid consideration in the school effectiveness and school improvement movement.

Although the likelihood that a student will commit a serious act of violence at school is low, and schools enjoy a lower rate of violent crime than most other settings (Cornell, 2006; DeVoe, Peter, Noonan, Snyder, & Baum, 2005), student threats to commit a violent act (especially to assault a peer) are relatively common (Singer & Flannery, 2000). Moreover, students are stimulated to make even more threats following a high profile incident. For example, in the 50 days after the Columbine shooting, Pennsylvania schools reported 354 threats of school violence, compared to 1 or 2 threats per year before 1999 (Kostinsky, Bixler, & Kettl, 2001). The combination of high threat rates and low likelihood of violence creates a serious dilemma for school authorities, who must take all threats seriously because the potential consequences are so severe.

The American response to school shootings was not guided by a working model or theory of violence prevention. Instead, schools substantially increased their safety and security measures and paid relatively little attention to preventive measures. Many schools installed security devices such as metal detectors and video monitors and employed increasing numbers of law enforcement officers and security officers (e.g., Flaherty, 2001; Hill, 1998).

One of the most important policy changes was the expansion of zero tolerance discipline (Skiba & Rausch, 2006). The National Center for Education Statistics report *Violence and Discipline Problems in U.S. Public Schools: 1996–1997* (Heaviside, Rowand, & Farris, 1998) defined zero tolerance as a policy that mandates predetermined consequences or punishments for specified offenses and reported that 94% of all schools have zero tolerance policies for weapons or firearms. Zero tolerance typically refers to a policy of mandatory expulsion or long-term suspension for violation of a school prohibition. The critical feature of zero tolerance is that punishment is applied without consideration of the student's intent or the circumstances of the violation. Minor and unintentional violations are treated like more serious ones. As a result, there have been numerous cases of students being expelled for seemingly minor offenses such as bringing a plastic knife to school, pointing a finger like a gun, or shooting a paper clip with a rubber band (Cornell, 2006; Skiba & Rausch, 2006).

Despite the widespread adoption of zero tolerance, scientific reviews indicate little or no support for it as a prevention method (Arcia, 2006; Skiba & Rausch, 2006). There are no empirical studies demonstrating that zero tolerance increases school safety. Skiba and Peterson conducted a 4-year study which found that, over the course of the 4 years, schools with a zero tolerance policy had higher levels of crime than schools without a zero tolerance policy (Skiba & Peterson, 1999). Furthermore, the consequences for students can be severe. Students who have high suspension rates are five grades behind their peers based on reading scores (Arcia, 2006) and are three times more likely to drop out of school (Skiba & Peterson, 1999). Zero tolerance has been described as “ineffective as a deterrent, unproductive in teaching appropriate behavior, and useless in promoting a safe school climate” (Arcia, 2006, p. 360). Therefore, multiple agencies sought to develop an alternative approach to address student threats of violence over the last decade.

Development of the threat assessment approach and guidelines

Within 3 months of the Columbine shooting, the Federal Bureau of Investigation (FBI)'s National Center for the Analysis of Violent Crime held a national conference on school shootings that included experts in law, mental health, and education and involved an examination of schools that had either experienced or averted a rampage shooting (O'Toole, 2000). One purpose of the conference was to consider the advisability of a profiling approach to the prevention of school violence. The basic theory of criminal profiling is that offenders who commit similar types of crimes have a common set of behavioral or psychological characteristics that can be used to identify them.

Conference experts concluded that there was no profile or set of individual characteristics that could be used to accurately identify school shooters within the general student population and advised against a “profiling” approach. However, it was noted that almost all of the students who committed rampage shootings had communicated direct or indirect threats of violence in the weeks or months prior to their violent attack, but those threats were not reported to authorities or were not adequately investigated. (The students did not necessarily directly threaten their intended victims; more often, they talked about committing a violent act or confided their intentions to classmates.) In contrast, in those schools where a shooting had been averted, the student's threatening statements were reported to authorities, investigated, and found to be a serious threat that prompted protective action. These observations led the FBI to recommend that schools establish procedures to investigate and respond to student threats (O'Toole, 2000).

The Secret Service conducted its own study of school shootings and reached similar conclusions about the inadvisability of developing a school shooter profile (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002). In a further report, the Secret Service, in collaboration with the U.S. Department of Education, advised schools to take a “threat assessment” approach to the prevention of targeted violence (Fein et al., 2002). Threat assessment was developed by the U.S. Secret Service as a systematic means of determining whether an individual poses a serious threat to commit an act of targeted violence (Fein, Vossekuil, & Holden, 1995).

Although both the FBI and Secret Service reports (Fein et al., 2002; O’Toole, 2000) made a compelling case for student threat assessment, schools had no experience with this approach and there were many questions concerning the practical procedures that should be followed, how the process would work, and what the outcomes would be. This is a familiar array of questions in the school effectiveness field (Creemers, 2002). In response to these questions, researchers at the University of Virginia, in collaboration with educators from two local school divisions, developed a set of guidelines for school administrators to use in responding to a reported student threat of violence (Cornell, 2003). The rationale for this approach was that a group of educational researchers and psychologists who were designing the protocol would benefit from the knowledge and advice of experienced school administrators, school resource officers, and school psychologists.

The school administrators urged that the procedures needed to be efficient and streamlined in most cases, because most student threats are not serious threats of violence. Therefore, the guidelines included a decision-tree that began with an initial assessment of the seriousness of the threat, followed by a determination whether the case could be easily resolved as a transient threat or would require more extensive assessment and protective action as a substantive threat. In the most serious cases, a multidisciplinary team would conduct a comprehensive safety evaluation that would include both a law enforcement investigation and a mental health assessment of the student.

Implementation of the threat assessment approach

During the 2001–2002 school year, the threat assessment guidelines were field-tested in 35 public schools encompassing an enrollment of more than 16,000 students in grades K-12 (Cornell et al., 2004). School-based teams evaluated 188 student threats that involved threats to hit, stab, shoot, or harm someone in some other way. Most of the threats (70%) were resolved as transient threats, such as comments made in jest or in a fleeting moment of anger. The remaining 30% were substantive threats that required more extensive assessment and protective action to prevent the threat from being carried out. The threat assessment teams placed special emphasis on understanding the context and meaning of the threat and developing a plan to address the underlying conflict or problem that stimulated the student to resort to threatening behavior. Use of this problem-solving approach meant that relatively few students received long-term suspensions or expulsions from school. Only three students were expelled from school, although half of the students (94) received short-term suspensions (typically 1–3 days). Notably, follow-up interviews with the school principals found no cases in which the threats were carried out. These findings supported the feasibility and viability of threat assessment as a method that could be used in schools, but it remained unclear whether school staffs could be readily trained to adopt a threat assessment policy.

In order to lead schools on the implementation of a threat assessment approach, Cornell and Sheras (2006) developed 1-day training workshop and published a

145-page manual, *Guidelines for Responding to Student Threats of Violence*, based on the field-test findings and observations. The workshop covers the rationale and basic principles of threat assessment, which are then presented in more detail in the manual (detailed description provided in the Methods section). However, training educators in threat assessment poses a substantial challenge. Educators are burdened by numerous administrative and curricular responsibilities, such as mandated testing and new standards for school accreditation, which make it difficult to allocate time and energy to even 1-day of violence prevention training. Moreover, like the general public, educators have been exposed to numerous high-profile cases of school shootings that create a heightened perception of risk and imminence. Educators have the responsibility to assure student safety and anticipate intense scrutiny whenever there is a case involving a student threat, regardless of the circumstances or actual danger posed by the student. Most public schools function in an environment that strongly supports zero tolerance approaches, which are mandated by state and federal laws for many student infractions. In the state of Virginia, where this study took place, state laws substantially broaden the federal standard of zero tolerance for firearms, with the result that Virginia has one of the highest expulsion rates in the nation (U.S. Department of Education, Office of Safe and Drug-Free Schools, 2007).

It has long been recognized that for school improvement of any kind to be successful, the school culture must be altered (Creemers, 2002). Behavioral theories of effective school improvement hold that “schools do not change if the people within the schools, particularly the teaching staff, do not change” (Creemers, 2002, p. 350). Schools that are oriented toward zero tolerance necessarily have a strict and rigid structure that permits no flexibility or judgment in responding to student threats. Such an approach would be incompatible with a threat assessment model, which stresses an individualized assessment and problem-solving approach. Therefore it is necessary to examine the response of school staff to training in threat assessment and whether they would be responsive to the values, attitudes, and concepts of this different perspective.

Grotsky and Gamoran (2003) hypothesized that professional development goes beyond individual teacher improvement to benefit the entire school as a professional community. Professional development instills not only a common base of knowledge but also shared values and an atmosphere of collaboration that leads to school improvement. However, their study only examined teachers and did not consider the wider, multidisciplinary community of teachers, administrators, counselors, psychologists, law enforcement officers, and others who make up the typical American secondary school. School safety requires the involvement of all school personnel, and threat assessment is designed as a multidisciplinary approach that requires the cooperation of school administration, law enforcement, and mental health professionals. Training information and materials must address the differing values, interests, and perspectives of a professionally diverse audience and persuade them to work together on a new approach in a high-stakes situation. For this reason, it is important to examine how school personnel might differ in their response to training.

Finally, there are often substantial differences between school divisions in the student populations they serve. As Levin (2006) has noted, the field of school improvement has often failed to recognize the importance of social context and to demonstrate that an approach can be effective in high-challenge schools and communities. It is likely that educators in more affluent school divisions might be more receptive to staff training and less fearful about the problem of school violence than educators in school divisions serving a more challenging population. Schools that experience a high rate of student aggression might be more inclined to favor zero tolerance policies that minimize their contact with

students they perceive as potentially dangerous. Therefore, this study examined training effects in an affluent, suburban school division and a less affluent, urban system.

In conclusion, there were three primary objectives of this study. First, we examined whether student threat assessment training changed knowledge and attitudes about school violence from pre- to post-training. Second, we assessed how school personnel from different disciplines differed in their response to the training. Lastly, we investigated training effects among participants from two diverse school districts.

Method

Participants

The participants consisted of school personnel from two Virginia school divisions who attended separate full-day training workshops on the *Guidelines for Responding to Student Threats of Violence* (Cornell & Sheras, 2006). Because of socioeconomic and demographic differences between the two school divisions, the samples of school personnel were compared in some analyses.

Division A consisted of 66 schools enrolling more than 50,000 students in grades K-12. Fourteen percent of the students were eligible for free or reduced cost meals. The student population included 81% White, 7% African American, 7% Hispanic, and 8% other groups. The average teacher salary was approximately \$59,000 per year.

Division B consisted of 21 schools enrolling more than 15,000 students. Fifty-two percent of the students were eligible for free or reduced cost meals. The student population included 36% White, 60% African American, 2% Hispanic, and 2% other groups. The average teacher salary was approximately \$33,000.

School divisions were advised that the training was designed to prepare threat assessment teams for each school and that these teams would consist primarily of school administrators, psychologists, counselors, and law enforcement officers, but that other school staff could participate at the school's discretion. The school superintendent's office for each division determined which personnel would attend the workshop. As a result, the sample from Division A included 186 school personnel and the sample from Division B included 164 school personnel. Approximately three quarters of both samples were women, but there were substantial differences in ethnicity: 87% of the personnel from Division A were White and 8% were African American, whereas 44% were White and 53% African American in Division B. Additionally, in terms of occupation distribution, Division A and Division B had a fairly equal representation of principals and assistant principals attending the training (Division A = 21% and Division B = 26%). Conversely, 34% of the personnel from Division A were counselors, whereas only 10% were counselors from Division B.

Measures

The evaluation instrument was developed from a content analysis of the threat assessment training manual and information covered in the workshop. Items were developed by the researchers to cover key points from the training (e.g., that rates of school violence are declining and that the risk of school shootings is remote) as well as the ability to apply the threat assessment guidelines to classify student scenarios as transient or substantive threats. Two experienced workshop trainers reviewed the items for accuracy and appropriateness. A final pool of 20 items was presented on both the pre-training and post-training forms. Preliminary analyses indicated that 6 items did not contribute to an

increased internal consistency and so were dropped from the scale. The resultant 14 items had Cronbach's alpha values of .68 at pre-training and .72 at post-training. These values are not high enough to indicate that the knowledge scores are homogeneous measures of a single construct but are considered acceptable for more complex constructs that should be considered indexes rather than scales (Streiner, 2003).

The post-training survey also included six items designed to assess participant satisfaction with the training (e.g., "The training provided the right amount of practical information"). Analysis of the internal consistency of the six items revealed that one item ("The training could have been shorter") reduced the alpha value and so was dropped from the scale. The final five items generated an internal consistency of .86.

Procedure

Study procedures were reviewed and approved by the Institutional Review Boards at Eastern Virginia Medical School, Old Dominion University, and the University of Virginia. Separate 1-day training workshops were conducted for each school division shortly before the beginning of the school year. The two workshops were conducted by the same pair of trainers using identical training materials. All participants completed a pre-training survey form immediately before the workshop and completed the post-test survey at the end of the day.

The staff training program used the *Guidelines for Responding to Student Threats of Violence* manual (Cornell & Sheras, 2006), which was designed to allay fears of violence and persuade staff to adopt a prevention-oriented, threat assessment approach to student threats of violence. The manual has received positive reviews by experts in school safety, school psychology, and violence assessment (Virginia Youth Violence Project, 2008). The 6-hr training provided a comprehensive overview of the manual and was divided into five sessions. The first session covered the nature and extent of violence in schools and the rationale for using a threat assessment approach as opposed to a zero tolerance approach. This session corresponds to the first chapter of the manual.

The second session described the composition of the threat assessment team and provided a step-by-step review of the threat assessment procedure and its decision tree. This session corresponds with chapters 2–4 of the manual, which describe the team, the resolution of transient threats, and the response to substantive threats, respectively.

The third and longest session covered psychological factors relevant to a potentially violent student and legal issues concerning confidentiality of student records and liability for student violence. This session condenses chapters 5–10 in the manual, which have much more detail than can be covered in an oral presentation. In the manual, the 5th chapter explains in detail how to conduct a mental health assessment of a student who has made a very serious substantive threat, including lists of interview questions, a template for a written report, and a sample completed report. The 6th chapter describes typical pathways to violence (such as distinguishing youth engaged in antisocial behavior from youth who are psychotic) that the team should be prepared to identify. The 7th chapter provides questions and answers to typical legal and procedural questions and the 8th chapter summarizes research findings from the field study of the guidelines. Chapters 9 and 10 cover strategies for schoolwide violence prevention and recommendations for working with students receiving special education services, respectively.

The fourth session consisted of small group analysis and discussion of three case exercises. The manual provides 16 additional case exercises in the appendix in a format that allows the teams to test themselves. The appendix also includes forms for

documenting a threat assessment and creating behavior support plans that can be freely photocopied by school staff. The final session, corresponding to the final chapter in the manual, reviewed the steps in implementing a threat assessment approach and any final questions or concerns.

Results

A 2×2 repeated measures analysis of variance (ANOVA) was used to examine pre-post differences in threat assessment knowledge for the two school divisions (see Table 1). There was a significant main effect for time, indicating a mean improvement from pre- to post-training, $F(1, 349) = 1671, p < .001, \eta^2 = .83$. There was also a difference between school divisions A and B, $F(1, 349) = 69.74, p < .001, \eta^2 = .17$. Post-hoc analyses of group means indicated that school Division A obtained higher knowledge scores than school Division B on both pre- and post-training surveys. The interaction between school division and time was also statistically significant, $F(1, 349) = 12.58, p < .001, \eta^2 = 0.04$, indicating greater change in Division B.

In follow-up to the ANOVA, we conducted matched pairs t tests on each of the 14 items, in order to assess the strength of association for each item (see Table 2). All items showed a statistically significant ($p < .001$) change, with effect sizes (d) ranging from .28 to 1.57. These effect sizes are associated with substantial changes in the views endorsed by training participants (detailed tables are available upon request). For example, prior to training, only 18% of school personnel (marking *agree* or *strongly agree*) recognized that violence in schools has actually decreased during the past 10 years school, but after training more than 90% recognized this fact. Prior to training, about one in five participants (21.1%) had concerns that a homicide could occur in their school and another 23% were uncertain; whereas after training, only 5.4% were concerned and 9% were uncertain about a homicide, with a full 84.9% not concerned. Well over half of participants (58.7%) agreed with the need for zero tolerance before training, compared to just 12.2% after training. Recognition that violence prevention programs could reduce school violence increased from 41% to 90.1%.

The post-training satisfaction items indicated that the vast majority of participants had a favorable view of the training. Overall, 90% of the participants agreed that the training “improved my understanding of school violence, 90% agreed that the “resource materials (handouts, audiovisuals) enhanced the training,” 94% agreed that “I understand the basic concepts and guidelines for conducting a threat assessment, 91% agreed that “the training contained the right amount of practical information,” and 94% agreed the training “will be helpful to me in responding to student threats of violence” (see Table 3). The

Table 1. Pre-post training effects for two school divisions.

School Division	Pre-training		Post-training	
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)
Division A	46.7	(6.46)	61.8	(5.56)
Division B	41.0	(6.12)	58.9	(6.41)
Combined	44.0	(6.86)	60.5	(6.13)

Note: Items were answered on a 5-point scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). In order to generate a total composite score, items were recoded so that higher scores indicated responses in the desired direction. Total scores for the 14 items could potentially range from 14 to 70.

Table 2. Pre-post changes in training survey items.

Training Survey Items	Pre-training	Post-training	<i>t</i> value ¹	<i>d</i>
<i>Attitudes and concerns about school violence</i>				
1. Violence in schools has increased over the past ten (10) years. (<i>Disagree</i>)	2.14	4.58	29.4	1.57
2. I am concerned that a homicide could occur in my school. (<i>Disagree</i>)	3.54	4.29	11.9	0.63
3. The probability that a student will kill someone at school is so low that the average school will experience it about once every 12,000 years. (<i>Agree</i>)	2.59	4.74	27.3	1.46
4. The typical school violence prevention program can reduce fighting by 50%. (<i>Agree</i>)	3.30	4.58	19.5	1.04
5. Profiling is an effective method to identify students who may commit violent acts. (<i>Disagree</i>)	3.43	4.57	15.32	0.82
6. We need zero tolerance for student threats of violence in my school. (<i>Disagree</i>)	2.35	4.05	21.0	1.12
<i>Knowledge of threat assessment guidelines</i>				
7. A safety plan should be implemented for a transient threat. (<i>Disagree</i>)	2.58	3.95	15.82	0.84
8. If a student threatens an act of violence, immediate suspension is necessary. (<i>Disagree</i>)	3.08	4.07	13.44	0.72
9. When deciding whether a threat is transient or substantive, you should consider the student's age, credibility, and previous discipline history. (<i>Agree</i>)	3.84	4.21	5.17	0.28
10. If the student's behavior constitutes a serious discipline violation, it should automatically be deemed a substantive threat. (<i>Disagree</i>)	2.74	3.70	12.66	0.68
11. In order to collect more accurate information when conducting an interview with a student, the student should be reassured that any information reported is confidential. (<i>Disagree</i>)	3.27	4.40	15.14	0.81
12. Specific plausible details are an indication that a threat is probably substantive. (<i>Agree</i>)	3.96	4.26	5.64	0.30
13. Conflict between students of equal status and strength constitutes bullying. (<i>Disagree</i>)	3.60	4.58	14.06	0.75
14. Mental health assessments (as part of a threat assessment) are not designed to predict violence, but to understand what motivated the student to make a threat and how to prevent violence. (<i>Agree</i>)	3.66	4.69	16.29	0.87

Note: ¹All comparisons are statistically significant at $p < .001$. $N = 351$. Items were answered on a 5-point scale ranging from *Strongly Agree* to *Strongly Disagree*. The desired response is indicated after each item in parentheses. Items were recoded so that higher scores indicate responses in the desired direction.

correlation between pre-training knowledge and training satisfaction was significant, $r = .15$, $p < .05$, as well as the correlation between post-training knowledge and satisfaction, $r = .28$, $p < .001$.

Analyses of occupational differences combined school divisions A and B so that there would be larger cell sizes for each occupational category. A 2×5 repeated measures analysis of variance (ANOVA) was used to examine pre-post differences in threat assessment knowledge for the five largest occupation categories (principals, psychologists, counselors, social workers, and officers). As would be expected, there was again a significant main effect for time, indicating a mean improvement from pre- to post-training, $F(1, 247) = 936.44$,

$p < .001$, $\eta^2 = .79$. There was also a difference between occupation categories, $F(4, 247) = 12.59$, $p < .001$, $\eta^2 = .20$. The interaction between time and occupation was not statistically significant. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the school psychologists was significantly higher than all other occupations and that officers scored lower than all other occupations, but there were no significant differences among guidance counselors, principals, and social workers (see Table 4). Five paired-samples t tests were conducted to follow up the significant main effect for time. We controlled for family-wise error rate across these tests using Holm's sequential Bonferroni approach. Differences in mean ratings of knowledge of the threat assessment procedures were significantly different across occupations from pre-training to post-training. All occupations showed a statistically significant ($p < .001$) change, with effect sizes (d) ranging from .76 for Principals to .88 for Social Workers (see Table 4). Lastly, a one-way ANOVA was conducted on overall satisfaction scores for each occupation. The analysis showed no statistically significant differences among occupations in satisfaction with the training.

Discussion

The U.S. federal government's guiding legislation for schools, the No Child Left Behind Act of 2001 (NCLB) declares that school safety is a prerequisite to an orderly environment

Table 3. Means and standard deviations for post-training satisfaction items.

Items	School District A		School District B	
	<i>M</i>	(<i>SD</i>)	<i>M</i>	<i>SD</i>
This training improved my understanding of student violence.	4.4	(0.9)	4.5	(0.6)
The resource materials (handouts, audiovisuals) enhanced the training.	4.3	(0.7)	4.4	(0.8)
I understand the basic concepts and guidelines for conducting a threat assessment.	4.5	(0.6)	4.5	(0.6)
The training contained the right amount of practical information.	4.3	(0.6)	4.3	(0.7)
This training will be helpful to me in responding to student threats of violence.	4.5	(0.7)	4.5	(0.7)

Note: Items were answered on a 5-point scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). $N = 351$.

Table 4. Occupation differences for threat assessment knowledge pre- and post-training.

Occupation (<i>n</i>)	Pre-training		Post-training		<i>t</i>	η^2
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)		
Principals (82)	46.1	(6.7)	60.1	(6.3)	-16.04*	.76
Psychologists (32)	50.7	(6.4)	64.6	(4.2)	-13.20*	.85
Counselors (79)	44.0	(5.4)	61.0	(5.2)	-22.18*	.86
Officers (31)	41.0	(6.9)	57.8	(5.9)	-11.06*	.80
Social Workers (28)	44.7	(5.3)	61.4	(5.4)	-13.93*	.88

Note: * $p < .001$. Items were answered on a 5-point scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). In order to generate a total composite score, some items were recoded so that responses were in the desired direction. Total scores could potentially range from 14 to 70. $N = 351$.

conducive to learning (Title IV, Part A, SEC. 4002). School safety is clearly on the agenda of school administrators as an important concern, but there is relatively little research on school safety improvement. The present study contributes to this gap in the literature by examining the response of school staff members to training on student threat assessment.

School personnel who attended training in student threat assessment showed substantial changes in their knowledge and attitudes regarding school violence, with a statistically large overall effect size (η^2) of .83. Personnel in both school divisions showed a clear decrease in fears of school violence and the adoption of attitudes consistent with a threat assessment approach. They expressed a willingness to adopt a problem-solving approach to student threats and conflicts, as distinguished from a more punitive, zero tolerance approach. They rejected profiling as a way to identify dangerous students and instead demonstrated understanding that student threats can be investigated and resolved. They differentiated between transient and substantive threats and understood that substantive threats require protective action to prevent an act of violence from being carried out.

The school effectiveness and school improvement literature highlights the importance of professional development as a means of strengthening the professional community in schools. Professional development has the function of not only individual staff benefits but also a schoolwide effect of improving collaboration and achieving greater consistency in values and attitudes (Grotsky & Gamoran, 2003). The results of the student threat assessment training showed that school staff across disciplines achieved greater consensus on their perceptions of school violence and their understanding of how student threats can be addressed.

Research on bullying prevention draws special attention to changing the professional culture in the school (Roland & Galloway, 2004). Like student threat assessment training, bullying prevention training attempts to give staff a shared understanding of student aggression and a common commitment to addressing it (Olweus, 1993).

The changes in staff attitudes toward school safety and student threats of violence are noteworthy because they have direct implications for school safety policies and disciplinary practices. Virginia's expulsion rate of .169 per 1,000 students is among the top five in the nation (U.S. Department of Education, National Center for Education Statistics, 2004). Moreover, Virginia has been at the forefront of nationwide efforts to place law enforcement officers in its schools, with officers in 95% of its high schools and 74% of its middle schools (Schuiteman, 2007). The endorsement of threat assessment by two of the nation's leading law enforcement agencies (O'Toole, 2000; Vossekul et al., 2002) may help school personnel to accept the shift to a less punitive and decidedly preventive approach.

Another positive finding is the consistency of results across occupational groups. Administrators, mental health professionals, and law enforcement officers alike expressed satisfaction with the training, and all groups showed similar changes in attitudes and knowledge regarding threat assessment. This is a noteworthy accomplishment for a training program, because these groups have markedly different disciplinary backgrounds and perspectives and play different roles in maintaining school safety and dealing with potentially dangerous students.

Despite the consistency across occupations, there were differences between the staffs of the urban school division and the more affluent suburban school division. The urban school staff members began the training with attitudes that were further removed from the training goals than those of the suburban staff members. The urban school serves a markedly less affluent population and has a higher rate of serious disciplinary violations. Although Division B enrolled approximately 1/3 as many students, this urban district reported approximately 5,900 serious disciplinary violations in the 2005–06 school year,

compared to just 2,700 in the larger, suburban Division A (Virginia Department of Education, 2007). Nevertheless, both divisions showed large training effects and the gap between the school divisions was narrower after training. These observations support the effectiveness of training in both types of school divisions, despite large differences in the rates of disciplinary violations they experience. The school improvement literature stresses that it is especially important to demonstrate effects in high-poverty schools where the need is greatest (Levin, 2006). Nevertheless, Levin (2003) suggested that the problems in high-poverty schools are linked to non-academic, community factors such as poor nutrition and inadequate housing, so that efforts to improve teaching and learning can only achieve limited success. School safety may be still another non-academic factor.

All of these results must be tempered by the caveat that changes were measured immediately after training, when participants might be most inclined to agree with what they had been taught. It would be a useful next step to examine the long-term stability of training effects and to show how they affected decision-making in actual cases. A field-test of threat assessment in two other Virginia school divisions did demonstrate that school personnel resolved 188 student threats of violence with only three expulsions and no suspensions greater than 10 days (Cornell et al., 2004). A study of threat assessment in 209 cases in Memphis City Schools found that just five students were expelled without placement in an alternative setting (Strong & Cornell, in press).

Conclusions

During the 1990s, many schools systems implemented zero tolerance policies and instituted a variety of safety and security procedures in response to fears of student violence. At the same time, student expulsions increased dramatically and there were many cases of students being removed from school for seemingly minor transgressions (Skiba & Rausch, 2006). The U.S. Department of Education, in conjunction with the Secret Service, recommended that schools adopt a threat assessment approach that focuses on prevention rather than security, and discouraged efforts to identify allegedly dangerous students through profiling (Vossekuil et al., 2002). The present study found positive effects of a staff training program using the *Guidelines for Responding to Student Threats of Violence* (Cornell & Sheras, 2006), which was designed to allay fears of violence and persuade staff to adopt a prevention-oriented, threat assessment approach to student threats of violence. Future research should be aimed at demonstrating the long-term impact of this training on the response of school personnel to student threat incidents.

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References

- Arcia, E. (2006). Achievement and enrollment status of suspended students: Outcomes in a large, multicultural school district. *Education and Urban Society, 38*, 359–369.
- Bowen, N., Bowen, G., & Ware, W. (2002). Neighborhood social disorganization, families, and the educational behavior of adolescents. *Journal of Adolescent Research, 17*, 468–489.
- CNN. (2002). *Mourning for victims of German school rampage*. Retrieved April 11, 2008, from <http://archives.cnn.com/2002/WORLD/europe/04/26/germany.shooting/>
- CNN. (2007). *Teen dead who opened fire on Finnish classmates, police say*. Retrieved April 11, 2008, from <http://www.cnn.com/2007/WORLD/europe/11/07/school.shooting/index.html>
- Cornell, D. (2003). Guidelines for responding to student threats of violence. *Journal of Educational Administration, 41*, 705–719.
- Cornell, D. (2006). *School violence: Fears versus facts*. Mahwah, NJ: Lawrence Erlbaum.
- Cornell, D., & Sheras, P. (2006). *Guidelines for responding to student threats of violence*. Longmont, CO: Sopris West.
- Cornell, D., Sheras, P., Kaplan, S., McConville, D., Douglass, J., Elkon, A., et al. (2004). Guidelines for student threat assessment: Field-test findings. *School Psychology Review, 33*, 527–546.
- Creemers, B.P.M. (2002). From school effectiveness and school improvement to effective school improvement: Background, theoretical analysis, and outline of the empirical study. *Educational Research and Evaluation, 8*, 343–362.
- DeVoe, J.F., Peter, K., Noonan, M., Snyder, T.D., & Baum, K. (2005). *Indicators of school crime and safety: 2005* (NCES 2006-001/NCJ 210697). U.S. Departments of Education and Justice. Washington, DC: U.S. Government Printing Office.
- Fein, R.A., Vossekuil, F., & Holden, G.A. (1995). Threat assessment: An approach to prevent targeted violence. *National Institute of Justice: Research in Action, 1–7* (NCJ 155000). Retrieved August 2, 2004, from <http://www.secretservice.gov/ntac.htm>.
- Fein, R., Vossekuil, B., Pollack, W., Borum, R., Modzeleski, W., & Reddy, M. (2002). *Threat assessment in schools: A guide to managing threatening situations and to creating safe school climates*. Washington, DC: U.S. Secret Service and Department of Education.
- Flaherty, L.T. (2001). School violence and the school environment. In M. Shaffi & S.L. Shaffi (Eds.), *School violence assessment, management, prevention* (pp. 25–51). Washington, DC: American Psychiatric Publishing.
- Graham, S., Bellmore, A., & Mize, J. (2006). Peer victimization, aggression, and their co-occurrence in middle school: Pathways to adjustment problems. *Journal of Abnormal Child Psychology, 34*, 363–378.
- Grodsky, E., & Gamoran, A. (2003). The relationship between professional development and professional community in American schools. *School effectiveness and school improvement, 14*, 1–29.
- Heaviside, S., Rowand, C., & Farris, E. (1998). *Violence and discipline problems in U.S. public schools: 1996–1997*. (NCES 98-030). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Hill, D. (1998). Reform school. *Teacher Magazine, 9*, 34.
- Juvonen, J., Nishina, A., & Graham, S. (2000). Peer harassment, psychological functioning and school functioning in adolescents. *Journal of Educational Psychology, 92*, 349–359.
- Kostinsky, S., Bixler, E.O., & Kettl, P.A. (2001). Threats of school violence in Pennsylvania after media coverage of the Columbine High School massacre. *Archives of Pediatric Adolescent Medicine, 155*, 994–1001.
- Levin, B. (2003). *Better education: The role of the Canadian governments*. Whitworth Research Award presentation to the Canadian Education Association. Toronto, Canada: Canadian Centre for Policy Alternatives.
- Levin, B. (2006). Schools in challenging circumstances: A reflection on what we know and what we need to know. *School effectiveness and school improvement, 17*, 399–407.

- Ma, X. (2002). Bullying in middle school: Individual and school characteristics of victims and offenders. *School Effectiveness and School Improvement, 13*, 63–89.
- Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Oxford, UK: Blackwell.
- Osher, D., Dwyer, K., & Jackson, S. (2004). *Safe, supportive and successful schools: Step by step*. Longmont, CO: Sopris West.
- O'Toole, M.E. (2000). *The school shooter: A threat assessment perspective*. Quantico, VA: National Center for the Analysis of Violent Crime, Federal Bureau of Investigation.
- Roland, E. (2000). Bullying in school: Three national innovations in Norwegian schools in 15 years. *Aggressive Behavior, 26*, 135–143.
- Roland, E., & Galloway, D. (2004). Professional cultures in schools with high and low rates of bullying. *School Effectiveness and School Improvement, 15*, 241–260.
- Schuiteman, J.G. (2007). *The status of Virginia SROs: 2007*. Retrieved July 17, 2007, from <http://www.dcjs.virginia.gov/vcss/sro.cfm?menuLevel=5&mid=3>
- Singer, M., & Flannery, D. (2000). The relationship between children's threats of violence and violent behaviors. *Archives of Pediatric and Adolescent Medicine, 154*, 785–790.
- Skiba, R., & Rausch, M.K. (2006). School disciplinary systems: Alternatives to suspension and expulsion. *Children's needs III: Development, Prevention, and Intervention, 1*, 87–102.
- Skiba, R.J., & Peterson, R. (1999). The dark side of zero-tolerance: Can punishment lead to safe schools? *Phi Delta Kappan, 80*(5), 372–382.
- Smith, J.D., Schneider, B.H., Smith, P.K., & Ananiadou, K. (2004). The effectiveness of whole-school antibullying programs: A synthesis of evaluation research. *School Psychology Review, 33*, 547–560.
- Streiner, D.L. (2003). Being inconsistent about consistency: When coefficient Alpha does and doesn't matter. *Journal of Personality Assessment, 80*, 217–222.
- Strong, K., & Cornell, D. (in press). Student threat assessment in Memphis City Schools: A descriptive report. *Behavioral Disorders*.
- U.S. Department of Education, National Center for Education Statistics. (2004). *Indicators of school crime and safety*. Retrieved April 2, 2004, from <http://www.nces.ed.gov/>
- U.S. Department of Education, Office of Safe and Drug-Free Schools. (2007). *Report on the implementation of the Gun-Free Schools Act in the States and outlying areas, school year 2003–04*. Washington, DC: Author.
- Virginia Department of Education (2007). *Annual report of discipline, crime, and violence, school year 2005–2006*. Richmond, VA: Author. Retrieved July 19, 2007, from <http://www.pen.k12.va.us/VDOE/Publications/>
- Virginia Youth Violence Project. (2008). *Guidelines for responding to student threats of violence: Reviewer comments*. Retrieved April 16, 2008, from <http://youthviolence.edschool.virginia.edu/reviews.html>
- Vossekuil, B., Fein, R.A., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States*. Washington, DC: U.S. Secret Service and U.S. Department of Education.

A Retrospective Study of School Safety Conditions in High Schools Using the Virginia Threat Assessment Guidelines Versus Alternative Approaches

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Threat assessment has been widely recommended as a violence prevention approach for schools, but there are few empirical studies of its use. This nonexperimental study of 280 Virginia public high schools compared 95 high schools using the Virginia threat assessment guidelines (Cornell & Sheras, 2006), 131 following other (i.e., locally developed) threat assessment procedures, and 54 not using a threat assessment approach. A survey of 9th grade students in each school obtained measures of student victimization, willingness to seek help for bullying and threats of violence, and perceptions of the school climate as caring and supportive. Students in schools using the Virginia threat assessment guidelines reported less bullying, greater willingness to seek help, and more positive perceptions of the school climate than students in either of the other 2 groups of schools. In addition, schools using the Virginia guidelines had fewer long-term suspensions than schools using other threat assessment approaches. These group differences could not be attributed to school size, minority composition or socioeconomic status of the student body, neighborhood violent crime, or the extent of security measures in the schools. Implications for threat assessment practice and research are discussed.

Keywords: Student threat assessment, school violence, school safety, violence prevention

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Since the 1999 shootings at Columbine High School, school administrators have been under pressure to assure the public that schools are safe and secure (Cornell, 2006). The shootings in 2005 at Red Lake High School in Minnesota, in 2006 at the Amish school in Pennsylvania, and in 2007 at Virginia Tech received worldwide attention and have kept the issue of school safety in the foreground of national concerns. The purpose of this study was to examine school climate conditions in a group of Virginia high schools that elected to implement a student threat assessment program designed to prevent acts of violence. This investigation was undertaken after a statewide survey indicated that 95 high schools had adopted the threat assessment guidelines developed by the University of Virginia (Cornell & Sheras, 2006), 54 indicated that they had no formal process, and 131 indicated that they had some other model. These three groups of schools were compared on existing sources of information regarding student perceptions of school climate and levels of bullying, as well as school records of disciplinary infractions for aggressive behavior.

Both FBI (O'Toole, 2000) and U.S. Secret Service (Vossekuil, Fein, Reddy, Borum, &

Modzeleski, 2002) studies remarked on the diverse backgrounds and circumstances of students who engaged in acts of targeted violence, and identified some general characteristics seen in many, but not all, of the student perpetrators. Many of the students were victims of bullying who had become angry and depressed, had family relationship problems, and were negatively influenced by peers. Over half displayed a preoccupation with violence through movies or video games. Both law enforcement agencies concluded that, because these characteristics can be found in so many students, it is not possible to develop a profile or checklist that could be used to pinpoint the small number of truly violent students among them. Any checklist of warning signs would falsely identify many students who were not dangerous.

Nevertheless, the FBI and Secret Service emphasized that almost all of these students communicated their intentions to attack through threats and warnings. In most cases, the threats were not communicated directly to the intended victims but to third parties such as their peers. Had these threats been reported to authorities and investigated, the shootings might have been prevented; the FBI identified a series of potential school shootings that were prevented because students reported a threat to authorities that was investigated and determined to be serious (O'Toole, 2000). On the basis of these observations, both the FBI and the Secret Service, in collaboration with the Department of Education, recommended that schools adopt a *threat assessment* approach to prevent targeted acts of violence (Fein et al., 2002; O'Toole, 2000). Similar recommendations were made for institutions of higher education following the Virginia Tech shootings (United States Department of Health and Human Services, 2007; Virginia Tech Review Panel, 2007).

What is threat assessment? Threat assessment is widely used by the Secret Service to deal with persons who threaten to attack public officials, and has evolved into a standard law enforcement approach to analyze a variety of dangerous situations, such as threats of workplace violence. Threat assessment is a process of evaluating a threat, and the circumstances surrounding the threat, to uncover any facts or evidence that indicate that the threat is likely to be carried out. Student threat assessment can be distinguished from profiling in part because the in-

vestigation is triggered by the student's own threatening behavior rather than some broader combination of student characteristics.

Threat assessment is ultimately concerned with whether a student *poses* a threat, not whether he or she has *made* a threat (O'Toole, 2000; Randazzo et al., 2006). Any student can make a threat, but relatively few will engage in the planning and preparation necessary to carry out the threat. Threat assessment is concerned with determining whether a student has the intent and means to carry out the threat and includes efforts to prevent the threat from being carried out. Prevention efforts range from immediate security measures, such as notifying law enforcement and warning potential victims, to the development of an intervention plan designed to resolve the conflict or problem that precipitated the threat.

Although both the FBI and Secret Service reports (Fein et al., 2002; O'Toole, 2000) made a compelling case for student threat assessment, schools had no experience with this approach, and there were many questions concerning the practical procedures that should be followed. In response, researchers at the University of Virginia developed a set of guidelines for school administrators to use in responding to a reported student threat of violence. Threat assessment teams are trained in a 6-hr workshop that prepares them to use a 145-page threat assessment manual (Cornell & Sheras, 2006).

The Virginia model of threat assessment is an approach to violence prevention that emphasizes early attention to problems such as bullying, teasing, and other forms of student conflict before they escalate into violent behavior. School staff members are encouraged to adopt a flexible, problem-solving approach, as distinguished from a more punitive, zero-tolerance approach to student misbehavior. As a result of this training, the model is intended to generate broader changes in the nature of staff-student interactions around disciplinary matters and to encourage a more positive school climate in which students feel treated with fairness and respect.

A study of 351 school staff members who completed the Virginia workshop found that participants became less anxious about the possibility of a school homicide, more willing to use threat assessment methods to help students resolve conflicts, and less inclined to use a

zero-tolerance approach (Allen, Cornell, Lorek, & Sheras, 2008). Similar effects were found for principals, psychologists, counselors, social workers, and law enforcement officers.

The Virginia guidelines include a seven-step decision tree. In brief, the first three steps constitute a triage process in which the team leader (most often a school administrator such as the principal or assistant principal) investigates a reported threat and determines whether the threat can be readily resolved as a *transient* threat that is not a serious threat. Examples of transient threats are jokes or statements made in anger that are expressions of feeling or figures of speech rather than expressions of a genuine intent to harm someone.

Any threat that cannot be clearly identified and resolved as transient is treated as a *substantive* threat. Substantive threats always require protective action to prevent the threat from being carried out. The remaining four steps guide the team through more extensive assessment and response based on the seriousness of the threat. In the most serious cases, the team conducts a safety evaluation that includes both a law enforcement investigation and a mental health assessment of the student. The culmination of the threat assessment is the development of a safety plan that is designed to address the problem or conflict underlying the threat and prevent the act of violence from taking place. For both transient and substantive threats, there is an emphasis on helping students resolve conflicts and minimizing the use of zero-tolerance suspensions as a disciplinary response.

The Virginia threat assessment guidelines were field tested in 35 public schools, encompassing an enrollment of more than 16,000 students in Grades K–12 (Cornell et al., 2004). School-based teams evaluated 188 student threats that involved threats to hit, stab, shoot, or harm someone in some other way. Most of the threats (70%) were resolved as transient threats, and the remaining 30% were substantive threats that required more extensive assessment and protective action. The threat assessment teams placed special emphasis on understanding the context and meaning of the threat and developing a plan to address the underlying conflict or problem that stimulated the student to resort to threatening behavior. Use of this problem-solving approach meant that relatively few students received long-term suspensions or ex-

pulsions from school. Only 3 students were expelled from school, although half of the students ($n = 94$) received short-term suspensions (typically 1–3 days). Notably, follow-up interviews with the school principals found no cases in which the threats were carried out.

A second study examined the Virginia threat assessment model when used by a centralized team responding to 209 serious threat cases in Memphis City Schools (Strong & Cornell, 2008). There were 60 (29%) threats to hit or beat up someone, 48 (23%) threats to cut or stab, 32 (15%) threats to shoot, 30 (14%) threats to kill, 14 (7%) sexual threats, and 25 (12%) other threats (such as to blow up or burn down the school). This study found that all of the student threats were resolved without any detected act of violence. Almost all students were able to return to their school or an alternative school placement, with only five students receiving long-term suspensions without school services. Plans to assist each student included modifications to special education plans, the provision of academic and behavioral support services, and referrals to community-based mental health services. After the threat assessment, the number of disciplinary office referrals for these students declined by approximately 55% through the remainder of the school year.

The most notable limitation to previous studies of the Virginia threat assessment model is the absence of a comparison group. To address this need, the present study examined the use of the Virginia threat assessment model in the statewide population of Virginia high schools. The 95 high schools using the Virginia model were compared with 131 schools using a locally developed threat assessment model and 54 schools not using a threat assessment approach. This was a retrospective comparison conducted after the school principals had responded to a question on an annual school safety audit survey about their approach to threat assessment.

We expected that schools using the Virginia model of threat assessment would create a more positive and supportive school climate that encouraged students to come forward to obtain help in response to bullying and threats of violence, and that this in turn would give staff more opportunities to prevent or reduce student bullying and other forms of victimization. We expected that schools using the Virginia model to resolve student conflicts would be less likely to

use school exclusion as a response to disciplinary infractions.

Data on student victimization and perceptions of school climate were available from the Virginia High School Safety Study (Cornell & Gregory, 2008), a statewide examination of school climate and safety conditions in Virginia public high schools using data collected from school principals, students, teachers, and school records. The purpose of the study was to identify school safety practices that were associated with more positive school climates and lower levels of crime and violence. Most relevant to the present study, the Virginia High School Safety Study included a statewide survey of ninth grade students. Ninth grade students were surveyed because the first year of high school is considered a pivotal year for student adjustment and achievement (Donegan, 2008), ninth grade students in Virginia have an especially high rate of discipline violations (Virginia Department of Education, 2007), and nationally, ninth grade students experience a high rate of bully victimization (Nansel et al., 2001), probably because they are youngest students in the school. This study did not collect case data on student threats, so schools were compared on the basis of more general outcomes that could be expected from the adoption of a threat assessment approach.

Consequently, we hypothesized that schools using the Virginia model would have lower rates of long-term suspensions and fewer disciplinary violations involving aggressive behavior. We further hypothesized that there would be less student bullying and victimization, and that students would have a positive view of the school climate if the school adopted a problem-solving approach, rather than the more punitive, zero-tolerance approach that is widely adopted in Virginia schools. Finally, we hypothesized that students would be more willing to seek help from school staff for bullying and other threats of violence, and that they would have a more positive perception of school staff as treating them with fairness and respect.

Method

Participants

Schools

All 314 Virginia high schools were eligible for inclusion in the Virginia High School Safety

Study, which was the source of data for this report. Virginia law requires every public school principal to complete an annual online school safety audit. The principal survey for the 2006–2007 school year asked whether they used “a formal threat assessment process to respond to student threats of violence.” In response, 95 principals checked the answer “Yes, we follow the guidelines developed by the University of Virginia (UVA),” 54 indicated that they had no formal process, and 131 indicated that they had some other process. In response to a follow-up question about the source of their guidelines, these principals wrote that they were developed by some combination of in-house administrative staff (52 schools), by district-level staff (48 schools), or a combination of school staff and local professionals in law enforcement or mental health (6 schools). Two principals reported that they did not know the source of their guidelines, 1 school reported use of a private consultant, and 1 reported that they used state department of education guidelines (although such guidelines do not exist). The remaining 34 schools did not provide a response and could not be included in the study.

The 280 participating schools ranged in size from 33 to 2,881 students, with an average of 1,199 students. All 280 schools participated in the Virginia High School Safety Study (described below). There were 50 urban, 110 suburban, and 120 rural schools. The percentage of minority students in the schools ranged from 0% to 100%, with an average of 34% ($SD = 26$). The percentage of students eligible for reduced price meals ranged from 0% to 100%, with an average of 31% ($SD = 16$). The number of school resource officers at the schools ranged from none to three, including 36 schools with no officer, 232 with one officer, 10 with two officers, and 2 with three officers.

Students

As part of the Virginia High School Safety Study (Cornell & Gregory, 2008), school principals selected approximately 25 ninth grade students per school by matching a series of random numbers to alphabetized student rolls. (Schools with fewer than 25 ninth grade students selected all available ninth grade students.) Principals were instructed to send a standard letter to parents explaining that their son or

daughter had been chosen to complete an anonymous online survey as part of the state's school safety audit program and advising them to contact the school if they did not wish their child to participate. Students who were unwilling or unavailable to complete the survey were replaced with the next available student on the list.

Principals reported that approximately 27% of the students initially identified by the sampling procedure did not participate in the study. The reasons for nonparticipation included student declined to participate (16% of those who did not participate), parent declined (6%), student absent due to illness (32%), student suspended from school (5%), student moved or transferred (7%), student language barrier (3%), or some other reason (this could range from a severe disability to attending a field trip; 30%).

The student participants consisted of 7,318 ninth grade students (49% female) with an average age of 14.8 years and a range of 12 to 17 years (87% were ages 14 or 15). The self-reported racial/ethnic distribution of the sample was 63% White/Caucasian, 23% Black/African American, 5% Latino/Hispanic, 3% Asian American, 1% American Indian, and 5% other.

Measures

Disciplinary Records

High school principals in Virginia report student suspensions and other disciplinary actions to the Virginia Department of Education using a standard set of reporting conventions and 113 categories of disciplinary infractions. State records for the 2006–2007 school year provided the number of long-term suspensions (>5 days) and short-term suspensions (<5 days) for each high school. The category of long-term suspensions also included expulsions because there were too few expulsions ($Mdn = 0$) to justify separate analyses. In addition, the numbers of disciplinary referrals for aggressive behavior (all forms of assault and physical altercation, fighting, bullying, possession of a weapon) were summed into a total score. On the school safety audit survey, school principals reported the number of school resource officers employed at the school on a daily basis.

Neighborhood Violent Crime

To measure the extent of violent crime in the neighborhoods comprising the high school attendance zones, we mapped annual records obtained from the Virginia Department of State Police and local law enforcement agencies onto school attendance zones. The total numbers of violent crimes using standard FBI definitions of violent crime were identified. Crimes occurring at school were not included in the count.

Student Survey

Ninth grade students completed a school climate survey as part of the Virginia High School Safety Study in the spring of 2007. The survey was completed anonymously online at computer stations in classrooms. Student responses at each school were aggregated into school-level scores.

Student perceptions of school security were measured by a nine-item Security Measures Index derived from the School Crime Supplement to the National Crime Victimization Survey (National Center for Education Statistics, 2005). Students were asked whether their school had each of nine security measures in place (responding *yes*, *no*, *don't know*), such as "security guards or assigned police officers," "metal detectors," and "one or more security cameras to monitor the school." The average number of security measures identified by the students at each school was used as an index of school security efforts.

The survey included a Victimization Index from the Effective School Battery (Gottfredson, 1999). Students were asked (true or false) whether each of seven forms of criminal victimization had happened to them in school. Items ranged from theft of personal property to being physically attacked. Internal consistency (Cronbach's alpha) of this index was .68 in the sample for the Virginia High School Safety Study.

Two measures of bullying were included in the high school survey. Both measures were taken from the School Climate Bullying Survey (Cornell & Sheras, 2003) and have been used in other studies of bullying (Branson & Cornell, in press; Cornell & Brockenbrough, 2004; Thunfors & Cornell, 2008; Williams & Cornell, 2006). The Bullying Climate Scale consisted of

seven items describing the extent of teasing and bullying that students observed taking place at school. Students were asked how much they agree (*strongly disagree*, *disagree*, *agree*, or *strongly agree*) with statements such as, “Students here often get teased about their clothing or physical appearance,” and “Bullying is a problem at this school.” The scale had an internal consistency of .68 in this study. This level of internal consistency is acceptable for sets of items that can be regarded as an index of behaviors rather than a homogeneous scale (Streiner, 2003).

The Bullying Victimization Index consisted of four questions asking students whether they had been victims of bullying, physical bullying, verbal bullying, or social bullying in the past month. Students were given a standard definition of bullying: “Bullying is defined as the use of one’s strength or status to injure, threaten, or embarrass another person. Bullying can be physical, verbal, or social. It is not bullying when two students of about the same strength argue or fight.” There were four response categories (*never*, *once or twice*, *about once per week*, and *several times per week*). Internal consistency was .82.

The Help-Seeking Scale is an eight-item scale from the School Climate Bullying Survey (Cornell & Sheras, 2003) that was designed to measure student willingness to seek help from school staff members for bullying and threats of violence. The scale has been used in previous research on student willingness to seek help (Bandyopadhyay, Cornell, & Konold, 2008; Williams & Cornell, 2006) and asked students to agree (*strongly disagree*, *disagree*, *agree*, or *strongly agree*) with statements such as, “If another student was bullying me, I would tell

one of the teachers or staff at school,” and “If another student talked about killing someone, I would tell one of the teachers or staff at school.” Internal consistency was .78.

To measure perceptions of school staff as treating them with fairness and respect, students completed the Learning Environment Scale from the California Healthy Kids Survey (Austin & Duerr, 2005). The scale consisted of eight items asking students how much they agree (*strongly disagree*, *disagree*, *agree*, *strongly agree*) that the adults in their school “really care about all students,” “treat all students fairly” and show respect and support for students in other ways. Internal consistency was .92.

Results

Table 1 presents descriptive statistics for six school demographic characteristics identified as potential confounding variables in our comparison of three groups of schools: total enrollment, proportion of minority students, proportion of students eligible for reduced price meals, annual number of neighborhood violent crimes, number of school resource officers employed at the school, and student perceptions of school security.

Study hypotheses were tested with multivariate analysis of covariance (MANCOVA) that controlled for the six demographic variables and compared the three groups of schools on eight outcome variables: victimization, bullying victimization, bullying climate, help seeking, learning environment, short-term suspensions, long-term suspensions, and aggressive discipline violations. The test for overall group differences was statistically significant, Wilks’s $\Lambda = .85$, $F(16, 528) = 2.83$, $p < .001$. As

Table 1
Descriptive Statistics for Demographic and School Security Measures

Variable	Virginia model (<i>n</i> = 95)		No model (<i>n</i> = 54)		Other model (<i>n</i> = 131)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
School enrollment	1,129	594	1,142	687	1,273	729
Proportion minority students	.35	.29	.31	.23	.35	.25
Proportion free/reduced price meals	.32	.18	.32	.15	.29	.15
Number of violent crimes	328	469	231	385	332	412
Number of school resource officers	.88	.48	.93	.43	.95	.40
Number of security measures	4.86	.72	4.84	.84	4.84	.72

discussed in quantitative methodology literature (e.g., Stevens, 2001), Wilks's $\Lambda = .85$ from the MANOVA can be approximately converted to $\eta^2 = .15$ as an effect size measure ($\eta^2 = 1 - \Lambda$). Using Cohen's (1988) guidelines, $\eta^2 = .15$ is considered a medium effect size.

Table 2 presents the descriptive statistics for the three groups on the eight outcome variables, group comparison statistical tests, and the effect sizes for two group comparisons (Virginia model vs. each of the other two groups). Seven of the eight outcome variables showed a statistically significant univariate ANOVA. Follow-up Dunnett post hoc tests indicated no statistically significant differences between the group of Virginia model schools and either one of the other two groups of schools on short-term suspensions or aggressive discipline violations. However, schools using the Virginia model of threat assessment had lower levels of long-term suspensions than the other two groups of schools. Furthermore, students in schools using the Virginia model reported less bullying and teasing in the school, a more favorable learning environment, and greater willingness to seek help from adults in the school than students in

the other two groups of schools. Finally, students in the schools using the Virginia model reported lower levels of student victimization and bullying victimization than students in the schools using no form of threat assessment. The statistically significant effect sizes ranged from 0.27 to 0.40, which fall into the range of small to medium effect sizes, using Cohen's d of 0.20 and 0.50 as benchmarks for small and medium effects, respectively.

Discussion

This is the first report of a study comparing schools using or not using a threat assessment approach. This study was retrospective rather than experimental in design, and examined school safety conditions in schools that had previously adopted or not adopted the Virginia threat assessment guidelines. Previous studies have reported on the implementation of threat assessment, but have not compared schools using threat assessment with other groups of schools (Cornell et al., 2004; Strong & Cornell, in press; Van Dyke & Schroeder, 2006). In our sample of 95 schools using the Virginia guide-

Table 2
Statistical Tests and Effect Sizes for Group Comparisons on School Climate Measures

Variable	(1) Virginia model (<i>n</i> = 95)		(2) No model (<i>n</i> = 54)		(3) Other model (<i>n</i> = 131)		Group comparison effect size ^a and statistical test result	
	<i>M</i> ^b	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	1 vs. 2	1 vs. 3
Student victimization ^c	1.27	0.33	1.33	0.31	1.41	0.37	-0.19	-0.40*
Bullying victimization ^c	1.21	0.49	1.29	0.48	1.40	0.51	-0.16	-0.38*
Bullying climate ^c	16.48	1.13	16.96	0.96	16.83	0.92	-0.45*	-0.35*
Help seeking ^{c,d}	22.58	1.74	21.87	1.80	22.14	1.55	0.40*	0.27*
Learning Environment ^{c,d}	27.75	2.16	26.79	2.55	27.08	2.18	0.42*	0.31*
Short-term suspensions ^c	364.65	470.62	455.47	423.14	309.79	334.19	-0.20	0.14
Long-term suspensions ^c	10.50	12.71	15.28	20.78	15.71	20.24	-0.30*	-0.30*
Aggressive discipline violations	40.79	26.96	39.96	22.08	37.46	23.69	0.03	0.13

^a The effect size is Cohen's d :

$$d = \frac{\bar{X}_{\text{Virginia model group}} - \bar{S}\bar{X}_{\text{other group}}}{S_{\text{pooled}}}$$

where S_{pooled} is the pooled standard deviation across the two comparison groups. ^b These are adjusted group means obtained from MANCOVA after adjusting for the six school background variables. ^c Statistically significant group differences ($\alpha = .05$) on this outcome variable in the follow-up univariate ANCOVA. ^d This is a positive outcome for which a higher value is desirable; all others are negative outcomes for which lower values are desirable.

* Dunnett group comparison (Virginia Model group vs. each of the other two groups) is statistically significant at $\alpha = .05$.

lines for threat assessment, students reported a more positive school climate characterized by less teasing and bullying than students in schools using no form of threat assessment. They were more likely to report that school staff cared about all students and treated them with respect, and they expressed more willingness to seek help for problems such as bullying and threats of violence. Also, school records showed fewer long-term suspensions in schools using the Virginia model. These effects were close to medium in size (Cohen's d ranging from 0.30 to 0.45). An effect size of 0.40 means that the average high school using the Virginia guidelines would stand at the 66th percentile of high schools not using the guidelines.

Although this study did not test for causal effects through an experimental design, one possible explanation for these findings is that the Virginia model places an emphasis on encouraging students to seek help for bullying and other threats of violence and on resolving peer conflicts and disputes before they rise to the level of serious problems. For example, the threat training program specifically recommends that school staff teach students the difference between snitching and seeking help. Moreover, two previous studies have reported that all cases were resolved without the threatened act of violence being carried out (Cornell et al., 2004; Strong & Cornell, in press). It would be useful to gather additional information about the way in which the threat assessment model was implemented and how it influenced student-staff interactions.

It is surprising that there were even more pronounced differences between schools using the Virginia model and schools using an alternative approach to threat assessment. The Virginia model schools were superior to this comparison group on six of eight outcome measures, with effect sizes ranging from 0.27 to 0.40. Students attending high schools using the Virginia model reported that they observed less teasing and bullying among their peers and they were less likely to report being the victim of bullying or other forms of aggressive behavior, such as being threatened or assaulted. They were more likely to report that school staff treated them with respect, and they expressed more willingness to seek help from school staff. Perhaps most notably, schools using the Virginia model had fewer long-term suspensions

(although not short-term suspensions) than schools using an alternative model. The consistency between student report and administrative records suggests that there is a reliable difference between the two groups of schools.

Explanations for Study Findings

How can the consistent differences between the Virginia model group and the other two groups be explained? The Virginia model was designed to carry out the recommendations of school safety reports by the FBI (O'Toole, 2000) and Secret Service (Vossekuil et al., 2002). The Virginia procedures were developed in consultation with a team of experienced school administrators, school resource officers, and mental health professionals (Cornell & Sheras, 2006), and the process was field tested for 1 year in 35 schools (Cornell et al., 2004). The procedures are described in detail in a 145-page manual and school teams are trained in a 6-hr workshop. In contrast, it is unlikely that in-house administrative school staff would have had the time and resources to develop comparable procedures for their schools.

In addition, the Virginia model places a strong emphasis on resolving student conflicts and intervening in cases of bullying before such problems escalate into violence. The model offers alternatives to disciplinary actions and recommends minimal use of long-term suspensions. Previous studies reported low rates of long-term suspensions (Cornell et al., 2004; Strong & Cornell, 2008). A study of school staff attending the workshop found that participants demonstrated an increased willingness to take a problem-solving approach to student threats of violence and decreased interest in a zero-tolerance approach (Allen et al., 2008). The change in attitudes toward zero tolerance is especially noteworthy because zero-tolerance discipline policies are widely employed in Virginia schools.

To detect potentially confounding factors in the school population that would explain study findings, we compared the three groups on school size, proportion of minority students, and proportion of students eligible for a reduced price meal. Although there was substantial variation across high schools, there were no statistically significant differences between groups.

An additional concern was that schools might differ in the level of violent crime in the surrounding community or in the presence of school resource officers and other security measures in the school. However, group comparisons showed no differences among the three groups in the annual number of violent crimes recorded by police for the high school attendance zone, in the number of school resource officers at the school, or in student perceptions of the extent of security measures (metal detectors, video cameras, locked doors, etc.) used by the school.

Despite these efforts to show that the group differences could not be attributed to school demographics or security measures, it is still conceivable that uncontrolled self-selection factors could have contributed to study findings. It is conceivable that schools that already had lower rates of bullying and more positive climates chose to adopt the Virginia model, whereas schools with less positive school climates were more inclined to develop their own model or not use a threat assessment approach. Only a randomized controlled study can fully address this limitation. It should be noted, however, that the decision to adopt the Virginia model was not made by individual high schools, which lessens the possibility of selection bias at the school level. Typically, the decision to undertake training in the Virginia threat assessment model was made at the central administrative level rather than the school level. Typically, the superintendent's office contracted with the University of Virginia to provide division-wide training for all schools in the county or city. Moreover, high school staff members were not always favorably inclined to adopt a threat assessment model and did not consistently hold attitudes that were congruent with this approach. For example, the training stressed that students who threatened to kill someone did not need to be given a long-term suspension, and that almost all students who made such threats could continue in school, provided that the threat assessment procedures were followed. A study of workshop participants showed large improvements in staff attitudes toward threat assessment principles and decreased endorsement of zero-tolerance approaches after training (Allen et al., 2008).

Directions for Future Research

An important direction for future research is to obtain independent verification that the principals implemented the threat assessment strategy that they reported on the school safety audit survey. Furthermore, no information was available on the extent to which the school staff carried out the threat assessment model with integrity. These limitations make it desirable to conduct a more extensive study of how schools carry out threat assessment procedures.

The effect sizes in this study were close to medium effect size, with an overall $\eta^2 = .15$ for the multivariate comparison of the three groups. The multivariate effect size indicates that approximately 15% of the variance on the outcome measures could be attributed to group status. There are several possible explanations for these results. First, because there was no way to determine how completely and consistently the school staff implemented the threat assessment model, it is possible that the intervention effects were diminished by the presence of schools that were not fully compliant with the model. In a review of school-based violence prevention programs, Wilson, Lipsey, and Derzon (2003) noted that effect sizes are typically much higher when a program is conducted on a demonstration basis and monitored by researchers than when the program is implemented on a routine basis without benefit of researcher support. It would be useful to obtain measures of model compliance that could be correlated with these outcomes.

Second, the outcome measures used in this study were distal from the threat assessment intervention. Case data on students who made threats would provide a more direct assessment than samples of ninth grade students reporting on general climate conditions. It is noteworthy that an intervention model designed to deal with students making threats of violence seems to have produced generalized effects on the school climate. It is possible that the resolution of student threats had a ripple effect on student interactions in general, such as reducing incidents of bullying because a student who was bullying others was identified in the course of a threat assessment. Another possibility is that the problem-solving approach of threat assessment had a salutary effect on staff responses to other student misbehavior.

Beyond student report, there was also a small effect on long-term suspensions. After statistically adjusting for six covariates in the MANCOVA, Virginia model schools recorded an average of 10.5 long-term suspensions, no-model schools recorded 15.28 long-term suspensions, and schools using an alternative model of threat assessment recorded 15.27 long-term suspensions. These variations could be attributable to differences in how schools deal with student threats. Cornell et al. (2004) found that the high schools in their field-test study conducted approximately 10 threat assessments per year. If no-model schools and alternative-model schools used a zero-tolerance policy for such cases, it could produce a similar difference in long-term suspensions. However, it is less likely that disciplinary outcomes for threat assessments could produce differences in short-term suspensions or disciplinary violations for physical aggression, which were not statistically significant in this study. The rates for short-term suspensions ($M = 355$ per school) and aggressive disciplinary violations ($M = 39$) are much higher than the typical number of threats that would come to the attention of high school authorities for a threat assessment.

Although a randomized controlled study is needed, these findings support the conclusion that the Virginia model appears to be a promising approach for responding to student threats of violence that has a beneficial effect on school safety conditions. The Virginia threat assessment model is intended to orient school staff toward a problem-solving approach to student threats that may have a generalized effect on other student conflicts and on student willingness to seek help for threatening situations.

References

- Allen, K., Cornell, D., Lorek, E., & Sheras, P. (2008). Response of school personnel to student threat assessment training. *School Effectiveness and School Improvement, 19*, 319–332.
- Austin, G., & Duerr, M. (2005). *Guidebook for the California Healthy Kids Survey: Part III. School Climate Survey for teachers and other staff* (2005–2006 ed.). WestEd. Retrieved January 5, 2006, from http://www.wested.org/pub/docs/chks_surveys_summary.html
- Bandyopadhyay, S., Cornell, D., & Konold, T. (2008). *Internal and external validity of three school climate scales from the School Climate Bullying Survey*. Unpublished manuscript, University of Virginia.
- Branson, C., & Cornell, D. (in press). A comparison of self- and peer reports in the assessment of middle school bullying. *Journal of Applied School Psychology*.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Cornell, D. (2006). *School violence: Fears versus facts*. Mahwah, NJ: Erlbaum.
- Cornell, D., & Brockenbrough, K. (2004). Identification of bullies and victims: A comparison of methods. *Journal of School Violence, 3*, 63–87.
- Cornell, D., & Gregory, A. (2008). *Virginia High School Safety Study: Descriptive report of survey results from ninth grade students and teachers*. Charlottesville: University of Virginia.
- Cornell, D., & Sheras, P. (2003). *School Climate Bullying Survey*. Charlottesville: Virginia Youth Violence Project.
- Cornell, D., & Sheras, P. (2006). *Guidelines for responding to student threats of violence*. Longmont, CO: Sopris West.
- Cornell, D., Sheras, P., Kaplan, S., McConville, D., Douglass, J., Elkon, A., et al., (2004). Guidelines for student threat assessment: Field-test findings. *School Psychology Review, 33*, 527–546.
- Donegan, B. (2008). The linchpin year. *Educational Leadership, 65*, 54–57.
- Fein, R., Vossekuil, B., Pollack, W., Borum, R., Modzeleski, W., & Reddy, M. (2002). *Threat assessment in schools: A guide to managing threatening situations and to creating safe school climates*. Washington, DC: U.S. Secret Service and Department of Education.
- Gottfredson, G. D. (1999). *User's manual for the Effective School Battery*. Ellicott City, MD: Gottfredson Associates.
- Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behavior among U.S. youth. *Journal of the American Medical Association, 285*, 2094–2100.
- National Center for Education Statistics. (2005). *School crime: Supplement to the National Crime Victimization Survey 2005*. Retrieved January 2006, from <http://nces.Ed.gov/Programs/Crime/surveys.asp>
- O'Toole, M. E. (2000). *The school shooter: A threat assessment perspective*. Quantico, VA: National Center for the Analysis of Violent Crime, Federal Bureau of Investigation.
- Randazzo, M. R., Borum, R., Vossekuil, B., Fein, R., Modzeleski, W., & Pollack, W. (2006). Threat assessment in schools: Empirical support and com-

- parison with other approaches. In S. R. Jimerson & M. J. Furlong (Eds.), *The handbook of school violence and school safety: From research to practice* (pp. 147–156). Mahwah, NJ: Erlbaum.
- Stevens, J. P. (2001). *Applied multivariate statistics for the social sciences* (4th ed.). Mahwah, NJ: Erlbaum.
- Streiner, D. L. (2003). Being inconsistent about consistency: When coefficient alpha does or doesn't matter. *Journal of Personality Assessment, 80*, 217–222.
- Strong, K., & Cornell, D. (2008). Student threat assessment in Memphis City Schools: A descriptive report. *Behavioral Disorders, 34*, 42–54.
- Thunfors, P., & Cornell, D. (2008). The popularity of middle school bullies. *Journal of School Violence, 7*, 65–82.
- United States Department of Health and Human Services. (2007). *Report to the President on issues raised by the Virginia Tech tragedy*. Retrieved from <http://www.hhs.gov/vtreport.html>
- Van Dyke, R. B., & Schroeder, J. L. (2006). Implementation of the Dallas Threat of Violence Risk Assessment. In S. R. Jimerson & M. J. Furlong (Eds.), *The handbook of school violence and school safety: From research to practice* (pp. 603–616). Mahwah, NJ: Erlbaum.
- Virginia Department of Education. (2007). *Disciplinary outcome or incident frequency, 2006–07*. Retrieved May 2008, from <http://doe.virginia.gov/>
- Virginia Tech Review Panel. (2007). *Mass shootings at Virginia Tech, April 16, 2007*. Retrieved from <http://www.vtreviewpanel.org/report/index.html>
- Vossekuil, B., Fein, R. A., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States*. Washington, DC: U.S. Secret Service and U.S. Department of Education.
- Williams, F., & Cornell, D. (2006). Student willingness to seek help for threats of violence. *Journal of School Violence, 5*, 35–49.
- Wilson, S. J., Lipsey, M. W., & Derzon, J. H. (2003). The effects of school-based intervention programs on aggressive behavior: A meta-analysis. *Journal of Consulting and Clinical Psychology, 71*, 136–149.

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Abstract

This quasi-experimental study examined the adoption of the Virginia Student Threat Assessment Guidelines in 23 high schools. After training, school administrators and other staff members demonstrated substantial increases in knowledge of threat assessment principles and decreased commitment to zero tolerance approaches. Schools using the guidelines showed a 52% reduction in long-term suspensions and a 79% reduction in bullying infractions from the pretraining year to the posttraining year, in contrast to a control group of 26 schools not using the guidelines.

Keywords

threat assessment, school discipline, violence prevention, high school

The purpose of this quasi-experimental study was to examine the adoption of threat assessment guidelines in a large school division containing 23 high schools. Threat assessment is a violence prevention strategy recommended for all schools in studies of school shootings conducted by the Federal Bureau of Investigation (O'Toole, 2000) and the U.S. Secret Service and Department of Education (Fein et al., 2002; Vossekul, Fein, Reddy, Borum, & Modzeleski, 2002) and has been more recently recommended for institutions of higher education (U.S. Department of Health and Human Services, 2007). These authorities agreed that a threat assessment should be completed by a

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multidisciplinary team that follows a standardized approach to investigate threatening behavior and then, when a threat is determined to be serious, develops an appropriate prevention plan.

Threat assessment is a strategy for preventing violence through identification and evaluation of persons who pose a threat to harm others, followed by intervention designed to reduce the risk of violence. Threat assessment involves both assessment and intervention and might be described more accurately as a threat management approach to violence prevention (Cornell & Allen, 2011; Heilbrun, Dvoskin, & Heilbrun, 2009). A key aspect of threat assessment is its emphasis on considering the context and seriousness of the student's behavior: What were the circumstances surrounding the student's actions and what did the student intend by these actions?

Threat Assessment Versus Zero Tolerance

Threat assessment is an especially valuable approach because it provides schools with an alternative to zero tolerance suspension practices intended to prevent violence. Zero tolerance refers to discipline policies or practices that mandate a fixed punishment—typically long-term suspension or expulsion from school—that is applied without consideration of the context or seriousness of the behavior. Zero tolerance has proven to be a popular philosophy of discipline in American schools. Zero tolerance advocates contend that (a) removal of offending students will improve the school climate and learning environment for other students and (b) schools must send a strong message to offending students in order to improve their subsequent behavior (American Psychological Association Zero Tolerance Task Force, 2008). However plausible and compelling these contentions in support of zero tolerance may appear, they are empirical claims that can and should be tested rather than accepted on an intuitive basis.

The American Psychological Association Zero Tolerance Task Force (2008) conducted an extensive review of the educational research literature and found that there is no evidence that zero tolerance policies improve school conditions or have a positive impact on offending students; on the contrary, the available evidence suggested that these contentions were wrong.

With regard to the first contention, schools with higher rates of suspension and expulsion have less satisfactory ratings of school climate across a variety of measures and, perhaps most important, have lower levels of schoolwide academic achievement, even after controlling for student demographics such as socioeconomic status (American Psychological Association Zero Tolerance Task Force, 2008). Furthermore, a recent study of 289 Virginia public high schools found that schools with high suspension rates tended to have dropout rates approximately 56% higher than schools with low suspension rates (Lee, Cornell, Gregory, & Fan, 2011). The association between suspension and dropout rates was maintained even after controlling for key factors that might explain the connection. Suspension rates were positively linked to dropout rates even after statistically controlling for student demographics and for student attitudes

toward following school rules and not engaging in aggressive behavior. Although correlational findings do not demonstrate causality, it is difficult to maintain that school suspension improves school outcomes when the correlations are in the opposite of the expected direction.

Other studies have examined the impact on students who are suspended from school. Suspension is intended as a corrective consequence to improve student behavior, but students who are suspended from school tend to engage in higher rates of subsequent misbehavior rather than improve their behavior, and they are more likely to be suspended again (Hemphill, Toumbourou, Herrenkohl, McMorris, & Catalano, 2006). Based on a national longitudinal study, Carpenter and Ramirez (2007) found that suspended students were more likely to experience academic difficulties and drop out of school, even after controlling for a variety of individual, family, and school factors.

Although suspension is intended to send a strong message that certain behavior will not be tolerated at school, there may be unintended messages that have a stronger impact on students, such as the implication that the student is not wanted at school (Sheets & Gay, 1996). Suspension may generate feelings of disengagement from school and has the substantial disadvantage of depriving the student of instructional time. School suspension can have serious academic consequences for students who may not have the motivation or skills to catch up on missed classes (Arcia, 2006).

An additional problem is that zero tolerance policies are developmentally inappropriate because they do not consider the context and meaning of the adolescent's behavior. Inflexible applications of zero tolerance have resulted in numerous cases in which schools have administered disproportionately harsh consequences for minor violations (Cornell, 2006). For example, students have been removed from school for misbehavior such as bringing a plastic knife to school for use at lunchtime, pointing a finger like a gun and playfully pretending to shoot someone, and making threatening statements in jest. Such cases may be highly publicized and bring public criticism to school authorities, such as in the case of the Delaware 6-year old suspended for bringing his Cub Scout camping utensil to school (Urbina, 2009).

The prime example of zero tolerance is found in the federal Gun-Free Schools Act, which mandates each state to have a law requiring local education agencies to expel from school for at least 1 year any student found to have brought a firearm to school or to have possessed a firearm at school (U.S. Department of Education & Office of Safe and Drug-Free Schools, 2010). A recent report reveals that in 2006-2007, Virginia schools expelled 119 students for this reason, an expulsion rate of 10.0 students per 100,000 that was higher than the national average of 6.1 per 100,000 and 9th highest in the nation (U.S. Department of Education & Office of Safe and Drug-Free Schools, 2010).

Although bringing an unauthorized firearm or illegal drugs to school is a serious matter, zero tolerance has expanded to include expulsions for nonfirearms such as toy guns, water pistols, and even tiny plastic accessories to action figures that are shaped like guns (Cornell, 2006). More generally, zero tolerance policies have encouraged a greater use of long-term school suspension as a disciplinary consequence (American

Psychological Association Zero Tolerance Task Force, 2008; Losen & Skiba, 2010). In 2006-2007, approximately 3.3 million students were suspended and 102,000 students were expelled from school (Planty et al., 2009). In Virginia schools, which enrolled 1.2 million students in 2006-2007, there were 224,436 short-term suspensions (defined as 10 days or less), 7,943 long-term suspensions (11-365 days, including 2,136 expulsions that were subsequently reduced to long-term suspensions), and 1,189 expulsions (suspensions greater than 356 days; Virginia Department of Education, 2008).

In summary, zero tolerance is a politically popular but scientifically unsupported practice that has not met expectations that it would improve the school climate for all students and deter further misbehavior by offending students. On the contrary, suspension appears to have harmful effects on students and brings negative attention to school authorities when they impose excessively harsh sanctions on students for seemingly minor misbehavior.

Virginia Student Threat Assessment Guidelines

The Virginia Student Threat Assessment Guidelines (Virginia Guidelines) were developed for K-12 schools in response to the Federal Bureau of Investigation and Secret Service reports recommending that schools use a threat assessment approach. Threat assessments are conducted by a multidisciplinary team consisting of a school administrator (typically the principal or assistant principal), a law enforcement officer or school resource officer, and one or more mental health professionals (often a school psychologist and school counselor). Training typically takes place in a 1-day workshop, although team members are advised to study the manual independently. In addition, the school administration must orient the school faculty and staff as well as adapt disciplinary policies to accommodate the new approach.

The Virginia Guidelines are described in a 145-page manual (Cornell & Sheras, 2006) that leads team members step-by-step through the threat assessment process. In brief, the Virginia Guidelines steer school teams through a decision tree that begins with a threat being reported to the team leader, who then initiates a series of interviews to assess the content and context of the threat or threatening behavior. In the simplest cases, a team member makes an effort to address the conflict or problem that led the student to make a threat. In the course of this preliminary assessment, the team determines whether the case can be resolved as a transient threat (e.g., a remark made in jest or in a brief state of anger) or will require more extensive assessment and protective action as a substantive threat. In the most serious cases, the team will conduct a comprehensive safety evaluation that would include both a law enforcement investigation and a mental health assessment of the student.

This threat assessment model emphasizes a problem-solving approach as distinguished from a more punitive, zero tolerance approach. School staff members are oriented to consider the context and seriousness of student behaviors rather than apply a fixed rule regardless of circumstances. They are advised to regard threats as a symptom of an underlying problem or conflict the student has been unable to resolve rather

than simply as a disciplinary matter meriting punishment. School staff members are especially encouraged to regard bullying as a serious problem that often involves threats of violence, either made by bullies to intimidate their victims or, sometimes, by victims who aspire to take revenge. The fact that revenge against bullying was a motivating factor in many school shootings (O'Toole, 2000; Vossekul et al., 2002) lends credence to this approach. The Virginia Guidelines encourage the use of counseling and resolution of conflicts and discourage the use of school suspension except in the most serious cases when a short-term suspension may be necessary as a safety precaution.

Over the past decade, a series of studies have documented the development and field-testing of the Virginia Guidelines. The first field test involved school-based teams in 35 public schools that investigated 188 student threats over 1 school year (Cornell et al., 2004). Most of the cases (70%) were resolved as transient threats through an explanation or apology, although often with some disciplinary consequences and counseling. The remaining 30% were substantive threats that required protective action and the development of a plan to address the underlying conflict or problem that drove the student to make a threat. Only three students (each with a lengthy record of disciplinary violations) were given long-term suspensions. Approximately half of the students received short-term suspensions (typically 1-3 days), and nearly all students were able to return to their original school. The following year, researchers conducted follow-up interviews with school principals and found that none of the threats were carried out.

A second study (Strong & Cornell, 2008) examined 209 cases in a large urban school district. These cases were referred for assessment by school principals as their most serious disciplinary matters and included 109 threats to kill, shoot, or stab someone. The threat assessment team developed individualized plans for each case, typically involving a combination of counseling to resolve interpersonal conflicts or disputes, various forms of mental health services, and academic assistance. Almost all of the students were able to return to school or transfer to an alternative school. Only five students were not recommended for return to school (i.e., expelled). The study also found evidence of improved student behavior with a 55% reduction in disciplinary referrals for the students who made threats and subsequently returned to school. Again, there were no reports of any threats being carried out.

The two field-test studies of the Virginia Guidelines found that schools could carry out a threat assessment approach with seemingly positive outcomes but are limited by the absence of comparison groups. A third study (Cornell, Sheras, Gregory, & Fan, 2009) conducted a retrospective comparison of 95 high schools reporting use of the Virginia Guidelines, 131 schools reporting use of locally developed procedures, and 54 schools reporting no use of a threat assessment approach. A school climate survey was administered to randomly selected samples of students in each school as part of a statewide assessment of safety conditions. On this survey, students in schools using the Virginia Guidelines reported less bullying in the past 30 days, greater willingness to seek help for bullying and threats of violence, and more positive perceptions of the school climate than students in either of the other two groups of schools. It was

remarkable that evidence for a lower rate of bullying was based on student reports, since students were not involved in training or implementation of the threat assessment model. Notably, the school climate results also showed that students in schools using the Virginia Guidelines perceived that school staff members treated students with fairness and respect and were concerned about bullying and willing to help stop it.

Another important finding was that schools using the Virginia Guidelines had approximately one-third fewer long-term suspensions, although not short-term suspensions, than schools in the other two groups. This outcome is consistent with the view that threat assessment can provide schools with an alternative to zero tolerance practices. The evidence for lower suspension rates was not based on student reports but on school discipline records maintained by the school administration as a state education requirement. None of the group differences in student perceptions or school records found in this study could be attributed to school size, minority composition, or socioeconomic status of the student body; neighborhood violent crime; or the extent of security measures in the schools, which were statistically controlled. An important limitation of this high school study, however, is that there was no pre-post assessment of suspension rates before and after the schools adopted the threat assessment model.

In summary, the Virginia Student Threat Assessment Guidelines provide schools with an alternative to zero tolerance suspension of students when a student has threatened an act of violence. Using the Virginia Guidelines, a multidisciplinary team can conduct a student threat assessment following a seven-step decision tree. A series of field-test studies have found that threat assessments could be conducted safely and efficiently, with most cases resolved quickly without an elaborate process. Moreover, almost all of the students were able to return to school without use of long-term suspension.

The Present Study

The present study was designed to take the next logical step in research on the Virginia Guidelines by examining changes in a group of high schools that implemented the Virginia Guidelines in comparison with a control group of high schools that relied on their routine approach to student threats. The study consisted of two phases: (a) examining the effects of training on school staff and (b) determining whether there were any differences in school suspensions and disciplinary infractions after the Virginia Guidelines were implemented.

An ideal study would consist of a randomized controlled trial comparing schools using the threat assessment model with a comparison group of schools using an alternative model, but there are substantial practical, logistical, and ethical difficulties in conducting real-world experiments on safety procedures in schools (Astor, Guerra, & Van Acker, 2010; Cornell & Allen, 2011). School administrators are understandably reluctant to experiment with safety and discipline practices or to expose control schools to potentially inferior outcomes. As a result, researchers must consider the use

of quasi-experimental designs and data sources that take advantage of research opportunities that school officials are willing to accommodate. Moreover, because research-driven demonstration projects often yield program effects that are substantially more favorable than those found in scaled-up implementations or routine practice conditions (Astor et al., 2010; Wilson, Lipsey, & Derzon, 2003), it can be useful to examine program effects in more naturally occurring circumstances.

The present study was intended to investigate the effect on disciplinary infractions and suspension practices in high schools that adopted the Virginia Student Threat Assessment Guidelines. The previous study reporting a lower rate of long-term suspensions and student-reported bullying (Cornell et al., 2009) had two important limitations: (a) there had not been documentation of staff training and preparation to implement the Virginia Guidelines with fidelity and (b) as a cross-sectional study, there was no assessment of change over time to demonstrate an actual reduction in school suspensions and bullying after implementation of the threat assessment model. The present study was conducted on a convenience sample of 23 high schools in a single school division that chose to adopt the Virginia Guidelines as a school safety strategy. Because the 23 high schools implemented the Virginia Guidelines during the same year, it was possible to conduct a quasi-experimental study that examined changes over time and compared schools adopting the threat assessment model with other schools that did not use the model.

In the first phase of the study, 142 staff members—principals, psychologists, social workers, and security officers—participated in a 1-day training workshop to prepare them to implement the Virginia Guidelines. Workshop participants completed a routine training evaluation survey before and after the workshop to document increased knowledge of threat assessment and changes in attitudes toward school discipline consistent with the Virginia Guidelines.

In the second phase of the study, changes in school suspensions and school disciplinary infractions were measured for the school year prior to implementation of the threat assessment model and compared with the school year after implementation. Furthermore, it was possible to compare the suspensions and disciplinary infractions in these schools with a comparison group of high schools in demographically similar school divisions that had not adopted the Virginia Guidelines. These outcome measures were derived from public data that can be downloaded from the website of the Virginia Department of Education (2008). Previous research has found that suspension rates and disciplinary infractions are linked to a school's enrollment size, proportion of minority students, and proportion of students eligible for free or reduced price meals (Gottfredson, Gottfredson, Payne, & Gottfredson, 2005; Leithwood & Jantzi, 2009; Raffaele Mendez, Knoff, & Ferron, 2002; Skiba, Rausch, & Ritter, 2004). In order to distinguish the effects of using the Virginia Guidelines from demographic differences between the two groups of schools, each school's enrollment size, proportion of minority students, and proportion of low-income students were statistically controlled.

Method

Participants

The target sample of schools consisted of 23 public high schools in a large Virginia school division whose central administration decided to implement the Virginia Student Threat Assessment Guidelines. The 23 schools enrolled an average of 1,891 students per school. The percentage of minority students in the schools averaged 51% and the percentage of students eligible for reduced-price meals averaged 19%.

The comparison group consisted of all 26 high schools in the three largest school divisions in Virginia that had not adopted the threat assessment guidelines. These school divisions were considering whether to adopt the threat assessment guidelines but had not done so. The school divisions were all located in the heavily populated northern and eastern part of the state and served a student population with similar demographics. The 26 comparison schools enrolled an average of 2,065 students per school. The percentage of minority students in the schools averaged 45%, and the percentage of students eligible for reduced price meals averaged 21%. A preliminary analysis using *t* tests found no statistically significant differences between the two groups of schools on school enrollment size, proportion of minority students, or proportion of students eligible for a free or reduced-price meal.

The central administration selected staff members in the 23 target schools to attend training on the threat assessment guidelines. The 142 staff members consisted of 59 principals or assistant principals, 20 school psychologists, 22 social workers, 18 school security officers, and 12 others. Approximately 70% of the staff members identified themselves as White, 19% as Black/African American, and 11% as another group such as Hispanic or Asian/Pacific Islander or as multiracial.

Procedures

School administrators, mental health staff, and security officers in the target schools attended a standard 1-day workshop on the threat assessment model. The workshops were conducted by the two principal authors of the Virginia Student Threat Assessment Guidelines. In brief, the workshop presented the rationale for use of a threat assessment approach and then reviewed the decision tree model and procedures used to determine the seriousness of a student threat and take appropriate action. There was emphasis on resolving peer conflicts and bullying before these problems escalate into more serious acts of violence. The workshop presented numerous cases in which student threats are resolved without resorting to long-term suspension and reviewed field-test studies in which few students were given long-term suspensions. Next, participants worked in small groups to complete three case exercises. The final session of the workshop reviewed steps to take in informing staff, students, and parents about the new approach. At the beginning of the day, participants completed an anonymous pretest evaluation form, and at the end of workshop, they completed a posttest evaluation. The pretest and posttest forms were printed on opposite sides of a single sheet of paper so that they could be linked without identifying individual participants.

The threat assessment teams in each school were provided with a 145-page manual, *Guidelines for Responding to Student Threats of Violence* (Cornell & Sheras, 2006). There are chapters in the manual covering the rationale and purpose of threat assessment, the roles of each team member, and the decision tree for responding to transient and substantive threats. The manual contains numerous case examples of different types of threatening situations and how they were resolved. For cases involving a very serious substantive threat, there are chapters devoted to the mental health assessment of threatening students and to common pathways to violence identified in research on juvenile homicide. There are answers to frequently asked questions about legal, ethical, and practical issues and a chapter reviewing research support for the Virginia Guidelines. Finally, there are chapters on the integration of threat assessment into a comprehensive schoolwide approach to violence prevention and the selection of interventions for students receiving special education services. The manual concludes with a series of case exercises that can be used to test team members' knowledge of the Virginia Guidelines.

In order to accommodate the large number of school staff and their varying schedules, there were identical training workshops held on three occasions during the 2007-2008 school year ranging from November to April. As a result, the Virginia Guidelines were phased in by each school at varying times during the school year. For this reason, the school year prior to the training year was used as the baseline period, and the school year after the training year was used as the outcome period, omitting the year during which training occurred.

To facilitate implementation of the new model, the central administration disseminated a new policy statement on student threats that was approved by the school board. The administration also prepared standard forms that principals were required to complete for each threat assessment case. The forms included checklists for assuring that teams followed each step of the Virginia Guidelines. The forms are an important means of assuring faithful implementation of the Virginia Guidelines, because they require the team to consider each step of the decision tree and check off decisions and actions that reflect compliance with the procedures. However, for reasons of confidentiality, detailed information on case outcomes was not available from the schools. Consequently, data on school suspensions and disciplinary infractions for each school were limited to reports available from the public database of the Virginia Department of Education (2008).

Measures

Evaluation of training. The evaluation form was a modified version of the instrument used in a previous study (Allen, Cornell, & Lorek, 2008). Items were derived from a content analysis of key points covered by the workshop (e.g., that student profiling is not an effective approach, that many cases can be resolved without suspension) as well as the ability to apply the threat assessment guidelines to classify student scenarios as transient or substantive threats. Each item was answered on 4-point scale (1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Agree*, 4 = *Strongly agree*). In the previous study, the evaluation form demonstrated adequate reliability and showed consistent effects

across school occupations. The form used in the present study included 10 items that were administered on both pretest and posttest forms. The 10 items had internal consistency (Cronbach's α) of .65 at pretest and .74 at posttest, which was nearly identical to the values found in the previous study. These levels of internal consistency suggest that the knowledge scores were not homogeneous measures of a single construct but could be considered acceptable as an index of a more complex construct (Streiner, 2003).

The posttraining form also included four items designed to assess participant satisfaction with the training (e.g., "The training provided the right amount of practical information"). As measures of a more homogeneous construct, these four items demonstrated somewhat higher internal consistency (.82). A fifth item assessed intent to implement the training, "I intend to use principles of student threat assessment in my school." All five items were answered on the same 4-point scale ranging from *Strongly disagree* to *Strongly agree*.

School records. The Virginia Department of Education requires principals to report student suspensions and other disciplinary actions using a standard set of reporting conventions and 88 categories of disciplinary infractions. These data were checked for accuracy and submitted electronically to the state by each school administration. State records for each year provided the total number of long-term suspensions (>10 days) and short-term suspensions (<10 days) for each high school irrespective of infraction categories. These two measures yielded indices of the rate of serious disciplinary actions taken at each school. These two disciplinary outcomes were selected for study because an important goal of threat assessment is to reduce long-term suspensions.

In addition, four categories of disciplinary infractions were selected for study because of their relevance to threat assessment cases: assaults of other students, threats of other students, and bullying of other students. Student threats of staff members were also selected for study, but there were too few student assaults of staff members (most schools had no incidents or one incidents) to conduct analyses. Totals for each school year were converted to rates based on the fall school enrollment for the corresponding year. Additional data on school size, proportion of minority students, and proportion of students eligible for free or reduced-price meals were obtained from official enrollment reports for the fall of the training year.

Results

Effects of Training Workshop

A multivariate repeated measures analysis of variance compared pretest and posttest scores on the 10 items measuring knowledge of threat assessment gained in the staff workshop. The multivariate test for the pre- and posttest score differences on the 10 items was statistically significant: Wilks's $\Lambda = .318$, $F(10, 103) = 22.1$, $p < .001$, and the statistical significance was accompanied by a large effect size ($\eta^2 = .68$). Table 1 presents univariate tests for the pre- and posttest score differences for each of the 10 items. For 9 of the 10 items, there was a statistically significant change from pretraining

Table 1. Pre-Post Changes in 10 Training Survey Items

Training Survey Items	Pretraining Mean	Posttraining Mean	t (df)	Effect Size ^a
1. Violence in schools has increased over the past ten (10) years. (Disagree)	2.83	1.87	12.08 (138)*	1.03
2. A safety plan should be implemented for a transient threat. (Disagree)	3.12	2.19	13.09 (138)*	1.11
3. If a student threatens an act of violence, immediate suspension is necessary. (Disagree)	2.55	1.97	8.80 (137)*	0.75
4. When conducting an interview with a student about an alleged threat, the student should be reassured that the interview is confidential. (Disagree)	2.13	1.60	8.04 (137)*	0.68
5. Conflict between students of equal status and strength constitutes bullying. (Disagree)	2.05	2.09	-0.63 (133)	-0.06
6. Profiling is an effective method to identify students who may commit violent acts. (Disagree)	2.12	1.59	8.51 (132)*	0.74
7. If an angry student says, "I'm gonna kill you for that," but later calms down and apologizes, the threat is substantive. (Disagree)	2.22	1.59	3.93 (130)*	0.34
8. A student who tells friends that he will beat up someone in the parking lot after school today is most likely making a transient threat. (Disagree)	2.50	1.98	8.20 (128)*	0.72
9. I am concerned that a homicide could occur in my school. (Disagree)	2.25	1.97	5.34 (129)*	0.47
10. We need zero tolerance for student threats of violence in my school. (Disagree)	2.58	2.10	8.06 (131)*	0.70

Note. *df* = degrees of freedom. Items were answered on a 4-point scale where 1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Agree*, 4 = *Strongly agree*. The desired response is indicated after each item in parenthesis. The 10 items were compared initially in a multivariate repeated measures analysis of variance: Wilks's $\Lambda = .318$, $F(10, 103) = 22.12$, $p < .001$, $\eta^2 = .682$. In follow-up to the multivariate test, 10 univariate dependent sample *t* test values are reported here.

a. Effect size is based on standardized mean difference between pre- and posttest scores on each item ($D = \bar{X}_{pre} - \bar{X}_{post}$) and is computed as Effect size = $\frac{D}{STD(D)}$

* $p < .01$.

Table 2. Posttraining Satisfaction

Workshop Satisfaction Items	Percentage Agree or Strongly Agree
This training improved my understanding of student violence.	93
I understand the basic concepts and guidelines for conducting a threat assessment.	98
The training contained the right amount of practical information.	96
This training will be helpful to me in responding to student threats of violence.	96
I intend to use principles of student threat assessment in my school.	99

Note. $N = 142$. Items were answered on a 4-point scale where 1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Agree*, 4 = *Strongly agree*.

to posttraining, with effect sizes ranging from moderate (e.g., 0.47) to very large (e.g., 1.11). There was no statistically significant change for the item: “Conflict between students of equal status and strength constitutes bullying” (correct answer: *disagree*).

As shown in Table 2, the percentage of participants who agreed or strongly agreed with statements measuring their satisfaction with the training indicated positive results: 93.4% for “This training improved my understanding of student violence,” 97.9% for “I understand the basic concepts and guidelines for conducting a threat assessment,” 96.4% for “The training contained the right amount of practical information,” and 96.4% for “This training will be helpful to me in responding to student threats of violence.” Most importantly, 99.3% agreed that “I intend to use principles of threat assessment in my school.”

Comparison of School Groups

The primary analyses consisted of repeated measures analyses of covariance (ANCOVAs) that contrasted the 23 target schools with the 26 comparison schools on five disciplinary outcomes from the baseline year to the posttraining year. Each repeated measures ANCOVA included school enrollment size, proportion of minority students, and proportion of students eligible for a free or reduced-price meal as covariates. Preliminary analyses showed that the two groups of schools (23 target schools with threat assessment training vs. 26 comparison schools without such training) did not differ statistically on any of the three school covariates (school size: $t = -1.124$, $p > .05$; proportion of minority students: $t = 1.232$, $p > .05$); proportion of free-reduced lunch: $t = -.689$, $p > .05$).

The key analysis of interest in each ANCOVA was the interaction effect between school group (between-school factor) and time (baseline to posttraining year, the within-school factor). This interaction represents the difference between target and comparison schools in the change of disciplinary outcomes from the baseline year to the posttraining year. The existence of an interaction effect in the expected direction

Table 3. Group Comparisons on the Change of School Suspensions and Disciplinary Infractions from Baseline to Follow-Up

	Trained Schools (N = 23)		Comparison Schools (N = 26)		Interaction Effects, <i>F</i> Value
	Baseline Mean	Follow-Up Mean	Baseline Mean	Follow-up Mean	
Long-term suspension rate	.0082	.0039	.0109	.0109	4.69*
Short-term suspension rate	.0918	.0983	.2024	.1994	0.81
Bullying infraction rate	.0053	.0011	.0012	.0020	25.79*
Student assault rate	.0018	.0022	.0024	.0020	0.44
Student threat rate	.0017	.0010	.0028	.0025	0.14
Teacher threat rate	.0017	.0009	.0018	.0014	0.79

Note. The interaction effects measure differences between Target and Comparison schools in their change from baseline to follow-up with 1 and 44 degrees of freedom.

* $p < .05$.

would represent evidence for the effectiveness of the intervention (the adoption of the threat assessment model in the school). As presented in Table 3, there was a statistically significant interaction effect for the outcome of long-term suspensions: Wilks's $\Lambda = .90$, $F(1, 44) = 4.68$, $p = .036$, $\eta^2 = .096$. Figure 1 presents the interaction pattern showing the change in long-term suspension rate from baseline to follow-up for the two groups of schools. The interaction pattern indicates that the long-term suspension rate in target schools dropped from baseline to follow-up, while the comparison schools showed little change.

The ANCOVA for bullying infractions also found a statistically significant interaction effect: Wilks's $\Lambda = .63$, $F(1, 44) = 25.79$, $p < .001$, $\eta^2 = .37$. Figure 2 presents the interaction pattern for bullying infractions rates. The target schools had higher bullying infractions than the comparison schools in the baseline year, which however dropped considerably by the follow-up year, whereas the comparison schools experienced a slight increase in the follow-up year. There were no statistically significant interaction effects for the remaining four disciplinary outcome variables (rates of short-term suspensions, student assaults, student threats, or teacher threats).

Discussion

The most important finding from this study is that high schools adopting the Virginia Student Threat Assessment Guidelines experienced a decline in long-term suspensions. The baseline annual rate of 8.2 long-term suspensions per 1,000 students dropped approximately 52% to 3.9 per 1,000 students in these schools, whereas the comparison schools held steady at 10.9 suspensions per 1,000 students in both years. These findings are consistent with our previous study (Cornell et al., 2009), which

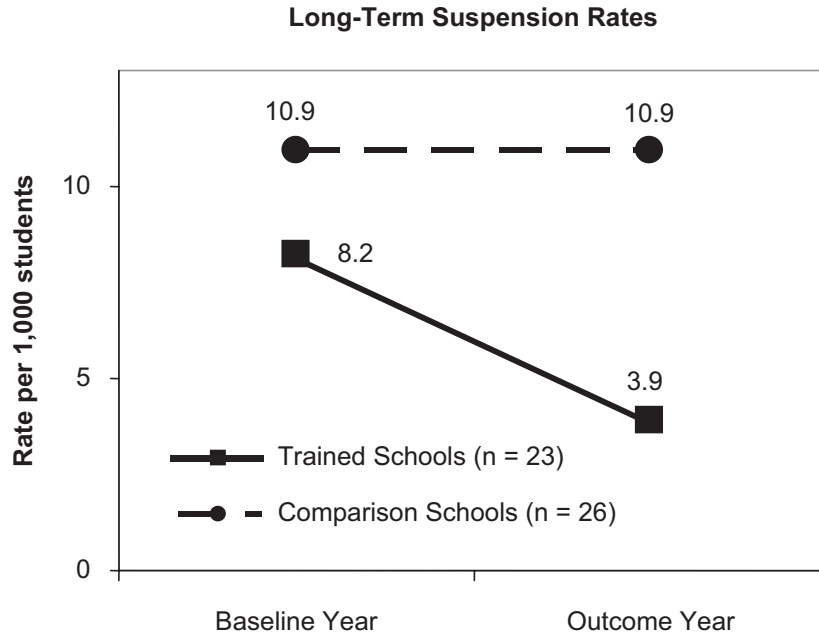


Figure 1. Statistically significant interaction pattern in long-term suspension rates at baseline and follow-up

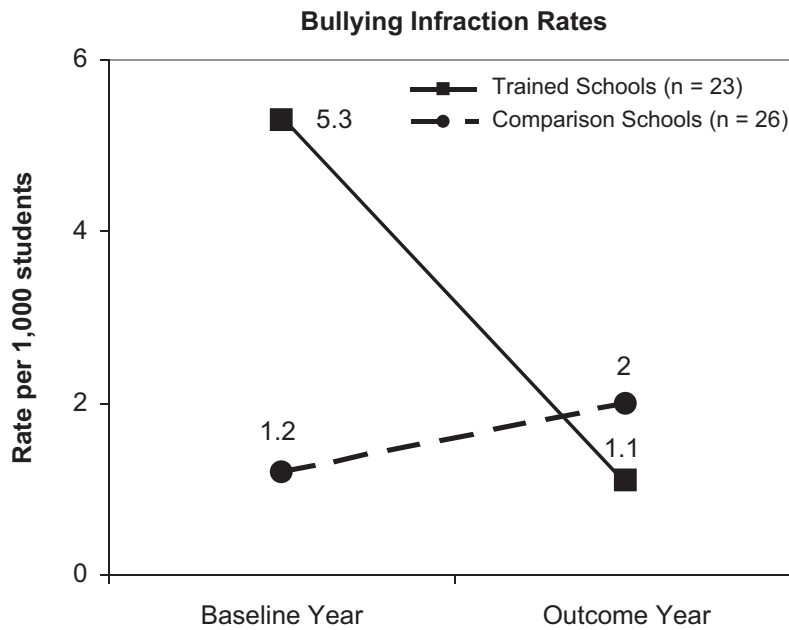


Figure 2. Statistically significant interaction pattern in long-term bullying infraction rates for two groups of schools at baseline and follow-up

also found that high schools using the threat assessment model had fewer long-term suspensions than other high schools. A distinguishing feature of the present study, however, is that it employed a quasi-experimental design rather than the less rigorous cross-sectional design in the previous study. These study findings support the conclusion from the previous study that school administrators using the threat assessment model did not need to use long-term suspensions as a disciplinary consequence as often as other schools. The threat assessment model gives administrators an alternative to zero tolerance policies that usually require long-term suspension of students regardless of the circumstances of the student's misbehavior.

The reduction in long-term suspensions is an important benefit of using a threat assessment approach to violence prevention. High suspension rates are consistently associated with higher school failure and dropout rates (Hemphill et al., 2006; Lee et al., 2011). The most troubled and academically at-risk students are most likely to engage in threatening behavior (Kaplan & Cornell, 2005). Suspension of these students from school means lost instructional time that may perpetuate and worsen their academic difficulties, leading to further decline in school performance. Scott and Barrett (2004) found that students lose an average of 6 hours of instructional time for each day suspended. A threat assessment approach sends students the message that their problems will be addressed but that their school attendance remains a priority.

The shift away from use of long-term suspensions does not mean that students went unpunished for their actions. The Virginia Guidelines recommend that students receive appropriate disciplinary consequences for violations of the school's code of conduct. These consequences are determined by school authorities, although it is recommended that schools consider positive behavioral approaches (Mayer, 1995; Sugai et al., 2000) to discipline as well as restorative disciplinary practices in which students make amends for any harm they have caused to others (Costello, Wachtel, & Wachtel, 2009). In this way, students learn that punishment is proportional to the seriousness of their misbehavior and the harmful consequences that it has on others.

There was further evidence of the benefits of using a threat assessment approach in the reduction in bullying infractions. Although the rate of bullying infractions was higher in the target schools than the comparison schools at baseline, by the follow-up year, the rate had dropped 79% and was below that of the comparison schools. The threat assessment guidelines emphasize efforts to address bullying and this finding would suggest that the target high schools were able to reduce bullying, perhaps through greater attention to student threats, which often turn out to be associated with a bullying situation. More information about levels of bullying in the school is needed to elucidate how this reduction took place. It would be useful to have student or teacher reports of bullying levels at baseline and follow-up. In the previous study (Cornell et al., 2009), student survey data indicated lower rates of bullying as well as greater willingness to seek help in schools using the threat assessment guidelines. There was no change in the other disciplinary infractions examined in this study, including assaults of students, threats of students, or threats of teachers.

The pre-post evaluation of staff training found that school administrators and other staff members showed substantial increases in knowledge of threat assessment principles, with a large overall effect size and moderate to large effects for 9 of 10 items. These findings are consistent with a previous study of staff training in threat assessment showing similar effects (Allen et al., 2008). Notably, after training, staff members endorsed less support for zero tolerance and willingness to suspend a student for a threatening statement. They also demonstrated understanding of the difference between a transient threat that can be easily resolved and a substantive threat that requires protective action.

The decision to adopt the threat assessment model was made by the central administration for the school system rather than the individual schools. From this perspective, it is noteworthy that the staff members gave highly positive evaluations of the training, with more than 93% of participants agreeing that the training improved their understanding of youth violence, contained the right amount of practical information, and prepared them to respond to student threats of violence. They also agreed that they understood the basic concepts and guidelines for conducting a threat assessment, and almost all participants (99%) expressed intent to use threat assessment principles in their school. This positive response to the training, combined with the efforts of the central administration to facilitate and encourage implementation of the Virginia Guidelines, may be key factors in achieving successful outcomes.

The implementation of any new program can be burdensome for school staff members who already have many competing demands for their time and energy. However, disciplinary matters involving threats of violence are inherently challenging, uncertain, and time-consuming. Use of the Virginia Guidelines can be helpful because most cases can be resolved expeditiously, and in more complex cases, there are clear guidelines that make the process more efficient. An anecdotal observation supports this claim: The initial group of administrators to adopt the Virginia Guidelines in this school system came to a training session held later in the year and reported that the new procedures were not difficult to follow and did not require an excessive amount of time. They voiced considerable encouragement for their colleagues to implement the Virginia Guidelines.

One recurrent issue in violence prevention is the issue of legal liability in the event that someone is injured. One virtue of the Virginia Guidelines is that it defines a clear standard of practice that makes the school administration's efforts defensible. The widespread adoption of the Virginia Guidelines in Virginia schools, and in school systems in more than a dozen states, demonstrates acceptance of this approach. Threat assessment offers schools the opportunity to engage in a violence prevention strategy that not only responds to the immediate threat but also considers the underlying problem or conflict that stimulated the student's threatening behavior. This emphasis on problem solving and dispute resolution is intended to help prevent further recurrence of conflict that could result in additional disciplinary problems.

Study Limitations

One important limitation to this study is that there was no specific information about individual threat cases or other indications of how the threat assessment guidelines were implemented. However, three previous studies have reported positive outcomes for more than 400 threat assessment cases conducted in schools after similar staff training (Cornell et al., 2004; Kaplan & Cornell, 2005; Strong & Cornell, 2008). In these cases, the school staff distinguished transient from substantive cases and developed intervention plans appropriate to the seriousness of the threat. There was a range of disciplinary consequences, with only a few extreme cases receiving long-term suspension. Moreover, the school administrators reported that none of the threats managed using the threat assessment model were carried out. Furthermore, one study (Strong & Cornell, 2008) was able to document a subsequent 55% reduction in disciplinary referrals for the students whose threats were handled by threat assessment model. This is a notable reduction because the cases referred for threat assessment were deemed by the school principals to be among the most serious disciplinary violations in the school and the students had a high rate of disciplinary problems prior to referral to the threat assessment team.

Another limitation to this study is that schools were not randomly assigned to receive threat assessment training or serve in the comparison group. A randomized controlled trial of threat assessment would provide stronger evidence of its effectiveness than the quasi-experimental design used in this study, although there are a number of practical and logistical problems with conducting such a study (Cornell & Allen, 2011). When school administrators decide to implement a violence prevention measure, they are understandably reluctant to delay implementation for half of their schools to participate in a control group.

A quasi-experimental study cannot rule out the possibility of preexisting differences between schools that might explain the presumed effects of the intervention—in this case, threat assessment training. However, the present study considered the potential impact of student demographics, including the school enrollment size, the proportion of minority students in the school, and the proportion of students eligible for a free or reduced-price meal. These variables are often associated with differences in school climate and disciplinary rates (e.g., Gottfredson et al., 2005) but were statistically controlled and could not have explained the findings in this study.

Future studies could employ random assignment of schools to either use the Virginia Guidelines or a zero tolerance approach. These studies should examine both the overall effects on school discipline infractions, as in the present study, and the impact on individual students. Students identified as making threats of violence in both groups could be followed over the course of their high school years and beyond. In schools using the Virginia Guidelines, it can be hypothesized that almost all students will be able to return to school and complete their education but that in schools not using a zero tolerance approach, students will be more likely to have long-term suspensions, experience academic difficulties and drop out of school.

In conclusion, an important goal of threat assessment is to identify and resolve student conflicts and problems without resorting to school suspension. As a problem-solving strategy that stresses the context and seriousness of the student's behavior, threat assessment represents a more flexible and less punitive alternative to zero tolerance discipline practices. The Virginia model also places special emphasis on the goal of addressing bullying, which often underlies student threats of violence. Consistent with these goals, the findings from this study suggest that high schools adopting the Virginia Student Threat Assessment Guidelines experienced a substantial decline in both long-term suspensions and bullying infractions.

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Dewey G. Cornell is the principal author of the Guidelines for Responding to Student Threats of Violence.

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References

- Allen, K., Cornell, D., & Lorek, E. (2008). Response of school personnel to student threat assessment training. *School Effectiveness and School Improvement, 19*, 319-332. doi:10.1080/09243450802332184
- American Psychological Association Zero Tolerance Task Force. (2008). Are zero tolerance policies effective in the schools? An evidentiary review and recommendations. *American Psychologist, 63*, 852-862. doi:10.1037/0003-066X.63.9.852
- Arcia, E. (2006). Achievement and enrollment status of suspended students: Outcomes in a large, multicultural school district. *Education and Urban Society, 38*, 359-369. doi:10.1177/0013124506286947
- Astor, R., Guerra, N., & Van Acker, R. (2010). How can we improve school safety research? *Educational Researcher, 39*, 69-78. doi:10.3102/0013189X09357619
- Carpenter, D., & Ramirez, A. (2007). More than one gap: Dropout rates gaps between and among Black, Hispanic, and White students. *Journal of Advanced Academics, 19*(1), 32-64.
- Cornell, D. (2006). *School violence: Fears versus facts*. Mahwah, NJ: Lawrence Erlbaum.
- Cornell, D. G., & Allen, K. (2011). Development, evaluation, and future directions of the Virginia Student Threat Assessment Guidelines. *Journal of School Violence, 10*, 88-106. doi: 10.1080/15388220.2010.519432

- Cornell, D., & Sheras, P. (2006). *Guidelines for responding to student threats of violence*. Longmont, CO: Sopris West.
- Cornell, D., Sheras, P., Gregory, A., & Fan, X. (2009). A retrospective study of school safety conditions in high schools using the Virginia Threat Assessment Guidelines versus alternative approaches. *School Psychology Quarterly*, *24*, 119-129. doi:10.1037/a0016182
- Cornell, D., Sheras, P., Kaplan, S., McConville, D., Posey, J., Levy-Elkon, A., . . . Cole, J. (2004). Guidelines for student threat assessment: Field-test findings. *School Psychology Review*, *33*, 527-546.
- Costello, B., Wachtel, J., & Wachtel, T. (2009). *The restorative practices handbook for teachers, disciplinarians, and administrators*. Bethlehem, PA: International Institute for Restorative Practices.
- Fein, R., Vossekuil, B., Pollack, W., Borum, R., Modzeleski, W., & Reddy, M. (2002). *Threat assessment in schools: A guide to managing threatening situations and to creating safe school climates*. Washington, DC: U.S. Secret Service and Department of Education.
- Gottfredson, G. D., Gottfredson, D. C., Payne, A. A., & Gottfredson, N. C. (2005). School climate predictors of school disorder: Results from a national study of commitment to prevention and schools. *Journals of Research in Crime and Delinquency*, *42*, 412-444.
- Heilbrun, K., Dvoskin, J., & Heilbrun, A. (2009). Toward preventing future tragedies: Mass killings on college campuses, public health, and threat/risk assessment. *Psychological Injury and Law*, *2*, 93-99. doi:10.1007/s12207-009-9040-9
- Hemphill, S. A., Toumbourou, J. W., Herrenkohl, T. I., McMorris, B. J., & Catalano, R. F. (2006). The effect of school suspensions and arrests on subsequent adolescent antisocial behavior in Australia and the United States. *Journal of Adolescent Health*, *39*, 736-744. doi:10.1016/j.jadohealth.2006.05.010
- Kaplan, S., & Cornell, D. (2005). Threats of violence by students in special education. *Behavioral Disorders*, *31*, 107-119.
- Lee, T., Cornell, D., Gregory, A., & Fan, X. (2011). High suspension schools and dropout rates for black and white students. *Education and Treatment of Children*, *34*, 167-192.
- Leithwood, K., & Jantzi, D. (2009). A review of empirical evidence about school size effects: A policy perspective. *Review of Educational Research*, *79*, 464-490.
- Losen, D. J., & Skiba, R. (2010). *Suspended education: Urban middle schools in crisis*. Montgomery, AL: Southern Poverty Law Center.
- Mayer, G. R. (1995). Preventing antisocial behavior in the schools. *Journal of Applied Behavior Analysis*, *28*, 467-478.
- O'Toole, M. E. (2000). *The school shooter: A threat assessment perspective*. Quantico, VA: National Center for the Analysis of Violent Crime, Federal Bureau of Investigation.
- Planty, M., Hussar, W., Snyder, T., Kena, G., KewalRamani, A., Kemp, J., . . . Dinkes, R. (2009). *The condition of education 2009* (NCES 2009-081). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.
- Raffaele Mendez, L. M., Knoff, H. M., & Ferron, J. M. (2002). School demographic variables and out-of-school suspension rates: A quantitative and qualitative analysis of large ethnically diverse school district. *Psychology in the Schools*, *39*, 259-276.

- Scott, T. M., & Barrett, S. B. (2004). Using staff and student time engaged in disciplinary procedures to evaluate the impact of school-wide PBS. *Journal of Positive Behavior Interventions*, 6, 21-27. doi:10.1177/10983007040060010401
- Sheets, R. H., & Gay, G. (1996). Student perceptions of disciplinary conflict in ethnically diverse classrooms. *NASSP Bulletin*, 80(580), 84-94. doi:10.1177/019263659608058011
- Skiba, R., Rausch, M. K., & Ritter, S. (2004). Children left behind: Series summary and recommendations. *Education Policy Briefs*, 2(4), 1-4.
- Streiner, D. L. (2003). Being inconsistent about consistency: When coefficient Alpha does and doesn't matter. *Journal of Personality Assessment*, 80, 217-222.
- Strong, K., & Cornell, D. (2008). Student threat assessment in Memphis City schools: A descriptive report. *Behavioral Disorders*, 34, 42-54.
- Sugai, G., Horner, R. H., Dunlap, G., Hieneman, M., Lewis, T. J., Nelson, C. M., . . . Ruef, M. (2000). Applying positive behavior support and functional behavioral assessment in schools. *Journal of Positive Behavior Interventions*, 2, 131-143.
- U.S. Department of Education., & Office of Safe and Drug-Free Schools. (2010). *Report on the implementation of the Gun-Free Schools Act in the States and outlying areas for school years 2005-06 and 2006-07*, Washington, DC: Author.
- United States Department of Health and Human Services, Report to the President on Issues Raised by the Virginia Tech Tragedy, 2007. Retrieved from <http://www.hhs.gov/vtreport.html>.
- Urbina, I. (2009, October 11). It's a fork, it's a spoon, it's a . . . weapon? *New York Times*. Retrieved from <http://www.nytimes.com/2009/10/12/education/12discipline.html>
- Virginia Department of Education. (2008). *Annual report: Discipline, crime, and violence. School year 2006-07*. Richmond, VA: Author. Retrieved from http://www.doe.virginia.gov/statistics_reports/school_climate/discipline_crime_violence/06_annual_report.pdf
- Vossekuil, B., Fein, R. A., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States*. Washington, DC: U.S. Secret Service & U.S. Department of Education.
- Wilson, S. J., Lipsey, M. W., & Derzon, J. H. (2003). The effects of school-based intervention programs on aggressive behavior: A meta-analysis. *Journal of Consulting and Clinical Psychology*, 71, 136-149. doi:10.1037/0022-006X.71.1.136

Bios

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Children, Research, and Public Policy

A Randomized Controlled Study of the Virginia Student Threat Assessment Guidelines in Kindergarten Through Grade 12

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Abstract. This randomized controlled study examined disciplinary outcomes for 201 students who made threats of violence at school. The students attended 40 schools randomly assigned to use the Virginia Student Threat Assessment Guidelines or follow a business-as-usual disciplinary approach in a control group. Logistic regression analyses found, after controlling for student gender, race, school level, and threat severity, that the 100 students in the threat assessment group schools were more likely to receive counseling services (odds ratio [OR] = 3.98) and a parent conference (OR = 2.57), and less likely to receive a long-term suspension (OR = 0.35) or alternative school placement (OR = 0.13) than the 101 students in the control group schools. Implementation fidelity was associated with decreased long-term suspension (OR = 0.73). These results provide strong empirical support for the use of student threat assessment in primary and secondary schools.

Although severe acts of violence in school are relatively rare events, threats of violence are much more common and pose a serious problem for our nation's schools (Bo-

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rum, Cornell, Modzeleski, & Jimerson, 2010). A report by the National Center for Education Statistics (Nieman & Devoe, 2009) indicated that there were 20,260 student threats of physical attack involving a weapon and 461,910 threats of physical attack without a weapon in U.S. public schools during the 2007–2008 academic year. These threats occurred in more than two-thirds of the nation’s middle and high schools, and more than one-third of the elementary schools. Moreover, approximately 7% of teachers reported being threatened with injury by a student and 4% reported being physically attacked by a student in 2007–2008 (Robers, Zhang, & Truman, 2010).

Threats of violence can be frightening and disruptive events for victims, witnesses, and others who learn about them. When school authorities learn of a threat, they may turn to school psychologists to evaluate the situation and make recommendations, but many schools use a zero tolerance model of discipline (American Psychological Association Zero Tolerance Task Force, 2008), which would require immediate removal of the offending student from school. Although suspension is intended as a corrective consequence to improve student behavior, students who are suspended from school tend to engage in higher rates of subsequent misbehavior and are more likely to be suspended again (Hemphill, Toubmourou, Herrenkohl, McMorris, & Catalano, 2006). High school-wide suspension rates are related to increased student dropout rates (Lee, Cornell, Gregory, & Fan, 2011). Moreover, suspension also may convey unintended messages that have a negative effect on students, such as the implication that the student is not wanted at school (Bowditch, 1993), and may generate feelings of disengagement from school as well as deprive the student of instructional time (Arcia, 2006).

Alternatively, school authorities could attempt to determine the seriousness of the threat and resolve the problem that generated the threat. An underlying dilemma for school authorities is that they dare not underreact to a serious threat, yet overreaction to a threat that is not serious also can lead to unnecessary work by staff and excessive disciplinary con-

sequences for students. For example, in a nationally publicized case, a 6-year-old first grader in Delaware named Zacharie was found with a knife at school (Urbina, 2009). Under the school’s zero tolerance policy, school authorities had no choice but to suspend Zacharie from school and order him to attend an alternative placement school for 45 days. However, investigation revealed that the boy had simply brought his camping utensil to eat lunch, and the utensil happened to include a knife along with a fork, spoon, and bottle opener. In the face of considerable public pressure and nationwide expressions of concern, the school board modified the suspension and allowed Zacharie to return to school (Urbina). A threat assessment approach would permit school authorities to make reasonable judgments when it is evident that a student’s behavior does not constitute a serious threat of violence.

Threat Assessment

The Federal Bureau of Investigation (FBI; O’Toole, 2000) and the U.S. Secret Service (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002) conducted studies of school shootings in response to the 1999 shootings at Columbine High School. Both studies concluded that schools should not rely on student profiling or a checklist of warning signs to identify potentially violent students. As the FBI report noted, “Trying to draw up a catalogue or ‘checklist’ of warning signs to detect a potential school shooter can be shortsighted, even dangerous. Such lists, publicized by the media, can end up unfairly labeling many non-violent students as potentially dangerous” (O’Toole, 2000, p. 2).

The Secret Service report (Vossekuil et al., 2002) noted that over three-quarters of the student perpetrators had communicated their interest in mounting an attack at school to someone else, usually a friend or classmate. In almost every case, the boys had reportedly raised concerns among adults who knew them because of an emotional problem or interpersonal conflict. In more than two-thirds of cases, the boys felt bullied or harassed by

others, and were motivated to take revenge. These observations indicated that schools should focus their efforts on the identification and investigation of student threats as a violence prevention strategy.

Both the FBI (O'Toole, 2000) and Secret Service (Fein et al., 2002) reports recommended that schools train threat assessment teams. The FBI report cautioned that a threat by itself would not be sufficient to identify a violent student, succinctly observing, "All threats are not created equal" (p. 5). Instead, school authorities must investigate the context and meaning of a student's threat for the purpose of determining whether the student is engaged in other behaviors that demonstrate intention to carry out the threat. If the investigation indicates that the threat is genuine, the next step would be to take action to prevent it from being carried out. Although these authoritative reports made a compelling case for a threat assessment approach, there was no established model or set of procedures for schools to follow.

The Virginia Student Threat Assessment Guidelines

The Virginia Guidelines were developed to lead team members through the threat assessment process (Cornell & Sheras, 2006). Threat assessments are conducted by a multidisciplinary team consisting of a school administrator (typically the principal or assistant principal), a law enforcement officer or school resource officer, and one or more mental health professionals.

A school-based team is recommended because local staff will have greater familiarity with the students and be able to respond more quickly than an external team. Furthermore, most student threats can be resolved without an extensive process, so that use of an outside team would be inefficient and could magnify the importance of a minor incident. School principals or assistant principals lead the threat assessment team and are responsible for student discipline and safety, and the law enforcement representative should be a school resource officer who has been trained to work

in schools. The school psychologist plays a critical role in responding to threatening behavior by (a) assisting in resolving less serious cases, (b) screening for mental health problems that demand immediate attention, (c) assessing why the student made the threat, and (d) making recommendations for dealing with the problem or conflict that stimulated the threatening behavior.

The Virginia Guidelines steer school teams through a seven-step decision tree (described in more detail later and in Cornell & Allen, 2011) that begins with a threat being reported to the team leader, who then initiates a series of interviews to assess the content and context of the threat or threatening behavior. In order for the process to be flexible and efficient, the first three steps represent a triage process in which the team leader (or another designated team member) determines whether the case can be quickly and easily resolved as a transient threat or will require more extensive intervention as a substantive threat. Transient threats include jokes, figures of speech, or expressions of anger that do not reflect a sustained or genuine intent to harm the other person that would constitute a substantive threat. If the student responds positively to the initial intervention, the threat can be resolved and the process ends at Step 3, but if the intervention is not successful, then the threat is considered substantive. The team must proceed to Step 5 for serious substantive threats and Steps 6 and 7 for very serious substantive threats.

Threat assessment can be viewed as a problem-solving approach to violence prevention that focuses on resolving the conflict or difficulty that stimulated the threat and working out a solution that allows the student to continue in school. School psychologists and other school-based mental health professionals can play a critical role in providing mental health counseling services for a wide range of student problems (Christner & Mennuti, 2008). A threat assessment may identify underlying problems with bullying or conflicts in friendships and romantic relationships. Underlying disputes with teachers may be problems with authority and social competence as well

as learning or attention problems. Other students may be undergoing stressful circumstances leading to emotional distress, anger, and depression. As a result, one goal of threat assessment is to initiate appropriate mental health counseling services for the student.

Parental involvement has been widely recognized as a critical factor in addressing student discipline and attendance problems (Epstein & Voorhis, 2010; Sheldon, 2007). Student threats often reflect problems that extend outside of school and collaborative relationships with parents can be critical to the success of intervention plans. As a result, the Virginia Guidelines encourage parent involvement in responding to student threats. An important reason for pursuing both mental health services and parental involvement is to devise a plan that allows the student to return to school safely without long-term suspension or alternative school placement.

Previous Studies of the Virginia Guidelines

The first field test of the Virginia Guidelines involved school-based teams in 35 public schools that investigated 188 student threats (Cornell et al., 2004). Most of the cases (70%) were resolved as transient threats through an explanation or apology accompanied by brief counseling and relatively minor disciplinary consequences. The remaining 30% were substantive threats that required protective action and the development of a plan to address the underlying conflict or problem that drove the student to make a threat. Approximately half of the students (94 of 188) received short-term suspensions (typically 1–3 days) and only 3 students were given long-term suspensions (>10 days). Nearly all students (173 of 188) were able to return to their original school. Follow-up interviews with school principals indicated that none of the threats were carried out. Although it is possible that some students were able to engage in a fight that was never disclosed to school authorities, they were confident that the more serious threats of killing, shooting, and stabbing were not carried out.

A second field test (Strong & Cornell, 2008) was conducted in a large urban school district using a centralized threat assessment team. This was a more selective sample of 209 students who were referred for assessment by school principals as their most serious disciplinary cases, and involved 109 threats to kill, shoot, or stab someone. Even though these were regarded as among the most serious disciplinary cases in the school, nearly half (49%) were resolved as transient cases. The threat assessment team developed individualized plans for each case that involved a variety of student mental health services and academic support efforts, such as brief counseling to resolve interpersonal conflicts and academic tutoring. A majority of the students were able to return to school (121 of 209, 61%) or transfer to an alternative program or different school (51 of 209, 24%). The study also found evidence of improved student behavior with a 55% reduction in disciplinary referrals after the students who made threats returned to school. As in the first field test, school authorities reported that none of the threats were carried out.

Cornell, Sheras, Gregory, and Fan (2009) conducted a retrospective comparison of 95 high schools reporting use of the Virginia Guidelines, 131 schools reporting use of locally developed procedures, and 54 schools reporting no use of a threat assessment approach. Students at schools that used the Virginia Guidelines reported less bullying in the past 30 days, greater willingness to seek help for bullying and threats of violence, and more positive perceptions of school staff members than students in either of the other two groups, and there were one-third fewer long-term suspensions, after controlling for school size, minority composition and socioeconomic status of the student body, neighborhood violent crime, and the extent of security measures in the schools (Cornell et al., 2009). A quasi-experimental study with 23 high schools and 26 control group schools found a 52% reduction in long-term suspensions and a 79% reduction in bullying infractions after implementing the Virginia Guidelines, but the con-

trol group schools showed little change (Cornell, Gregory, & Fan, 2011).

Beyond the line of research with the Virginia Student Threat Assessment Guidelines, there is little published research on the use of threat assessment in schools. The Dallas Threat of Violence Risk Assessment (DTVRA) was designed to help school personnel assess student threats (Van Dyke & Schroeder, 2006). The DTVRA consists of 19 risk factors derived from a review of literature on risk factors for violence. Each item is rated as low, medium, or high, and assigned a score of 1, 2, or 3, respectively. Although such a structured system can be appealing, the scoring system and cutoff points were "arbitrarily chosen by the committee without empirical validation" (Van Dyke & Schroeder, 2006, p. 608). The DTVRA has been widely used, but there is little research that examines the validity of resulting decisions (Van Dyke & Schroeder, 2006). Van Dyke (2008) examined the interrater reliability of the DTVRA using four fictional case scenarios rated by school counselors, but there appeared to be no controlled studies of its use in school settings.

Present Study

Although there are considerable data collected from field testing and quasi-experimental designs, no experimental evaluations have been conducted regarding the Virginia Guidelines. Therefore, the goal of the current study was to randomly assign participating schools to either receive training in the Virginia Student Threat Assessment Guidelines or to participate in a wait-list control group that would receive training the following year. The study began with a one-day workshop on threat assessment for the treatment group schools. Then researchers gathered outcome data for students who made threats of violence in the two groups of schools. Based on previous data, we hypothesized that students who made threats of violence in the Virginia Guidelines schools would be (a) more likely to receive mental health counseling services, (b) more likely to have parental involvement in response to the threat, but (c) less likely to be

given a long-term suspension and (d) less likely to be placed into an alternative school setting than students attending schools in the control group. Finally, the effect of implementation compliance on the provision of mental health services, parental involvement, long-term suspension, and alternative school placements was also examined.

Method

Participants and Settings

The participants consisted of 201 students identified by school authorities as making a threat of violence during the school year, including 100 who attended intervention schools and 101 who attended control schools. The student grade levels ranged from kindergarten to 12th grade, with 89 (44.3%) in elementary school, 59 (29.4%) in middle school, and 53 (26.4%) in high school. Most (73%) of the students were boys. Based on school records, approximately 24% of the students were identified as White and 76% racial minority (73% African American and 3% Hispanic). The higher proportion of male and minority youth in the sample is consistent with the higher rates of disciplinary violations observed in this demographic group in the school system as a whole. Student academic records and information on student eligibility for free or reduced-price meals were not available to the researchers. χ^2 analyses revealed that, across the intervention and control schools, there were no statistically significant group differences in gender [$\chi^2_{(df = 1, N = 201)} = 0.13, p = .72$], or across the school level (elementary, middle, and high) [$\chi^2_{(df = 2, N = 201)} = 2.79, p = .25$], but there tended to be a statistically higher proportion of minority students in the control group [$\chi^2_{(df = 1, N = 201)} = 4.10, p = .04$].

The students in the study attended 40 schools in an urban/suburban school system located in southeastern Virginia. The school system enrolled approximately 32,000 students in 26 elementary schools, 8 middle schools, and 6 high schools. Approximately 58% of the students were African American, 31% White, 6% Hispanic, and 5% from other

racial/ethnic groups. Nearly half (46%) were classified as economically disadvantaged, based on federal criteria for the free and reduced-price meal program. At the onset of the study, the school system reported a higher annual rate of disciplinary violations than state and regional averages, with 4,230 incidents of disorderly or disruptive behavior, 4,259 offenses that involved physical aggression against students, staff, or other persons, and 183 offenses that involved weapons. Overall, the school system reported 389 long-term suspensions and 90 expulsions during the academic year.

One half of the schools were randomly assigned by coin toss to receive training in the Virginia Student Threat Assessment Guidelines at the beginning of the school year and participate in a study of student outcomes during the ensuing school year. The remaining half served as a wait-list control group that would receive training the following year. Randomization was blocked on school type (elementary, middle, or high schools).

The usual practice across both groups of schools was for the student to be suspended from school for making a threat. In both the intervention and control groups of schools, students were typically suspended from school (75% and 73%, respectively) and were rarely referred for support services (15% and 18%, respectively). The groups were also similar on key disciplinary and academic outcome measures. The annual short-term suspension rates for the whole school were 26.8 per 100 students for the intervention group and 26.9 per 100 students in the control group. The long-term suspension rates were approximately 0.5 per 100 students in both groups. Moreover, the percentage of students who passed the state accountability tests at Grades 5, 8, and 9–12 was 86.5% and 86.7% in English/reading for intervention and control groups respectively, and 84.7% and 82.3% in mathematics.

Measures

Evaluation of training. At the beginning of the training day, participants completed an anonymous pretest evaluation form

and at the end of the workshop they completed a post-test evaluation. The evaluation form was a modified version of the instrument developed and tested in a previous study (Allen, Cornell, & Lorek, 2008), which found that workshop participants demonstrated large (effect size $\eta^2 = 0.79$) increases in knowledge of threat assessment.

The present study shortened the form to 15 items in order to make the instrument more efficient. Each item was rated on a 4-point scale (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Agree*, 4 = *Strongly Agree*). Internal consistency coefficients were calculated for both pretest ($\alpha = .62$) and post-test ($\alpha = .60$) forms. These values suggested that the items were not homogeneous measures of a single construct, but could serve as an index of a more complex construct (Streiner, 2003). It was judged that it was more important to cover a wider range of content than to focus on a narrower content base in order to achieve higher internal consistency.

Compliance or treatment integrity.

The researchers gathered information on staff implementation of the model with fidelity. Evidence of compliance was gathered from a series of relatively objective indicators. First, the researchers considered whether the school sent one or more staff members to attend the training, and then whether the team members held meetings on their own at school, as recommended in the training. The researchers also noted whether the teams attended a booster training session and whether they completed documentation forms following each case. This information was readily obtained by researchers from meeting attendance records. Finally, the school principal was asked to provide his or her assessment of how consistently the team followed the threat assessment model on a 5-point scale ranging from *never* to *always*. (Principals used the full range of this scale.) This information was used to construct a 5-item scale: (1) attendance at initial training (0 = *no one attended*, 1 = *one attended*, 2 = *two attended*, 3 = *three attended*, 4 = *four or more attended*); (2) held team meetings (0 = *no meetings*, 1 = *one*

meeting, 2 = *quarterly meetings*, and 4 = *more than 4 meetings*); (3) attended booster meeting (0 = *no*, 1 = *yes*); (4) completed documentation forms (0 = *no*, 1 = *yes*); and (5) reported use of the model (0 = *never*, 1 = *seldom*, 2 = *sometimes*, 3 = *often*, 4 = *always*). Each of the 5 items was converted to a z score and then all five were averaged into an overall Compliance score with an internal consistency (Cronbach's alpha) of .81.

Student outcomes. The prevention of violence is always a fundamental goal of threat assessment, but most threats are not carried out and severe acts of violence are so rare that it would require an extraordinarily large sample to assess intervention effects. In this study, too few students (7 in the sample of 201) were identified as carrying out their threat of violence to conduct meaningful analyses. The Virginia Guidelines were designed to achieve three goals beyond violence prevention that were evaluated in this study: (1) use of mental health counseling services to resolve conflicts; (2) involvement of parents in response to the threat; and (3) return of students to school without long-term suspension or alternative school placement.

School principals completed a standard documentation form for each case that included a description of the threat incident, identifying information regarding the student (not shared with researchers), and steps taken by the team in response to the threat. The form provided dichotomous (Yes/No) data for 5 outcomes, whether: (a) the student received a long-term suspension from school; (b) there was a conference with the student's parents; (c) the parents of the victim were notified; (d) the student was placed in an alternative setting; and (e) the student was provided with some form of school-based mental health counseling services. School-based mental health counseling services were broadly defined to include any mental health services deemed appropriate to the student's needs, such as supportive counseling, social skills training, or mediation of interpersonal conflicts.

Threat severity. The seriousness of the threat case was determined by the threat assessment team according to rules in the Virginia Guidelines. There were three levels of severity: (a) transient threats, (b) serious substantive threats, and (c) very serious substantive threats. This 3-point index was used as a control variable because disciplinary outcomes might differ as a function of case severity. A transient threat is one in which the student does not have a sustained intent to harm someone, and often involves an expression of anger, frustration, or even inappropriate humor. Substantive threats are ones in which there is a sustained intent to harm someone beyond the immediate incident. When it is not clear whether a threat is transient or substantive, the team considers the threat to be substantive. A substantive threat is then categorized as serious or very serious. A serious threat is a threat to assault, strike, or beat up someone. A very serious threat is a threat to kill, sexually assault, or severely injure someone. A threat involving the use of a weapon is generally considered a threat to severely injure someone, but teams must always use their judgment.

Procedures

Training. The principal from each intervention school selected a threat assessment team to attend a standard 1-day workshop on the threat assessment model. The resulting 59 participants included 21 principals and assistant principals, 2 school resource officers, 5 school psychologists, 20 school counselors, 7 school social workers, 1 teacher, and 3 other staff members. The workshop was conducted by the authors of the Virginia Student Threat Assessment Guidelines. The workshop explained the rationale and basic principles of threat assessment, then presented a step-by-step analysis of the decision-tree model and procedures used to determine the seriousness of a student threat and take appropriate action.

Decision tree. At Step 1, the team leader begins by interviewing the student who made the threat, using a standard set of questions. The focus of the interview is not the

verbal content of the threat, but its context—that is, what the student meant and intended in making the threat. The student’s account is compared to what other witnesses report and how they experienced the threat.

At Step 2, the threat may be identified as transient, such as an expression of anger, frustration, or even inappropriate humor. The defining feature of a transient threat is that the student does not have a sustained intent to harm someone. In some cases, behavior that appears threatening to an observer might not constitute a threat when investigated and the school staff member would simply clarify the situation for all concerned parties.

At Step 3, transient threats are resolved when the student is able to offer an apology and explanation that makes amends for his or her behavior. In situations where there is an argument or conflict of some kind, the team may use available counseling resources to engage the student in a mediation or conflict resolution process. There may be a reprimand or other disciplinary consequence as well. Most threats are resolved at this step.

A threat that cannot be easily resolved as a transient threat is regarded as a *substantive* threat, which means that there is a sustained intent to harm someone beyond the immediate incident. When it is not clear whether a threat is transient or substantive, the team considers the threat to be substantive. Some presumptive, but not necessary or sufficient, indicators that a threat is substantive, include the specificity and plausibility of the threat, whether there has been planning or preparation to carry out the threat, and whether there is physical evidence of intent such as a weapon or written plan. In each case, the team must consider the total circumstances of the threat and make reasoned judgments based on all the available information, such as the student’s age and capabilities, mental state, and prior history of aggression.

At Step 4, a substantive threat is classified as *serious* or *very serious*, a distinction based on the intended severity of injury. A *serious* threat is a threat to assault, strike, or beat up someone. A *very serious* threat is a threat to kill, sexually assault, or severely in-

jure someone. A threat involving the use of a weapon is generally considered a threat to severely injure someone, but teams must always use their judgment. For example, if a student threatens to shoot someone with a water pistol, it would not make sense to treat such a threat as very serious and it may be no more than a transient threat.

At Step 5, the team responds to a serious substantive threat by taking protective actions to prevent the threat from being carried out. Immediate protective actions include cautioning the student about the consequences of carrying out the threat, providing supervision so that the threat is not carried out at school, and contacting the student’s parents (or adult caretakers) so that they can assume responsibility after school. A team member should also meet with the intended victim(s) of the threat, both in an effort to resolve the underlying dispute or problem and to warn the individual(s). If the intended victim is a student, that student’s parents should be contacted as well. Serious substantive threats are resolved at this step.

In the case of very serious substantive threats, the team takes more extensive action at Steps 6 and 7. The school psychologist should undertake a mental health evaluation with the initial goal of assessing the student’s mental state and need for immediate mental health services, and then a secondary goal of recommending strategies addressing the problem or conflict underlying the threat. Although the use of long-term suspension is discouraged because its association with negative student outcomes (Bowditch, 1993; Skiba & Sprague, 2008), a short-term suspension is appropriate until the team can complete its safety evaluation. The school resource officer must determine whether law enforcement action should be taken.

At Step 7, the team integrates findings into a written safety plan. The plan may include mental health and counseling recommendations, findings from the law enforcement investigation, and disciplinary consequences. The safety plan is designed both to protect potential victims and to address the educational needs of the student who made the threat.

The threat assessment teams in each

school were provided with a manual (Cornell & Sheras, 2006) that explains the rationale and purpose of threat assessment, the roles of each team member, and the decision tree. There is also information about mental health assessments of threatening students, answers to frequently asked questions about legal, ethical, and practical issues, the integration of threat assessment into a comprehensive school-wide approach to violence prevention, the selection of interventions for students receiving special education services, and case exercises that can be used to test team members' knowledge of the guidelines.

Results

Evaluation of Workshop Training

A multivariate repeated measures ANOVA compared pretest and post-test scores on the 15 items measuring knowledge of threat assessment gained in the staff workshop. The multivariate test was statistically significant, Wilks's $\Lambda = 0.10$, $F(15, 31) = 17.95$, $p < .001$, and accompanied by a large effect size ($\eta^2 = 0.90$). Table 1 presents univariate tests for the pre- and post-test score differences for each of the 15 items, with all changes were in the expected direction. There was a statistically significant change ($p < .01$) from pretraining to post-training for all but 2 items (Items 11 and 12 in Table 1), with effect sizes ranging from small (e.g., -0.26) to very large (e.g., 1.58). Notably, participants showed a large decline in support for zero tolerance (effect size in the form of standardized mean difference $d = 1.14$) and less inclination to use suspension as a response to student threats ($d = 0.63$).

Evaluation of Treatment Effects

Because all 5 outcome variables were dichotomous, logistic regression analysis was the appropriate statistical method to test study hypotheses. In this sample, the 201 students were nested in 40 schools, but there were too few students per school (3 to 6 cases per school for most schools) to conduct a multi-level logistic regression analysis because the

small Level 1 sample size would generate severe biases in variance and covariance components estimation (Shih & Fan, 2009). However, we assessed the potential effect of the nested data structure on Type I error by estimating the intraclass correlation of the outcome variables (Ridout, Demetrio, & Firth, 1990); coefficients ranged from 0.04 to 0.07 and therefore were deemed unlikely to cause serious inflation of the Type I error rate. Based on these considerations, we proceeded with two logistic regression analysis models for each outcome variable. The first model simultaneously entered the demographic variables (student gender, school level, and race) and threat severity. The second, full model added the intervention condition (intervention vs. control). In Table 2, the odds ratios (OR) associated with the model predictors were from the full model, but the ΔR^2 measure for the unique contribution of intervention/control condition was derived from a comparison of the two models.

Data presented in Table 2 support the main study hypotheses. The logistic regression model for the outcome measures had reasonably good model fit, with Nagelkerke pseudo- R^2 being above 0.30 for three outcome variables (long-term suspension, parent notified, and alternative placement) and around 0.20 for the remaining two outcomes (parent conference, mental health counseling services provided). Specifically, compared with the students ($n = 101$) in the control schools, the students ($n = 100$) in the schools using threat assessment were considerably more likely to receive mental health counseling services (OR = 3.98, or close to four times as likely) and a parent conference (OR = 2.57), but less likely to receive long-term suspension (OR = 0.35, or about one third as likely) or an alternative school placement (OR = 0.13, or about one eighth as likely). There was no statistically significant effect for notification of the victim's parents, but the nonsignificant effect of treatment was in the expected direction. These differences between the treatment and control school students could not be attributed to student gender or race, school level, or threat severity, which

Table 1
Pre-Post Changes in Fifteen Training Survey Items

Training Survey Items (Direction for Correct Answer)	Pre Training Mean	Post Training Mean	$t_{(df)}$ ¹	Effect Size ²
1. Violence in schools has increased over the past ten (10) years. (Disagree)	3.87	1.52	11.70 ₍₅₄₎	1.58
2. A safety plan should be implemented for a transient threat. (Disagree)	4.17	2.48	8.44 ₍₅₂₎	1.16
3. If a student threatens an act of violence, immediate suspension is necessary. (Disagree)	3.02	2.07	4.60 ₍₅₂₎	0.63
4. When conducting an interview with a student about an alleged threat, the student should be reassured that the interview is confidential. (Disagree)	2.70	1.54	5.79 ₍₅₃₎	0.79
5. An angry student who says “I could kill him for that” should always be regarded as making a substantive threat. (Disagree)	3.22	2.30	4.90 ₍₅₃₎	0.67
6. Students receiving special education services usually cannot be suspended following a threat assessment. (Disagree)	1.63	1.17	2.83 ₍₅₃₎	0.38
7. Mental health threat assessments are designed to predict violence. (Disagree)	2.41	1.67	3.51 ₍₅₃₎	0.48
8. Profiling is an effective method to identify students who may commit violent acts. (Disagree)	2.54	1.41	6.92 ₍₅₁₎	0.96
9. The probability that a student will kill someone at school is so low that the average school will experience it about once every 12,000 years. (Agree)	2.61	4.57	-9.34 ₍₅₃₎	-1.27
10. A student who writes an essay describing a violent event should be given a threat assessment. (Disagree)	3.20	2.37	4.92 ₍₅₃₎	0.67
11. A student who tells friends that he will beat up someone in the parking lot after school today is most likely making a transient threat. (Disagree)	2.87	2.30	2.46 ₍₅₃₎ ⁺	0.33
12. The typical school violence prevention program can reduce fighting by 50%. (Agree)	3.85	4.24	-1.92 ₍₅₂₎ ⁺	-0.26
13. I am concerned that a homicide could occur in my school. (Disagree)	2.43	1.50	4.04 ₍₅₄₎	0.54
14. We need zero tolerance for student threats of violence in my school. (Disagree)	3.70	2.04	8.37 ₍₅₃₎	1.14
15. Until the law can be changed, federal law (FERPA) prevents school officials from notifying parents the name of the student who has threatened their child. (Disagree)	2.07	1.28	5.26 ₍₅₃₎	0.62

Note. N = 46 cases with complete data. Items were answered on a four-point scale where 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Agree*, 4 = *Strongly Agree*. The desired response is indicated after each item in parentheses. The fifteen items were first analyzed in a multivariate repeated measures analysis: Wilks' Lambda = .10, F (15, 31) = 17.95, p < .001, eta-squared = .90. In follow-up to the multivariate test, fifteen univariate dependent sample *t* test values are reported here.

¹ All *t*-tests have $p < .01$, except #11 and #12 as indicated by '+'.
² Effect size is based on standardized mean difference scores between pre- and post-scores on each item ($D = \bar{X}_{pre} - \bar{X}_{post}$), and is computed as: $d = D/std_D$, where std_D is the standard deviation of the difference scores D .

Table 2
Odds Ratios (OR) from Logistic Regression Showing Treatment Effects for Five Outcome Measures

Predictors	Outcome Measures				
	Long-Term Suspension	Parent Conference	Victim's Parent Notified	Alternative Placement	Counseling Provided
School Type					
Middle vs. Elementary	6.16*	.38	.45	2.62	.33*
High vs. Elementary	7.34*	.17*	.40	5.34	1.01
Threat Severity	1.19	1.20	1.22	3.23*	.68
Gender (M vs. F)	1.70	0.80	3.98*	3.31	1.25
Race (Minority vs. White)	1.90	.88	8.85*	.75	1.45
Intervention vs. Control	.35*	2.57*	1.57	.13*	3.98*
^a Total R^2	.30	.19	.32	.38	0.21
Intervention ΔR^2	.06	.05	.01	.11	0.12

Note. ^a These are "pseudo- R^2 " in the form of Nagelkerke R^2 in logistic regression analysis.

* Statistically significant at $\alpha = .01$.

were statistically controlled in the logistic regression analysis. The effect sizes for the unique contribution of the intervention in the form of ΔR^2 ranged from small ($\Delta R^2 = 0.05$) to medium ($\Delta R^2 = 0.12$).

To assist in interpretation of the odds ratios, the percentages of each outcome were determined for each group. These raw percentages do not take into consideration the additional variables controlled in the logistic regressions. For students attending intervention versus control schools, the breakdown was as follows: long-term suspensions, 25% (intervention) versus 49% (control); parent conference, 75% versus 55%; victim's parent notified, 79% versus 81%; alternative school placement, 4% versus 20%; and counseling provided, 56% versus 25%.

Evaluation of the Effect of Implementation Compliance

We hypothesized that schools with higher compliance scores would have more desirable outcomes than those with lower compliance scores. Because compliance scores were only relevant for schools using the

Virginia Guidelines, the analyses only involved the 100 students in the intervention schools, and as a result of the smaller sample size, statistical power was reduced. Nevertheless, Table 3 shows that, for the five outcome variables, implementation compliance had a statistically significant effect on long-term suspensions (OR = 0.73) and mental health counseling services (OR = 1.24), after controlling for the student demographics (gender and race), school type, and threat severity. In addition to the findings related to compliance scores, there were two other notable findings. Among those in the intervention schools, male students were more likely to receive long-term suspension (OR = 4.61) after controlling for threat severity. If a threat was considered more serious, it was more likely that the victim's parent would be notified (OR = 6.52).

Discussion

Threat assessment has direct implications for school psychology practice. Students who make threats of violence pose a serious concern to schools. Nevertheless, most student threats do not lead to violence and there is

Table 3
Odds Ratios (OR) from Logistic Regression Showing Effect of Compliance
on Five Outcome Measures

Predictors	Outcomes				
	Long-Term Suspension	Parent Conference	Victim's Parent Notified	Alternative Placement	Counseling Provided
School Type					
Middle vs. Elementary	1.97	.20	1.00	1.00	2.24
High vs. Elementary	4.35	.26	1.00	2.51	1.70
Threat Severity	1.29	1.44	6.52	1.85	.99
Gender (M vs. F)	4.61	1.75	4.71	1.25	1.93
Race (Minority vs. White)	2.04	.77	2.84	1.01	2.59
Compliance Score	.73*	1.07	.84	1.16	1.24*
^a Total R^2	.32	.17	.65	.40	.185
Intervention ΔR^2	.10	.01	.01	.01	.07

Note. ^a These are “pseudo- R^2 ” in the form of Nagelkerke R^2 in logistic regression analysis.

* Statistically significant at $\alpha = .01$.

great potential for school authorities to overreact to student misbehavior (Cornell & Nekvasil, in press). School administrators in many schools often respond with a zero tolerance discipline approach that results in immediate suspension without consideration of the circumstances of the student's behavior (Skiba & Sprague, 2008). Before the student returns to school, the school psychologist may be asked to evaluate the student and offer an assessment of potential danger, which is an inherently difficult and scientifically questionable task (Borum et al., 2010).

In contrast, the Virginia Student Threat Assessment Guidelines provides schools with a team-oriented approach. The team has guidelines for assessing the context and meaning of the student's behavior and taking action calibrated to the seriousness of the threat. A threat assessment approach is fundamentally a risk management approach focused on resolving threats and preventing violence, as distinguished from a more traditional risk assessment designed to make a prediction of violence (Heilbrun, 1997). Moreover, threat assessment is consistent with the School Wide Positive Behavior Support model (Sugai &

Horner, 2006) and with current trends in school psychology services. Threat assessment allows schools to identify problem situations and assess the need for positive behavior support interventions rather than rely on reactive disciplinary practices (Horner, Sugai, Todd, & Lewis-Palmer, 2005, Mayer, 1995).

School authorities in schools that used the Virginia Threat Assessment Guidelines were much less likely to use long-term suspensions (OR = 0.35) or transfer the student to an alternative school placement (OR = 0.13), but they were much more likely hold a parent conference (OR = 2.57) and to use mental health counseling services (OR = 3.98) than school authorities in the control schools. These findings indicate a clear shift toward a less punitive approach to student threats.

A decrease in long-term suspensions is an important outcome because the practice of suspension has been repeatedly criticized as ineffective and even counterproductive to the goals of improving student behavior and maintaining an orderly school environment (Civil Rights Project, 2000; Skiba & Sprague, 2008). The greater use of mental health services in

response to student threats in the intervention schools is also important because it represents an effort to solve the underlying problem or conflict that stimulated the threat. This study did not examine the kinds of mental health services provided to students, but a wide variety of approaches have been found to be effective in reducing and preventing aggressive behavior in school (Wilson & Lipsey, 2007). A next step in threat assessment research is to examine student aggression more closely during a follow-up period and to identify specific strategies for resolving threats and preventing aggressive behavior.

Fidelity of implementation is a critical issue in any intervention study, especially in a complex setting such as a school (Dusenbury, Brannigan, Falco, & Hansen, 2003). Schools frequently adopt programs, but then fail to adhere to their requirements (Hallfors & Godette, 2007). Often, school authorities have established ways of dealing with student misbehavior that may not be consistent with threat assessment guidelines and there may be resistance to following new procedures. It is essential that the central administration for a school system provide support and encouragement for school administrators to follow a new model.

There are some particular challenges to evaluating the implementation of a threat assessment model. Threat assessment is not a specific curriculum or prescriptive set of procedures, but a set of guidelines to assist a team in its decision-making process. Moreover, threat assessment is not a routine activity, but an infrequent event that can occur unexpectedly at any time during the school year. In this study, the workshop evaluation results indicated that team members gained knowledge of threat assessment principles and expressed a willingness to move away from a zero tolerance approach. This suggested that the schools successfully took the first step toward implementation compliance. The workshop was designed to remove the common misconception that school violence has been increasing in the past 10 years and give participants an understanding of the extremely low probability of a student homicide. This information was

deemed important in helping reduce anxiety about student violence that can lead school authorities to overreact to student threats. The participants also displayed an understanding of the kinds of circumstances in which a mental health assessment of a student is needed, and they recognized that psychological profiling is not an appropriate strategy. Overall, the knowledge gained in the workshop was intended to help school authorities adopt a problem-solving attitude and approach to student threats rather than rely on an inflexible zero tolerance approach.

The infrequency of threat cases and the need to maintain student confidentiality made it impractical to observe a team in action. Thus, compliance with model procedures appears to be an area in need of future research. Perhaps the best indicator that the Compliance Score was a useful measure of fidelity is that it predicted the two primary student outcomes, long-term suspensions (OR = 0.73) and counseling services (OR = 1.24), after controlling for the student demographics (gender and race), school type, and threat severity. These findings underscore the importance of compliance in achieving positive outcomes. With greater compliance, it is likely that the group differences obtained in this study would have been even stronger.

Potential Theoretical Perspectives

Authoritative discipline theory (Gregory & Cornell, 2009) provides a useful framework for conceptualizing threat assessment as a violence prevention strategy. According to this theory, school discipline should reflect the characteristics of good parenting identified by Baumrind (1968), who found that effective parents displayed a combination of both high expectations for their children's behavior and warm support, which she described as "authoritative" parenting. Similarly, schools should be most effective when they have a combination of both high, but fair, disciplinary expectations and a supportive relationship with students. Moreover, schools characterized as authoritative had less truancy and fewer dropouts than schools characterized as

indifferent (Pellerin, 2005), and authoritative high schools had less bullying and student victimization (Gregory et al., 2010).

Threat assessment represents an authoritative perspective that contrasts with the authoritarian approach of zero tolerance discipline. Whereas a zero tolerance approach imposes harsh disciplinary consequences without consideration of the context of the student's behavior, threat assessment teams consider the circumstances and meaning of the student's behavior and seek ways to resolve conflicts and address the student's emotional needs and concerns. Although students receive disciplinary consequences for their threatening behavior, it is calibrated to the seriousness of the threat.

Limitations and Directions for Future Research

Replications of these findings are needed in a variety of schools and student populations. The effects of threat assessment on individual students were measured with general outcomes, such as the use of parent meetings and counseling services, but more specific information about the kinds of services is needed. Research on student outcomes using measures of academic and behavioral adjustment is also desirable. It should be noted that threat assessments are relatively infrequent events and can range widely in severity from simple cases that are quickly resolved to those that may require a comprehensive intervention plan and long-term follow-up. For these reasons, it would be necessary to study a large sample of schools over an extended period of time to accumulate enough cases to demonstrate a school-wide effect. It would be useful to obtain parental permission to collect data from students and parents to obtain more information about the effect on students, although this would be a formidable task.

There are several avenues for additional research. First, it would be useful to know more about the nature and prevalence of student threats of violence. There is little information on why students make threats or how threats are resolved when school authorities

are not involved (Cornell & Nekvasil, in press). Research is needed on the most effective method to deliver mental health interventions for students who have made a threat.

A second line of research would consider the victim's perspective. How do students evaluate threats and when do they decide to seek help for a threat? What is the role of bullying in these cases? Are there school climate conditions that facilitate student willingness to seek help for threats of violence? There is evidence that students are more willing to seek help in schools where students perceive their teachers and other school staff to be supportive and genuinely concerned about problems such as bullying (Eliot, Cornell, Gregory, & Fan, 2010).

A third line of research would examine the implementation of threat assessment procedures in schools. What is the best way to train staff and implement this new approach, and how can we monitor and encourage compliance? What are the most effective ways to involve school psychologists in conducting threat assessments, educating staff about the threat assessment approach, and monitoring compliance with the model? How long after implementation does it take for a threat assessment approach to begin to influence attitudes and behavior among the larger school staff and student body? It would also be possible to assess the broader effect of threat assessment on aspects of school climate and disciplinary outcomes such as victimization rates in a larger sample of schools, studied over a longer period of time. Although two studies have found evidence that threat assessment has a broader effect on school climate and disciplinary outcomes (Cornell et al., 2011; Cornell et al., 2009), controlled longitudinal studies are needed.

In summary, these results support the conclusion that use of the Virginia Student Threat Assessment Guidelines is an effective method of responding to student threats of violence. Although more studies are needed, there is accumulating evidence that the Virginia Guidelines have beneficial consequences for school safety conditions. The present study found that schools using the

Virginia Guidelines were less likely to use long-term suspension and alternative school placement, and more likely to use mental health services and parent meetings to resolve threats before they escalate into more serious acts of violence. Threat assessment offers schools a seemingly safe and effective alternative to zero tolerance disciplinary practices for threats of violence.

References

- Arcia, E. (2006). Achievement and enrollment status of suspended students: Outcomes in a large, multicultural school district. *Education and Urban Society, 38*, 359–369.
- Allen, K., Cornell, D., & Lorek, E. (2008). Response of school personnel to student threat assessment training. *School Effectiveness and School Improvement, 19*, 319–332. doi:10.1080/09243450802332184
- American Psychological Association Zero Tolerance Task Force. (2008). Are zero tolerance policies effective in the schools? An evidentiary review and recommendations. *American Psychologist, 63*, 852–862. doi: 10.1037/0003-066X.63.9.852
- Baumrind, D. (1968). Authoritarian vs. authoritative parental control. *Adolescence, 3*, 255–272.
- Borum, R., Cornell, D., Modzeleski, W., & Jimerson, S. R. (2010). What can be done about school shootings? A review of the evidence. *Educational Researcher, 39*, 27–37. doi:10.3102/0013189X09357620
- Bowditch, C. (1993). Getting rid of troublemakers: High school disciplinary procedures and the production of dropouts. *Social Problems, 40*, 493–509.
- Christner, R. W., & Mennuti, R. B. (Eds.). (2008). *School-based mental health: A practitioner's guide to comparative practices*. New York: Routledge.
- Civil Rights Project. (2000). *Opportunities suspended: The devastating consequences of zero tolerance and school discipline policies*. Cambridge, MA: Author. Retrieved June 5, 2009, from http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/000019b/80/17/21/dd.pdf
- Cornell, D., & Allen, K. (2011). Development, evaluation, and future directions of the Virginia Student Threat Assessment Guidelines. *Journal of School Violence, 10*, 88–106.
- Cornell, D., Gregory, A., & Fan, X. (2011). Reductions in long-term suspensions following adoption of the Virginia Student Threat Assessment Guidelines. *Bulletin of the National Association of Secondary School Principals, 95*, 175–194.
- Cornell, D., & Nekvasil, E. (in press). Violent thoughts and behaviors. In S. Brock & S. Jimerson (Eds.), *Best practices in school crisis prevention and intervention* (2nd ed.). Bethesda, MD: National Association of School Psychologists.
- Cornell, D., & Sheras, P. (2006). *Guidelines for responding to student threats of violence*. Longmont, CO: Sopris West.
- Cornell, D., Sheras, P., Gregory, A., & Fan, X. (2009). A retrospective study of school safety conditions in high schools using the Virginia Threat Assessment Guidelines versus alternative approaches. *School Psychology Quarterly, 24*, 119–129. doi:10.1037/a0016182
- Cornell, D., Sheras, P., Kaplan, S., McConville, D., Posey, J., Levy-Elkon, A., et al. (2004). Guidelines for student threat assessment: Field-test findings. *School Psychology Review, 33*, 527–546.
- Dusenbury, L., Brannigan, R., Falco, M., & Hansen, W. (2003). A review of research on fidelity of implementation: Implications for drug abuse prevention in school settings. *Health Education Research, 18*, 237–256.
- Eliot, M., Cornell, D., Gregory, A., & Fan, X. (2010). Supportive school climate and student willingness to seek help for bullying and threats of violence. *Journal of School Psychology, 48*, 533–553.
- Epstein, J. L., & Voorhis, F. L. V. (2010). School counselors' roles in developing partnerships with families and communities for student success. *Professional School Counseling, 14*, 1–14.
- Fein, R. A., Vossekuil, B., Pollack, W. S., Borum, R., Modzeleski, W., & Reddy, M. (2002). *Threat assessment in schools: A guide to managing threatening situations and creating safe school climates*. Washington, DC: U.S. Department of Education, Office of Elementary and Secondary Education, Safe and Drug-Free Schools Program, and U.S. Secret Service, National Threat Assessment Center.
- Gregory, A., & Cornell, D. (2009). "Tolerating" adolescent needs: Moving beyond zero tolerance policies in high school. *Theory into Practice, 48*, 106–113.
- Gregory, A., Cornell, D., Fan, X., Sheras, P., Shih, T., & Huang, F. (2010). Authoritative school discipline: High school practices associated with lower student bullying and victimization. *Journal of Educational Psychology, 102*, 483–496.
- Hallfors, D., & Godette, D. (2007). Will the principles of effectiveness improve prevention practice? Early findings from a diffusion study. *Health Education Research, 17*, 461–470.
- Heilbrun, K. (1997). Prediction versus management models relevant to risk assessment: The importance of legal decision-making context. *Law and Human Behavior, 21*, 347–360. doi:10.1023/A:1024851017947
- Hemphill, S. A., Toumbourou, J. W., Herrenkohl, T. I., McMorris, B. J., & Catalano, R. F. (2006). The effect of school suspensions and arrests on subsequent adolescent antisocial behavior in Australia and the United States. *Journal of Adolescent Health, 39*, 736–744. doi:10.1016/j.jadohealth.2006.05.010
- Horner, R. H., Sugai, G., Todd, A., & Lewis-Palmer, T. (2005). School-wide positive behavior support: An alternative approach to discipline in schools. In L. Bambara & L. Kern (Eds.), *Positive behavior support* (pp. 359–390). New York: Guilford.
- Lee, T., Cornell, D., Gregory, A., & Fan, X. (2011). High suspension schools and dropout rates for black and white students. *Education and Treatment of Children, 34*, 167–192.
- Mayer, G. R. (1995). Preventing antisocial behavior in the schools. *Journal of Applied Behavior Analysis, 28*, 467–478.
- Neiman, S., & DeVoe, J. F. (2009). *Crime, violence, discipline, and safety in U.S. public schools: Findings from the School Survey on Crime and Safety: 2007–08* (NCES 2009–326). National Center for Education Sta-

- tistics, Institute of Education Sciences, U.S. Department of Education, Washington, DC.
- O'Toole, M. E. (2000). *The school shooter: A threat assessment perspective*. Quantico, VA: National Center for the Analysis of Violent Crime, Federal Bureau of Investigation.
- Pellerin, L. (2005). Applying Baumrind's parenting typology to high schools: Toward a middle range theory of authoritative socialization. *Social Science Research, 34*, 283–303.
- Ridout, M. S., Demetrio, C. G., & Firth, D. (1999). Estimating intraclass correlation for binary data. *Biometrics, 55*, 137–148.
- Robers, S., Zhang, J., & Truman, J. (2010). *Indicators of school crime and safety: 2010* (NCES 2011–002/ NCJ 230812). National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice, Washington, DC.
- Sheldon, S. B. (2007). Improving student attendance with a school-wide approach to school-family-community partnerships. *Journal of Educational Research, 100*, 267–275.
- Shih, T., & Fan, X. (2009). *Adequate sample sizes for 2-level hierarchical linear modeling*. Germany: VDM Verlag.
- Skiba, R., & Sprague, J. (2008). Safety without suspensions. *Educational Leadership, 66*, 38–43.
- Streiner, D. L. (2003). Being inconsistent about consistency: When coefficient alpha does and doesn't matter. *Journal of Personality Assessment, 80*, 217–222.
- Strong, K., & Cornell, D. (2008). Student threat assessment in Memphis City Schools: A descriptive report. *Behavioral Disorders, 34*, 42–54.
- Sugai, G., & Horner, R. (2006). A promising approach for expanding and sustaining school-wide positive behavior support. *School Psychology Review, 35*, 245–259.
- Urbina, I. (2009, October 11). It's a fork, it's a spoon, it's a ... weapon? *New York Times*. Retrieved from <http://www.nytimes.com/2009/10/12/education/12discipline.html>
- Van Dyke, R. (2008). *Reliability and validity of the Dallas Threat of Violence Risk Assessment* (Doctoral dissertation). Indiana State University, Terre Haute, IN.
- Van Dyke, R., & Schroeder, J. (2006). Implementation of the Dallas Threat of Violence Risk Assessment. In S. R. Jimerson & M. J. Furlong (Eds.). *The handbook of school violence and school safety* (pp. 603–616). Mahwah, NJ: Lawrence Erlbaum Associates.
- Vossekuil, B., Fein, R. A., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States*. Washington, DC: U.S. Secret Service and U.S. Department of Education.
- Wilson, S. J., & Lipsey, M. W. (2007). School-based interventions for aggressive and disruptive behavior: Update of a meta-analysis. *American Journal of Preventive Medicine, 33*(2), 130–143. doi:10.1016/j.amepre.2007.04.01

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PREVENTION V. PUNISHMENT:

**Threat Assessment, School Suspensions,
and Racial Disparities**

JustChildren

A Program of the Legal Aid Justice Center

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December 18, 2013

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Prevention v. Punishment

THREAT ASSESSMENT, SCHOOL SUSPENSIONS, AND RACIAL DISPARITIES

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EXECUTIVE SUMMARY

Racial disparities in school discipline today are troubling. Nationally, nearly one third of black male high school and middle school students undergo suspension, while only one in ten white males are suspended. In Virginia, black males are suspended at approximately twice the rate of white males in elementary, middle, and high schools. Black females are suspended at more than twice the rate of white females. There are racial disparities even when controlling for a variety of other factors, such as poverty and delinquency. Because suspension is linked to school dropout and delinquency, reducing disparities in suspension rates could help reduce school dropout and delinquency rates for all students, but especially for black males.

This report presents new evidence that the implementation of Virginia Student Threat Assessment Guidelines (VSTAG) in Virginia public schools is associated with marked reductions in both short-term and long-term school suspensions. Furthermore, use of VSTAG is associated with reductions in the racial disparity in long-term suspensions. Schools using VSTAG have substantially lower rates of school suspensions, especially among black males, who tend to have the highest suspension rates.

In 2013, Virginia became the first state in the country to mandate the formation of threat assessment teams in all its schools. In light of this new data, it is important for schools to take this mandate seriously. In order to reap the benefits of threat assessment, however, it must be carefully implemented and balanced with student rights, all with the goal of improving school safety and climate for everyone. In addition to the seven recommendations found at the end of this report discussing ways for schools and communities to implement threat assessment safely and fairly, we also make the following policy recommendations:

1. The Virginia General Assembly should ensure that sufficient funding is available to provide school employees and law enforcement employees assigned to work in schools training in threat assessment, as well as other interventions that can help reduce suspension rates and improve student behavior.
2. The Virginia Department of Education and The Virginia Department of Criminal Justice Services should draft a model memorandum of understanding between schools and law enforcement for implementing threat assessment procedures and related efforts to maintain school safety.
3. The Virginia Department of Juvenile Justice should collect data on school-based arrests, referrals to law enforcement by schools or school resource officers, and filing of delinquency petitions or criminal complaints based on conduct occurring at school.
4. The General Assembly should require that schools ensure that students who are suspended or expelled continue to make academic progress during periods of disciplinary removal.

I. INTRODUCTION

Following the 1999 shootings at Columbine High School, authorities in law enforcement and education recommended that schools adopt a threat assessment approach rather than a zero tolerance approach to violence prevention.¹ Threat assessment was an unfamiliar concept to educators, so researchers in the Curry School of Education at the University of Virginia took on the challenge of developing a set of model guidelines for K-12 schools. These guidelines allow school-based multidisciplinary teams to evaluate and resolve student threats so that the students can remain in school rather than be suspended.

Over the past ten years, the Virginia Student Threat Assessment Guidelines (VSTAG) have become widely used in Virginia schools as well as schools nationwide. Based on a series of field tests and controlled studies, VSTAG has been recognized as an evidence-based practice in the federal government's National Registry of Evidence-Based Programs and Practices.

In contrast, multiple studies have found that suspension does not improve student behavior or academic performance, and can be regarded as an ineffective practice. For example, one study found that the chances of dropping out of high school double with the first suspension.² After controlling for demographics, attendance, and course performance, "each additional suspension further decreases a student's odds of graduating high school by 20%."³

In 2013, the Virginia General Assembly passed legislation mandating all Virginia public schools to maintain threat assessment teams. This report describes the impact of VSTAG on suspension rates and makes recommendations for the successful implementation of VSTAG as a model threat assessment program for Virginia schools.

II. THE DETRIMENTAL EFFECTS OF SCHOOL SUSPENSION

Suspensions keep thousands of Virginia’s children out of school each year. In 2011-12, there were 181,090 suspensions of students from Virginia schools.⁴ Contrary to perception, suspension is not just for dangerous teenagers. In 2011-2012, over 29,600 short-term suspensions were issued to elementary school students.⁵ Furthermore, the majority of suspensions in Virginia are not for offenses that threaten the health or safety of other students or staff. In the 2011-2012 school year, 65% of short-term suspensions were for non-violent acts of misconduct, such as defiance, classroom disruption, and use of electronic or cellular phones in school.⁶ That same year, 2,012 students were suspended for *more than 10 days* for behavior that did not involve weapons, drugs, or injury or threat to another person.⁷

By the Numbers

In 2011-12, Virginia schools administered:

- 746 expulsions
- 7,825 long-term suspensions or modified expulsions
- 173,265 short-term suspensions

This is a rate of 1,010 suspensions or expulsions per school day.

Source: Virginia Dep’t of Education

Suspensions for challenging, non-dangerous behavior may give the classroom a temporary reprieve from disruption, but students seldom return repentant and ready to learn. To the contrary, a suspension can accelerate a downward spiral of academic failure, missed instructional time, and continued acting out in order to mask failure and avoid schoolwork that is too difficult. If it were true that school suspension motivates students to improve their behavior and sends a constructive message to classmates, schools that use suspension more often should produce higher academic performance than schools that make less frequent use of suspension. In fact, several studies have found that, among schools with similar student characteristics, schools with high suspension rates have lower academic achievement.⁸

Not only do suspensions fail to improve student behavior, but today’s suspended youth are more likely to become tomorrow’s dropouts. In 2011, the Council of State Governments studied suspension in Texas and published *Breaking Schools’ Rules*. The findings provide convincing evidence that over-reliance on suspension increases the probability of grade retention, school dropout, and juvenile justice system involvement.⁹ Likewise, a study at the University of Virginia’s Curry School of Education found that Virginia high schools that use suspension the most have the highest dropout rates, even after controlling for student demographics and attitudes.¹⁰ In other words, suspension does not make schools safer or more orderly. If anything, suspension contributes to higher rates of misbehavior and school failure. As the Virginia Department of Education has concluded, “traditional approaches to student discipline have not been effective in reducing disruptive behavior, vandalism or the dropout rate.”¹¹

III. RACIAL DISPARITIES IN SCHOOL DISCIPLINE

Across the country, the use of suspension has increased substantially over the last four decades, particularly for students of color. A new study by UCLA's Civil Rights Project documents a dramatic increase in suspension rates for secondary school students since 1972, with a substantially widening gap between black and white students. In the 1972-1973 school year, 6.1% of white students and 11.8% of black students were suspended, a gap of 5.7 percentage points. In 2009-2010, that gap grew to 17.2 percentage points (7.1% white versus 24.3% black). Nationally, the racial gap is highest for black males, who are suspended at a rate of 30% in high school and 31% in middle school, generating gaps of 20 and 21 points, respectively, with white males.¹²

There are large racial disparities between black and white students in both short-term and long-term suspensions in Virginia.¹³ Figure 1 below shows that black males are suspended at approximately twice the rate as white males in elementary, middle, and high schools. Black females are suspended at more than twice the rate as white females. These rates are based on 2011-12 unduplicated¹⁴ suspension data for all 1,791 Virginia public schools classified as elementary (or primary), middle, or high schools.¹⁵

Figure 2 shows equally large racial disparities for long-term suspensions, although it should be noted that long-term suspensions are much less common, and the rate is calculated as the number of suspensions per 1,000 students (the short-term rate is suspensions per 100 students).

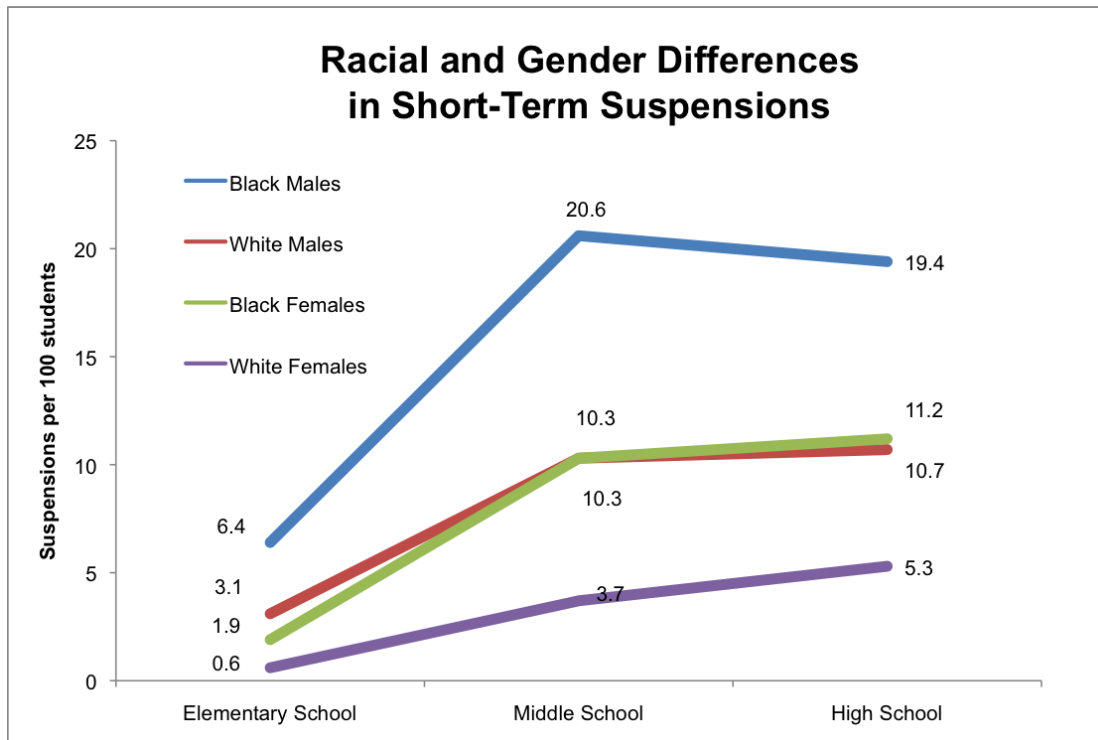


Figure 1

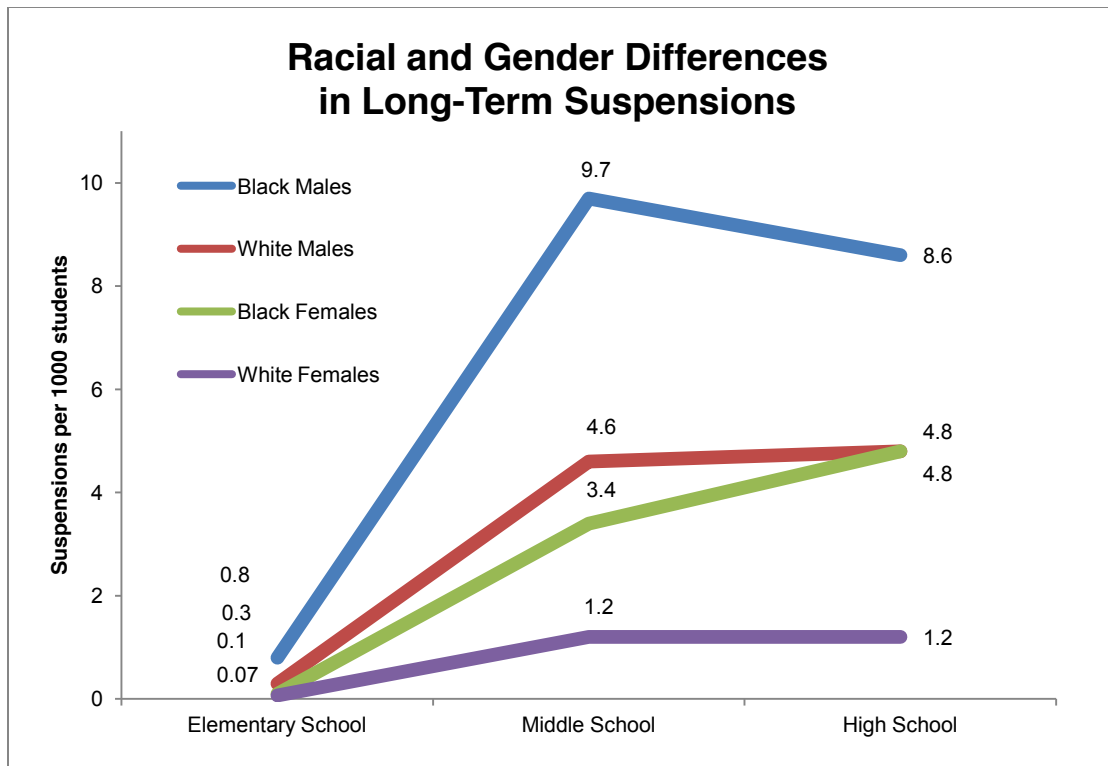


Figure 2

The high rates of suspensions among black students cannot be fully attributed to higher family poverty or to higher rates of serious misbehavior.¹⁶ Nor can their suspension rates be attributed to higher rates of delinquent behavior, such as property crimes, drug sales, or violent behaviors.¹⁷ Instead, several studies have found that high rates of minority suspension are associated with minor, typically more subjective, disciplinary infractions.¹⁸ In other words, most black students are being suspended for relatively minor misbehavior such as being loud or disruptive in class. In Virginia, black students are 67% more likely to be suspended for disruptive or disrespectful offenses than white students.¹⁹

Studies have found no support for the hypothesis that black students misbehave more often. Instead, research has supported the hypothesis that black students may be victim to more resource inequities than white students. Low-income students of color are more likely to attend schools with lower quality resources and facilities, higher teacher turnover, and a lower percentage of highly qualified teachers. These schools tend to also have a poor school climate. A 2011 study of 199 Virginia high schools found that schools rated by students as having the lowest levels of support and academic expectations had the highest rates of suspension *and* the largest black-white suspension gap.²⁰ Within these schools, students of color are referred more often and receive more severe punishments for less serious behavior.

IV. CREATING SAFE, FAIR, AND SUPPORTIVE SCHOOLS

In order for students to be academically successful, they must be surrounded by a safe and positive learning environment. There is strong evidence that this can be achieved without suspensions or expulsions. Schools should focus on a broader effort to create positive school climates and use alternatives to suspension. Positive Behavioral Interventions and Supports (PBIS),²¹ the professional development program My Teaching Partner,²² and school-based psychosocial violence prevention programs²³ are just a few evidence-based programs that improve student behavior without resorting to suspension. This Report demonstrates that *Virginia Student Threat Assessment Guidelines* is associated with reductions in the racial discipline gap, as well as lower suspension rates overall.

School Gun Suspension: 2nd-Grade Boys, Booted for Pointing Pencils, Return to Class

Seven-year old Christopher and his classmate were suspended for making shooting noises while pointing pencils at each other. The boys' horseplay violated Suffolk Public Schools' zero-tolerance ban on weapons.

Source: HuffPost

DEALING WITH THREATENING BEHAVIOR: A FOCUS ON STUDENT THREAT ASSESSMENT

Following the 1999 Columbine shooting, reports by the FBI, U.S. Secret Service, and U.S. Department of Education urged schools to refrain from the use of zero tolerance discipline practices. While there is no single definition for zero tolerance discipline policies, it generally refers to the belief that punishment should be given for any rule violation, including minor and unintentional rule violations. For example, one rule might be that students are not allowed to possess any prescription drugs at school, and a student is suspended for having acne medication in her locker.²⁴ Often, school administrators using a zero tolerance approach are less likely to assess or consider the reasons a student breaks a rule.

Instead of zero tolerance, the U.S. Department of Education has urged schools to adopt a flexible, less punitive approach to violence prevention known in law enforcement as “threat assessment.”²⁵ Although the term “threat assessment” is unfamiliar to most educators, it is a violence prevention strategy that begins with an evaluation of persons who threaten to harm others and is followed by interventions designed to reduce the risk of violence. A key aspect of threat assessment is its emphasis on considering the context and meaning of the student’s behavior and taking action that is proportionate to the seriousness of the student’s actions. This approach regards a threat as a sign of frustration or conflict that might be amenable to intervention, rather than simply a violation of rules that must be punished.

In the absence of any established approach to threat assessment in schools, a research group at the University of Virginia developed an innovative model, the *Virginia Student Threat Assessment Guidelines* (VSTAG).²⁶ The Virginia model of threat assessment is an approach to violence prevention that emphasizes early attention to problems such as bullying, teasing, and other forms of student conflict before they escalate into violent behavior. School staff members are encouraged to adopt a flexible, problem-solving approach, as distinguished from a more punitive, zero tolerance approach to student misbehavior.

This training is intended to promote broader changes in the nature of staff-student interactions around disciplinary matters and to encourage a more positive school climate in which students feel treated with fairness and respect.

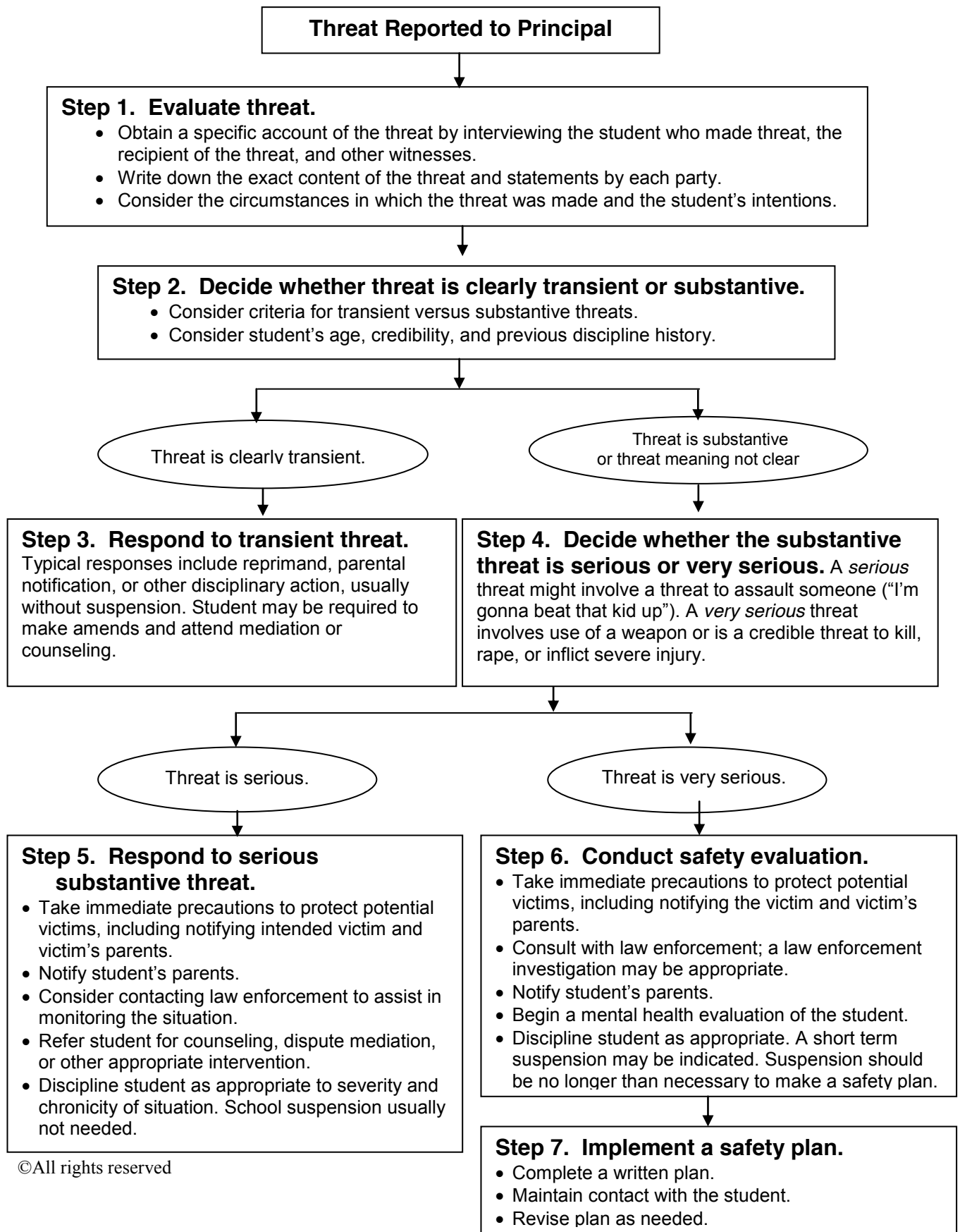
The VSTAG uses a decision tree (see Figure A) to guide threat assessment teams through a process of evaluating the seriousness of student threats and taking appropriate action. The threat assessment process places major emphasis on resolving problems and conflicts that stimulated a student's threatening behavior. The process also includes disciplinary consequences for student misbehavior, but discourages the use of school suspension except in the most serious cases. School resource officers serve on threat assessment teams because of their role in school safety and security, and they may conduct law enforcement investigations in cases where there is concern that a student is planning or preparing to carry out a violent crime. However, very few student threat assessments result in an arrest or delinquency charges.

Virginia High School Student Suspended for Spitballs

In 2010, a Virginia high school honors student was suspended for the rest of the school year for blowing plastic spitballs through a hollowed-out pen at people's backpacks during lunch. The student was charged with three counts of assault.

Source: FoxNews.com

FIGURE A. DECISION TREE FOR STUDENT THREAT ASSESSMENT.



CAN THREAT ASSESSMENT REDUCE RACIAL DISPARITIES?

Every day, teachers and other school personnel make assessments of student behavior and exercise judgment about whether behavior has crossed the line from ordinary horseplay into a disciplinary infraction or threat to safety. This ability to properly assess student behavior has historically been based on the teacher's and administrator's knowledge of the student. But with school budget cuts, increased class sizes, and growing administrative duties, the ability of teachers and administrators to develop personal relationships with students has dwindled. One study has concluded that the discipline gap exists because teachers and administrators are often less familiar with their minority students, less trusting or sympathetic in their view of them, and sometimes more concerned about their behavior.²⁷ Threat assessments place emphasis on gathering information and evaluating the context and motive for the student's behavior, and thus, could make a difference in the suspension and expulsion rates of black students.

In two controlled studies, University of Virginia researchers found that Virginia schools using the VSTAG were less likely than non-VSTAG schools to suspend a student for making a threat²⁸ and showed reductions in annual schoolwide suspension rates.²⁹ A statewide analysis of 1,795 schools³⁰ found that use of VSTAG was associated with greater reductions in suspensions.³¹

In this new study, University of Virginia researchers examined 2011-2012 student-level suspension data for 663 secondary (middle, high, or combined) schools. Short-term and long-term suspension rates (unduplicated³² counts of students) were compared for schools using the Virginia model (VSTAG) versus all other schools, based on reports by school principals on the 2011-2012 Virginia School Safety Audit. These analyses controlled for school differences in enrollment size and percentage of students receiving free or reduced price meals. In other words, all of the suspension rates are adjusted for the statistical effects due to the size of the school or the poverty level of the student body.³³

This new analysis by University of Virginia researchers found that secondary schools using the Virginia threat assessment model had lower rates of both short-term and long-term suspensions than other schools, which typically rely on a zero tolerance approach. As shown in Figure 3, schools using the Virginia model had 9.2 short-term suspensions/100 students in contrast to 10.8 short-term suspensions/100 students in schools not using the model. This represents a difference of approximately 15%. For long-term suspensions, the contrast was 3.6 suspensions/1,000 students among schools using the threat assessment model versus 4.8 among schools not using the model, a difference of approximately 25%. To put these results in perspective, a decrease of 15% for the 62,942 students in our data set who received one or more short-term suspensions in Virginia secondary schools would mean 9,441 fewer students would receive short-term suspensions. A decrease of 25% for the 3,060 students in our data set who received long-term suspensions would mean 765 fewer students would receive long-term suspensions.

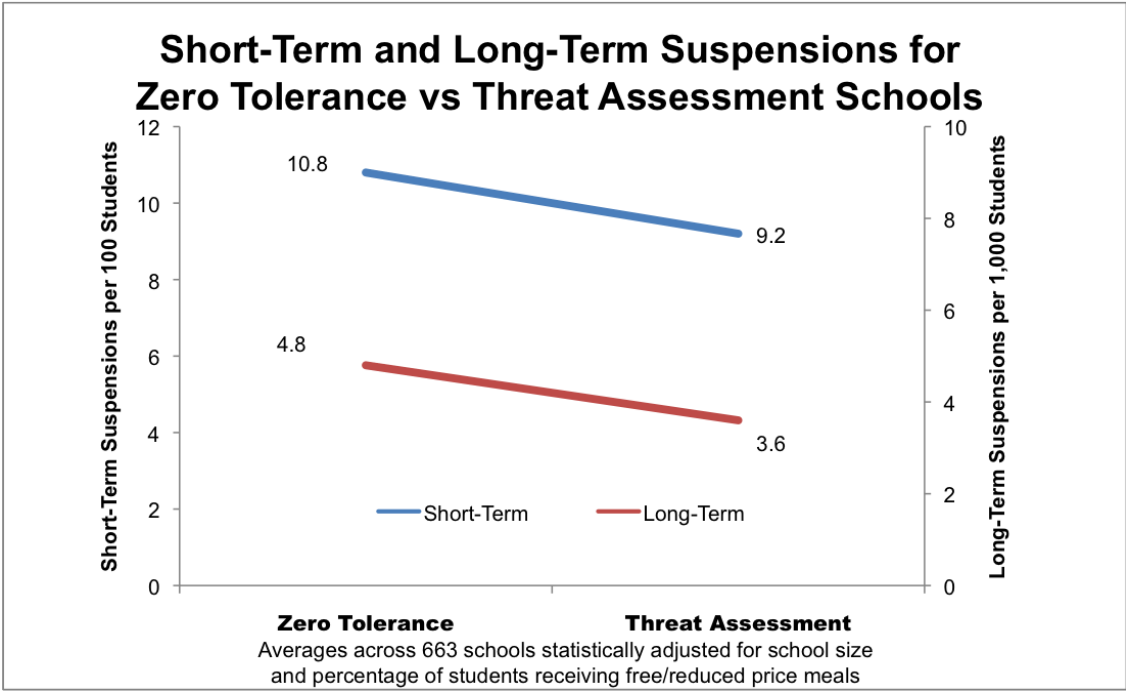


Figure 3

An additional series of analyses examined the suspension rates for subgroups of black and white males and females. As shown in Figure 4, short-term suspensions were lower in schools using the Virginia model for all four race-by-gender groups. The lower rates for white males, black females, and white females were statistically significant, but the lower rate for black males fell short of statistical significance ($p = .075$).

For long-term suspensions, the rates were lower for all four groups, too, but only the lower rate for black males was statistically significant (see Figure 5).

The racial disparity in suspension rates for black and white students can be gauged as the difference between the two groups. For short-term suspensions, the racial disparity is similar in the two groups of schools for both males and females, although the overall levels of suspension are reduced. In the case of long-term suspensions, however, the disparity between white and black males is notably lower in schools using the Virginia threat assessment model. In schools using the Virginia model, the disparity between white and black males is 3.3 percentage points ($7.6 - 4.3$) versus 6.1 percentage points ($11.2 - 5.1$) in zero tolerance schools not using the model. The difference between 3.3 and 6.1 is statistically significant ($p = .04$).

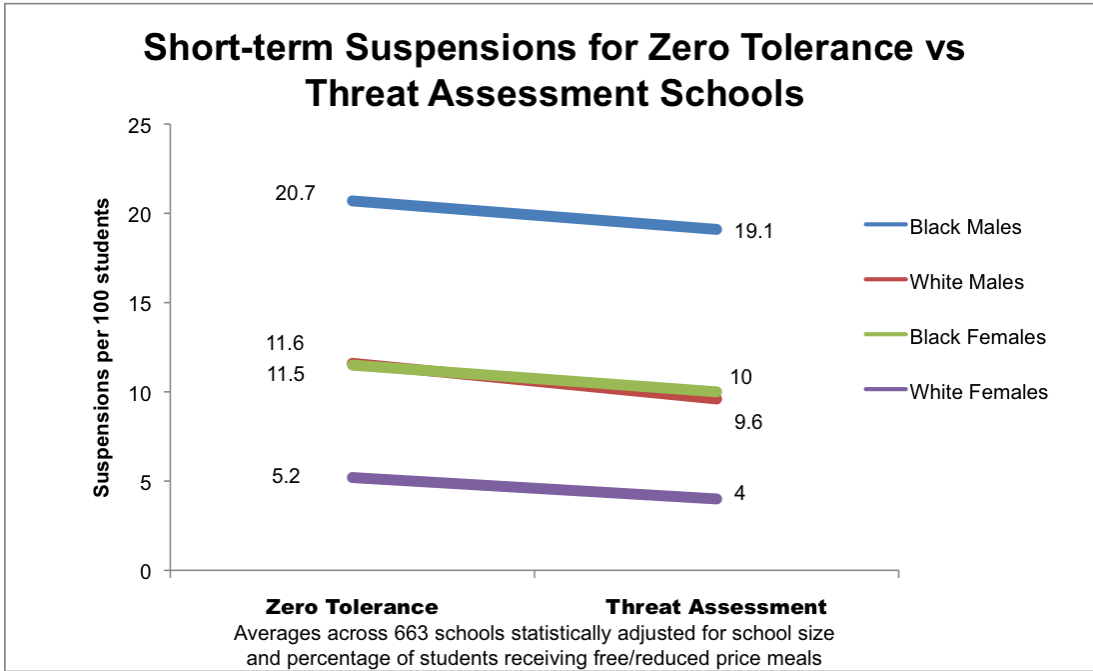


Figure 4

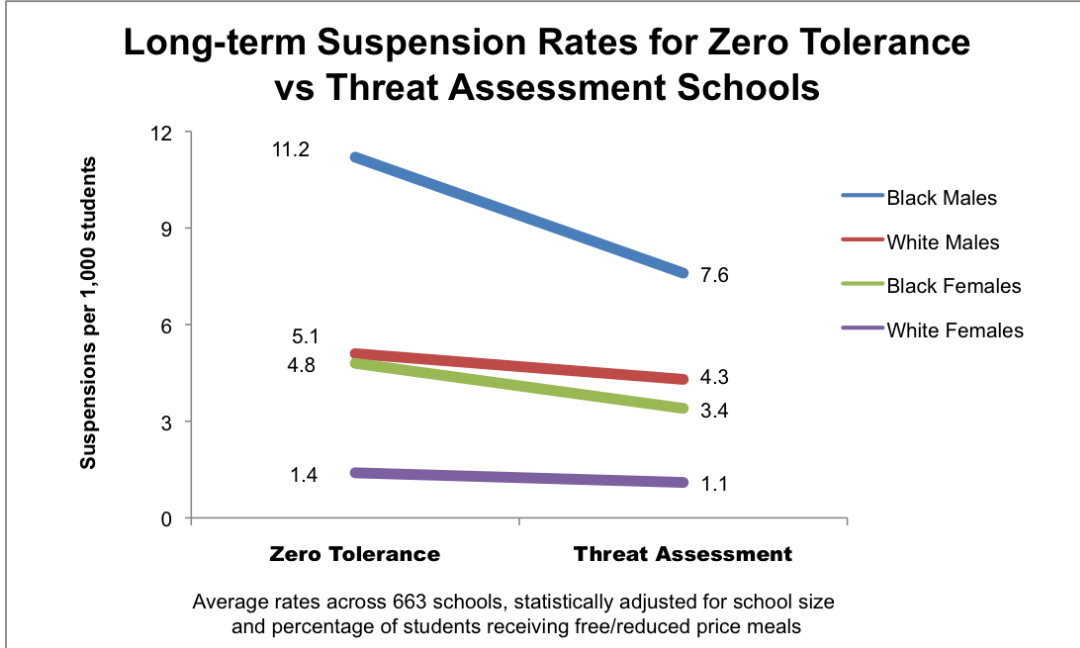


Figure 5

V. RECOMMENDATIONS FOR USING THREAT ASSESSMENT SAFELY AND FAIRLY

There are good reasons to believe that our schools are quite safe. Since 1993, only 2% of all youth homicides have occurred in schools.³⁴ And in the past thirty years, only 2 homicides have occurred at Virginia primary and secondary schools.³⁵ Children are safer from serious violent crime in schools than almost any other place, including their homes.³⁶ The challenge for school leaders is to maintain the safety of Virginia schools without over-reacting or under-reacting to student threats of violence.

This year, in response to the tragic shootings at Sandy Hook Elementary, Virginia became the first state in the country to mandate the formation of threat assessment teams in all its schools. Currently, over 1,000 of Virginia's schools are using the *Virginia Student Threat Assessment Guidelines* (VSTAG).

Our research has shown that schools implementing the Virginia model tend to have lower suspension rates and, for long-term suspensions, narrower racial discipline gaps. In order to reap the benefits of threat assessment, however, it must be carefully implemented and balanced with student rights, all with the goal of improving school safety and climate for everyone. We have seven recommendations for how to implement threat assessment safely and fairly.

1. Don't overreact.

Most threats are transient ones that are not serious and can be quickly resolved.³⁷ Transient threats may be rhetorical remarks or expressions of anger (such as "I could strangle you for that") that do not express a genuine, sustained intent to harm. Pointing a pencil like a gun would be an obvious example of a transient threat. At worst, transient threats express temporary feelings of anger or frustration that can be resolved on the scene or in the counselor's office.

It is not necessary to take special safety precautions when responding to transient threats. School personnel should ensure that these threats are resolved through explanations and apologies. Where appropriate, counseling and education can be provided. School counselors routinely help students to resolve conflicts and find more appropriate ways to express their feelings.

Students do not have to be suspended for making a threatening statement. Many threats can be resolved without suspension. If the student responds positively to the initial intervention (*i.e.* calms down and apologizes), the threat can be resolved, and the process ends. More than two-thirds of threats are resolved in this efficient manner.

Substantive threats, on the other hand, express intent to physically injure someone beyond the immediate situation. In this situation, there is at least some risk the student will carry out the threat. Substantive threats require the school to take some protective action, including

cautioning the student about the consequences of carrying out the threat, providing supervision so that the threat is not carried out at school, and calling the student's parents or caretakers so that they can assume responsibility for the student after school. A typical case might be one student threatening to fight another.

For very serious substantive threats, such as threats to shoot or kill someone, there are some additional steps under the model. *It is important to note that very few threats reach this level.* The first additional step is to conduct a more comprehensive evaluation of the student, including a mental health assessment to recommend strategies to address the problem or conflict underlying the threat. Students who make very serious threats may be depressed or experiencing emotional difficulties that require attention. They may be victims of bullying or embroiled in some other conflict or problem they cannot resolve. School mental health staff members are there to help. The team will identify appropriate interventions for the student, such as counseling or dispute mediation.

When dealing with very serious substantive threats, which are rare, the threat assessment model recommends a series of responses. Schools should take precautions to protect the potential victims, which usually includes notifying the intended victim and victim's parents, as well as the student's parents. Schools should avoid provocative responses and strive to de-escalate tense or stressful situations. As the Virginia Department of Criminal Justice Services advises, "actions that intimidate, threaten, or humiliate the subject can provoke the individual and lead to undesirable consequences."³⁸ In the most serious cases, the school resource officer may undertake a law enforcement investigation to determine whether a student has acquired weapons or taken other concrete steps to carry out a serious act of violence. The officer may provide increased security if there is heightened concern about a potential act of violence. In the vast majority of threat cases, there is no need for an arrest or juvenile court charges, but the availability of a law enforcement officer allows the team to address the full range of possible circumstances. Based on all of the information gathered in a threat assessment, the team formulates a plan to resolve the threatening situation and help the student continue his or her education. Research with the Virginia model has shown that almost all students can continue in their original school, and relatively few cases require school transfer.

2. Protect confidential student information.

There are various laws regarding the confidentiality of educational and medical records. A school's authority to release information about a student is governed by The Family Educational Rights and Privacy Act (FERPA). Under FERPA, a school is required to provide certain privacy protections for education records it maintains. Under FERPA, a school may not disclose personally identifiable information from a student's education records to a third party unless the student or a parent has provided written consent.³⁹ Students have the right to file a complaint against a school that has failed to comply with FERPA.⁴⁰

FERPA does contain a “health and safety” exception that allows schools to share information from a student’s education records without consent. FERPA provides that schools “may disclose personally identifiable information from an education record to appropriate parties, including parents of an eligible student, in connection with an emergency if knowledge of that information is necessary to protect the health or safety of the student or other individuals.”⁴¹ According to the U.S. Department of Education and U.S. Secret Service, “schools must define the term ‘health and safety emergency’ narrowly, and are permitted to disclose information from education records only to those individuals who need the information in order to protect the student and others.”⁴² The U.S. Department of Education further advises that this “exception is limited to the period of the emergency and generally does not allow for a blanket release of personally identifiable information from a student’s education records.”⁴³

In addition, the Health Insurance Portability and Accountability Act (HIPAA) guarantees the privacy of medical records. Under HIPAA, identifiable medical information cannot be disclosed without the consent of the individual unless disclosure is expressly permitted by HIPAA. Generally under HIPAA, before anyone can access psychological records, informed consent is required.⁴⁴ There is, however, a health and safety exception for consent in situations where uses and disclosures are allowed to avert a serious threat to the health or safety of a person or the public.⁴⁵ Virginia law also protects confidential medical records.⁴⁶ Like HIPAA, Virginia law contains exceptions to the consent requirement, such as in circumstances where there is a serious threat to the health or safety of the individual, others, or the public.⁴⁷

Threat assessment teams potentially have access to a student’s intimate health and mental health records contained in the student’s school records. Because threat assessment teams can include members who are not school staff (*e.g.*, school resource officers), it is important that schools understand their legal obligations to protect students’ confidential records. School divisions should make sure that employees understand when the “health and safety” exception to FERPA’s privacy protections permits them to give outside law enforcement access to personally identifiable information from students’ education records.⁴⁸ In addition to protecting students’ confidential records for legal reasons, threat assessment teams must consider how the sharing of private information will affect students’ relationships with school staff. If students know their private conversations will be shared with others, this may have a chilling effect on students’ willingness to consult with trusted staff members when they are having difficulties. Sharing of information may also result in students being less candid when speaking to service providers in schools.

3. Clarify the role of law enforcement and use court referrals only as a last resort.

It is important to clarify the role of law enforcement officers on the threat assessment team. There are a number of important legal and policy questions that schools should consider and address through policy, procedures, and training.

First, when *may* schools give law enforcement access to a student's education records? Different rules apply to security personnel employed by the school division. FERPA allows school districts to designate employees, usually security staff, as "law enforcement units."⁴⁹ Like any other school employees, "law enforcement units" employed by the school may have access to student records if they have a "legitimate educational interest."⁵⁰ Schools must provide parents with written notice which employees serve as "law enforcement units."⁵¹ The privacy rules governing disclosure to non-school employees (e.g., school resource officers) was discussed thoroughly in the previous section.

Second, when *must* schools report incidents to law enforcement? There are certain instances of serious school misconduct that the principal of a school must immediately report to local law enforcement.⁵² However, the Virginia General Assembly recently amended Virginia Code § 22.1-279.3:1 to clarify that the law enforcement reporting requirement does not require that formal charges be filed. The amendment invites schools and law enforcement to work together to deal with low-level offenses informally through graduated sanctions and educational programming and without the filing of a formal delinquency petition.

Third, when *should* threat assessment teams report incidents to law enforcement? Threat assessment teams may decide to consult with law enforcement officers assigned to work at their schools for threats or actions that fall outside of the enumerated offenses listed in the above statute. However, arrests and court involvement should be regarded as a last resort because of the potential for negative effects on students. A 2006 study of national data found that court involvement was associated with a detrimental effect on educational outcomes, particularly for youth with a low level of delinquency.⁵³ "Arrest doubles the probability of [high school] dropout even when controlling for arrest expectations, college expectations, prior and concurrent delinquency, grade retention, school suspension, middle school grade point average, and a number of demographic factors."⁵⁴ A more recent study found that "[a]mong Chicago adolescents otherwise equivalent on pre-arrest characteristics, 73% of those arrested later dropped out of high school compared with 51% of those not arrested, a substantial difference of 22 percent."⁵⁵ The authors concluded that the process that leads to dropping out is adversely influenced by institutional responses, and not just by individual propensity for misbehavior and academic failure.⁵⁶

School divisions should address these issues in a memorandum of understanding (MOU) with local law enforcement agencies that provide officers assigned to work in their schools. The MOU should address what actions will trigger police involvement and risk of arrest. When negotiating MOUs, communities should consider designing a system to divert low-level offenses from juvenile court to workshops or mediation. Such approaches have been successful in reducing school-based referrals to juvenile court.⁵⁷ Communities should also make sure that school resource and security officers receive training on the following items:

- 1) adolescent development and psychology;
- 2) strategies for diffusing potentially volatile situations;
- 3) recognizing symptoms of trauma and abuse (and related behaviors) in children and adolescents,
- 4) recognizing manifestations of students' disabilities;
- 5) evidence-based programs for improving school climate; and
- 6) the short-term and long-term effects of court involvement on the likelihood of recidivism and disengagement from school.⁵⁸

Finally, schools should consider including school resource and security officers in any training on programs designed to improve school climate, including trauma-sensitive approaches, restorative justice, Positive Behavioral Interventions and Supports (PBIS), and, of course, threat assessment.⁵⁹

4. Protect student rights.

All students are entitled to certain due process protections – namely the right to notice, a hearing, and an opportunity to appeal – before educational services are removed.⁶⁰ In *Goss v. Lopez*, the United States Supreme Court held that public education is a property interest protected by the Due Process Clause of the U.S. Constitution.⁶¹ “At the very minimum, therefore, students facing suspension and the consequent interference with a protected property interest must be given *some* kind of notice and afforded some kind of hearing.”⁶²

The Virginia Code authorizes schools to suspend or expel students for “sufficient cause.”⁶³ There are three ways schools in Virginia may discipline students by exclusion. Schools could impose a short-term suspension, which is any suspension for ten days or fewer. Schools can impose a long-term suspension, which is anywhere between 11 and 364 days. Schools can also impose an expulsion, which is for 365 days.

When implementing threat assessments, schools should keep students' rights in mind. Schools are not permitted to issue informal suspensions by sending students home without providing due process. Schools are also not permitted to tell a parent that a child is suspended indefinitely until he or she receives a threat assessment. For cases involving very serious substantive threats, schools may consider short-term suspensions or other alternative educational options for the purpose of assessing an imminent threat. However, schools must follow statutory procedures when imposing suspensions. The specific procedures vary depending on the length of the suspension, but they always include written notice (or oral notice for short-term suspensions) of the disciplinary charges, an opportunity to present the student's version of what occurred, and notice of the right to appeal to the superintendent or school board. During a suspension, a school should continue the threat assessment process with the goal of

developing a plan for the student’s return to school or the continuation of educational services in an appropriate environment.

In Virginia, schools always have the option to keep a student in school. Local school boards are authorized – and in most cases they are required – to consider a set of factors or “special circumstances” before suspending or expelling the student.⁶⁴ Even in cases of drugs or firearms, the presumption of expulsion may be rebutted by considering special circumstances. The school board always has the discretion to recommend a reduced punishment, or to permit the student to attend an alternative school or program.⁶⁵

Children with disabilities receive extra protections when the school seeks to suspend or expel them, or to change their placements. If a school proposes to suspend a student with a disability for more than ten school days, it must first determine whether the conduct was a “manifestation” of the student’s disability. (That is, whether the behavior was caused by, or substantially and directly related to the child’s disability, or whether the incident was the direct result of the school’s failure to provide the child with services in his or her Individualized Education Program or IEP.)⁶⁶ If the behavior is a manifestation of the child’s disability, then the child cannot be suspended or expelled and must be returned to the student’s original placement. If the behavior is not a manifestation, then the child can be suspended or expelled, but the school must continue to provide a free and appropriate public education.⁶⁷

School leaders should ensure that these procedures are followed when conducting a threat assessment for a student with a disability. If a student with a disability makes a substantive threat, schools should consider convening a meeting of the student’s Individualized Education Program Team to discuss whether the student needs additional supports or services, and to revise the IEP accordingly. Schools may not attempt to resolve perceived threats by unilaterally changing the frequency, duration, intensity, or placement of the special education and related services provided pursuant to the student’s IEP.⁶⁸

In Virginia, except in cases of drugs and firearms, a decision to expel a student must be based on the following:

1. The nature and seriousness of the violation;
2. The degree of danger to the school;
3. The student’s disciplinary history;
4. The appropriateness and availability of alternative education;
5. The student’s age and grade level;
6. The results of any mental health, substance abuse, or special education assessments;
7. The student’s attendance and academic records; and
8. Such other matters as deemed appropriate.

Virginia Code Ann. § 22.1-277.06.

A school may remove a student with a disability from the current educational placement and place the child in an interim alternative educational setting for no more than 45 days without regard for whether the child's behavior was a manifestation of his or her disability under three specific circumstances.⁶⁹ A school may do so if while at school, on school premises, or at a school function, a child (1) carries or possesses a dangerous weapon capable of causing death or serious bodily injury; (2) knowingly possesses or uses drugs, or sells or solicits the sale of controlled substances; or (3) inflicts serious bodily injury upon another person.⁷⁰ "Serious bodily injury" means "bodily injury that involves substantial risk of death, extreme physical pain, protracted and obvious disfigurement, or protracted loss or impairment of the function of a bodily member, organ or mental faculty."⁷¹ Even in these serious circumstances, a free and appropriate education must be provided to the student with a disability who is removed to an interim alternative educational setting.

5. Remember that a public education must be free to all.

Schools may not require parents to pay for private evaluations or private treatment services as conditions of re-enrollment. Requiring parents to pay for a private assessment is a violation of the Virginia Constitution's guarantee that a free public education is available to all children of school age in the Commonwealth. Further, an Attorney General's opinion states that school boards may not impose fees as a condition of continued school enrollment.⁷² (Specifically, a school board was not permitted to require a student to pay for substance abuse counseling services as a condition of continued enrollment.⁷³) It is the parents' prerogative to secure private evaluations for their children and release those evaluations to the school for consideration in the school's threat assessment process. However, it is improper for schools to require parents to obtain a private evaluation of a student at the family's expense.

6. Conduct threat assessments promptly.

When a student is identified as making a threat of violence, the school must be prepared to conduct a threat assessment in a prompt and timely manner. A delay in completing a threat assessment may expose others to harm if the threat is carried out. Another concern is that a student's education may be disrupted while waiting for an evaluation to be completed. A benefit of the University of Virginia threat assessment model is that trained school personnel can resolve most threats promptly and efficiently without school suspension. More serious and complex cases can often be resolved in a few days and do not require a long-term suspension. Students should not be required to spend weeks or months out of school while awaiting a threat assessment.

7. Implement effective long-term solutions.

If we want schools to be truly safe, and not just create the appearance of safety, we should invest in evidence-based practices for reducing school violence. According to the FBI, the U.S.

Secret Service, and other authorities on violence prevention, “the most effective way to prevent many acts of violence targeted at schools is by maintaining close communication and trust with students and others in the community.”⁷⁴ In order to accomplish this goal, we should support schools in creating and implementing a positive school climate. Research in Virginia secondary schools has demonstrated that schools characterized by an authoritative school climate – one that has both strict-but-fair discipline and supportive staff-student relationships – have lower rates of student aggression and misbehavior, more respectful behavior toward teachers, and fewer discipline problems resulting in school suspension.⁷⁵ Furthermore, in supportive school climates students are more willing to seek help when a classmate threatens violence or brings a weapon to school.⁷⁶

When confronted with a student who has made a threat, professionals often resort to school suspension. However, the U.S. Secret Service and Department of Education caution that suspension may not be the best course of action for the longer term and advise threat managers to consider the most effective and least damaging course of action.⁷⁷ “Those with the responsibility to manage a student assessed as posing a threat of targeted violence should consider options for the long term management of threatening situations in the context of the primary goal of prevention. The response with the greatest punitive power may or may not have the greatest preventative power.”⁷⁸

VI. POLICY RECOMMENDATIONS

1. The Virginia General Assembly should ensure that sufficient funding is available to provide school employees and law enforcement employees assigned to work in schools training in threat assessment, as well as other interventions that can help reduce suspension rates and improve student behavior. Examples of other interventions include Positive Behavioral Interventions and Supports (PBIS), trauma-informed intervention, and restorative justice.
2. The Virginia Department of Education and The Virginia Department of Criminal Justice Services should draft a model memorandum of understanding (MOU) between schools and law enforcement for implementing threat assessment procedures and related efforts to maintain school safety. The model MOU should describe the relationship between the school and law enforcement, how law enforcement will be incorporated into the schools’ threat assessment teams and related efforts to improve climate (including diversion of low-level offenses), how training will be delivered, and how information will be shared while protecting the confidentiality of student information.
3. The Virginia Department of Juvenile Justice should collect data on school-based arrests, referrals to law enforcement by schools or school resource officers, and filing of delinquency petitions or criminal complaints based on conduct occurring at school. The data should be

disaggregated and summarized for the public by school, charge, arresting agency, gender, age, race/ethnicity, disability and English proficiency status.

4. The General Assembly should require that schools ensure that students who are suspended or expelled continue to make academic progress during periods of disciplinary removal, albeit in another educational setting if necessary.

CONCLUSION

By properly implementing threat assessment protocols, investing in promising violence prevention programs like restorative justice, and expanding Positive Behavioral Interventions and Supports,⁷⁹ Virginia can reduce school violence and give students the resources and support they need to be successful.

¹ Mary Ellen O'Toole, PhD, *The School Shooter: A Threat Assessment Perspective*, National Center for the Analysis of Violent Crime, Federal Bureau of Investigation (2000), available at <http://www.fbi.gov/stats-services/publications/school-shooter>; Robert A. Fein, et al., *Threat Assessment in Schools: A Guide to Managing Threatening Situations and to Creating Safe School Climates*, U.S. Secret Service & U.S. Dep't of Educ. (May 2002), available at www.secretservice.gov/ntac/ssi_guide.pdf.

² Robert Balfanz, et al., *Sent Home and Put Off-Track: The Antecedents, Disproportionalities, and the Consequences of Being Suspended in the Ninth Grade*, 8 (Dec. 21, 2012).

³ *Id.* at 9.

⁴ Va. Dep't of Educ., *Discipline, Crime, and Violence School Year 2011-2012*, 12-15 (June 2013), available at http://www.doe.virginia.gov/statistics_reports/school_climate/discipline_crime_violence/11-12_annual_report.pdf.

⁵ Data provided to JustChildren by the Virginia Department of Education.

⁶ Va. Dep't of Educ., *Discipline, Crime, and Violence School Year 2011-2012*, 12-15 (June 2013), available at http://www.doe.virginia.gov/statistics_reports/school_climate/discipline_crime_violence/11-12_annual_report.pdf.

⁷ *Id.* at 25.

⁸ Dan Losen & Tia Elena Martinez, *Out of School & Off Track: The Overuse of Suspensions in American Middle and High Schools*, The Center for Civil Rights Remedies at UCLA's Civil Rights Project (2013), available at http://civilrightsproject.ucla.edu/resources/projects/center-for-civil-rights-remedies/school-to-prison-folder/federal-reports/out-of-school-and-off-track-the-overuse-of-suspensions-in-american-middle-and-high-schools/OutOfSchool-OffTrack_UCLA_4-8.pdf.

⁹ Tony Fabelo, Ph.D., et al., *Breaking Schools' Rules: A Statewide Study of How School Discipline Relates to Students' Success and Juvenile Justice Involvement*, The Council of State Governments Justice Center & Public Policy Research Institute (July 2011), available at http://issuu.com/csgjustice/docs/breaking_schools_rules_report_final-1?e=2448066/1603396.

¹⁰ University of Virginia Curry School of Education, *Practical Findings from the Virginia High School Safety Study, How Are Suspension Rates Related to Dropout Rates?* Issue 7, available at <http://curry.virginia.edu/uploads/resourceLibrary/vhss-one-pager-issue-7.pdf>.

¹¹ H. Douglas Cox, *Report on the Department of Education's Effective Schoolwide Discipline Initiative*, Presentation at the Va. Bd. of Educ. Meeting (Oct. 27, 2011), available at http://www.doe.virginia.gov/boe/meetings/2011/10_oct/agenda_items/item_k.pdf (last visited Dec. 1, 2013).

¹² Dan Losen & Tia Elena Martinez, *Out of School & Off Track: The Overuse of Suspensions in American Middle and High Schools*, The Center for Civil Rights Remedies at UCLA's Civil Rights Project (2013), available at http://civilrightsproject.ucla.edu/resources/projects/center-for-civil-rights-remedies/school-to-prison-folder/federal-reports/out-of-school-and-off-track-the-overuse-of-suspensions-in-american-middle-and-high-schools/OutOfSchool-OffTrack_UCLA_4-8.pdf.

¹³ In Virginia, school suspensions of 1-10 days are classified as short-term, and suspensions for more than 10 days are classified as long-term. Readers will observe that suspension rates are comparable in middle and high schools, but much lower in elementary schools. For this reason, subsequent analyses focused on the combined group of middle and high schools, referred to as secondary schools.

¹⁴ Unduplicated means each student is counted only one time in our analyses. This means the students in our data sets are suspended one or more times.

¹⁵ Data provided to Dr. Cornell by the Virginia Department of Education (2013).

¹⁶ Robert Balfanz, et al., *Sent Home and Put Off-Track: The Antecedents, Disproportionalities, and the Consequences of Being Suspended in the Ninth Grade* (Dec. 21, 2012).

- ¹⁷ Tracey L. Schollenberger, *Racial Disparities in School Suspension and Subsequent Outcomes: Evidence from the National Longitudinal Survey of Youth 1997*, Paper presented at the Closing the School Discipline Gap: Research to Practice, Washington, DC (Jan. 2013), available at http://civilrightsproject.ucla.edu/events/2013/copy_of_closing-the-school-discipline-gap-agenda.
- ¹⁸ Russell J. Skiba, et al., *The Color of Discipline: Sources of Racial and Gender Disproportionality in School Punishment*, 34 *The Urban Review* 317-342 (Dec. 2002); Dan Losen & Tia Elena Martinez, *Out of School & Off Track: The Overuse of Suspensions in American Middle and High Schools*, The Center for Civil Rights Remedies at UCLA's Civil Rights Project (2013), available at http://civilrightsproject.ucla.edu/resources/projects/center-for-civil-rights-remedies/school-to-prison-folder/federal-reports/out-of-school-and-off-track-the-overuse-of-suspensions-in-american-middle-and-high-schools/OutOfSchool-OffTrack_UCLA_4-8.pdf.
- ¹⁹ Anna Heilbrun, et al., *Principal Attitudes Regarding Zero Tolerance and Racial Disparities in School Suspensions*, Presented at the American Psychological Association Annual Convention, Honolulu, Hawaii (2013).
- ²⁰ Anne Gregory, Ph.D, et al., *The Relationship of School Structure and Support to Suspension Rates for Black and White High School Students*, 48 *American Educational Research Journal* 904-934 (2011).
- ²¹ From 2007-2011, Virginia schools implementing the state's PBIS program have decreased office discipline referrals by 29% for general education students and 51% for special education students; decreased in-school suspensions by 45% for general education students and 65% for special education students; decreased out-of-school suspensions by 75% for general education students and 86% for special education students; and saved 9.2 hours of administrative time and 4.6 hours of instructional time weekly (data provided by the Virginia Department of Education).
- ²² Evidence shows My Teaching Partner has increased student performance on standardized tests across racial groups and increased positive student engagement and peer interactions. Statistically, studies have also shown that implementation of My Teaching Partner eradicated the discipline gap between African American and white students, compared to a control classroom where African American students were twice as likely to be suspended than white students. See Anne Gregory, et al., *The Promise of a Teacher Professional Development Program in Reducing the Racial Disparity in Classroom Exclusionary Discipline*, chapter in *Closing the Discipline Gap*, Teachers College Press (2014), chapter available at <http://civilrightsproject.ucla.edu/resources/projects/center-for-civil-rights-remedies/school-to-prison-folder/state-reports/the-promise-of-a-teacher-professional-development-program-in-reducing-the-racial-disparity-in-classroom-exclusionary-discipline/gregory-teacher-development-crr-conf-2013.pdf>.
- ²³ Sandra Jo Wilson, PhD & Mark W. Lipsey, PhD, *School-Based Interventions for Aggressive and Disruptive Behavior: Update of a Meta-Analysis*, *American Journal of Preventative Medicine*, 130-143 (Aug. 2007).
- ²⁴ Valerie Strauss, *5 Myths about Zero-Tolerance Disciplinary Policies*, *The Washington Post* (Mar. 11, 2011), available at <http://voices.washingtonpost.com/answer-sheet/discipline/5-myths-about-zero-tolerance-d.html>.
- ²⁵ Robert A. Fein, et al., *Threat Assessment in Schools: A Guide to Managing Threatening Situations and to Creating Safe School Climates*, U.S. Secret Service & U.S. Dep't of Educ. (May 2002).
- ²⁶ Dewey Cornell, et al., *Guidelines for Student Threat Assessment: Field-Test Findings*, 33 *School Psychology Review* 527-546 (2004).
- ²⁷ Anne Gregory & Rhona S. Weinstein, *The Discipline Gap and African-Americans: Defiance or Cooperation in the High School Classroom*, 46 *Journal of School Psychology* 455-475 (2008).
- ²⁸ Dewey Cornell, et al., *A Randomized Controlled Study of the Virginia Student Threat Assessment Guidelines in Grades K-12*, 41 *School Psychology Review* 100-115 (2012).
- ²⁹ Dewey Cornell, et al., *Reductions in Long-Term Suspensions Following Adoption of the Virginia Student Threat Assessment Guidelines*, 95 *Bulletin of the National Association of Secondary School Principals* 175-194 (2011).
- ³⁰ Virginia Department of Criminal Justice Services, *The 2012 Virginia School Safety Audit Survey Results* (2013), available at www.dcjs.virginia.gov/vcss/audit/index.cfm.
- ³¹ Dewey Cornell & Peter Lovegrove, *Student Threat Assessment as a Method of Reducing Student Suspensions*, chapter in *Race and Gender Disparities in School Discipline*, Center for Civil Rights Remedies, UCLA (2012).
- ³² Unduplicated means each student is counted only one time in our analyses. This means the students in our data sets are suspended one or more times.
- ³³ Technical details of the statistical analyses are available from Dr. Cornell.
- ³⁴ National Center for Education Statistics, *Indicators of School Crime and Safety: 2011*, see Table 2.1 (Feb. 2012), available at www.bjs.gov/content/pub/pdf/iscs11.pdf.
- ³⁵ National School Safety Center, *School Associated Violent Deaths* (Mar. 2010), available at <http://www.schoolsafety.us/media-resources/school-associated-violent-deaths>.
- ³⁶ Interdisciplinary Group on Preventing School and Community Violence, *A Call for More Effective Prevention of Violence* (Dec. 19, 2012), available at <http://curry.virginia.edu/articles/sandyhookshooting>.
- ³⁷ Dewey Cornell, Ph.D & Peter Sheras, Ph.D, *Guidelines for Responding to Student Threats of Violence Book*, Sopris West (2006). All general principles of VSTAG are attributed to this source.
- ³⁸ Dewey Cornell, PhD, *Recommended Practices for Virginia College Threat Assessment*, Virginia Department of Criminal Justice Services (Apr. 2009).
- ³⁹ U.S. Dep't of Educ., *FERPA General Guidance for Students* (Feb. 2011), available at <http://www2.ed.gov/policy/gen/guid/fpco/ferpa/students.html>.
- ⁴⁰ *Id.*
- ⁴¹ 34 CFR 99.36.
- ⁴² Robert A. Fein, et al., *Threat Assessment in Schools: A Guide to Managing Threatening Situations and to Creating Safe School Climates*, U.S. Secret Service & U.S. Dep't of Educ., 36 (May 2002), available at www.secretservice.gov/ntac/ssi_guide.pdf.
- ⁴³ U.S. Dep't of Educ., *Balancing Student Privacy and School Safety: A Guide to the Family Educational Rights and Privacy Act for Elementary and Secondary Schools* (Oct. 2007), available at <http://www2.ed.gov/policy/gen/guid/fpco/brochures/elsec.pdf>.
- ⁴⁴ 45 C.F.R. §164.508(a)(2).
- ⁴⁵ 45 C.F.R. § 164.512(j)(1).
- ⁴⁶ VA. CODE ANN. §32.1-127.1:03 et seq.

⁴⁷ VA. CODE ANN. §32.1-127.1:03(D)(6). *See also* VA. CODE ANN. §54.1-2400.1(B) (“A mental health service provider has a duty to take precautions to protect third parties from violent behavior or other serious harm only when the client has orally, in writing, or via sign language, communicated to the provider a specific and immediate threat to cause serious bodily injury or death to an identified or readily identifiable person...if the provider reasonably believes, or should believe according to the standards of his profession, that the client has the intent and ability to carry out that threat immediately or imminently...The duty to protect does not attach unless the threat has been communicated to the provider by the threatening client while the provider is engaged in his professional duties.”)

⁴⁸ FERPA does not prohibit disclosure to authorities of information obtained through the employee’s personal knowledge or observation.

⁴⁹ *See* 34 C.F.R. § 99.8.

⁵⁰ *See* 34 C.F.R. § 99.31; *see also* U.S. Dep’t of Educ., *Balancing Student Privacy and School Safety: A Guide to the Family Educational Rights and Privacy Act for Elementary and Secondary Schools* (Oct. 2007), available at <http://www2.ed.gov/policy/gen/guid/fpco/brochures/elsec.pdf>.

⁵¹ U.S. Dep’t of Educ., *Balancing Student Privacy and School Safety: A Guide to the Family Educational Rights and Privacy Act for Elementary and Secondary Schools* (Oct. 2007), available at <http://www2.ed.gov/policy/gen/guid/fpco/brochures/elsec.pdf>.

⁵² These offenses are those that occur on school property, during a school-sponsored activity, or on a school bus, related to: (a) assault and battery that results in bodily injury, sexual assault, death, shooting, stabbing, cutting, wounding, or stalking any person; (b) conduct involving alcohol, drugs, steroids, or imitation controlled substances, including the theft or attempted theft of student prescription medications; (c) any threats against school personnel; (d) illegally carrying a firearm; (e) any illegal conduct with firebombs, explosives, incendiary devices, or hoax explosive devices; or (f) real or false bomb threats. VA. CODE ANN. § 22.1-279.3:1(D).

⁵³ Gary Sweeten, *Who Will Graduate? Disruption of High School Education by Arrest and Court Involvement*, 23 Justice Quarterly, 462 (Dec. 2006).

⁵⁴ *Id.* at 478.

⁵⁵ David S. Kirk and Robert Sampson, *Juvenile Arrest and Collateral Educational Damage in the Transition to Adulthood*, 86 Sociology of Education 36-62 (2013).

⁵⁶ *Id.*

⁵⁷ Donna St. George, *Judge Steve Teske Seeks to Keep Kids with Minor Problems Out of Court*, Washington Post (Oct. 17, 2011), available at http://articles.washingtonpost.com/2011-10-17/lifestyle/35280676_1_school-discipline-student-discipline-russell-skiba.

⁵⁸ *See* Johanna Wald and Lisa Thureau, *First, Do No Harm*, Charles Hamilton Houston Institute for Race & Justice (Mar. 2010), available at <http://www.modelsforchange.net/publications/261>.

⁵⁹ *See id.*

⁶⁰ The primary source of state discipline law in Virginia is Code Sections 22.1-276 *et seq.*

⁶¹ *Goss v. Lopez*, 419 U.S. 565, 574 (1975).

⁶² *Id.* at 579.

⁶³ VA. CODE ANN. § 22.1-277.

⁶⁴ VA. CODE ANN. § 22.1-277.06.

⁶⁵ VA. CODE ANN. § 22.1-277.06(C).

⁶⁶ 8VAC20-81-160(D).

⁶⁷ 8VAC20-81-160(D).

⁶⁸ 8VAC20-81-170(E).

⁶⁹ 34 C.F.R. § 300.530(g).

⁷⁰ *Id.*

⁷¹ 34 C.F.R. § 300.530(i)(3); 8VAC20-81-10.

⁷² *See* 1981-82 Va. Rep. Att’y Gen. 144 (1982).

⁷³ *Id.*

⁷⁴ Interdisciplinary Group on Preventing School and Community Violence, *A Call for More Effective Prevention of Violence* (Dec 19, 2012), available at <http://curry.virginia.edu/articles/sandyhookshooting>.

⁷⁵ Anne Gregory, Ph.D, et al., *The Relationship of School Structure and Support to Suspension Rates for Black and White High School Students*, 48 American Educational Research Journal 904-934 (2011); Anne Gregory, Ph.D, et al., *Authoritative School Discipline: High School Practices Associated with Lower Student Bullying and Victimization*, 102 Journal of Educational Psychology 483-496 (May 2010); Anne Gregory, Ph.D, et al., *Teacher Safety and Authoritative School Climate in High Schools*, 118 American Journal of Education 401-425 (Aug. 2012).

⁷⁶ Megan Eliot, et al., *Supportive School Climate and Student Willingness to Seek Help for Bullying and Threats of Violence*, 48 Journal of School Psychology 533-553 (Dec. 2010).

⁷⁷ Robert A. Fein, et al., *Threat Assessment in Schools: A Guide to Managing Threatening Situations and to Creating Safe School Climates*, U.S. Secret Service & U.S. Dep’t of Educ., 64 (May 2002).

⁷⁸ *Id.* at 65.

⁷⁹ H. Douglas Cox, *Report on the Department of Education’s Effective Schoolwide Discipline Initiative*, Presentation at the Va. Bd. of Educ. Meeting (Oct. 27, 2011), available at http://www.doe.virginia.gov/boe/meetings/2011/10_oct/agenda_items/item_k.pdf (last visited Dec. 1, 2013).

Student Threat Assessment Associated With Safety in Middle Schools

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Authorities in law enforcement and education have recommended the use of threat assessment to prevent violence, but few studies have examined its usefulness in middle schools. This retrospective, quasi-experimental study compared middle schools that use the Virginia Student Threat Assessment Guidelines (Cornell & Sheras, 2006; $N = 166$) with schools that either do not use threat assessment ($N = 119$) or use an alternative model of threat assessment (school- or district-developed; $N = 47$). Based on school records, schools using the Virginia Guidelines reported lower short-term suspension rates than both groups of schools. According to a statewide school climate survey, schools using the Virginia Guidelines also had fairer discipline and lower levels of student aggressive behaviors, as reported by students. Finally, teachers reported feeling safer in schools using the Virginia Guidelines, as opposed to both groups of schools. Additional analyses of school records found that the number of years a school used the Virginia Guidelines was associated with lower long-term suspension rates, student reports of fairer discipline, and lower levels of student aggressive behaviors. All analyses controlled for school size, minority composition, and socioeconomic status of the student body. These findings suggest that use of a threat assessment approach to violence prevention is associated with lower levels of student aggression and a more positive school climate.

Keywords: general victimization, school climate, school violence, threat assessment

After a series of shootings culminating in the tragic incident at Columbine High School, authorities in education and law enforcement rec-

ommended the use of threat assessment in schools (Fein et al., 2002; O'Toole, 2000). In their 2013 report on gun violence, the American Psychological Association (2013) recognized behavioral threat assessment as an effective violence prevention strategy. This article reports on the use of student threat assessment in a sample of middle schools¹ (typically Grades 6–8 and ages 11–13).

Threat assessment is a systematic approach to violence prevention in which threats are evaluated on a case-by-case basis to identify individuals who pose a serious threat of violence (Fein et al., 2002; O'Toole, 2000). A joint report of

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¹ This article uses the United States educational system to describe child education up through eighteen years. The U.S. system includes elementary (i.e., primary school in other countries), middle, and high school (i.e., secondary school in other countries), grades kindergarten (or K) through 12, and ages 6 to 18. Generally, middle school encapsulates grades 6 to 8 and ages 11 to 13. An “alternative school” in the U.S. is an educational system that accommodates children whose academic, emotional, and/or physical needs are not addressed in traditional schooling.

the U.S. Department of Education and Secret Service, as well as a separate study of school shootings by the Federal Bureau of Investigation, concluded that a threat assessment approach ought to be part of a concerted effort by school authorities to promote a positive school climate where students feel safe and supported and discipline is consistent and fair (Fein et al., 2002; O'Toole, 2000).

Although the central purpose of threat assessment is to prevent targeted acts of violence like school shootings, these phenomena are rare (Nekvasil, Cornell, & Huang, 2015); in a study of multiple casualty homicides, only 0.8% occurred at schools, versus 47% at residences. At the same time, student threats of violence are relatively common at schools, but most often they are expressions of anger or challenges to fight, rather than indications of an imminent shooting. A national survey of school principals found that threats were officially recorded in 46% all U.S. public schools during the 2009–2010 school year (Neiman, 2011). However, many threats go unreported to school authorities. A survey of high school students found that approximately 12% of students reported being threatened at school in a 1-month period (Nekvasil & Cornell, 2012). Yet only 26% of these students reported the threat to someone, most often because they did not regard it as serious (Nekvasil & Cornell, 2012).

Although threats are rarely carried out (Cornell et al., 2004; Nekvasil & Cornell, 2012), one study found that threats are strongly associated with general aggression in school, such as fighting (Singer & Flannery, 2000), suggesting that school authorities cannot ignore threats when they occur. Aggressive behaviors such as fighting and bullying are common problems in schools, yet lethal attacks or more serious violence such as rape or aggravated assault are rare (Robers, Kemp, & Truman, 2013). In light of the low base rate for severe violence in schools and the much higher rate of fighting and bullying, a school threat assessment will most likely be concerned with a broad range of aggressive behaviors rather than shootings. Thus, an important aim of threat assessment is to resolve less severe acts of violence—like bullying and peer conflicts—which could escalate into more serious violence.

To address less serious yet more common violence, threat assessment in schools encour-

ages a problem-solving approach that helps to create a positive school climate where students and teachers feel safe and supported (Cornell & Heilbrun, 2015). A positive school climate, in turn, may help to prevent shootings by creating an environment with less stress and discord (Fein et al., 2002; Daniels et al., 2010). Such a climate may also encourage students to report when they are threatened, a prerequisite for a threat assessment to be initiated. A study of averted school shootings (Daniels et al., 2010) found that a critical factor was a positive school climate in which students reported concerns to school authorities that triggered an investigation.

Another reason for using threat assessment is that it provides schools with an alternative to zero tolerance disciplinary practices. Zero tolerance is the disciplinary practice of using rigid and punitive responses to student misbehavior, typically out-of-school suspension (American Psychological Association Zero Tolerance Task Force, 2008). School suspension has been associated with a number of negative student outcomes, including disengagement from school (Arcia, 2006), further misbehavior and academic failure (Hemphill et al., 2006), and school dropout (Fabelo, Thompson, Plotkin, et al., 2011). Given these deleterious results, several national reports have called for U.S. schools to move away from zero tolerance policies (Morgan et al., 2014; U.S. Department of Education, 2014).

Middle Schools and Threat Assessment

There is a special need to study middle schools because they face disciplinary challenges related to developmental changes in their students. As students become adolescents, they typically become more socially engaged and concerned with social status and popularity (Berndt, 1982; Nansel et al., 2001). Compared with other grade levels, middle school grades experience elevated rates of threats of violence (Cornell et al., 2004) and fighting and bullying (Nansel et al., 2001).

Furthermore, many U.S. middle schools employ zero tolerance disciplinary practices to address student misbehavior. A nationwide study of middle schools found a disproportionately high use of out-of-school suspensions compared to both elementary and high school grades

(Losen & Skiba, 2010). Another investigation found that out-of-school suspensions more than quadrupled from 2.4% of students in elementary school to 11% in middle school (Losen & Martinez, 2013).

Virginia Student Threat Assessment Guidelines

The Virginia Student Threat Assessment Guidelines (Virginia Guidelines) was developed for schools based on the recommendations of the FBI and Secret Service (Cornell & Allen, 2011; Fein et al., 2002; O'Toole, 2000). The Virginia Guidelines discourage overly punitive responses to student misbehavior by encouraging administrative responses that are appropriate and measured, focused on correcting the student's misbehavior while keeping him or her engaged in school. The threat assessment guidelines include explicit training on the importance of moving away from zero tolerance approaches and school suspensions to respond to student threats and misbehaviors. Rather, threats are treated as an indication that a student is frustrated by a problem he or she cannot resolve. Thus the multidisciplinary team's effort to help the student resolve the problem is seen as both a violence prevention measure and a teaching opportunity, and disciplinary consequences are calibrated to the seriousness of the student's misbehavior. Furthermore, suspension from school is recommended only in the most serious cases when there are immediate safety concerns. Importantly, in almost all cases the student is able to return to school under conditions specified in a safety plan (Cornell et al., 2012).

A study of 351 school staff following training in the Virginia Guidelines found that they were less likely to endorse a zero tolerance approach and more open to using threat assessment principles to address student conflicts and other problematic behaviors (Allen, Cornell, Lorek, & Sheras, 2008). These results were consistent across principals, mental health providers, and law enforcement officers.

The Virginia Guidelines uses a decision tree to evaluate threats of violence. The threat is first classified as *transient* or *substantive* (Cornell & Sheras, 2006). If school personnel conclude that the threat was not serious, or *transient*, they resolve the case expeditiously. Generally, transient threats are figures of speech, hyperbole, or

expressions of anger that do not reflect a sustained intent to harm someone. Disciplinary actions may include a reprimand, brief counseling, or minor disciplinary action for the student.

Substantive threats are those that indicate that an individual or individuals intend to carry out a threat to harm someone. For such threats, which are often student fights, the threat assessment team determines the appropriate protective actions to take, including notifying the victim and victim's parents, notifying the student's parents, and strongly cautioning the student of potential consequences should he or she attempt to carry out the threat. Serious substantive threats may be resolved with separating the student from potential victims. The threat assessment team may also recommend counseling or some other mental health intervention. For very serious substantive threats (such as threats to kill, rape, or seriously harm another), the team not only notifies appropriate parties, but also initiates a safety evaluation that involves both a law enforcement investigation and mental health assessment of the student.

The final step involves a written safety plan based on the findings from the safety evaluation. The aim of the safety plan is twofold: (a) to take steps on behalf of the safety of potential victims, and (b) to determine the most appropriate educational provisions for the student. When the student is allowed to return to school, the safety plan includes specific instructions for the student's behavior and procedures to monitor him or her upon return (Cornell & Allen, 2011). A detailed description of the threat assessment procedure is found in the Virginia Guidelines manual (Cornell & Sheras, 2006).

School Climate and Safety Conditions

Three studies found that schools using the Virginia Guidelines had lower long-term suspension (11–364 days) rates than control group schools (Cornell, Sheras, Gregory, & Fan, 2009; Cornell et al., 2012). The first study (Cornell et al., 2009) compared suspension rates in 95 high schools using Virginia Guidelines to 131 high schools with alternative threat assessment procedures and 54 high schools with no threat assessment program. The study demonstrated that high schools using the Virginia Guidelines had lower long-term suspension rates than both groups of schools. The current

study extends this retrospective examination of Virginia high schools to middle schools (Cornell et al., 2009).

A randomized control trial compared K–12 students who made a threat of violence in schools using the Virginia Guidelines with a control group of K–12 students in schools not using the Virginia Guidelines (Cornell et al., 2012). After one school year, students in the intervention group received significantly fewer long-term suspensions (25%) than students in the control group (49%; Cornell et al., 2012).

Schools using the Virginia Guidelines may have less peer aggression, as measured by three scales used in previous studies: prevalence of teasing and bullying, bullying victimization, and general victimization such as student fighting or threats. Compared with schools with no threat assessment program, students in schools using the Virginia Guidelines reported less aggression (Cornell et al., 2009). The retrospective study (Cornell et al., 2009) also found that students reported lower levels of teasing and bullying in school. This is important because pervasive student aggression undermines school safety and has been linked to student dropout rates in high school (Cornell, Huang, et al., 2013).

Several studies indicate that the Virginia Guidelines promotes two features of school climate: school-wide support of students—specifically student willingness to seek help from authorities—and the use of discipline that is strict but fair, which is described as having high disciplinary structure (Cornell et al., 2009, 2012; Cornell, Sheras, Kaplan, et al., 2004; Konold et al., 2014). Importantly, adolescents may be reluctant to seek help from adults at school following a threat of violence if they perceive that school authorities cannot or will not do anything to help (Nekvasil & Cornell, 2012). Thus it would be useful to examine student perceptions of school support and disciplinary practices in middle schools using the Virginia Guidelines.

One less often examined aspect of school climate is teachers' experience of school safety. Previous research has shown that teachers are affected by student aggression toward them; professional burnout has been linked to teachers perceiving that students are hostile toward them (Brouwers & Tomic, 1998). Student aggression may involve verbal threats, intimidation, or

physical attacks, and result in teachers feeling unsafe at school.

School-wide demographics of enrollment size, student socioeconomic status (SES), and racial composition have been associated with a wide range of factors affecting school climate. Some research suggests that aggressive behaviors such as bullying, threats, and fighting occur more frequently at larger schools (Stewart, 2003), although there are mixed results on whether large schools are inherently less safe because of their size (Klein & Cornell, 2010). Schools with lower student SES have been linked with higher rates of fighting and bullying victimization (Leithwood & Jantzi, 2009). Furthermore, previous research has found disproportionate suspension rates for minority students (Gregory et al., 2011). On the other hand, one study found that minority students in multiethnic schools perceive that they are safer than minority students in less diverse schools (Juvonen, Nishina, & Graham, 2006). Thus these potentially confounding factors are important to consider in analyses of school climate and safety conditions.

The Current Study

The purpose of the present study was to investigate school climate and safety conditions of schools using the Virginia Guidelines in comparison with two other groups of schools: schools that developed their own models (or obtained training from another source), and schools that did not have a threat assessment program.

Our primary research question was, “Is use of the Virginia Guidelines associated with more favorable school climate and safety conditions than schools that do not use the Virginia Guidelines?” To address our first question, the study used data from a statewide school climate survey of Grades 7 and 8 conducted in 2013. School climate and safety conditions were examined across multiple variables. The study analyzed short-term and long-term suspension rates across the three groups of schools. School climate was then examined by measuring student perceptions that their schools were supportive of students, as well as strict but fair in their disciplinary practices (Konold et al., 2014). We analyzed teacher perceptions that schools were safe and student reports of bully-

ing victimization, general victimization, and prevalence of teasing and bullying. It was hypothesized that use of the Virginia Guidelines would be associated with more positive school climate and safety conditions, as compared with both groups of schools (Cornell et al., 2004, 2012; Cornell, Sheras, Gregory, & Fan, 2009).

One limitation of this study is that school climate data were available for only one year and so it was not possible to identify changes in school conditions before and after implementation of the Virginia Guidelines. Therefore, we measured how long schools used the Virginia Guidelines and examined a second question: "Is longer use of the Virginia Guidelines associated with more favorable school climate and safety conditions in schools?" It was hypothesized that longer use of this threat assessment model would improve student and teacher trust in school authorities, strengthen disciplinary structure, and increase student willingness to seek help for threats of violence. Previous research has found that school size, student socioeconomic status, and racial composition are associated with school climate and level of discipline problems in school (Gregory et al., 2011; Juvonen, Nishina, & Graham, 2006; Klein & Cornell, 2010; Leithwood & Jantzi, 2009; Stewart, 2003). Consequently, the current study controlled for school enrollment, the percentage of students eligible for free or reduced price meals (FRPM), and the proportion of minority students.

Method

Participants

Schools. The Virginia Secondary School Climate Survey (VSSCS, 2013) was administered in 423 schools with 7th-8th grade students, which included some schools that had younger or older grades. (In U.S. public education, some school systems choose to group their 7th and 8th grade with younger or older grades.) The study used two sources to create a sample of middle schools. First, University of Virginia (UVA) training records were used to identify schools that used the Virginia Guidelines. Second, the study used records from an annual safety audit survey conducted by the Virginia Department of Criminal Justice Services to determine schools that either had no formal threat

assessment program or used a program other than the Virginia Guidelines. The safety audit survey asked whether a school used "a formal threat assessment process to respond to student threats of violence" (response options yes or no) and "what kind of formal threat assessment model" the school used. Principals responded whether they used a school-created model, division-created model, or other model.

The study's final sample consisted of 332 schools. There were 166 schools in the Virginia Guidelines group, 119 that reported using another threat assessment program, and 47 schools that had no formal threat assessment program. A total of 91 schools had missing or ambiguous records: either they did not report their procedures, reported that they used the Virginia Guidelines when they had not been formally trained on them, or did not report that they used the Virginia Guidelines when UVA records indicated that they had been trained. Follow-up contacts with some of these schools indicated that some school administrators were not aware that they were using the Virginia Guidelines because it had been adopted before they came to the school. Because we lacked information on implementation fidelity, it seemed preferable to drop schools with missing or ambiguous information. Among the schools that reported using another threat assessment program, nearly all indicated that their model was created by staff from their school or the central office for their school division. Anecdotally, many school staff reported that they reviewed the reports on threat assessment by the U.S. Secret Service and FBI in developing their approach. A statewide study of the specific practices in Virginia schools is under way (Cornell et al., 2015).

Total school enrollment for the study sample ($N = 332$) ranged from 109 to 4,033 students ($M = 749$, $SD = 435$). The proportion of students in each school who qualified for free or reduced price meals (FRPM) ranged from 2% to 99% ($M = 44$, $SD = 20.5$). The percentage of minority students in each school ranged from 0% to 99% ($M = 40.1$, $SD = 27.2$). The sample was distributed across urban, suburban, and rural regions.

For the 91 schools dropped from the sample, total school enrollment ranged from 61 to 1603 ($M = 607$, $SD = 312$). The proportion of students in each school who qualified for free or reduced price meals (FRPM) ranged from 6% to

96% ($M = 49.4$, $SD = 20.8$). The percentage of minority students in each school ranged from 0% to 99% ($M = 33.8$, $SD = 29$). When compared with schools included in the sample, schools that were dropped had a mean school enrollment size that was 19% lower than school retained in the sample. Schools dropped from the sample also had an 11% higher proportion of students who qualified for FRPM.

Students. Each school was given two options for administering the Virginia Secondary School Climate Survey: (a) invite every student in the 7th and 8th grade to take the survey (whole grade option) or (b) randomly select 25 seventh grade students and 25 eighth grade students from school rosters to take the survey (random sample option). If a school chose the random sample option, they were provided a random number list with instructions for selecting students. All students were eligible to participate unless they had limited English proficiency or intellectual disability. Parents of each student received a letter informing them of the survey. Reasons a student may not have taken the survey included parents declining their child's participation, school absence on the day of administration, cognitive or physical limitations precluding survey completion, or another reason such as technical difficulties at the school. Student participation was the total number of students who participated across all schools divided by the total number invited to participate. The student participation rate was 86%.

Of the 29,203 students who participated in the survey, approximately 52% were female. Their self-reported racial/ethnic breakdown was 51% White, 20% Black, 16% multiracial, 3% Asian, 2% American Indian/Alaskan, and 8% another race/ethnicity. Finally, 13% of students reported that they were Hispanic or Latino in a separate question.

Teachers. All 7th and 8th grade teachers were requested to participate in the survey. A total of 6,298 teachers completed the survey, with an 84% participation rate. Approximately 75% reported that they were female. Most teachers (53%) had more than 10 years of experience. Approximately 24% reported 6 to 10 years of experience, 13% reported 3 to 5 years, and 10% reported fewer than 3 years of experience. Other demographic variables were not requested to protect teacher identity.

Procedure

School climate surveys were administered anonymously online in spring 2013. All participants were given standard instructions before taking the survey. Students completed surveys during school hours and were supervised by teachers or other school staff members. Teachers completed surveys independently. School principals completed the state's safety audit survey after the end of the school year.

Validity Screening

Previous research suggests that screening survey responses for students who responded carelessly or dishonestly improves the quality of survey data (Cornell, Lovegrove, & Baly, 2014). Specifically, validity screening has been shown to reduce extreme responses to questions, lower rates of risky behaviors, and yield school climate results more consistent with independent criteria (Cornell, Klein, Konold, & Huang, 2012; Cornell, Lovegrove, & Baly, 2014).

Two validity screening items were included in the student survey: (a) "I am telling the truth on this survey" and (b) "How many of the questions on this survey did you answer truthfully?" For the first question, students responded 1 = *strongly disagree*, 2 = *disagree*, 3 = *agree*, or 4 = *strongly agree*. Students who answered 1 = *strongly disagree* or 2 = *disagree* were removed from the sample. The second question response options included 1 = *all of them*, 2 = *all but 1 or 2 of them*, 3 = *most of them*, 4 = *some of them*, and 5 = *only a few or none of them*. Students who answered either 4 = *some of them* or 5 = *only a few or none of them* were removed from the sample. After screening, 2,871 (9% of the sample) were identified as invalid responders and removed from the sample. Additional information on validity screening in this sample is reported elsewhere (Cornell, Huang, et al., 2013).

Measures

Suspension rates. Schools provided school-level discipline data to the Virginia Department of Education (VDOE). Principals were required to report the number of short-term (1 to 10 days) and long-term (11 to 364 days) out-of-school suspensions for their schools. All

schools used standard definitions of disciplinary infractions. Students who had both short- and long-term suspensions were coded into the more serious offense (i.e., long-term suspension).

Suspension counts were unduplicated, meaning that each student was counted only once in the records regardless of the number of times they were suspended. This practice is consistent with previous literature using suspension rates (Gregory et al., 2011; Hemphill et al., 2006; Suh et al., 2007; Wallace et al., 2008) and maintains independence of the observations. Suspension rates were determined by dividing unduplicated suspensions by the school's total enrollment.

School climate measures. School climate was measured on two domains of student-perceived support and disciplinary structure. These two scales measured student perceptions that teachers and adults support and listen to their students (support) and that their school's disciplinary practices are strict but fair (disciplinary structure; Cornell et al., 2009, 2012; Konold et al., 2014).

The Student Support scale consisted of eight items that measure student perceptions that adults at school are supportive of them (e.g., "There are adults at this school I could talk with if I had a personal problem"). Each student answered 1 = *strongly disagree*, 2 = *disagree*, 3 = *agree*, or 4 = *strongly agree*. Multilevel exploratory and confirmatory factor analyses supported the use of eight items to assess overall school support (Konold et al., 2014). Cronbach's alpha for the scale was .93 in the present study.

The Disciplinary Structure scale consisted of seven items that measure student perceptions that their school is strict but fair (e.g., "The punishment for breaking school rules is the same for all student"). Each student answered 1 = *strongly disagree*, 2 = *disagree*, 3 = *agree*, or 4 = *strongly agree*. Multilevel exploratory and confirmatory factor analyses demonstrated adequate model fit for the scale (RMSEA = .08, CFI = .93, TLI = .89, SRMR = .04; Konold et al., 2014). In the present study, Cronbach's alpha was .77.

Teacher perceptions of school safety. Teacher perceptions of safety consisted of three items: (a) I feel physically safe at this school, (b) I feel that there is adequate safety and security at this school, and (c) I worry about some-

one committing a shooting at this school. Teachers responded 1 = *strongly disagree*, 2 = *disagree*, 3 = *somewhat disagree*, 4 = *somewhat agree*, 5 = *agree*, or 6 = *strongly agree*. Because there were only three questions and each was of substantive interest, they were not combined into a scale.

Peer victimization. To obtain a comprehensive assessment of safety conditions from student perspectives, the survey included three measures of peer victimization (Cornell, Shukla, & Konold, in press). One scale asked students about their experiences of being bullied using a standard definition of bullying, a second scale asked about general victimization, such as fighting, and a third scale asked about perceptions of bullying and teasing observed among other students.

Bullying victimization. The Bullying Victimization scale consisted of five items that measured personal experiences of being bullied. First, students were provided with the following definition of bullying:

Bullying is the repeated use of one's strength or popularity to injure, threaten, or embarrass another person on purpose. Bullying can be physical, verbal, or social. It is not bullying when two students who are about the same in strength or popularity have a fight or argument.

Students then responded 0 = *never*, 1 = *once or twice*, 2 = *about once per week*, or 3 = *more than once per week* to (a) whether they had been bullied at school in the past year, and then whether they had been (b) physically, (c) verbally, (d) socially, and (e) cyber bullied at school in the past year.

Previous research on this measure has demonstrated consistency with teacher and peer nominations of bully victims, as well as stability over middle school grades (Baly, Cornell, & Lovegrove, 2014). Bullying victimization using this measure was linked to negative school outcomes, such as lower grade point average, and mental health problems like feelings of sadness or thoughts of suicide (Baly et al., 2014). Cronbach's alpha was .87.

General victimization. The General Victimization scale consisted of five items that measured student experiences of verbal or physical aggression by peers (e.g., "A student threatened to hurt me" and "A student physically attacked, pushed, or hit me"). Students responded 0 = *no*, 1 = *once*, or 2 = *more than*

once, and higher scores on the scale indicate greater victimization. The scale has been used in other studies of peer victimization in schools (Cornell, Gregory, Huang, & Fan, 2013; Klein & Cornell, 2010). Prior literature on this scale of general victimization has shown a link between higher rates of aggression and poorer school climate (Cornell, Shukla, & Konold, *in press*). For the present study, Cronbach's alpha was .76.

Prevalence of teasing and bullying (PTB). Students answered five questions about their perceptions of the extent of teasing and bullying in their school (e.g., "Bullying is a problem at this school" and "Students here often get teased about their clothing or physical appearance"). Each student responded 1 = *strongly disagree*, 2 = *disagree*, 3 = *agree*, or 4 = *strongly agree*.

Previous exploratory and factor analyses indicated adequate model fit and supported the five-item PTB scale at the school level (Konold et al., 2014). Two studies supported the criterion validity of the PTB scale by showing that higher scores predicted lower student engagement (Mehta, Cornell, Fan, & Gregory, 2013), and lower school-wide passing rates on state-mandated testing (Lacey & Cornell, 2013). Cronbach's alpha was .87.

Analysis Plan

The study used data available for one year only, limiting the study to a cross-sectional design. Ten dependent measures of school climate and safety conditions were examined across three groups of schools. School-level measures derived from the school climate survey were determined by summing items and determining the average for all students (or all teachers) within the same school.

To address the first research question, multivariate analysis of covariance (MANCOVA) was used to compare school climate and safety conditions among three groups of schools: those that used the Virginia Guidelines, those that reported an alternate method of threat assessment, and those that did not have any threat assessment program. Least Significant Difference (LSD) was used to adjust for multiple comparisons (Williams & Abdi, 2010; Hayter, 1986). The analyses controlled for percentage of students eligible for free or reduced price

meals (FRPM), proportion of minority students, and school enrollment.

To address the second question, hierarchical linear regressions were used to examine the associations between how long a school had used the Virginia Guidelines and their school climate and safety conditions.

Results

Table 1 includes demographic characteristics and dependent measures for the three groups of schools. The MANCOVA test for overall group differences was significant (Wilks's $\lambda = 0.84$; $F(20, 574) = 2.65, p < .001$). Partial η^2 was used as a measure of effect size, which was 0.08 and considered a small effect size (Cohen, 1988).

Seven of the 10 outcome variables were statistically significant (see Table 1). Post hoc pairwise comparisons demonstrated that schools using the Virginia Guidelines had lower short-term suspension rates and lower levels of student-reported teasing and bullying, bullying victimization, and general victimization, compared to both groups of schools. Teachers in schools using the Virginia Guidelines reported feeling safer at school for all three variables. Effect sizes using partial η^2 ranged from 0.03 to 0.05, which are considered small effects. Notably, comparisons between schools using another model and schools without a formal threat assessment program were not significant.

The second question examined the length of time that schools have used the Virginia Guidelines. School demographic variables were entered at step 1 and length of time using the Virginia Guidelines at step 2. Only step 2 of the regressions is summarized here (see Table 2).

Short and Long-Term Suspension Rates

At Step 2, length of time using Virginia Guidelines was not significant for short-term suspension rates. The total variance accounted for by the model was $R^2 = 0.50, p < .001$. In contrast, length of time was a significant predictor for long-term suspension rates ($\beta = -0.37, p < .01$); in other words, schools that used the Virginia Guidelines for more years had lower long-term suspension rates after controlling for school demographic variables. The total variance accounted for by the model was $R^2 =$

Table 1
Group Comparisons on School Climate and Safety Condition Measures

Variable	(1) Virginia model <i>n</i> = 166		(2) No model <i>n</i> = 47		(3) Other model <i>n</i> = 119		Group comparison effect size and statistical test result	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	1 vs. 2	1 vs. 3
School enrollment	887	499	608	293	610	309	n/a	n/a
Percent minority student	42.5	25.3	37.2	26.7	49.5	18.1	n/a	n/a
Percent free/reduced priced meals	38.7	21.5	47.8	17.9	38.0	29.9	n/a	n/a
Short-term suspension rate*	.08	.07	.12	.09	.12	.09	-.03*	-.02*
Long-term suspension rate	.004	.01	.003	.001	.004	.001	.00	.00
Bullying victimization*	7.12	.53	7.51	.58	7.36	.67	-.033*	-.19*
General victimization*	7.61	.56	7.87	.51	7.81	.49	-.021*	-.14*
Prevalence of teasing and bullying*	12.4	1.27	12.9	.99	12.8	1.04	-.47*	-.32*
Teacher perception of safety ^a (1)*	5.02	.43	4.90	.05	4.20	.03	.06	.20*
Teacher perception of safety (2)*	4.31	.59	3.89	.58	3.91	.79	.32*	.30*
Teacher perception of safety (3)*	2.47	.50	2.71	.57	2.73	.65	-.19*	-.20*
School structure	19.0	1.34	18.6	.18	18.7	.11	.38	.25
School support	24.0	1.34	23.9	.19	23.8	.12	.11	.18

^a Teacher perception of safety items were the following: (1) I feel physically safe at this school, (2) I feel that there is adequate safety and security at this school, and (3) I worry about someone committing a shooting at this school.

* $p < .05$.

0.22, $p < .001$. The increase in R^2 was = 0.12, $p < .001$.

Structure Scale

At step 2, length of time was significantly associated with student reports of school structure ($\beta = 0.16$, $p < .05$). Student-reported school structure was higher in schools that used the Virginia Guidelines for more years. The total variance accounted for by the model was $R^2 = 0.22$, $p < .001$; the increase in R^2 was 0.02, $p < .05$.

Support Scale

At step 2, FRPM significantly contributed to the model. Length of time did not predict student-reported support.

Teacher Perceptions of Safety

At step 2, only one safety item ("I feel physically safe at this school") was significantly associated with length of time ($\beta = 0.18$, $p < .01$). Teachers reported greater feelings of safety in schools that had been using the Virginia Guidelines for more years. The total variance attributable to the model was $R^2 = 0.28$,

$p < .001$. The variance accounted for by Virginia Guidelines duration was $R^2 = 0.03$, $p < .05$.

Bullying Victimization Scale

At step 2, length of time was inversely associated with bullying victimization ($\beta = -0.17$, $p < .05$). In other words, students in schools using the Virginia Guidelines for a longer duration reported lower levels of bullying victimization. The total variance accounted for by the model was $R^2 = 0.04$, $p < .05$; the portion of variance attributable to Virginia Guidelines duration was $R^2 = 0.03$, $p < .05$.

General Victimization Scale

At step 2, length of time was inversely associated with general victimization ($\beta = -0.18$, $p < .05$). Schools using the Virginia Guidelines for a longer duration had lower levels of general victimization, as reported by students. The total variance accounted for by the model was $R^2 = 0.18$, $p < .001$; the portion of the variance accounted for by Virginia Guidelines duration was $R^2 = 0.03$, $p < .05$.

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Table 2
Multiple Regressions on School Safety and Climate Measures

Step	Short-term suspensions			Long-term suspensions			School support			School structure			PTB			Teacher perception of safety ^a			Bullying victimization			General victimization			
	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	
Step 1		.50*			.09*			.12*		.19*		.19*		.25*			.01			.15*					
School enrollment	.07			.17			-.04			.12			.21*			-.06			-.06			.01			
% Minority	.26*			.14			.04			-.34*		.08		-.09			-.02			.20*			.20*		
% FRPM	.58*			.22*			-.37*			-.17		.43*		-.48*			.08			.28*			.28*		
Step 2		.50			.22*			.12		.002		.22*		.28*			.21*			.18*			.04*		
School enrollment	.06			.15			-.04			.12		.20*		-.06			.06			.002			.06		
% minority	.27*			.16			.05			-.34*		.09		-.10			-.02			.21*			-.02		
% FRPM	.54*			.08			-.36*			-.11		.37*		-.42*			.02			.21*			.02		
Virginia guidelines duration	-1.84			-.37*			.04			.16		-.17*		.18*			-.17*			-.18*			-.17*		

^a Only one perception of safety, "I feel physically safe at this school," was significant. The other two items had the following values at step 2: "I feel that there is adequate safety and security at this school" ($R^2 = .18$; $\Delta R^2 = .02$), and "I worry about someone committing a shooting at this school" ($R^2 = .12$; $\Delta R^2 = 0$), all $ps > .05$.

Prevalence of Teasing and Bullying Scale

At step 2, length of time was inversely associated with student-reported PTB ($\beta = -0.17$, $p < .05$). Schools using the Virginia Guidelines for a longer duration had lower levels of student-reported PTB. The total variance accounted for by the model was $R^2 = 0.21$, $p < .001$; the portion of the variance accounted for by Virginia Guidelines duration was $R^2 = 0.02$, $p < .05$.

Discussion

The present study demonstrated that middle schools using the Virginia Guidelines reported more favorable school safety conditions and climate compared with two comparison groups, schools that used an alternate threat assessment program and those that reported having no program. Although a retrospective study of school conditions, there were positive findings across three sources of information, including school suspension records, student reports, and teacher reports.

Middle schools using the Virginia Guidelines had significantly fewer short-term suspensions (a rate of 8 per 100 students) than both comparison groups. The latter two groups had rates that were 50% higher, each averaging approximately 12 short-term suspensions per 100 students. These findings are consistent with several studies, including a retrospective investigation, longitudinal study, and randomized controlled trial. Whereas the previous studies examined high schools (Cornell et al., 2009, 2011) or a group of K–12 schools (Cornell et al., 2012), this was the first study concerned specifically with middle school grades, where discipline infractions and school suspensions are high (Nansel et al., 2001).

These findings are noteworthy in light of the deleterious impact that zero tolerance policies and out-of-school suspensions have on student academic performance and success (APA Zero Tolerance Task Force, 2008; Raffaele Mendez, 2003; Seal v. Morgan, 2000). Moreover, there is evidence that suspension of students does not improve student behavior or increase school safety, and the U.S. Department of Education (2014) has called on schools to review their discipline practices and reduce their use of school suspension. The Virginia Guidelines

stress threat assessment as an alternative to zero tolerance policies and school authorities are trained to minimize the use of school suspensions. They are discouraged from using a single sanction for all student misbehaviors and from treating all infractions the same regardless of severity. Suspensions are advised primarily when there is an imminent threat of harm to others (Cornell & Sheras, 2006).

Two aspects of school climate that were not associated with the Virginia Guidelines were student perception that discipline is strict but fair, and that schools are supportive of their students. This conflicts with a previous finding that threat assessment was associated with school support in high schools (Cornell et al., 2009). One explanation may be that students do not readily perceive fairer discipline or school support in schools with fewer suspensions and decreased aggressive behaviors, which are more direct targets of the Virginia Guidelines.

Notably, our three distinct measures of student-reported aggressive behaviors—bullying victimization, general victimization, and prevalence of teasing and bullying—were lower in schools in which the Virginia Guidelines was used, as compared with both groups of schools. This is supported by a previous quasi-experimental study that found a 79% reduction in bullying infractions the year after high schools began to use the Virginia Guidelines (Cornell, Gregory, & Fan, 2011). The present study's findings about student aggression are also consistent with the Virginia Guidelines and threat assessment approach generally, which endeavor to train teams to address grievances and conflicts before they escalate into more serious violence (Cornell & Sheras, 2006; Randazzo et al., 2006).

Teachers reported feeling safer from violence in schools that used the Virginia Guidelines. Previous research on guidelines training has shown immediate changes in school team member beliefs about school violence, threat assessment, and zero tolerance policies (Allen et al., 2008). Specifically, staff members who received training were less worried about school shootings and felt prepared to use the Virginia Guidelines as a violence prevention measure. These staff members were primarily administrators and mental health professionals, and did not include a group of teachers. To date, however, there has been no examination of teacher

perceptions of safety in relation to the Virginia Guidelines. One possible explanation for this finding is that teams gain increased confidence from their training that can affect school climate and be communicated to teachers. Future studies should examine what teachers knew about threat assessment in their schools and what factors they identify as making them feel safer.

Finally, these results generalized across schools with diverse demographics, suggesting that the findings were not an artifact of schools with less poverty, differing racial composition, or smaller enrollments. Furthermore, previous research suggests that use of threat assessment may be associated with decreased racial disparities in disciplinary practices, although an investigation of racial differences was beyond the scope of the present study (Cornell, Gregory, & Fan, 2011; Wallace et al., 2008). Future research investigating the association between disparities among demographics and threat assessment practices would be useful.

Taken together, our results suggest that disciplinary methods in schools that use the Virginia Guidelines are less punitive, as evidenced by lower suspension rates. Students reported less aggression on three measures of bullying and peer conflict. Moreover, teachers reported feeling safer at school across three variables measuring feelings of safety. These findings are consistent with the goals of the Virginia Guidelines to improve school safety and climate by responding to student aggressive behaviors with appropriate, in-school disciplinary actions rather than school exclusion. Such disciplinary measures, in turn, help to ensure safety and correct misbehaviors while keeping students in school to learn.

Length of Time Using the Virginia Guidelines

The present study did not have longitudinal data that could be used to make a stronger test of the association between using the Virginia Guidelines and positive school climate and safety outcomes. Therefore, associations between length of time using the Virginia Guidelines and school conditions were examined. Analyses demonstrated that longer use of the Virginia Guidelines was associated with more favorable school climate and safety conditions. Schools that used the Virginia Guidelines for

two years or less ($n = 22$) averaged 10 suspensions per 1,000 students, whereas schools that used the guidelines for 10 or more years ($n = 65$) averaged two long-term suspensions per 1,000 students. These results may be attributable to a combination of change in policy and improvement in student behaviors so that long-term suspensions are no longer as frequent. Administrators may play a pivotal role in the consistent application of disciplinary policies, such that, over time, organizational infrastructure is in place to perpetuate such practices. Moreover, teachers who perceive that their administrators support them may be more likely to practice administrators' policies. Such hypotheses should be investigated in future studies.

The current study showed that middle schools that used the Virginia Guidelines longer also had more positive student perceptions of school climate. As with suspension rates, full program effects may not be immediate. Improved student and teacher perceptions would not occur immediately, but would follow the sustained implementation of the Virginia Guidelines and threat assessment team actions. Over time, threat assessment cases would accumulate and there would be more opportunities for intervention. For example, assessing and intervening for bullying would take time to have school-wide effects.

Finally, the length of time that schools used the Virginia Guidelines was positively associated with school safety, as measured by both positive teacher observations of safety and lower levels of student teasing and aggression. This finding provides evidence that it takes time for a threat assessment program to have full impact in a school. One mechanism that may explain the changes in school conditions is the school's response to the student making a violent threat. Over time, school personnel perceive that they are safer, whereas students who misbehave are both corrected and supported at school.

Limitations and Future Research

The study was cross-sectional and correlational, and thus cannot provide definitive evidence of causal relations between use of the Virginia Guidelines and school climate and safety variables. A longitudinal, prospective study with a randomized, experimental design

could control for baseline levels of the study's outcome measures and would be useful to determine causal links between the Virginia Guidelines and school climate outcomes. Furthermore, the study relies on student and teacher perceptions that may introduce additional error and limit what can be concluded from our findings. Students and/or teachers may perceive their schools to be safe or unsafe, or to have more or less positive climates, based on their internal biases or limited observations that do not reflect school-wide conditions. However, the study used aggregate data across three sources of information (i.e., students, teachers, and suspension records), minimizing error resulting from self-report. Furthermore, there is no reason to assume that self-report error would result in favorable results for schools using the Virginia Guidelines.

Uncontrolled self-selection factors may have contributed to study findings. For example, a school that used the Virginia Guidelines may have already had safe conditions and a positive school climate. It is important to note, however, that the decision to incorporate the Virginia Guidelines was not made by individual schools but rather school divisions, lessening the likelihood of school-level selection bias. The problem of self-selection is mitigated in part by the finding that schools using the guidelines longer showed more positive school safety conditions and climate.

There were no available measures of implementation fidelity in order to assess whether effects were larger in schools with better implementation, as the randomized controlled trial found (Cornell et al., 2012). Findings may have been diminished by the inclusion of schools with poor implementation of the Virginia Guidelines (Cornell et al., 2012). Furthermore, some schools were dropped from the study because their use of threat assessment procedures was not clear, and these schools tended to be smaller schools with slightly higher proportions of low-income students. It will be useful for future studies to gather more information about the implementation fidelity of the Virginia Guidelines and other programs and how it is associated with school climate and safety outcomes. A statewide assessment of threat assessment practices in Virginia public schools was initiated in 2015 (Cornell et al., 2015).

There remains a need to define, differentiate, and examine alternative threat assessment models. In the present study, it was not possible to define specific alternative threat assessment practices, and most schools reported developing their own model. Thus there was no group of schools identified that used specific programs, such as the Salem Keizer (Van Dreal, 2011) or Dallas (Van Dyke & Schroeder, 2006) models. To assess schools that use other programs, it would be useful to develop a taxonomy or set of standards for classifying different models of threat assessment.

Further research is needed to identify best practices across programs. Particularly, it would be useful to identify practices among threat assessment models that are linked to positive school climate and safety outcomes. Mechanisms within threat assessment models may include specific responses to student violence (e.g., the use of in-school discipline vs. suspensions in responding to threats). Such research would enable threat assessment researchers to design the most useful programs for schools.

It was expected that results on length of time using the guidelines would be similar to those from the first research question. But there were discrepancies between the results for the two research questions regarding suspensions and school disciplinary structure. Specifically, short-term suspensions were lower in schools using the Virginia Guidelines, as compared with the other two groups of schools, whereas long-term suspensions were lower in schools that had used the guidelines for a longer duration. Long-term suspension rates are much lower than short-term rates (short-term suspension rates were per 100 students and long-term suspension rates were per 1,000 students). Because of their low base rate, reductions in long-term suspensions might develop more slowly.

Moreover, although school disciplinary structure was no different in schools using the guidelines as opposed to the other groups of schools, schools that had used the Virginia Guidelines for longer had higher structure compared to schools that had used the guidelines for a shorter duration. These differences suggest that some changes may be slower to develop than others. It would be useful to assess schools for differences in implementation fidelity, as well as changes in fidelity over time. Fidelity of implementation is a special concern in schools

because there will be turnover in school administrators and other school staff (counselors, psychologists, resource officers, and social workers) that make up the school threat assessment team.

The available research on threat assessment has focused primarily on school level effects. More study is needed on individual student effects, including controlled studies on students who threaten others with violence, their targeted victims, and school responses to such threats. Specifically, it would be useful to know long-term academic and disciplinary outcomes of students who make threats or who have been threatened with violence.

In summary, future research on threat assessment would benefit from developing standards for threat assessment programs in schools and identifying best practices that are associated with the most positive outcomes at both the school and individual levels. These results would inform current knowledge about aspects of the threat assessment approach that are most useful for school personnel. They would also assist researchers and administrators in implementing the best approach to violence prevention—one that not only provides students with safety, but also encourages a positive climate that promotes educational success.

References

- Allen, K., Cornell, D., Lorek, E., & Sheras, P. (2008). Response of school personnel to student threat assessment training. *School Effectiveness and School Improvement, 19*, 319–332. <http://dx.doi.org/10.1080/09243450802332184>
- American Psychological Association. (2013). Gun violence: Prediction, prevention, and policy. Retrieved from <http://www.apa.org/pubs/info/reports/gun-violence-prevention.aspx>
- American Psychological Association Zero Tolerance Task Force. (2008). Are zero tolerance policies effective in the schools? An evidentiary review and recommendations. *American Psychologist, 63*, 852–862. <http://dx.doi.org/10.1037/0003-066X.63.9.852>
- Arcia, E. (2006). Achievement and enrollment status of suspended students: Outcomes in a large, multicultural school district. *Education and Urban Society, 38*, 359–369. <http://dx.doi.org/10.1177/0013124506286947>
- ASIS International and Society for Human Resource Management. (2011). *Workplace violence prevention and Intervention: An American standard*

- (ASIS/SHRM WVP. 1–2011). New York, NY: American National Standards Institute.
- ASME-Innovative Technologies Institute. (2010). *A risk analysis standard for natural and man-made hazards to higher education: A standard for academia*. New York, NY: American National Standards Institute.
- Baly, M. W., Cornell, D. G., & Lovegrove, P. (2014). A longitudinal investigation of self- and peer report of bullying victimization across middle school. *Psychology in the Schools, 51*, 217–240. <http://dx.doi.org/10.1002/pits.21747>
- Berndt, T. J. (1982). The features and effects of friendship in early adolescence. *Child Development, 53*, 1447–1460. <http://dx.doi.org/10.2307/1130071>
- Brouwers, A., & Tomic, W. (1998, July). *Student disruptive behaviour, perceived self-efficacy in classroom management and teacher burnout*. Paper presented at the ninth European Conference on Personality, University of Surrey.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Cornell, D., & Allen, K. (2011). Development, evaluation, and future directions of the Virginia Student Threat Assessment Guidelines. *Journal of School Violence, 10*, 88–106. <http://dx.doi.org/10.1080/15388220.2010.519432>
- Cornell, D. G., Allen, K., & Fan, X. (2012). A randomized controlled study of the Virginia Student Threat Assessment Guidelines in kindergarten through grade 12. *School Psychology Review, 41*, 100–115.
- Cornell, D. G., Gregory, A., & Fan, X. (2011). Reductions in long-term suspensions following adoption of the Virginia Student Threat Assessment Guidelines. *NASSP Bulletin, 95*, 175–194. <http://dx.doi.org/10.1177/0192636511415255>
- Cornell, D., Gregory, A., Huang, F., & Fan, X. (2013). Perceived prevalence of teasing and bullying predicts high school dropout rates. *Journal of Educational Psychology, 105*, 138–149. <http://dx.doi.org/10.1037/a0030416>
- Cornell, D., & Heilbrun, A. (2015). Student threat assessment and bullying prevention. In K. Heilbrun, D. DeMatteo, & N. Goldstein (Eds.). *Handbook of psychology and juvenile justice*. Washington, DC: American Psychological Association.
- Cornell, D., Huang, F., Konold, T., Meyer, P., Lacey, A., Nekvasil, E., . . . Shukla, K. (2013). *Tech. Rep. No. of the Virginia Secondary School Climate Survey: 2013 Results for 7th and 8th Grade Students and Teachers*. Charlottesville, VA: Curry School of Education, University of Virginia.
- Cornell, D., Klein, J., Konold, T., & Huang, F. (2012). Effects of validity screening items on adolescent survey data. *Psychological Assessment, 24*, 21–35. <http://dx.doi.org/10.1037/a0024824>
- Cornell, D. G., Lovegrove, P. J., & Baly, M. W. (2014). Invalid survey response patterns among middle school students. *Psychological Assessment, 26*, 277–287.
- Cornell, D., Maeng, J., Huang, F., Burnette, A., Datta, P., & Heilbrun, A. (2015). *Threat assessment in Virginia schools: Technical report of the Threat Assessment Survey for 2013-2014*. Charlottesville, VA: Curry School of Education, University of Virginia.
- Cornell, D. G., & Sheras, P. L. (2006). *Guidelines for responding to student threats of violence*. Dallas, TX: Sopris West Educational Services.
- Cornell, D., Sheras, P., Gregory, A., & Fan, X. (2009). A retrospective study of school safety conditions in high schools using the Virginia threat assessment guidelines versus alternative approaches. *School Psychology Quarterly, 24*, 119–129. <http://dx.doi.org/10.1037/a0016182>
- Cornell, D. G., Sheras, P. L., Kaplan, S., McConville, D., Douglass, J., Elkon, A., . . . Cole, J. (2004). Guidelines for student threat assessment: Field-test findings. *School Psychology Review, 33*, 527–546. Retrieved from curry.virginia.edu
- Cornell, D., Shukla, K., & Konold, T. (in press). Peer victimization and authoritative school climate: A multilevel approach. *Journal of Educational Psychology*.
- Daniels, J. A., Volungis, A., Pshenishny, E., Gandhi, P., Winkler, A., Cramer, D. P., & Bradley, M. C. (2010). A qualitative investigation of averted school shooting rampages. *The Counseling Psychologist, 38*, 69–95. <http://dx.doi.org/10.1177/0011000009344774>
- Department of Defense. (2010, August 18). *Final recommendations of the Fort Hood follow-on review*. Washington, DC: Robert M. Gates.
- Eliot, M., Cornell, D., Gregory, A., & Fan, X. (2010). Supportive school climate and student willingness to seek help for bullying and threats of violence. *Journal of School Psychology, 48*, 533–553. <http://dx.doi.org/10.1016/j.jsp.2010.07.001>
- Fabelo, T., Thompson, M. D., Plotkin, M., Carmichael, D., Marchbanks III., M. P., & Booth, E. A. (2011). *Breaking school rules: A statewide study of how school discipline relates to students' success and juvenile justice involvement*. College Station, TX: Council of State Governments Justice Center, Public Policy Research Institute at Texas A&M University. Retrieved September 18, 2012, from <http://justicecenter.csg.org/resources/juveniles>
- Fein, R., Vossekuil, B., Pollack, W., Borum, R., Modzeleski, W., & Reddy, M. (2002). *Threat assessment in schools: A guide to managing threatening situations and to creating safe school cli-*

- mates. Washington, DC: U.S. Secret Service and Department of Education.
- Gregory, A., Cornell, D., & Fan, X. (2011). The relationship of school structure and support to suspension rates for Black and White high school students. *American Educational Research Journal*, 48, 904–934. <http://dx.doi.org/10.3102/00028312111398531>
- Gregory, A., Cornell, D., Fan, X., Sheras, P., Shih, T., & Huang, F. (2010). Authoritative school discipline: High school practices associated with lower bullying and victimization. *Journal of Educational Psychology*, 102, 483–496. <http://dx.doi.org/10.1037/a0018562>
- Hayter, A. J. (1986). The maximum familywise error rate of Fisher's least significant difference test. *Journal of the American Statistical Association*, 81, 1000–1004. <http://dx.doi.org/10.1080/01621459.1986.10478364>
- Hemphill, S. A., Toumbourou, J. W., Herrenkohl, T. I., McMorris, B. J., & Catalano, R. F. (2006). The effect of school suspensions and arrests on subsequent adolescent antisocial behavior in Australia and the United States. *Journal of Adolescent Health*, 39, 736–744. <http://dx.doi.org/10.1016/j.jadohealth.2006.05.010>
- Ingels, S. J. (1990). National Education Longitudinal Study of 1988. Base Year: School component data file user's manual.
- Juvonen, J., Nishina, A., & Graham, S. (2006). Ethnic diversity and perceptions of safety in urban middle schools. *Psychological Science*, 17, 393–400. <http://dx.doi.org/10.1111/j.1467-9280.2006.01718.x>
- Klein, J., & Cornell, D. (2010). Is the link between large high schools and student victimization an illusion? *Journal of Educational Psychology*, 102, 933–946. <http://dx.doi.org/10.1037/a0019896>
- Konold, T., Cornell, D., Huang, F., Meyer, P., Lacey, A., Nekvasil, E., . . . Shukla, K. (2014, September). Multilevel multi-informant structure of the authoritative school climate survey. *School Psychology Quarterly*, 29, 238–255. <http://dx.doi.org/10.1037/spq0000062>
- Lacey, A., & Cornell, D. (2013). The impact of teasing and bullying on schoolwide academic performance. *Journal of Applied School Psychology*, 29, 262–283. <http://dx.doi.org/10.1080/15377903.2013.806883>
- LaRusso, M. D., Romer, D., & Selman, R. L. (2008). Teachers as builders of respectful school climates: Implications for adolescent drug use norms and depressive symptoms in high school. *Journal of Youth and Adolescence*, 37, 386–398. <http://dx.doi.org/10.1007/s10964-007-9212-4>
- Lee, T., Cornell, D., Gregory, A., & Fan, X. (2011). High suspension schools and dropout rates for black and white students. *Education & Treatment of Children*, 34, 167–192. <http://dx.doi.org/10.1353/etc.2011.0014>
- Leithwood, K., & Jantzi, D. (2009). A review of empirical evidence about school size effects: A policy perspective. *Review of Educational Research*, 79, 464–490. <http://dx.doi.org/10.3102/0034654308326158>
- Losen, D. L., & Martinez, T. E. (2013, April). *Out of school and off track: The overuse of suspensions in American middle and high schools*. The Civil Rights Project at UCLA and the Southern Poverty Law Center. Retrieved from <http://files.eric.ed.gov/fulltext/ED541735.pdf>
- Losen, D. L., & Skiba, R. J. (2010, September). *Suspended education: Urban middle schools in crisis*. The Civil Rights Project at UCLA and the Southern Poverty Law Center. Retrieved from http://civilrightsproject.ucla.edu/research/k-12-education/school-discipline/suspended-education-urban-middle-schools-in-crisis/Suspended-Education_FINAL-2.pdf
- Mehta, S. B., Cornell, D., Fan, X., & Gregory, A. (2013). Bullying climate and school engagement in ninth-grade students. *The Journal of School Health*, 83, 45–52. <http://dx.doi.org/10.1111/j.1746-1561.2012.00746.x>
- Mendez, L. M. (2003). Predictors of suspension and negative school outcomes: A longitudinal investigation. *New Directions for Youth Development: Theory, Practice, Research*, 2003, 17–33. <http://dx.doi.org/10.1002/yd.52>
- Modzeleski, W., Feucht, T., Rand, M., Hall, J., Simon, T., Butler, L., . . . the Centers for Disease Control and Prevention (CDC). (2008). School-associated student homicides—United States, 1992–2006. *Morbidity and Mortality Weekly Report*, 57, 33–36. Retrieved from <http://www.cdc.gov/mmwr/>
- Morgan, E., Salomon, N., Plotkin, M., & Cohen, R. (2014). *The school discipline consensus report: Strategies from the field to keep students engaged in school and out of the juvenile justice system*. New York, NY: Council of State Governments Justice Center.
- Nansel, T., Overpeck, M., Pilla, R., Ruan, W., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *JAMA: Journal of the American Medical Association*, 285, 2094–2100. <http://dx.doi.org/10.1001/jama.285.16.2094>
- Neiman, S. (2011). *Crime, violence, discipline, and safety in the U.S. public schools: Findings from the School Survey on Crime and Safety: 2009–10* (NCES 2011–320). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Nekvasil, E. K., & Cornell, D. G. (2012). Student reports of peer threats of violence: Prevalence and

- outcomes. *Journal of School Violence*, *11*, 357–375. <http://dx.doi.org/10.1080/15388220.2012.706764>
- Nekvasil, E., Cornell, D., & Huang, F. (2015). Prevalence and offense characteristics of multiple casualty homicides: Are schools at higher risk than other locations? *Psychology of Violence*, *5*, 236–245. <http://dx.doi.org/10.1037/a0038967>
- O'Toole, M. (2000). *The school shooter: A threat assessment perspective*. Quantico, VA: National Center for the Analysis of Violent Crime, Federal Bureau of Investigation.
- Randazzo, M. R., Borum, R., Vossekuil, B., Fein, R., Modzeleski, W., & Pollack, W. (2006). Threat assessment in schools: Empirical support and comparison with other approaches. In S. Jimerson, A. Nickerson, M. J. Mayer, & M. J. Furlong (Eds.), *The handbook of school violence and school safety: From research to practice* (pp. 147–156). London, UK: Routledge.
- Robers, S., Kemp, J., & Truman, J. (2013). *Indicators of school crime and safety: 2012* (NCES 2013–036/NCJ 241446). Washington, DC: National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice.
- Seal v. Morgan. 2000. 229 E3d 567 (6th Cir.).
- Singer, M. I., & Flannery, D. J. (2000). The relationship between children's threats of violence and violent behaviors. *Archives of Pediatrics & Adolescent Medicine*, *154*, 785–790. <http://dx.doi.org/10.1001/archpedi.154.8.785>
- Stewart, E. A. (2003). School social bonds, school climate, and school misbehavior: A multilevel analysis. *Justice Quarterly*, *20*, 575–604. <http://dx.doi.org/10.1080/07418820300095621>
- Strong, K., & Cornell, D. (2008). Student threat assessment in Memphis City schools: A descriptive report. *Behavioral Disorders*, *34*, 42–54.
- Suh, S., Suh, J., & Houston, I. (2007). Predictors of categorical at-risk high school dropouts. *Journal of Counseling & Development*, *85*, 196–203. <http://dx.doi.org/10.1002/j.1556-6678.2007.tb00463.x>
- U.S. Department of Education. (2014). School climate and discipline. Retrieved from <http://www2.ed.gov/policy/gen/guid/school-discipline/index.html>
- Van Dreal, J. (2011). *Assessing student threats: A handbook for implementing the Salem-Keizer system*. Lanham, MD: Rowman & Littlefield.
- Van Dyke, R., & Schroeder, J. (2006). Implementation of the Dallas Threat of Violence Risk Assessment. In S. R. Jimerson & M. J. Furlong (Eds.), *The handbook of school violence and school safety* (pp. 603–616). Mahwah, NJ: Erlbaum.
- Vossekuil, B., Fein, R. A., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the Safe School Initiative*. Washington, DC: US Secret Service and US Department of Education; Retrieved from <https://www.training.fema.gov>
- Wallace, J. M., Jr., Goodkind, S., Wallace, C. M., & Bachman, J. G. (2008). Racial, ethnic, and gender differences in school discipline among U.S. high school students: 1991–2005. *Negro Educational Review*, *59*, 47–62. Retrieved from <http://www.ncbi.nlm.nih.gov>
- Williams, L. J., & Abdi, H. (2010). Fisher's least significant difference (LSD) test. *Encyclopedia of Research Design*, 1–5. Retrieved from <https://www.universityoftexasatdallascomets.com/~herve/abdi-LSD2010-pretty.pdf>

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The Distinction Between Transient and Substantive Student Threats

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Many schools across North America have adopted student threat assessment as a violence prevention strategy. The Virginia Student Threat Assessment Guidelines (VSTAG) is a threat assessment model that emphasizes distinguishing between substantive threats that are serious and transient threats that are not serious. This retrospective study investigated the interrater reliability and criterion-related validity of this distinction in a sample of 844 student threat cases from 339 Virginia public schools. To assess interreliability for the transient versus substantive distinction, research coders independently classified a subsample of 148 narratives, achieving classification agreement with schools of 70% ($\kappa = .53$). Logistic regression analyses examined transient and substantive threat differences in threat characteristics and outcomes. Threats were more likely to be classified as substantive when they included warning behaviors (e.g., history of violence, weapon use, leakage, etc.), were made by older students, mentioned the use of a bomb or a knife, and involved threats to harm self as well as others. Although only 2.5% of threats were attempted, substantive threats were 36 times more likely to be attempted than transient threats. Substantive threats were more likely to result in out-of-school suspension, change in school placement, and/or legal action. Overall, these findings supported the transient/substantive distinction, but indicated some training needs for school teams.

Keywords: threat assessment, transient and substantive distinction, school safety

In response to highly publicized and harrowing school shootings, U.S. government authorities in law enforcement and education recommended the implementation of threat assessment in schools to improve school safety (American Psychological Association, 2013; Fein et al., 2002; National Association of School Psychologists School Safety

and Crisis Response Committee, 2014; O’Toole, 2000). Despite this widespread support, there is a dearth of research on the threat classification process.

Threat assessment is a systematic approach to violence prevention intended to distinguish serious threats, defined as behaviors or communications in which a person poses a threat of violence, from cases in which the threat is not serious (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002) and then to take appropriate prevention steps. Given that threats arise in different contexts and circumstances, they require different management strategies.

How do schools differentiate serious from nonserious threats of violence? This distinction is a critical issue in threat assessment (Cornell & Sheras, 2006; Fein et al., 2002; O’Toole, 2000). One way to address this matter is to evaluate how threat assessment teams classify and manage serious and nonserious threats. Although all threats should be taken seriously for safety purposes (O’Toole, 2000), we use “serious” in this study to mean a threat that has been determined to pose a nontrivial risk of violence because an individual has both the means and intent to carry out the threat. The purpose of this

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study is to examine the Virginia Student Threat Assessment Guidelines (VSTAG) use of the transient-substantive classification to distinguish threats that are serious from those that are not serious.

Prevalence of Threats and Violence in Schools

Student threats of violence are relatively common in schools (Nekvasil & Cornell, 2012). Nekvasil and Cornell (2012) surveyed 3,756 high school students and asked whether another student had threatened to harm them in the past 30 days. Approximately 12% of students reported being threatened. However, 23% of the 451 threatened students regarded the threat as serious, implying that more than three fourths of students thought the threat would not be carried out. In contrast, approximately 9% reported that the threat was carried out. This rate of aggression might seem high in an adult workplace setting, but as summarized below, school surveys find that aggressive behavior is relatively common in an adolescent school setting.

Although student threats usually are not carried out, previous research found a correlation between threats of violence and violent behavior (Nekvasil & Cornell, 2012; Singer & Flannery, 2000; Warren, Mullen, Thomas, Ogloff, & Burgess, 2008). Singer and Flannery (2000) investigated the relationship between students' threats of violence to others and self-reported violent behaviors, and concluded that student threats should not be ignored. Compared to students who did not make a threat to harm others, students who frequently threatened violence were 14 to 23 times more likely to report attacking someone with a knife and 17 times more likely to report shooting at someone. Even students who reported threatening others infrequently were more likely to exhibit violent behaviors when compared to nonthreateners.

The 2015 Youth Risk Behavior Surveillance Survey found that approximately 7.8% of high school students nationwide reported being in a physical fight on school property and 6% had been threatened or injured with a weapon (i.e., gun, knife, or club) on school property (Kann et al., 2016). Within the month preceding the survey, 4.1% of students reported carrying a weapon to school on at least one day.

Although physical altercations and possession of weapons are observed in many schools, lethal acts of violence are rare. The Centers for Disease Control and Prevention reported that 462 violent youth deaths occurred at schools between 1992 and 2012 (Robers, Zhang, Morgan, & Musu-Gillette, 2015). This translates to an average of 23.1 deaths per year and a rate of approximately 0.86 deaths per 100,000 among school-age youth. While this is not a precise calculation, it demonstrates that the risk of homicidal school violence is relatively low. Another study using data from the National Incident-Based Reporting System (Nekvasil, Cornell, & Huang, 2015) similarly found that homicides rarely occurred in schools (0.3% of all homicides) compared to other locations. This perspective is important because the belief that homicidal violence is a likely event can skew the perception of risk in evaluating a potentially dangerous student.

Distinguishing Serious and Nonserious Threats of Violence

Given that threats are commonplace but typically not carried out (Nekvasil & Cornell, 2012), how do school threat assessment teams determine which threats of violence are more likely to result in an attack? Threat assessment authorities have posited that there may be "warning behaviors" or behavioral patterns that indicate a person has serious intent to carry out a threat (Meloy, Hoffmann, Guldemann, & James, 2012). Researchers examining incidents of targeted violence within schools as well as in other settings found that most attackers had access to weapons prior to the violent incident and also exhibited leakage, suicidal ideation, and obsession with violence (Hoffmann & Roshdi, 2013; Mohandie, 2014; O'Toole, 2000; Vossekuil et al., 2002). Attackers also tended to demonstrate more warning behaviors as they moved along a pathway to violence (Meloy et al., 2012).

Meloy and O'Toole (2011) defined *leakage* as "the communication to a third party of an intent to do harm to a target" (p. 514). Leakage can occur through oral, written, or social media communications (Meloy & O'Toole, 2011; O'Toole, 2000). Students might intentionally confide in a peer or communicate their violent plans through their journals or social media

pages. In their study of school violence, the U.S. Secret Service and U.S. Department of Education noted that in 81% of the 37 violent incidents reviewed between 1974 and 2000, at least one individual knew the attacker was considering an act of violence before it transpired (Vossekuil et al., 2002). These individuals were most often (93%) friends, classmates, or siblings; only rarely (17%) did the attackers threaten their intended targets directly. Although direct threats to the intended victims are rare, both leakage and direct threats are warning behaviors that can signify that an attacker is moving along a pathway of violence (Hoffmann & Roshdi, 2013; Meloy, Hoffmann, Roshdi, Glaz-Ocik, & Guldimmann, 2014). Research in German schools also found that warning behaviors, such as a preoccupation with violent media, acquisition of weapons, and suicide ideation, signal an attacker's escalation along a pathway of violence (Hoffmann & Roshdi, 2013). A German model of threat assessment places primary emphasis on identifying students experiencing a psychosocial crisis that could precipitate violence (Leuschner, Fiedler, Schultze, et al., 2017). This model trains teachers to recognize and report warning signs of violence in their students.

Researchers also found that almost all the attackers (93%) engaged in behaviors that concerned others prior to the incident (Vossekuil et al., 2002). The concerning behaviors of the attackers included the use of weapons (63%), fascination with violence displayed through class assignments or verbal communications (59%), and suicidal ideation (78%). The majority of the attackers had access to weapons prior to the incident (68%) and had a known history of weapon use (63%). Lastly, the investigators found that some attackers had committed a known act of violence prior to the incident (31%) and/or had previously been arrested (27%). Although these concerning behaviors apply to only a subset of the attackers included in the study, many researchers have concluded that a history of violence is the strongest predictor of future violence (Monahan & Steadman, 1994). Overall, the threat assessment literature suggests that warning behaviors raise concern that a threat is serious (Meloy et al., 2012; O'Toole, 2000; Vossekuil et al., 2002).

Distinguishing Threat Assessment From Risk Assessment

Threat assessment has emerged as a specialized form of violence risk assessment that has some important distinguishing features (Cornell & Datta, 2017; Meloy, Hart, & Hoffmann, 2014). A threat assessment is typically conducted to determine whether a person intends to carry out a specific threatened act, usually toward a targeted victim or group, within a relatively short timeframe. In contrast, a violence risk assessment is conducted to determine an individual's potential to perpetrate a violent act during an unspecified, open-ended time period, typically to help decide whether to release an individual from incarceration (Otto & Douglas, 2011) or a mental health facility (Monahan, 2010). Meloy, Hart, and Hoffmann (2014, p. 6) contend that the differences between threat assessment and violence risk assessment are substantial, but "primarily a matter of degree rather than kind." These differences include that threat assessment places more emphasis on dynamic as opposed to static risk factors, makes judgments using idiographic or case-specific factors rather than nomothetic or data-driven rules, and is concerned with risk management instead of prediction of violence.

An increasingly recognized approach to violence risk assessment is structured professional judgment (Nicholls, Petersen, & Pritchard, 2016), which combines elements of clinical judgment and actuarial assessment (Douglas & Kropp, 2002). The structured professional judgment approach uses a decision theory framework to examine an individual's history of violence and relevant risk factors to make inferences about his or her potential for future violence, and to develop appropriate case management strategies (Hart & Logan, 2011). An early work on school threat assessment (Reddy et al., 2001; using the terms *guided professional judgment* and *structured clinical assessment*) cautioned that structured professional judgment is not readily applied in cases where the task is to assess an individual's risk for targeted school violence. The researchers noted that the base rate is very low and there is little empirical research on the risk factors for targeted school violence. They pointed to the behavioral and psychological heterogeneity of school shooters and their diverse motives and circumstances.

They distinguished threat assessment from guided professional judgment by the former's emphasis on a deductive approach to gathering facts about the particular case in question and the need for threat assessment teams to take active steps to manage individuals to reduce risk to the identified target.

Although Reddy and colleagues' analysis identifies key strengths of the threat assessment approach, we respectfully suggest that threat assessment can be conceptualized as involving a form of structured professional judgment. A threat assessment model can be structured to gather information and make decisions in a structured and systematic way, and with sufficient research, it can be guided by a foundation of knowledge and empirical support. Structured professional judgment fundamentally refers to the way in which risk assessment and management decisions are guided by evidence derived from relevant empirical research, and integrated with observations of individual case characteristics and circumstances. There is no reason why threat assessment cannot be tested, evaluated, and improved with empirical research so that it becomes an evidence-based application of structured professional judgment. The current study is intended as a contribution to that goal.

Virginia Student Threat Assessment Guidelines

One model for managing threats in school is the Virginia Student Threat Assessment Guidelines (VSTAG) (Cornell & Sheras, 2006) developed at the University of Virginia. This model integrated recommendations from Federal Bureau of Investigation and Secret Service studies of school shootings (Fein et al., 2002; O'Toole, 2000) with practical advice and field-tested experiences derived from work with a group of Virginia public schools (Cornell & Sheras, 2006). Notably, the VSTAG model provides teams with guidelines to distinguish whether a threat is transient (not serious) or substantive (poses a continuing risk to others). The VSTAG recognizes that all threats should be evaluated, but that, especially in a school setting, threat assessment teams are challenged to avoid overreacting to threats that are not serious and focus their attention on serious threats that merit protective action. The transient/substantive distinc-

tion is designed to help school threat assessment teams make a structured professional judgment to meet this challenge. The transient/substantive distinction requires professional judgment by the school team based on an assessment of all available information about the student and the circumstances of the threat; therefore, it is crucial to assess the reliability and validity of the transient/substantive distinction.

A transient threat is an intentionally broad category intended to encompass all forms of threats that do not reflect a genuine intent to harm others (Cornell & Sheras, 2006). The majority of student threats are transient, and can stem from motives including humor, anger, frustration, or fear (Cornell et al., 2004; Nekvasil & Cornell, 2012). Transient threats include a variety of qualitatively different threats that nevertheless are not serious. Examples of transient threats include a student exclaiming, "I'm gonna kill you" as a joke or as a competitive statement during a game, or a student playfully using his or her fingers to shoot another classmate. Other transient threats are made as an expression of anger that nevertheless do not reflect a serious intent to harm someone, such as a student stating rhetorically, "I'd like to kill that jerk" in anger but not actually possessing an intent or plan to kill anyone (Cornell & Sheras, 2006). Transient threats can differ widely in motive and context, and can be provocative and disruptive; but from the practical perspective of threat assessment, they all represent behaviors that do not reflect a real intent to harm others. The transient/substantive distinction is not based solely on a linguistic analysis of the content of the student's statements, but includes information gathered from other sources. In addition, the team considers the student's response to the assessment and whether he or she is able to explain his or her behavior, retract or clarify the threatening statement, and demonstrate a willingness to rectify the situation, if appropriate. This process is described in the VSTAG manual (Cornell & Sheras, 2006).

If a threat is not deemed transient, then school teams follow the decision tree to classify the threat as substantive. Substantive threats are behaviors or statements that represent a serious risk of harm to others (Cornell & Sheras, 2006). According to the VSTAG model, substantive threats are characterized by qualities that reflect serious intent, such as planning and preparation,

recruitment of accomplices, and acquisition of a weapon. Examples of likely substantive threats include a student threatening “I’ll get you next time” after a fight and refusing mediation for the dispute, or a student who threatens to stab a classmate and is found to have a knife in her backpack.

The distinction between transient and substantive threats is critical to determining appropriate responses and management strategies. The VSTAG model guides school teams in resolving and responding to student threats according to a seven-step decision tree (Cornell & Sheras, 2006). First, school teams evaluate the threat by interviewing witnesses, using the semistructured interview questions outlined in the VSTAG manual. These questions are simple, open-ended inquiries designed to gather specific information on the student’s statements, behaviors, and intentions (e.g., “What happened today when you were at [place of incident]? What exactly did you say? And what exactly did you do? What did you mean when you said or did that?”). Parallel interviews are conducted with the threatened individual, witnesses and other sources of relevant information. Consistent with threat assessment principles, there is an emphasis on gathering factual information from multiple sources and considering contextual and situational factors to determine whether the individual is on a path toward violent action (Reddy et al., 2001). Transient threats are generally resolved with an explanation or apology, and do not require protective action or security efforts. If a school team is unable to resolve the threat or they are unsure about the threat’s status, then the decision tree directs them to respond to the threat as a substantive threat.

All substantive threat responses require protective action, which varies depending on the circumstances of the threat and how the threat might be carried out. At a minimum, protective action typically involves notifying the intended victim and his or her parents, as well as contacting the parents of the student who made the threat. Protective action could also involve increased monitoring or supervision of the threatening student. Depending on the nature and credibility of the threat, substantive threats are further classified as either “serious substantive” or “very serious substantive” threats. Threats involving a simple assault are classified as “serious substantive,” whereas a “very serious sub-

stantive” threat typically involves a threat to kill or a threat to use a lethal weapon or inflict severe injury on someone. The final steps for very serious substantive threats include mental health treatment and disciplinary action, but fewer than 10% of threats merit these actions (Cornell & Sheras, 2006). For example, the school team could remedy the underlying conflict that led to the threat by referring the student for a mental health evaluation and treatment. Threats that are very serious might also require exclusionary disciplinary and law enforcement action to protect the intended targets and reduce the likelihood that the threat will be carried out. The need for such actions is uncommon, but could include suspension from school or a change in school placement. In some of the most serious cases, legal actions such as arrest, court charges, or confinement in juvenile detention center can be warranted.

Evidence for the VSTAG Model

Although the transient-substantive distinction is an important step in the VSTAG model, there is relatively little research on its reliability and validity. The first published study of VSTAG reported the classification of transient and substantive threats in 188 cases collected from 35 schools (Cornell et al., 2004). The majority of cases (70%) were classified as transient and the remaining cases were deemed substantive. Researchers found that the proportion of substantive threats was much higher among middle (41%) and high school students (44%) compared to elementary students (15%). There were no differences in violent outcomes between transient and substantive threats because none of the threats were carried out.

Consistent with the VSTAG training model, school teams responded differently to transient versus substantive threats. Transient threats resulted in more in-school detentions and time-outs (17%) when compared to substantive threats (5%; Cornell et al., 2004). The majority of substantive threats resulted in out-of-school suspensions (80%) compared to transient threats (37%). Three substantive cases resulted in expulsions.

Additional studies found that school personnel trained in the VSTAG model demonstrated a decreased belief that school violence is commonplace, decreased support for a zero tolerance ap-

proach to school discipline, and a decreased propensity to use suspension as a response to student threats (Allen, Cornell, Lorek, & Sheras, 2008; Cornell, Allen, & Fan, 2012). These results were found across school locations (e.g., rural vs. urban) and across school personnel (i.e., school administrators, mental health professionals, and school resource officers).

Three quasi-experimental studies demonstrated a reduction in disciplinary actions and a more supportive school climate in schools using VSTAG. The first study compared 95 high schools using VSTAG to 131 schools using either locally developed threat assessment procedures or 54 using no threat assessment approach (Cornell, Sheras, Gregory, & Fan, 2009). Students in VSTAG model schools reported less bullying in the past month and greater willingness to seek help for bullying and threats of violence. Schools using the VSTAG model had fewer long-term suspensions than the other schools.

The second study trained 23 high schools to implement the VSTAG model, in contrast to a control sample of 26 high schools that continued to use their existing approach to student threats (Cornell, Gregory, & Fan, 2011). Notably, schools trained in the VSTAG model had a 52% decline in long-term suspensions. Schools using the VSTAG model also demonstrated a 79% reduction in bullying infractions, indicative of a more positive school environment. Additionally, school personnel trained in the VSTAG model demonstrated substantially increased knowledge and understanding of threat assessment principles.

The third study compared 166 middle schools using the VSTAG model to 47 middle schools using either an alternative model or 119 middle schools using no threat assessment approach (Nekvasil & Cornell, 2015). Researchers found that the number of years a school used the VSTAG model was associated with lower long-term suspension rates, lower levels of general victimization, higher student reports of fairer discipline, and higher teacher perceptions of school safety. These results suggest that schools trained in the VSTAG model addressed student conflicts before they escalated into more serious acts of aggression.

In addition to the quasi-experimental studies, a randomized control trial examined 201 student threats in 40 schools (Cornell et al., 2012).

The schools were randomly assigned to use the VSTAG model or to use their existing disciplinary approach without threat assessment. After one year, students in schools assigned to the VSTAG model intervention group were significantly more likely to receive counseling services or a parent conference compared to students in the control group schools. Students in the control group were more likely to receive long-term suspensions or an alternative placement compared to students whose behavior underwent a threat assessment. These results indicate that the VSTAG model guides school authorities to avoid a punitive approach in response to student threats of violence, especially in response to threats that are deemed transient because they lack credible evidence such as warning behaviors. Overall, studies evaluating the VSTAG model found substantial evidence that school adoption of a threat assessment approach can change attitudes of school personnel regarding violence prevention efforts and discipline, promote a more positive school climate, and result in less punitive disciplinary responses for students making threats of violence.

Current Study

In 2013, Virginia became the first state to mandate that all public schools establish threat assessment teams to evaluate “individuals whose behavior may pose a threat to the safety of school staff or students” (*Code of Virginia*, §22.1–79.4; Threat Assessment Teams and Oversight Committees, 2013). Each threat assessment team must include individuals with expertise in law enforcement, counseling, instruction, and school administration. Schools may use any model of threat assessment that is consistent with the state’s basic model policies for threat assessment (Virginia Department of Criminal Justice Services, 2016).

Virginia also required its public schools to report information regarding their 2014–15 threat assessment cases through an annual School Safety Survey. As a result, it was possible to identify schools using the VSTAG model and examine threat characteristics and outcomes associated with transient versus substantive threats.

The current study examined the interrater reliability and criterion validity of the classification of transient and substantive threats by

school teams. To assess interrater reliability, school team classifications were compared to classifications made by research coders. The first research question was, “Is there agreement between research coders and school threat assessment teams in the classification of threats?” It was hypothesized that there would be high agreement between research coders and school teams in their threat classifications.

The second research question was, “How do transient and substantive threats differ in case characteristics and threat outcomes?” Consistent with the VSTAG model, it was hypothesized that school teams would classify a threat as substantive if the student was in middle or high school rather than elementary school, and if it involved possession of a weapon and a higher number of warning behaviors. Because substantive threats are judged to pose a more serious risk of violence, it was hypothesized that school teams were more likely to suspend the student or change his or her placement, and that the students making substantive threats were more likely to be arrested or charged with an offense. Therefore, it was hypothesized that students who made substantive threats were more likely to attempt to carry them out. Support for these hypotheses would provide new evidence for the reliability and validity of the transient/substantive distinction that is foundational to the VSTAG model of threat assessment.

Method

Participants

The sample consisted of 844 threat cases reported by 339 schools including 173 (51%) elementary, 85 (25%) middle, and 81 (24%) high schools. The racial/ethnic breakdown was 453 (54%) White, 225 (27%) Black, 73 (9%) Hispanic, and 94 (11%) other¹ (see Table 1). Students were approximately 75% male and ranged from prekindergarten to the 12th grade. The mean grade was sixth (typically age 11) and the modal grade was fourth (typically age 9).

A subgroup of cases had a written narrative describing 148 threats obtained from 69 (47%) elementary, 44 (30%) middle, and 35 (24%) high schools. The racial/ethnic breakdown of the most serious cases was 86 (55%) White, 42 (27%) Black, 13 (8%) Hispanic, and 15 (10%)

other. The majority of the students were male (76%). Students ranged in grade from kindergarten to 12th grade (mean ~sixth grade, mode fifth grade).

Procedure

Data were obtained from the 2015 School Safety Audit Survey, the online annual survey of schools conducted by the Virginia Department of Criminal Justice Services. The survey is mandated by state law and had 100% participation by Virginia public schools. Of Virginia’s 1,746 public elementary, middle, and high schools, 785 schools reported at least one threat assessment case during the 2014–2015 school year. Among these 785 schools, 339 schools used the VSTAG model to classify their threat cases.

Full primary sample of threat cases. The state survey asked schools to provide specific case details for a maximum of five student threat assessment cases. The majority of schools (82%) had five or fewer cases, and thus could report all of their cases. The maximum was set at five to reduce the reporting burden on schools that had a large number of cases. To obtain a range of cases and avoid schools skewing the sample toward their most serious or their least serious cases, the state survey asked schools with more than five cases to report their most serious case, least serious case, and three most recent cases. The term “most serious” was left for the schools to define and had no fixed criterion because it would depend on the number and kinds of threats in each school. The designation of “serious” on the state survey should not be confused with the distinction between serious and nonserious cases used for research purposes in this study. To protect student identities, no names or other identifying information were collected.

Most serious threat narratives. In the narrative description of the most serious cases, schools were requested to include a description of the threat, who was threatened, the circumstances in which it occurred, reasons why the threat was considered serious, and the actions taken by the threat assessment team. Of the 339 schools using the VSTAG model, 148 schools

¹ The *other race/ethnicity* category included students noted as Asian, mixed race, or unknown.

Table 1
Student Demographics for Transient and Substantive Threats

Student	Transient threats, <i>n</i> = 655 (77.6%)	Substantive threats, <i>n</i> = 189 (22.4%)	Total sample, <i>N</i> = 844 (100%)
Sex			
Male	492 (75.1%)	139 (73.5%)	631 (74.8%)
Female	128 (19.5%)	46 (24.3%)	174 (20.6%)
Unknown	35 (5.3%)	4 (2.1%)	39 (4.6%)
Receiving special education prior to threat			
Yes	217 (33.1%)	74 (39.2%)	291 (34.5%)
No	419 (64.0%)	111 (58.7%)	530 (62.8%)
Unknown	19 (2.9%)	4 (.4%)	23 (2.7%)
Grade			
Prekindergarten	6 (.9%)	0 (.0%)	6 (.7%)
Kindergarten	24 (3.7%)	2 (1.1%)	26 (3.1%)
1st Grade	33 (5.0%)	4 (2.1%)	37 (4.4%)
2nd Grade	62 (9.5%)	8 (4.2%)	70 (8.3%)
3rd Grade	60 (9.2%)	7 (3.7%)	67 (7.9%)
4th Grade	88 (13.4%)	18 (9.5%)	106 (12.6%)
5th Grade	63 (9.6%)	19 (10.1%)	82 (9.7%)
6th Grade	63 (9.6%)	15 (7.9%)	78 (9.2%)
7th Grade	67 (10.2%)	26 (13.8%)	93 (11.0%)
8th Grade	61 (9.3%)	18 (9.5%)	79 (9.4%)
9th Grade	52 (7.9%)	29 (15.3%)	81 (9.6%)
10th Grade	34 (5.2%)	20 (10.6%)	54 (6.4%)
11th Grade	24 (3.7%)	12 (6.3%)	36 (4.3%)
12th Grade	15 (2.3%)	11 (5.8%)	26 (3.1%)
Unknown	3 (.5%)	0 (.0%)	3 (.4%)
Race/ Ethnicity			
Hispanic or Latino	59 (9.0%)	14 (7.4%)	73 (8.6%)
White	349 (53.3%)	104 (55.0%)	453 (53.7%)
African American	169 (25.8%)	56 (29.6%)	225 (26.7%)
Other ^a	79 (12.1%)	15 (7.9%)	94 (11.1%)

^a Other includes Asian, mixed race, and unknown.

submitted a case narrative for their “most serious” cases.² These narratives provided a convenient subsample for closer examination of the transient/substantive distinction, but are not presented as representative of the primary sample.

Coding procedure for threat narratives. Two coders independently examined student characteristics, threat characteristics, and case narratives provided by each school. The researchers removed information from the narratives that revealed the outcome of the threat or responses taken by the threat assessment teams so that it would not influence coding. Prior to examining the 148 narratives in the current study, researchers trained by practice-coding a separate sample of 40 cases. After training, the coders achieved 84% agreement for identifying the presence of warning behaviors and 80% agreement for classifying the threat as transient or substantive.

Measures

Threat characteristics. Critical threat characteristics were identified from a checklist of items, including whether the threat involved homicide, harm to self and others, battery without a weapon, a bomb, or an unspecified kind of threat. Teams reported whether the threat was communicated directly (to the intended target), indirectly (to a third party), or implicitly (implied by behaviors and actions of concern). Teams were asked whether the student threat-

² Because of the overall length of the safety audit survey, the state agency collecting the surveys decided not to follow up with schools that did not submit a case narrative. Among reasons given by school authorities for nonsubmission were that the question was deemed to be too burdensome or that they did not consider any of their cases serious enough to merit a narrative.

ened to use a weapon or had possession of a weapon. If so, then the type of weapon was identified. Types of weapons included firearms, knives, other edged weapons (i.e., scissors, razor blades), blunt objects (i.e., clubs, bats, furniture), or other (i.e., writing utensils, faux guns).

Warning behaviors. Warning behaviors were operationally defined as behavioral markers that indicate a student's increased risk of violence according to research on dynamic risk factors. Consistent with previous research, seven types of warning behaviors were assessed in this study: (a) a history of violence, (b) leakage of violent intentions, (c) involvement of a weapon, (d) preoccupation with violence or the target prior to the threat, (e) recruiting others to participate in the threatened act of violence, (f) preparing for an attack, and (g) other disturbing behaviors (Hoffmann & Roshdi, 2013; Meloy et al., 2012; Monahan & Steadman, 1994; O'Toole, 2000; Singer & Flannery, 2000; Vossekui et al., 2002). All warning behavior variables were coded 0 to 1 except for involvement of a weapon. Possession of a weapon was considered more dangerous than mentioning a weapon, therefore no weapon was coded 0, mention of a weapon was coded 1, and a weapon mentioned and present at school was coded 2. Preparing for an attack involved students completing a dry run by carrying a weapon to school to test the boundaries for disciplinary action or response time of the school administration. Other disturbing behaviors included suicide ideation, auditory/visual hallucinations, or detailed writings related to the threatened attack. The warning behaviors were summed to create a total composite score. Warning behaviors were coded from the narratives and, thus, these analyses were limited to the subgroup of 148 cases.

Threat outcomes. Four kinds of threat outcomes were measured: whether the student (a) attempted to carry out the threat, (b) received disciplinary action, (c) had a placement change, and/or (d) was subjected to legal action. Each threat outcome was coded 1 for yes or 0 for no.

Disciplinary actions included out-of-school suspensions of any duration from 1 to 365 days (although 95% were 1–10 days). Placement changes included transfer to another regular school or an alternative school, homebound instruction, or hospitalization. Legal action involved arrests, court charges, and placements in juvenile detention.

Analytic Strategy

To assess the first research question concerning the interreliability of the transient/substantive distinction, threat classifications for the subsample of 148 case narratives were coded. Cohen's kappa values were used to measure the agreement between school team and the research coder classifications.

The second research question was investigated with six logistic regression analyses that examined the distinction between transient and substantive classifications in threat characteristics, warning behaviors, and four threat outcomes. The first model investigated the association of threat characteristics with a substantive versus transient classification in the primary sample of 844 cases. The second regression model was limited to the subsample of 148 cases with coded warning behaviors. Four additional models investigated the likelihood of classifications resulting in threat outcomes (i.e., threat attempted, suspension, change in placement, legal action) in the primary sample. Results are presented as the commonly used odds ratios (*ORs*), where $OR > 1$ signifies a higher likelihood of a substantive classification or a certain outcome and $OR < 1$ indicates a lower likelihood. All analyses controlled for student demographic variables that included gender, grade level, and race/ethnicity (i.e., White, Black, Hispanic, and other).

Results

Of the 844 cases, schools classified approximately 22% (189 cases) as substantive and 78% (655 cases) as transient threats (see Table 1). Among the subsample of 148 cases with narratives, approximately 60% (89 cases) were classified as substantive and 40% (59 cases) as transient.

For the first research question, the comparison of the school team and research coder classifications of the 148 case narratives resulted in 70% agreement ($\kappa = .53, p < .001$; Table 2). When examining the 32 classification discrepancies, almost all (28 of 32, 88%) of these cases were classified as substantive by the schools and transient by the coders.

Table 2
Classification Discrepancies

School classification	Coder classification		Total
	Transient	Substantive	
Transient	55	4	59
Substantive	28	61	89
Total	83	65	148

Validity of the Transient/Substantive Distinction

The first logistic regression (see Table 3) found that substantive threats were distinguished from transient threats by higher student grade level ($OR = 1.2, p < .001$), expression of homicidal intent ($OR = 2.0, p < .05$), harm to self and others ($OR = 10.0, p < .001$), battery without a weapon ($OR = 2.8, p < .001$), and bomb threat ($OR = 6.9, p < .001$). Substantive threats were also distinguished from transient threats by the mention or possession of a knife or sharp-edged weapon ($OR = 6.6, p < .001$). Of the 87 cases that referenced a knife or sharp-edged weapon, in 30 cases (35%) the student was reported have a weapon in his or her student possession or on school property. Of the 54 cases that involved a firearm, in two cases (4%) a firearm was reported to be in the student's possession or on school

property. The second logistic regression (see Table 4), limited to the 148 cases with narratives, found that substantive threats were distinguished from transient threats by higher student grade level ($OR = 1.2, p < .001$) and a higher number of warning behaviors ($OR = 2.1, p < .001$).

Threat outcomes. All four analyses concerned with threat outcomes were statistically significant (see Table 5). A substantive threat classification was associated with an attempted threat ($OR = 36.3, p < .001$), an out-of-school suspension ($OR = 4.8, p < .001$), a change of school placement ($OR = 9.7, p < .001$), and legal action, ($OR = 15.0, p < .001$). Of the 334 cases resulting in student suspension, 201 cases were classified as transient and 133 cases were deemed substantive. In 21 cases, the student attempted to carry out the threat.

One unanticipated finding was that threats made by Hispanic students were associated with legal action ($OR = 5.3, p < .01$). Inspection of the data revealed that seven (10%) of the 73 cases involving a Hispanic student resulted in legal action. All seven cases were classified as substantive.

Discussion

This study provides new evidence in support of the reliability and validity of the distinction

Table 3
Threat Characteristics in the Transient/Substantive Classification (n = 844)

Predictors	Substantive classification	
	OR	95% CI
Gender ^a	.8	[.51, 1.21]
Grade	1.2***	[1.12, 1.27]
Black ^b	1.2	[.81, 1.88]
Hispanic ^b	.9	[.46, 1.81]
Other ^{b,c}	.7	[.37, 1.46]
Threat of bomb	6.9***	[2.76, 17.32]
Harm to self and others	10.0***	[4.82, 20.80]
Unspecified threat	1.3	[.71, 2.30]
Battery without weapon	2.8***	[1.57, 5.12]
Threat of homicide	2.0*	[1.12, 3.45]
Threat communicated: indirectly ^d	1.0	[.66, 1.53]
Threat communicated: implicitly ^d	.9	[.50, 1.57]
Firearm involved	2.2	[.98, 4.97]
Knife or sharp-edged weapon involved	6.6***	[3.43, 12.77]
Other weapon involved	1.8	[.56, 6.07]

Note. OR = odds ratio; CI = confidence interval.

^a Male is the reference group. ^b White is the reference group. ^c Other includes Asian, mixed race, and unknown. ^d Directly communicated threats is the reference group.

* $p < .05$. *** $p < .001$.

Table 4
Warning Behaviors in the Transient/Substantive Classification (n = 148)

Predictors	Substantive classification	
	OR	95% CI
Gender ^a	.9	[.54, 1.35]
Grade	1.2***	[1.14, 1.29]
Black ^b	.8	[.54, 1.31]
Hispanic ^b	.6	[.27, 1.22]
Other ^{b,c}	.8	[.39, 1.48]
Warning behaviors	2.1***	[1.84, 2.49]

Note. OR = odds ratio; CI = confidence interval.
^a Male is the reference group. ^b White is the reference group. ^c Other includes Asian, mixed race, and unknown.
 *** p < .001.

between transient and substantive threats used in the VSTAG. The interrater reliability of the transient-substantive classification was supported by moderate levels of agreement between research coders and school teams. The validity of the distinction between transient and substantive threats was supported by the pattern of differences in threat characteristics, especially the association of substantive threats with more serious warning behaviors and student characteristics. In addition, substantive threats were more likely to receive disciplinary measures and legal actions than transient threats. Finally, substantive threats were 36 times more likely to be attempted than transient threats. Overall, these findings complement and extend the body of research showing positive outcomes associated with using the VSTAG threat assessment model (Allen et al., 2008; Cornell et al.,

2012; Cornell et al., 2011; Cornell et al., 2009; Cornell et al., 2004; Nekvasil & Cornell, 2015).

Reliability of the Transient/ Substantive Distinction

The percentage agreement between coders and school teams was 70% and the kappa coefficient was .53. Kappa measures the agreement between raters above the level of agreement that could be expected by chance. A kappa value of 0 indicates no agreement greater than what would be expected by chance and a value of 1.00 indicates complete agreement. A kappa value of .53 is comparable to the field trials used to establish diagnoses for the *Diagnostic and Statistical Manual of Mental Disorders* (fifth edition) (American Psychiatric Association, 2013). For example, the kappa levels for schizophrenia and binge eating disorder were considered acceptable within the moderate range 0.40–0.59 (Regier et al., 2013).

The major source of disagreement between research coders and school teams was that teams tended to classify cases as substantive which the coders classified as transient. It is possible that school teams had additional information beyond what was presented in the narratives that may have justified a substantive classification, but a more likely explanation is that the teams tended to use the substantive classification more inclusively. To illustrate the discrepancy between the research coders and the school teams, we present three case examples. These are examples of the kind of errors in classification that we have observed in training

Table 5
Logistic Regression Odds Ratio and Confidence Intervals for Threat Outcomes (N = 844)

Predictors	Attempted threat		Out-of-school suspension		Change in placement		Legal action	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Gender ^a	.5	[.18, 1.37]	1.4	[.96, 2.05]	1.3	[.75, 2.08]	.9	[.34, 2.13]
Grade	.9	[.74, 1.04]	1.1***	[1.06, 1.17]	1.1**	[1.03, 1.18]	1.3**	[1.10, 1.53]
Black ^b	1.2	[.42, 3.14]	1.2	[.84, 1.70]	.9	[.56, 1.48]	1.7	[.66, 4.45]
Hispanic ^{b,c}	—	—	.9	[.51, 1.58]	.7	[.30, 1.61]	5.3**	[1.70, 16.66]
Other ^{b,d}	.7	[.08, 5.36]	.8	[.46, 1.32]	1.7	[.87, 3.34]	1.8	[.45, 7.28]
Substantive threats	36.3***	[8.02, 164.38]	4.8***	[3.30, 6.90]	9.7***	[6.30, 14.78]	15.0***	[5.48, 41.06]

Note. OR = odds ratio; CI = confidence interval.
^a Male is the reference group. ^b White is the reference group. ^c There were no (n = 0) Hispanic cases of an attempted threat to include this variable in this analysis. ^d Other includes Asian, mixed race, and unknown.
 ** p < .01. *** p < .001.

workshops as well. Details of these cases have been deidentified to protect the confidentiality of the students and schools.

In the first case, a first-grade student (age 6) engaged in an argument with her special education teacher and threatened to kill her. Although the teacher was reported to have no concern or fear for her safety, the school team elevated the classification to substantive because the threat was directed toward a teacher and the student had witnessed violence at home in the previous year. Threats toward a teacher might be regarded as a serious disciplinary violation meriting serious consequences; however, such threats do not automatically merit a substantive classification (Cornell & Sheras, 2006). This is a common misperception in training exercises when trainees are asked to classify a case that involved a student shouting threats toward a teacher. Consistent with the VSTAG guidelines, the first-grade student likely threatened to kill her teacher in a moment of anger and had no substantive intention of carrying out the threat. The student's exposure to domestic violence may be a serious concern that merits counseling and might help explain the student's emotional dysregulation, but it does not merit a more serious threat classification. Lastly, the child's special education status could affect her interactions with teachers. Appropriate psychoeducation and behavioral modeling would improve her classroom experience and avoid an overreaction by the school.

The second case involved a sixth-grade student (age 11) with a history of disciplinary referrals. In a counseling session, the student stated that he was going to blow up the school using explosives. Upon further inquiry by the threat assessment team, it was determined that he had no explosives. The team decided that the student did not actually intend to make a bomb, but was expressing frustration and wanted to frighten others; nevertheless, the team decided to classify the threat as substantive because a bomb threat would be highly disruptive to the school and a criminal act. The VSTAG guidelines note that a bomb threat in which there is no bomb and only an intent to be disruptive is a good example of the distinction between threat assessment and disciplinary action (Cornell & Sheras, 2006). A false bomb threat is a serious disciplinary and legal violation, but from a threat assessment perspective, it is a transient

threat that does not pose a serious risk of harm to others.

In the third case example, an eighth-grade student (age 13) with a history of violence outside of school stated that he was a member of Al-Qaeda and a classmate was on his kill list. Several students heard him and reported the statement to a teacher. During an interview with the threat assessment team, the student acknowledged his threat and shared five additional names on his kill list. The boy had no known affiliation with Al-Qaeda and had only a vague idea that it was a terrorist organization. Nevertheless, the team elevated the classification to substantive despite his teacher's belief that the boy had no intention to harm anyone and seemed to be making a threat to evoke a response from his classmates. The VSTAG guidelines indicate that such a threat is likely to be transient, because the student is seeking attention and lacks substantive intent to carry out the threat (Cornell & Sheras, 2006).

The first objective of threat assessment is to determine whether a threat of violence exists. This decision has immediate practical consequences because a serious threat requires protective action to reduce the risk of violence. To achieve this objective, school teams must be able to focus on the seriousness of a threat separately from the seriousness of a school disciplinary infraction. A false bomb threat or a threat directed toward a teacher can be a legal violation or a disciplinary infraction with serious consequences, but not pose a serious threat of violence (Cornell & Sheras, 2006).

Criterion Validity of the Transient/ Substantive Distinction

School teams using the VSTAG model demonstrated consistency in identifying substantive threats by relevant characteristics of a serious threat. The features associated with a substantive threat were consistent with both the VSTAG model and the literature on warning behaviors (Cornell & Sheras, 2006; Meloy et al., 2012). For example, a higher number of warning behaviors was moderately associated with a substantive classification ($OR = 2.1$). Specifically, threats classified as substantive included more warning behaviors, such as history of violence, leakage, use of weapons, and other disturbing behaviors. These findings are consis-

tent with previous studies which found that warning behaviors indicate an individual's increasing risk of violence and are common among adolescent school shooters (Meloy et al., 2012). This study provides one of the few attempts to validate the association between warning behaviors and more serious threats within schools.

There was a strong association between a substantive classification and a threat to harm self as well as others. The presence of suicidal intent understandably raises concern, because it suggests the student is highly distressed, and a student who feels hopeless or desperate might be less inhibited by the risk of punishment (Cornell & Sheras, 2006). We caution, however, that most student threat cases do not involve concomitant threats of self-harm, and the correlation between suicide and threats to harm others is low (Burnette, Huang, Maeng, Datta, & Cornell, 2017, August).

As hypothesized, there was a strong association ($OR = 6.6$) between substantive classification and the possession of knives or other sharp-edged weapons. Unexpectedly, threats by students in possession of a firearm was not a statistically significant predictor of a substantive classification. One explanation may be that there was an insufficient number of substantive cases (13) involving a firearm to generate conclusive results. For example, the majority of threats involving the possession of a weapon were classified as transient because the students did not have access to such weapons and their threats were largely unsubstantiated. One case involved an elementary student who was not in possession of the weapon on school property. Another case involved an elementary student in special education services who threatened to shoot a classmate with his gun, but the threat was deemed transient after the school team confirmed the student did not have access to a firearm at home. In such cases, it is important not to dismiss a threat too quickly, and to consider all available information such as the student's previous behavior, his or her response to the assessment process, and whether the conflict or problem underlying the threat has been resolved.

Lastly, the moderate associations between a substantive classification and a threat of battery without a weapon was not hypothesized but in retrospect makes sense. School teams recognize

that fighting is a relatively common event in school settings (Kann et al., 2016) and so there is an appreciable risk that a threat to fight will be carried out. Although the threat of a shooting is more ominous and demands attention, it is far less likely to be carried out (Nekvasil et al., 2015) than a threat to physically assault someone (Singer & Flannery, 2000).

The transient/substantive distinction is not based on a single factor, and no single characteristic is determinative. Consequently, the significant predictors of a substantive classification should not be interpreted in isolation. Because the majority of student threats are not carried out (Cornell et al., 2004; Nekvasil & Cornell, 2012), threat assessment requires a comprehensive evaluation of the nature and characteristics of the threat, including the student's age, credibility, and previous history of violence and disciplinary referrals (Cornell & Sheras, 2006). For example, a threat should not be classified as substantive simply because a student carries a pocket knife. Although the possession of a knife for any reason is not acceptable in school, for the purposes of threat assessment, schools should be concerned with the student's potential to harm someone. The student might carry a pocket knife as a tool rather than as a weapon, or might have accidentally brought it to school.

The distinction between transient and substantive threats allows school teams to focus their efforts on threats that are considered serious. However, the threat assessment team is concerned with preventing violence as opposed to predicting violence. When schools identify that a threat is serious, they will take actions to prevent it from being carried out; thus it is not feasible to assess the predictive accuracy of the assessment with a conventional scientific design. A rigorous experimental study of prediction is not practical or ethical because it would involve teams taking no intervention so that researchers can observe which threats are carried out.

Threat outcomes. By definition, a threat is classified as substantive because the school team determines that the student might carry out the threat, in accordance with the VSTAG model. Only four threats (.5%) were carried out. Because so few threats were carried out, *attempts* to carry out the threat were examined. The frequency of threats that were attempted was still low (21 cases, approximately 3%), but

was sufficient to detect differences between substantive and transient cases. Our analyses found that substantive threats were much more likely to be attempted ($OR = 36.3$) than transient threats. Specifically, 19 of 189 (10%) substantive cases were attempted compared to two of 655 (.3%) transient cases. This is valuable support for the transient/substantive distinction and suggests that school teams are using the classification appropriately.

As expected, students identified as making substantive threats received more serious consequences. Substantive threats were strongly associated with change in placement ($OR = 9.7$) and legal action ($OR = 15.0$), and moderately associated with out-of-school suspensions ($OR = 4.8$). These findings make sense because school authorities are more likely to conclude that students who pose a more serious threat should be suspended from school and/or moved to a different school placement. Also, law enforcement authorities are more likely to arrest, charge, or incarcerate a student who has made a serious threat than one whose threat is deemed not to be serious. However, there are cases such as a false bomb threat that are not serious as threats, but nonetheless are serious crimes that could result in legal consequences.

Our findings indicate that school teams used the transient/substantive distinction consistent with the VSTAG model to make reasonable and defensible decisions in responding to students who have made threats of violence. Specifically, the VSTAG model's seven-step decision tree aids schools in distinguishing between serious threats and serious disciplinary infractions, and has been shown to reduce the number of long-term suspensions and other punitive actions toward students, such as transferring the student to another school (Cornell et al., 2012; Cornell et al., 2011; Cornell et al., 2009; Nekvasil & Cornell, 2015). As hypothesized, substantive cases were more likely to involve older students, possession of a weapon, and a higher number of warning behaviors. The findings suggest possible patterns in threat characteristics and warning behaviors that are associated with serious and nonserious. Transient and substantive cases also differed in case outcomes and more serious outcomes were implemented for threats classified as substantive, which is consistent with previous research (Cornell et al., 2004). Overall, these results provide evidence

that school teams systematically assessed and managed student threats of violence according to a set of guidelines and decision-tree process described in the VSTAG manual. These findings support the idea that threat assessment can be designed and evaluated as an evidence-based approach using structured professional judgment.

Study Limitations and Directions for Future Research

This was a retrospective study in which survey participants reported on threat cases at the end of the school year. In a prospective study, researchers could record information on threats as the cases unfold in real time to maintain independence of the threat classification and outcome. However, it was not possible to monitor or record case data prospectively. In an ideal study, team members would record their observations and decisions prospectively and the case outcome would be assessed by independent sources. Another limitation is that the assessment of warning behaviors was based on a review of available written narratives and may not have contained all the information relevant to the variables being measured. Nevertheless, this study provides new information regarding the consistency of team decision-making in distinguishing transient from substantive threats.

The current study provides direct empirical support for the transient/substantive distinction based on a large sample of schools that implemented threat assessment as a preventive measure. These schools were not formally conducting research on threat assessment, so these findings represent evidence of effectiveness rather than efficacy. The schools conducted threat assessments in real-world conditions without the benefits of researcher supervision and the controlled conditions found in efficacy studies (Gottfredson et al., 2015). Effectiveness studies often detect lapses in implementation fidelity or quality of program delivery. Although the overall results support the reliability and validity of the transient/substantive distinction, the study identified some problems in the fidelity of VSTAG implementation, described below.

Training implications. The current study uncovered some training needs for threat assessment teams. First, threat assessment training should emphasize that while a threat may be a

serious disciplinary violation, it may not be a serious threat of violence. The tendency for school teams to classify any bomb threat as substantive, regardless of student intent, threat credibility, and other factors, was evident through the strong association ($OR = 6.9$) observed in the first regression model. Even in instances where a threat is especially disruptive or disturbing, accurate threat assessment requires school teams to examine the seriousness of the threat of harm rather than the seriousness of the disciplinary infraction.

A second implication involves school responses to transient threats. In this study, 70.4% (133 of 189 suspensions) of substantive threats resulted in school suspensions compared to 31% (201 of 655 suspensions) of transient threats. Although this finding was consistent with the study hypothesis, nearly a third of transient threats resulted in suspensions. Out-of-school-suspensions are often unwarranted, and are only recommended for the most serious cases (Cornell & Sheras, 2006). School suspension has come under increasing criticism as a disciplinary practice that is associated with school disengagement, academic failure, and school dropout (Morgan, Salomon, Plotkin, & Cohen, 2014; U.S. Department of Education, 2014). Thus, suspension is rarely appropriate for a transient threat. Schools using suspension for transient threats should review their discipline practices.

In summary, this study contributes to an innovative effort to further establish threat assessment as an evidence-based practice for violence prevention. These findings indicate that school-based teams made reliable distinctions between transient and substantive threats, appropriately linking warning behaviors and concerning threat characteristics with substantive threats. The transient-substantive distinction helps schools to respond proportionately to the seriousness of a threat, avoiding overreactions and making limited use of severe consequences such as suspensions, change in school placement, and legal consequences.

References

- Allen, K., Cornell, D., Lorek, E., & Sheras, P. (2008). Response of school personnel to student threat assessment training. *School Effectiveness and School Improvement, 19*, 319–332. <http://dx.doi.org/10.1080/09243450802332184>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- American Psychological Association. (2013). *Gun violence: Prediction, prevention, and policy*. Retrieved from <http://www.apa.org/pubs/info/reports/gun-violence-prevention.aspx>
- Burnette, A. G., Huang, F., Maeng, J., Datta, P., & Cornell, D. (2017, August). *How does threat assessment differ from suicide assessment? State prevalence and case characteristics*. Poster presented at the 2017 American Psychological Association Annual Convention, Washington, DC.
- Cornell, D., Allen, K., & Fan, X. (2012). A randomized controlled study of the Virginia Student Threat Assessment Guidelines in grades K–12. *School Psychology Review, 41*, 100–115.
- Cornell, D., & Datta, P. (2017). Threat assessment and violence prevention. In L. Wilson (Ed.), *The Wiley handbook of the psychology of mass shootings* (pp. 353–371). Hoboken, NY: Wiley.
- Cornell, D., Gregory, A., & Fan, X. (2011). Reductions in long-term suspensions following adoption of the Virginia Student Threat Assessment Guidelines. *Bulletin of the National Association of Secondary School Principals, 95*, 175–194.
- Cornell, D., & Sheras, P. (2006). *Guidelines for responding to student threats of violence*. Longmont, CO: Sopris West.
- Cornell, D., Sheras, P., Gregory, A., & Fan, X. (2009). A retrospective study of school safety conditions in high schools using the Virginia Threat Assessment Guidelines versus alternative approaches. *School Psychology Quarterly, 24*, 119–129. <http://dx.doi.org/10.1037/a0016182>
- Cornell, D. G., Sheras, P. L., Kaplan, S., McConville, D., Douglass, J., Elkon, A., . . . Cole, J. (2004). Guidelines for student threat assessment: Field-test findings. *School Psychology Review, 33*, 527–546.
- Douglas, K. S., & Kropp, P. R. (2002). A prevention-based paradigm for violence risk assessment: Clinical and research applications. *Criminal Justice and Behavior, 29*, 617–658. <http://dx.doi.org/10.1177/009385402236735>
- Fein, R. A., Vossekuil, B., Pollack, W. S., Borum, R., Modzeleski, W., & Reddy, M. (2002). *Threat assessment in schools: A guide to managing threatening situations and creating safe school climates*. Washington, DC: U.S. Department of Education, Office of Elementary and Secondary Education, Safe and Drug-Free Schools Program and U.S. Secret Service, National Threat Assessment Center.
- Gottfredson, D. C., Cook, T. D., Gardner, F. E., Gorman-Smith, D., Howe, G. W., Sandler, I. N., & Zafft, K. M. (2015). Standards of evidence for efficacy, effectiveness, and scale-up research in prevention science: Next generation. *Prevention Science, 16*, 893–926. <http://dx.doi.org/10.1007/s11121-015-0555-x>

- Hart, S. D., & Logan, C. (2011). Formulation of violence risk using evidence-based assessments: The structured professional judgment approach. In P. Sturmey & M. McMurrin (Eds.), *Forensic case formulation* (pp. 83–106). Chichester, United Kingdom: John Wiley and Sons.
- Hoffmann, J., & Roshdi, K. (2013). School shootings in Germany: Research, prevention through risk assessment and threat management. In N. Böckler, T. Seeger, P. Sitzer, & W. Heitmeyer (Eds.), *School shootings* (pp. 363–378). New York, NY: Springer. http://dx.doi.org/10.1007/978-1-4614-5526-4_16
- Kann, L., McManus, T., Harris, W. A., Shanklin, S. L., Flint, K. H., Hawkins, J., . . . Zaza, S. (2016). Youth Risk Behavior Surveillance: United States, 2015. *Morbidity and Mortality Weekly Report*, *65*, 1–174.
- Leuschner, V., Fiedler, N., Schultze, M., Ahlig, N., Göbel, K., Sommer, F., . . . Scheithauer, H. (2017). Prevention of targeted school violence by responding to students' psychosocial crises: The NET-WASS Program. *Child Development*, *88*, 68–82. <http://dx.doi.org/10.1111/cdev.12690>
- Meloy, J. R., Hart, S. D., & Hoffmann, J. (2014). Threat assessment and threat management. In J. R. Meloy & J. Hoffmann (Eds.), *The international handbook of threat assessment* (pp. 3–17). New York, NY: Oxford University Press.
- Meloy, J. R., Hoffmann, J., Guldman, A., & James, D. (2012). The role of warning behaviors in threat assessment: An exploration and suggested typology. *Journal of Behavioral Sciences & the Law*, *30*, 256–279.
- Meloy, J. R., Hoffmann, J., Roshdi, K., Glaz-Ocik, J., & Guldman, A. (2014). Warning behaviors and their configurations across various domains of targeted violence. In J. R. Meloy & J. Hoffmann (Eds.), *The international handbook of threat assessment* (pp. 39–53). New York, NY: Oxford University Press.
- Meloy, J. R., & O'Toole, M. E. (2011). The concept of leakage in threat assessment. *Behavioral Sciences & the Law*, *29*, 513–527. <http://dx.doi.org/10.1002/bsl.986>
- Mohandie, K. (2014). Threat assessment in schools. In J. R. Meloy & J. Hoffmann (Eds.), *The international handbook of threat assessment* (pp. 126–141). New York, NY: Oxford University Press.
- Monahan, J. (2010). The classification of violence risk. In R. Otto & K. Douglas (Eds.), *Handbook of violence risk assessment* (pp. 187–198). New York, NY: Routledge.
- Monahan, J., & Steadman, H. J. (1994). *Violence and mental disorders: Developments in risk assessment*. Chicago, IL: The University of Chicago Press.
- Morgan, E., Salomon, N., Plotkin, M., & Cohen, R. (2014). *The school discipline consensus report: Strategies from the field to keep students engaged in school and out of the juvenile justice system*. New York, NY: Council of State Governments Justice Center.
- National Association of School Psychologists School Safety and Crisis Response Committee. (2014). *Threat assessment for school administrators and crisis teams*. Bethesda, MD: National Association of School Psychologists. Retrieved from <https://www.nasponline.org/resources-and-publications/resources/school-safety-and-crisis/threat-assessment-at-school/threat-assessment-for-school-administrators-and-crisis-teams>
- Nekvasil, E., & Cornell, D. (2012). Student reports of peer threats of violence: Prevalence and outcomes. *Journal of School Violence*, *11*, 357–375. <http://dx.doi.org/10.1080/15388220.2012.706764>
- Nekvasil, E., & Cornell, D. (2015). Student threat assessment associated with positive school climate in middle schools. *Journal of Threat Assessment and Management*, *2*, 98–113. <http://dx.doi.org/10.1037/tam0000038>
- Nekvasil, E., Cornell, D., & Huang, F. (2015). Prevalence and offense characteristics of multiple casualty homicides: Are schools at higher risk than other locations? *Psychology of Violence*, *5*, 236–245. <http://dx.doi.org/10.1037/a0038967>
- Nicholls, T. L., Petersen, K. L., & Pritchard, M. M. (2016). Comparing preferences for actuarial versus structured professional judgment violence risk assessment measures across five continents: To what extent is practice keeping pace with science? In J. P. Singh, S. Bjørkly, & S. Fazel (Eds.), *International perspectives on violence risk assessment* (pp. 127–149). New York, NY: Oxford University Press. <http://dx.doi.org/10.1093/acprof:oso/9780199386291.003.0008>
- O'Toole, M. E. (2000). *The school shooter: A threat assessment perspective*. Quantico, VA: FBI Academy, National Center for Analysis of Violent Crime. Retrieved from <http://www.fbi.gov/stats-services/publications/school-shooter>
- Otto, R. K., & Douglas, K. S. (Eds.). (2011). *Handbook of violence risk assessment*. New York, NY: Routledge.
- Reddy, M., Borum, R., Berglund, J., Vossekuil, B., Fein, R., & Modzeleski, W. (2001). Evaluating risk for targeted violence in schools: Comparing risk assessment, threat assessment, and other approaches. *Psychology in the Schools*, *38*, 157–172. <http://dx.doi.org/10.1002/pits.1007>
- Regier, D. A., Narrow, W. E., Clarke, D. E., Kraemer, H. C., Kuramoto, S. J., Kuhl, E. A., & Kupfer, D. J. (2013). *DSM-5 field trials in the United States and Canada, Part II: Test-retest reliability of selected categorical diagnoses*. *The American*

- Journal of Psychiatry*, 170, 59–70. <http://dx.doi.org/10.1176/appi.ajp.2012.12070999>
- Robers, S., Zhang, A., Morgan, R. E., & Musu-Gillette, L. (2015). *Indicators of School Crime and Safety: 2014* (NCES 2015–072/NCJ 248036). National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs. Washington, DC: U.S. Department of Justice.
- Singer, M. I., & Flannery, D. J. (2000). The relationship between children's threats of violence and violent behaviors. *Archives of Pediatrics & Adolescent Medicine*, 154, 785–790. <http://dx.doi.org/10.1001/archpedi.154.8.785>
- Threat Assessment Teams and Oversight Committees, Va. Code §22.1–79.4. (2013). U.S. Department of Education. (2014). *School climate and discipline*. Retrieved from <http://www2.ed.gov/policy/gen/guid/school-discipline/index.html>
- Virginia Department of Criminal Justice Services. (2016). *Threat assessment in Virginia public schools: Model policies, procedures, and guidelines*. Retrieved from <https://www.dcjs.virginia.gov/virginia-center-school-and-campus-safety/k-12/resources>
- Vossekuil, B., Fein, R., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States*. Washington, DC: U.S. Secret Service and U.S. Department of Education.
- Warren, L. J., Mullen, P. E., Thomas, S. D., Ogloff, J. R., & Burgess, P. M. (2008). Threats to kill: A follow-up study. *Psychological Medicine*, 38, 599–605. <http://dx.doi.org/10.1017/S003329170700181X>

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The Distinction Between Transient and Substantive Student Threats

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Many schools across North America have adopted student threat assessment as a violence prevention strategy. The Virginia Student Threat Assessment Guidelines (VSTAG) is a threat assessment model that emphasizes distinguishing between substantive threats that are serious and transient threats that are not serious. This retrospective study investigated the interrater reliability and criterion-related validity of this distinction in a sample of 844 student threat cases from 339 Virginia public schools. To assess interreliability for the transient versus substantive distinction, research coders independently classified a subsample of 148 narratives, achieving classification agreement with schools of 70% ($\kappa = .53$). Logistic regression analyses examined transient and substantive threat differences in threat characteristics and outcomes. Threats were more likely to be classified as substantive when they included warning behaviors (e.g., history of violence, weapon use, leakage, etc.), were made by older students, mentioned the use of a bomb or a knife, and involved threats to harm self as well as others. Although only 2.5% of threats were attempted, substantive threats were 36 times more likely to be attempted than transient threats. Substantive threats were more likely to result in out-of-school suspension, change in school placement, and/or legal action. Overall, these findings supported the transient/substantive distinction, but indicated some training needs for school teams.

Keywords: threat assessment, transient and substantive distinction, school safety

In response to highly publicized and harrowing school shootings, U.S. government authorities in law enforcement and education recommended the implementation of threat assessment in schools to improve school safety (American Psychological Association, 2013; Fein et al., 2002; National Association of School Psychologists School Safety

and Crisis Response Committee, 2014; O’Toole, 2000). Despite this widespread support, there is a dearth of research on the threat classification process.

Threat assessment is a systematic approach to violence prevention intended to distinguish serious threats, defined as behaviors or communications in which a person poses a threat of violence, from cases in which the threat is not serious (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002) and then to take appropriate prevention steps. Given that threats arise in different contexts and circumstances, they require different management strategies.

How do schools differentiate serious from nonserious threats of violence? This distinction is a critical issue in threat assessment (Cornell & Sheras, 2006; Fein et al., 2002; O’Toole, 2000). One way to address this matter is to evaluate how threat assessment teams classify and manage serious and nonserious threats. Although all threats should be taken seriously for safety purposes (O’Toole, 2000), we use “serious” in this study to mean a threat that has been determined to pose a nontrivial risk of violence because an individual has both the means and intent to carry out the threat. The purpose of this

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study is to examine the Virginia Student Threat Assessment Guidelines (VSTAG) use of the transient-substantive classification to distinguish threats that are serious from those that are not serious.

Prevalence of Threats and Violence in Schools

Student threats of violence are relatively common in schools (Nekvasil & Cornell, 2012). Nekvasil and Cornell (2012) surveyed 3,756 high school students and asked whether another student had threatened to harm them in the past 30 days. Approximately 12% of students reported being threatened. However, 23% of the 451 threatened students regarded the threat as serious, implying that more than three fourths of students thought the threat would not be carried out. In contrast, approximately 9% reported that the threat was carried out. This rate of aggression might seem high in an adult workplace setting, but as summarized below, school surveys find that aggressive behavior is relatively common in an adolescent school setting.

Although student threats usually are not carried out, previous research found a correlation between threats of violence and violent behavior (Nekvasil & Cornell, 2012; Singer & Flannery, 2000; Warren, Mullen, Thomas, Ogloff, & Burgess, 2008). Singer and Flannery (2000) investigated the relationship between students' threats of violence to others and self-reported violent behaviors, and concluded that student threats should not be ignored. Compared to students who did not make a threat to harm others, students who frequently threatened violence were 14 to 23 times more likely to report attacking someone with a knife and 17 times more likely to report shooting at someone. Even students who reported threatening others infrequently were more likely to exhibit violent behaviors when compared to nonthreateners.

The 2015 Youth Risk Behavior Surveillance Survey found that approximately 7.8% of high school students nationwide reported being in a physical fight on school property and 6% had been threatened or injured with a weapon (i.e., gun, knife, or club) on school property (Kann et al., 2016). Within the month preceding the survey, 4.1% of students reported carrying a weapon to school on at least one day.

Although physical altercations and possession of weapons are observed in many schools, lethal acts of violence are rare. The Centers for Disease Control and Prevention reported that 462 violent youth deaths occurred at schools between 1992 and 2012 (Robers, Zhang, Morgan, & Musu-Gillette, 2015). This translates to an average of 23.1 deaths per year and a rate of approximately 0.86 deaths per 100,000 among school-age youth. While this is not a precise calculation, it demonstrates that the risk of homicidal school violence is relatively low. Another study using data from the National Incident-Based Reporting System (Nekvasil, Cornell, & Huang, 2015) similarly found that homicides rarely occurred in schools (0.3% of all homicides) compared to other locations. This perspective is important because the belief that homicidal violence is a likely event can skew the perception of risk in evaluating a potentially dangerous student.

Distinguishing Serious and Nonserious Threats of Violence

Given that threats are commonplace but typically not carried out (Nekvasil & Cornell, 2012), how do school threat assessment teams determine which threats of violence are more likely to result in an attack? Threat assessment authorities have posited that there may be "warning behaviors" or behavioral patterns that indicate a person has serious intent to carry out a threat (Meloy, Hoffmann, Guldman, & James, 2012). Researchers examining incidents of targeted violence within schools as well as in other settings found that most attackers had access to weapons prior to the violent incident and also exhibited leakage, suicidal ideation, and obsession with violence (Hoffmann & Roshdi, 2013; Mohandie, 2014; O'Toole, 2000; Vossekuil et al., 2002). Attackers also tended to demonstrate more warning behaviors as they moved along a pathway to violence (Meloy et al., 2012).

Meloy and O'Toole (2011) defined *leakage* as "the communication to a third party of an intent to do harm to a target" (p. 514). Leakage can occur through oral, written, or social media communications (Meloy & O'Toole, 2011; O'Toole, 2000). Students might intentionally confide in a peer or communicate their violent plans through their journals or social media

pages. In their study of school violence, the U.S. Secret Service and U.S. Department of Education noted that in 81% of the 37 violent incidents reviewed between 1974 and 2000, at least one individual knew the attacker was considering an act of violence before it transpired (Vossekuil et al., 2002). These individuals were most often (93%) friends, classmates, or siblings; only rarely (17%) did the attackers threaten their intended targets directly. Although direct threats to the intended victims are rare, both leakage and direct threats are warning behaviors that can signify that an attacker is moving along a pathway of violence (Hoffmann & Roshdi, 2013; Meloy, Hoffmann, Roshdi, Glaz-Ocik, & Guldemann, 2014). Research in German schools also found that warning behaviors, such as a preoccupation with violent media, acquisition of weapons, and suicide ideation, signal an attacker's escalation along a pathway of violence (Hoffmann & Roshdi, 2013). A German model of threat assessment places primary emphasis on identifying students experiencing a psychosocial crisis that could precipitate violence (Leuschner, Fiedler, Schultze, et al., 2017). This model trains teachers to recognize and report warning signs of violence in their students.

Researchers also found that almost all the attackers (93%) engaged in behaviors that concerned others prior to the incident (Vossekuil et al., 2002). The concerning behaviors of the attackers included the use of weapons (63%), fascination with violence displayed through class assignments or verbal communications (59%), and suicidal ideation (78%). The majority of the attackers had access to weapons prior to the incident (68%) and had a known history of weapon use (63%). Lastly, the investigators found that some attackers had committed a known act of violence prior to the incident (31%) and/or had previously been arrested (27%). Although these concerning behaviors apply to only a subset of the attackers included in the study, many researchers have concluded that a history of violence is the strongest predictor of future violence (Monahan & Steadman, 1994). Overall, the threat assessment literature suggests that warning behaviors raise concern that a threat is serious (Meloy et al., 2012; O'Toole, 2000; Vossekuil et al., 2002).

Distinguishing Threat Assessment From Risk Assessment

Threat assessment has emerged as a specialized form of violence risk assessment that has some important distinguishing features (Cornell & Datta, 2017; Meloy, Hart, & Hoffmann, 2014). A threat assessment is typically conducted to determine whether a person intends to carry out a specific threatened act, usually toward a targeted victim or group, within a relatively short timeframe. In contrast, a violence risk assessment is conducted to determine an individual's potential to perpetrate a violent act during an unspecified, open-ended time period, typically to help decide whether to release an individual from incarceration (Otto & Douglas, 2011) or a mental health facility (Monahan, 2010). Meloy, Hart, and Hoffmann (2014, p. 6) contend that the differences between threat assessment and violence risk assessment are substantial, but "primarily a matter of degree rather than kind." These differences include that threat assessment places more emphasis on dynamic as opposed to static risk factors, makes judgments using idiographic or case-specific factors rather than nomothetic or data-driven rules, and is concerned with risk management instead of prediction of violence.

An increasingly recognized approach to violence risk assessment is structured professional judgment (Nicholls, Petersen, & Pritchard, 2016), which combines elements of clinical judgment and actuarial assessment (Douglas & Kropp, 2002). The structured professional judgment approach uses a decision theory framework to examine an individual's history of violence and relevant risk factors to make inferences about his or her potential for future violence, and to develop appropriate case management strategies (Hart & Logan, 2011). An early work on school threat assessment (Reddy et al., 2001; using the terms *guided professional judgment* and *structured clinical assessment*) cautioned that structured professional judgment is not readily applied in cases where the task is to assess an individual's risk for targeted school violence. The researchers noted that the base rate is very low and there is little empirical research on the risk factors for targeted school violence. They pointed to the behavioral and psychological heterogeneity of school shooters and their diverse motives and circumstances.

They distinguished threat assessment from guided professional judgment by the former's emphasis on a deductive approach to gathering facts about the particular case in question and the need for threat assessment teams to take active steps to manage individuals to reduce risk to the identified target.

Although Reddy and colleagues' analysis identifies key strengths of the threat assessment approach, we respectfully suggest that threat assessment can be conceptualized as involving a form of structured professional judgment. A threat assessment model can be structured to gather information and make decisions in a structured and systematic way, and with sufficient research, it can be guided by a foundation of knowledge and empirical support. Structured professional judgment fundamentally refers to the way in which risk assessment and management decisions are guided by evidence derived from relevant empirical research, and integrated with observations of individual case characteristics and circumstances. There is no reason why threat assessment cannot be tested, evaluated, and improved with empirical research so that it becomes an evidence-based application of structured professional judgment. The current study is intended as a contribution to that goal.

Virginia Student Threat Assessment Guidelines

One model for managing threats in school is the Virginia Student Threat Assessment Guidelines (VSTAG) (Cornell & Sheras, 2006) developed at the University of Virginia. This model integrated recommendations from Federal Bureau of Investigation and Secret Service studies of school shootings (Fein et al., 2002; O'Toole, 2000) with practical advice and field-tested experiences derived from work with a group of Virginia public schools (Cornell & Sheras, 2006). Notably, the VSTAG model provides teams with guidelines to distinguish whether a threat is transient (not serious) or substantive (poses a continuing risk to others). The VSTAG recognizes that all threats should be evaluated, but that, especially in a school setting, threat assessment teams are challenged to avoid overreacting to threats that are not serious and focus their attention on serious threats that merit protective action. The transient/substantive distinc-

tion is designed to help school threat assessment teams make a structured professional judgment to meet this challenge. The transient/substantive distinction requires professional judgment by the school team based on an assessment of all available information about the student and the circumstances of the threat; therefore, it is crucial to assess the reliability and validity of the transient/substantive distinction.

A transient threat is an intentionally broad category intended to encompass all forms of threats that do not reflect a genuine intent to harm others (Cornell & Sheras, 2006). The majority of student threats are transient, and can stem from motives including humor, anger, frustration, or fear (Cornell et al., 2004; Nekvasil & Cornell, 2012). Transient threats include a variety of qualitatively different threats that nevertheless are not serious. Examples of transient threats include a student exclaiming, "I'm gonna kill you" as a joke or as a competitive statement during a game, or a student playfully using his or her fingers to shoot another classmate. Other transient threats are made as an expression of anger that nevertheless do not reflect a serious intent to harm someone, such as a student stating rhetorically, "I'd like to kill that jerk" in anger but not actually possessing an intent or plan to kill anyone (Cornell & Sheras, 2006). Transient threats can differ widely in motive and context, and can be provocative and disruptive; but from the practical perspective of threat assessment, they all represent behaviors that do not reflect a real intent to harm others. The transient/substantive distinction is not based solely on a linguistic analysis of the content of the student's statements, but includes information gathered from other sources. In addition, the team considers the student's response to the assessment and whether he or she is able to explain his or her behavior, retract or clarify the threatening statement, and demonstrate a willingness to rectify the situation, if appropriate. This process is described in the VSTAG manual (Cornell & Sheras, 2006).

If a threat is not deemed transient, then school teams follow the decision tree to classify the threat as substantive. Substantive threats are behaviors or statements that represent a serious risk of harm to others (Cornell & Sheras, 2006). According to the VSTAG model, substantive threats are characterized by qualities that reflect serious intent, such as planning and preparation,

recruitment of accomplices, and acquisition of a weapon. Examples of likely substantive threats include a student threatening “I’ll get you next time” after a fight and refusing mediation for the dispute, or a student who threatens to stab a classmate and is found to have a knife in her backpack.

The distinction between transient and substantive threats is critical to determining appropriate responses and management strategies. The VSTAG model guides school teams in resolving and responding to student threats according to a seven-step decision tree (Cornell & Sheras, 2006). First, school teams evaluate the threat by interviewing witnesses, using the semistructured interview questions outlined in the VSTAG manual. These questions are simple, open-ended inquiries designed to gather specific information on the student’s statements, behaviors, and intentions (e.g., “What happened today when you were at [place of incident]? What exactly did you say? And what exactly did you do? What did you mean when you said or did that?”). Parallel interviews are conducted with the threatened individual, witnesses and other sources of relevant information. Consistent with threat assessment principles, there is an emphasis on gathering factual information from multiple sources and considering contextual and situational factors to determine whether the individual is on a path toward violent action (Reddy et al., 2001). Transient threats are generally resolved with an explanation or apology, and do not require protective action or security efforts. If a school team is unable to resolve the threat or they are unsure about the threat’s status, then the decision tree directs them to respond to the threat as a substantive threat.

All substantive threat responses require protective action, which varies depending on the circumstances of the threat and how the threat might be carried out. At a minimum, protective action typically involves notifying the intended victim and his or her parents, as well as contacting the parents of the student who made the threat. Protective action could also involve increased monitoring or supervision of the threatening student. Depending on the nature and credibility of the threat, substantive threats are further classified as either “serious substantive” or “very serious substantive” threats. Threats involving a simple assault are classified as “serious substantive,” whereas a “very serious sub-

stantive” threat typically involves a threat to kill or a threat to use a lethal weapon or inflict severe injury on someone. The final steps for very serious substantive threats include mental health treatment and disciplinary action, but fewer than 10% of threats merit these actions (Cornell & Sheras, 2006). For example, the school team could remedy the underlying conflict that led to the threat by referring the student for a mental health evaluation and treatment. Threats that are very serious might also require exclusionary disciplinary and law enforcement action to protect the intended targets and reduce the likelihood that the threat will be carried out. The need for such actions is uncommon, but could include suspension from school or a change in school placement. In some of the most serious cases, legal actions such as arrest, court charges, or confinement in juvenile detention center can be warranted.

Evidence for the VSTAG Model

Although the transient-substantive distinction is an important step in the VSTAG model, there is relatively little research on its reliability and validity. The first published study of VSTAG reported the classification of transient and substantive threats in 188 cases collected from 35 schools (Cornell et al., 2004). The majority of cases (70%) were classified as transient and the remaining cases were deemed substantive. Researchers found that the proportion of substantive threats was much higher among middle (41%) and high school students (44%) compared to elementary students (15%). There were no differences in violent outcomes between transient and substantive threats because none of the threats were carried out.

Consistent with the VSTAG training model, school teams responded differently to transient versus substantive threats. Transient threats resulted in more in-school detentions and time-outs (17%) when compared to substantive threats (5%; Cornell et al., 2004). The majority of substantive threats resulted in out-of-school suspensions (80%) compared to transient threats (37%). Three substantive cases resulted in expulsions.

Additional studies found that school personnel trained in the VSTAG model demonstrated a decreased belief that school violence is commonplace, decreased support for a zero tolerance ap-

proach to school discipline, and a decreased propensity to use suspension as a response to student threats (Allen, Cornell, Lorek, & Sheras, 2008; Cornell, Allen, & Fan, 2012). These results were found across school locations (e.g., rural vs. urban) and across school personnel (i.e., school administrators, mental health professionals, and school resource officers).

Three quasi-experimental studies demonstrated a reduction in disciplinary actions and a more supportive school climate in schools using VSTAG. The first study compared 95 high schools using VSTAG to 131 schools using either locally developed threat assessment procedures or 54 using no threat assessment approach (Cornell, Sheras, Gregory, & Fan, 2009). Students in VSTAG model schools reported less bullying in the past month and greater willingness to seek help for bullying and threats of violence. Schools using the VSTAG model had fewer long-term suspensions than the other schools.

The second study trained 23 high schools to implement the VSTAG model, in contrast to a control sample of 26 high schools that continued to use their existing approach to student threats (Cornell, Gregory, & Fan, 2011). Notably, schools trained in the VSTAG model had a 52% decline in long-term suspensions. Schools using the VSTAG model also demonstrated a 79% reduction in bullying infractions, indicative of a more positive school environment. Additionally, school personnel trained in the VSTAG model demonstrated substantially increased knowledge and understanding of threat assessment principles.

The third study compared 166 middle schools using the VSTAG model to 47 middle schools using either an alternative model or 119 middle schools using no threat assessment approach (Nekvasil & Cornell, 2015). Researchers found that the number of years a school used the VSTAG model was associated with lower long-term suspension rates, lower levels of general victimization, higher student reports of fairer discipline, and higher teacher perceptions of school safety. These results suggest that schools trained in the VSTAG model addressed student conflicts before they escalated into more serious acts of aggression.

In addition to the quasi-experimental studies, a randomized control trial examined 201 student threats in 40 schools (Cornell et al., 2012).

The schools were randomly assigned to use the VSTAG model or to use their existing disciplinary approach without threat assessment. After one year, students in schools assigned to the VSTAG model intervention group were significantly more likely to receive counseling services or a parent conference compared to students in the control group schools. Students in the control group were more likely to receive long-term suspensions or an alternative placement compared to students whose behavior underwent a threat assessment. These results indicate that the VSTAG model guides school authorities to avoid a punitive approach in response to student threats of violence, especially in response to threats that are deemed transient because they lack credible evidence such as warning behaviors. Overall, studies evaluating the VSTAG model found substantial evidence that school adoption of a threat assessment approach can change attitudes of school personnel regarding violence prevention efforts and discipline, promote a more positive school climate, and result in less punitive disciplinary responses for students making threats of violence.

Current Study

In 2013, Virginia became the first state to mandate that all public schools establish threat assessment teams to evaluate “individuals whose behavior may pose a threat to the safety of school staff or students” (*Code of Virginia*, §22.1–79.4; Threat Assessment Teams and Oversight Committees, 2013). Each threat assessment team must include individuals with expertise in law enforcement, counseling, instruction, and school administration. Schools may use any model of threat assessment that is consistent with the state’s basic model policies for threat assessment (Virginia Department of Criminal Justice Services, 2016).

Virginia also required its public schools to report information regarding their 2014–15 threat assessment cases through an annual School Safety Survey. As a result, it was possible to identify schools using the VSTAG model and examine threat characteristics and outcomes associated with transient versus substantive threats.

The current study examined the interrater reliability and criterion validity of the classification of transient and substantive threats by

school teams. To assess interrater reliability, school team classifications were compared to classifications made by research coders. The first research question was, “Is there agreement between research coders and school threat assessment teams in the classification of threats?” It was hypothesized that there would be high agreement between research coders and school teams in their threat classifications.

The second research question was, “How do transient and substantive threats differ in case characteristics and threat outcomes?” Consistent with the VSTAG model, it was hypothesized that school teams would classify a threat as substantive if the student was in middle or high school rather than elementary school, and if it involved possession of a weapon and a higher number of warning behaviors. Because substantive threats are judged to pose a more serious risk of violence, it was hypothesized that school teams were more likely to suspend the student or change his or her placement, and that the students making substantive threats were more likely to be arrested or charged with an offense. Therefore, it was hypothesized that students who made substantive threats were more likely to attempt to carry them out. Support for these hypotheses would provide new evidence for the reliability and validity of the transient/substantive distinction that is foundational to the VSTAG model of threat assessment.

Method

Participants

The sample consisted of 844 threat cases reported by 339 schools including 173 (51%) elementary, 85 (25%) middle, and 81 (24%) high schools. The racial/ethnic breakdown was 453 (54%) White, 225 (27%) Black, 73 (9%) Hispanic, and 94 (11%) other¹ (see Table 1). Students were approximately 75% male and ranged from prekindergarten to the 12th grade. The mean grade was sixth (typically age 11) and the modal grade was fourth (typically age 9).

A subgroup of cases had a written narrative describing 148 threats obtained from 69 (47%) elementary, 44 (30%) middle, and 35 (24%) high schools. The racial/ethnic breakdown of the most serious cases was 86 (55%) White, 42 (27%) Black, 13 (8%) Hispanic, and 15 (10%)

other. The majority of the students were male (76%). Students ranged in grade from kindergarten to 12th grade (mean ~sixth grade, mode fifth grade).

Procedure

Data were obtained from the 2015 School Safety Audit Survey, the online annual survey of schools conducted by the Virginia Department of Criminal Justice Services. The survey is mandated by state law and had 100% participation by Virginia public schools. Of Virginia’s 1,746 public elementary, middle, and high schools, 785 schools reported at least one threat assessment case during the 2014–2015 school year. Among these 785 schools, 339 schools used the VSTAG model to classify their threat cases.

Full primary sample of threat cases. The state survey asked schools to provide specific case details for a maximum of five student threat assessment cases. The majority of schools (82%) had five or fewer cases, and thus could report all of their cases. The maximum was set at five to reduce the reporting burden on schools that had a large number of cases. To obtain a range of cases and avoid schools skewing the sample toward their most serious or their least serious cases, the state survey asked schools with more than five cases to report their most serious case, least serious case, and three most recent cases. The term “most serious” was left for the schools to define and had no fixed criterion because it would depend on the number and kinds of threats in each school. The designation of “serious” on the state survey should not be confused with the distinction between serious and nonserious cases used for research purposes in this study. To protect student identities, no names or other identifying information were collected.

Most serious threat narratives. In the narrative description of the most serious cases, schools were requested to include a description of the threat, who was threatened, the circumstances in which it occurred, reasons why the threat was considered serious, and the actions taken by the threat assessment team. Of the 339 schools using the VSTAG model, 148 schools

¹ The *other race/ethnicity* category included students noted as Asian, mixed race, or unknown.

Table 1
Student Demographics for Transient and Substantive Threats

Student	Transient threats, <i>n</i> = 655 (77.6%)	Substantive threats, <i>n</i> = 189 (22.4%)	Total sample, <i>N</i> = 844 (100%)
Sex			
Male	492 (75.1%)	139 (73.5%)	631 (74.8%)
Female	128 (19.5%)	46 (24.3%)	174 (20.6%)
Unknown	35 (5.3%)	4 (2.1%)	39 (4.6%)
Receiving special education prior to threat			
Yes	217 (33.1%)	74 (39.2%)	291 (34.5%)
No	419 (64.0%)	111 (58.7%)	530 (62.8%)
Unknown	19 (2.9%)	4 (.4%)	23 (2.7%)
Grade			
Prekindergarten	6 (.9%)	0 (.0%)	6 (.7%)
Kindergarten	24 (3.7%)	2 (1.1%)	26 (3.1%)
1st Grade	33 (5.0%)	4 (2.1%)	37 (4.4%)
2nd Grade	62 (9.5%)	8 (4.2%)	70 (8.3%)
3rd Grade	60 (9.2%)	7 (3.7%)	67 (7.9%)
4th Grade	88 (13.4%)	18 (9.5%)	106 (12.6%)
5th Grade	63 (9.6%)	19 (10.1%)	82 (9.7%)
6th Grade	63 (9.6%)	15 (7.9%)	78 (9.2%)
7th Grade	67 (10.2%)	26 (13.8%)	93 (11.0%)
8th Grade	61 (9.3%)	18 (9.5%)	79 (9.4%)
9th Grade	52 (7.9%)	29 (15.3%)	81 (9.6%)
10th Grade	34 (5.2%)	20 (10.6%)	54 (6.4%)
11th Grade	24 (3.7%)	12 (6.3%)	36 (4.3%)
12th Grade	15 (2.3%)	11 (5.8%)	26 (3.1%)
Unknown	3 (.5%)	0 (.0%)	3 (.4%)
Race/ Ethnicity			
Hispanic or Latino	59 (9.0%)	14 (7.4%)	73 (8.6%)
White	349 (53.3%)	104 (55.0%)	453 (53.7%)
African American	169 (25.8%)	56 (29.6%)	225 (26.7%)
Other ^a	79 (12.1%)	15 (7.9%)	94 (11.1%)

^a Other includes Asian, mixed race, and unknown.

submitted a case narrative for their “most serious” cases.² These narratives provided a convenient subsample for closer examination of the transient/substantive distinction, but are not presented as representative of the primary sample.

Coding procedure for threat narratives. Two coders independently examined student characteristics, threat characteristics, and case narratives provided by each school. The researchers removed information from the narratives that revealed the outcome of the threat or responses taken by the threat assessment teams so that it would not influence coding. Prior to examining the 148 narratives in the current study, researchers trained by practice-coding a separate sample of 40 cases. After training, the coders achieved 84% agreement for identifying the presence of warning behaviors and 80% agreement for classifying the threat as transient or substantive.

Measures

Threat characteristics. Critical threat characteristics were identified from a checklist of items, including whether the threat involved homicide, harm to self and others, battery without a weapon, a bomb, or an unspecified kind of threat. Teams reported whether the threat was communicated directly (to the intended target), indirectly (to a third party), or implicitly (implied by behaviors and actions of concern). Teams were asked whether the student threat-

² Because of the overall length of the safety audit survey, the state agency collecting the surveys decided not to follow up with schools that did not submit a case narrative. Among reasons given by school authorities for nonsubmission were that the question was deemed to be too burdensome or that they did not consider any of their cases serious enough to merit a narrative.

ened to use a weapon or had possession of a weapon. If so, then the type of weapon was identified. Types of weapons included firearms, knives, other edged weapons (i.e., scissors, razor blades), blunt objects (i.e., clubs, bats, furniture), or other (i.e., writing utensils, faux guns).

Warning behaviors. Warning behaviors were operationally defined as behavioral markers that indicate a student's increased risk of violence according to research on dynamic risk factors. Consistent with previous research, seven types of warning behaviors were assessed in this study: (a) a history of violence, (b) leakage of violent intentions, (c) involvement of a weapon, (d) preoccupation with violence or the target prior to the threat, (e) recruiting others to participate in the threatened act of violence, (f) preparing for an attack, and (g) other disturbing behaviors (Hoffmann & Roshdi, 2013; Meloy et al., 2012; Monahan & Steadman, 1994; O'Toole, 2000; Singer & Flannery, 2000; Vossekuil et al., 2002). All warning behavior variables were coded 0 to 1 except for involvement of a weapon. Possession of a weapon was considered more dangerous than mentioning a weapon, therefore no weapon was coded 0, mention of a weapon was coded 1, and a weapon mentioned and present at school was coded 2. Preparing for an attack involved students completing a dry run by carrying a weapon to school to test the boundaries for disciplinary action or response time of the school administration. Other disturbing behaviors included suicide ideation, auditory/visual hallucinations, or detailed writings related to the threatened attack. The warning behaviors were summed to create a total composite score. Warning behaviors were coded from the narratives and, thus, these analyses were limited to the subgroup of 148 cases.

Threat outcomes. Four kinds of threat outcomes were measured: whether the student (a) attempted to carry out the threat, (b) received disciplinary action, (c) had a placement change, and/or (d) was subjected to legal action. Each threat outcome was coded 1 for yes or 0 for no.

Disciplinary actions included out-of-school suspensions of any duration from 1 to 365 days (although 95% were 1–10 days). Placement changes included transfer to another regular school or an alternative school, homebound instruction, or hospitalization. Legal action involved arrests, court charges, and placements in juvenile detention.

Analytic Strategy

To assess the first research question concerning the interreliability of the transient/substantive distinction, threat classifications for the subsample of 148 case narratives were coded. Cohen's kappa values were used to measure the agreement between school team and the research coder classifications.

The second research question was investigated with six logistic regression analyses that examined the distinction between transient and substantive classifications in threat characteristics, warning behaviors, and four threat outcomes. The first model investigated the association of threat characteristics with a substantive versus transient classification in the primary sample of 844 cases. The second regression model was limited to the subsample of 148 cases with coded warning behaviors. Four additional models investigated the likelihood of classifications resulting in threat outcomes (i.e., threat attempted, suspension, change in placement, legal action) in the primary sample. Results are presented as the commonly used odds ratios (*ORs*), where $OR > 1$ signifies a higher likelihood of a substantive classification or a certain outcome and $OR < 1$ indicates a lower likelihood. All analyses controlled for student demographic variables that included gender, grade level, and race/ethnicity (i.e., White, Black, Hispanic, and other).

Results

Of the 844 cases, schools classified approximately 22% (189 cases) as substantive and 78% (655 cases) as transient threats (see Table 1). Among the subsample of 148 cases with narratives, approximately 60% (89 cases) were classified as substantive and 40% (59 cases) as transient.

For the first research question, the comparison of the school team and research coder classifications of the 148 case narratives resulted in 70% agreement ($\kappa = .53, p < .001$; Table 2). When examining the 32 classification discrepancies, almost all (28 of 32, 88%) of these cases were classified as substantive by the schools and transient by the coders.

Table 2
Classification Discrepancies

School classification	Coder classification		Total
	Transient	Substantive	
Transient	55	4	59
Substantive	28	61	89
Total	83	65	148

Validity of the Transient/Substantive Distinction

The first logistic regression (see Table 3) found that substantive threats were distinguished from transient threats by higher student grade level ($OR = 1.2, p < .001$), expression of homicidal intent ($OR = 2.0, p < .05$), harm to self and others ($OR = 10.0, p < .001$), battery without a weapon ($OR = 2.8, p < .001$), and bomb threat ($OR = 6.9, p < .001$). Substantive threats were also distinguished from transient threats by the mention or possession of a knife or sharp-edged weapon ($OR = 6.6, p < .001$). Of the 87 cases that referenced a knife or sharp-edged weapon, in 30 cases (35%) the student was reported have a weapon in his or her student possession or on school property. Of the 54 cases that involved a firearm, in two cases (4%) a firearm was reported to be in the student's possession or on school

property. The second logistic regression (see Table 4), limited to the 148 cases with narratives, found that substantive threats were distinguished from transient threats by higher student grade level ($OR = 1.2, p < .001$) and a higher number of warning behaviors ($OR = 2.1, p < .001$).

Threat outcomes. All four analyses concerned with threat outcomes were statistically significant (see Table 5). A substantive threat classification was associated with an attempted threat ($OR = 36.3, p < .001$), an out-of-school suspension ($OR = 4.8, p < .001$), a change of school placement ($OR = 9.7, p < .001$), and legal action, ($OR = 15.0, p < .001$). Of the 334 cases resulting in student suspension, 201 cases were classified as transient and 133 cases were deemed substantive. In 21 cases, the student attempted to carry out the threat.

One unanticipated finding was that threats made by Hispanic students were associated with legal action ($OR = 5.3, p < .01$). Inspection of the data revealed that seven (10%) of the 73 cases involving a Hispanic student resulted in legal action. All seven cases were classified as substantive.

Discussion

This study provides new evidence in support of the reliability and validity of the distinction

Table 3
Threat Characteristics in the Transient/Substantive Classification (n = 844)

Predictors	Substantive classification	
	OR	95% CI
Gender ^a	.8	[.51, 1.21]
Grade	1.2***	[1.12, 1.27]
Black ^b	1.2	[.81, 1.88]
Hispanic ^b	.9	[.46, 1.81]
Other ^{b,c}	.7	[.37, 1.46]
Threat of bomb	6.9***	[2.76, 17.32]
Harm to self and others	10.0***	[4.82, 20.80]
Unspecified threat	1.3	[.71, 2.30]
Battery without weapon	2.8***	[1.57, 5.12]
Threat of homicide	2.0*	[1.12, 3.45]
Threat communicated: indirectly ^d	1.0	[.66, 1.53]
Threat communicated: implicitly ^d	.9	[.50, 1.57]
Firearm involved	2.2	[.98, 4.97]
Knife or sharp-edged weapon involved	6.6***	[3.43, 12.77]
Other weapon involved	1.8	[.56, 6.07]

Note. OR = odds ratio; CI = confidence interval.

^a Male is the reference group. ^b White is the reference group. ^c Other includes Asian, mixed race, and unknown. ^d Directly communicated threats is the reference group.

* $p < .05$. *** $p < .001$.

Table 4
Warning Behaviors in the Transient/Substantive Classification (n = 148)

Predictors	Substantive classification	
	OR	95% CI
Gender ^a	.9	[.54, 1.35]
Grade	1.2***	[1.14, 1.29]
Black ^b	.8	[.54, 1.31]
Hispanic ^b	.6	[.27, 1.22]
Other ^{b,c}	.8	[.39, 1.48]
Warning behaviors	2.1***	[1.84, 2.49]

Note. OR = odds ratio; CI = confidence interval.
^a Male is the reference group. ^b White is the reference group. ^c Other includes Asian, mixed race, and unknown.
 *** p < .001.

between transient and substantive threats used in the VSTAG. The interrater reliability of the transient-substantive classification was supported by moderate levels of agreement between research coders and school teams. The validity of the distinction between transient and substantive threats was supported by the pattern of differences in threat characteristics, especially the association of substantive threats with more serious warning behaviors and student characteristics. In addition, substantive threats were more likely to receive disciplinary measures and legal actions than transient threats. Finally, substantive threats were 36 times more likely to be attempted than transient threats. Overall, these findings complement and extend the body of research showing positive outcomes associated with using the VSTAG threat assessment model (Allen et al., 2008; Cornell et al.,

2012; Cornell et al., 2011; Cornell et al., 2009; Cornell et al., 2004; Nekvasil & Cornell, 2015).

Reliability of the Transient/ Substantive Distinction

The percentage agreement between coders and school teams was 70% and the kappa coefficient was .53. Kappa measures the agreement between raters above the level of agreement that could be expected by chance. A kappa value of 0 indicates no agreement greater than what would be expected by chance and a value of 1.00 indicates complete agreement. A kappa value of .53 is comparable to the field trials used to establish diagnoses for the *Diagnostic and Statistical Manual of Mental Disorders* (fifth edition) (American Psychiatric Association, 2013). For example, the kappa levels for schizophrenia and binge eating disorder were considered acceptable within the moderate range 0.40–0.59 (Regier et al., 2013).

The major source of disagreement between research coders and school teams was that teams tended to classify cases as substantive which the coders classified as transient. It is possible that school teams had additional information beyond what was presented in the narratives that may have justified a substantive classification, but a more likely explanation is that the teams tended to use the substantive classification more inclusively. To illustrate the discrepancy between the research coders and the school teams, we present three case examples. These are examples of the kind of errors in classification that we have observed in training

Table 5
Logistic Regression Odds Ratio and Confidence Intervals for Threat Outcomes (N = 844)

Predictors	Attempted threat		Out-of-school suspension		Change in placement		Legal action	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Gender ^a	.5	[.18, 1.37]	1.4	[.96, 2.05]	1.3	[.75, 2.08]	.9	[.34, 2.13]
Grade	.9	[.74, 1.04]	1.1***	[1.06, 1.17]	1.1**	[1.03, 1.18]	1.3**	[1.10, 1.53]
Black ^b	1.2	[.42, 3.14]	1.2	[.84, 1.70]	.9	[.56, 1.48]	1.7	[.66, 4.45]
Hispanic ^{b,c}	—	—	.9	[.51, 1.58]	.7	[.30, 1.61]	5.3**	[1.70, 16.66]
Other ^{b,d}	.7	[.08, 5.36]	.8	[.46, 1.32]	1.7	[.87, 3.34]	1.8	[.45, 7.28]
Substantive threats	36.3***	[8.02, 164.38]	4.8***	[3.30, 6.90]	9.7***	[6.30, 14.78]	15.0***	[5.48, 41.06]

Note. OR = odds ratio; CI = confidence interval.
^a Male is the reference group. ^b White is the reference group. ^c There were no (n = 0) Hispanic cases of an attempted threat to include this variable in this analysis. ^d Other includes Asian, mixed race, and unknown.
 ** p < .01. *** p < .001.

workshops as well. Details of these cases have been deidentified to protect the confidentiality of the students and schools.

In the first case, a first-grade student (age 6) engaged in an argument with her special education teacher and threatened to kill her. Although the teacher was reported to have no concern or fear for her safety, the school team elevated the classification to substantive because the threat was directed toward a teacher and the student had witnessed violence at home in the previous year. Threats toward a teacher might be regarded as a serious disciplinary violation meriting serious consequences; however, such threats do not automatically merit a substantive classification (Cornell & Sheras, 2006). This is a common misperception in training exercises when trainees are asked to classify a case that involved a student shouting threats toward a teacher. Consistent with the VSTAG guidelines, the first-grade student likely threatened to kill her teacher in a moment of anger and had no substantive intention of carrying out the threat. The student's exposure to domestic violence may be a serious concern that merits counseling and might help explain the student's emotional dysregulation, but it does not merit a more serious threat classification. Lastly, the child's special education status could affect her interactions with teachers. Appropriate psychoeducation and behavioral modeling would improve her classroom experience and avoid an overreaction by the school.

The second case involved a sixth-grade student (age 11) with a history of disciplinary referrals. In a counseling session, the student stated that he was going to blow up the school using explosives. Upon further inquiry by the threat assessment team, it was determined that he had no explosives. The team decided that the student did not actually intend to make a bomb, but was expressing frustration and wanted to frighten others; nevertheless, the team decided to classify the threat as substantive because a bomb threat would be highly disruptive to the school and a criminal act. The VSTAG guidelines note that a bomb threat in which there is no bomb and only an intent to be disruptive is a good example of the distinction between threat assessment and disciplinary action (Cornell & Sheras, 2006). A false bomb threat is a serious disciplinary and legal violation, but from a threat assessment perspective, it is a transient

threat that does not pose a serious risk of harm to others.

In the third case example, an eighth-grade student (age 13) with a history of violence outside of school stated that he was a member of Al-Qaeda and a classmate was on his kill list. Several students heard him and reported the statement to a teacher. During an interview with the threat assessment team, the student acknowledged his threat and shared five additional names on his kill list. The boy had no known affiliation with Al-Qaeda and had only a vague idea that it was a terrorist organization. Nevertheless, the team elevated the classification to substantive despite his teacher's belief that the boy had no intention to harm anyone and seemed to be making a threat to evoke a response from his classmates. The VSTAG guidelines indicate that such a threat is likely to be transient, because the student is seeking attention and lacks substantive intent to carry out the threat (Cornell & Sheras, 2006).

The first objective of threat assessment is to determine whether a threat of violence exists. This decision has immediate practical consequences because a serious threat requires protective action to reduce the risk of violence. To achieve this objective, school teams must be able to focus on the seriousness of a threat separately from the seriousness of a school disciplinary infraction. A false bomb threat or a threat directed toward a teacher can be a legal violation or a disciplinary infraction with serious consequences, but not pose a serious threat of violence (Cornell & Sheras, 2006).

Criterion Validity of the Transient/ Substantive Distinction

School teams using the VSTAG model demonstrated consistency in identifying substantive threats by relevant characteristics of a serious threat. The features associated with a substantive threat were consistent with both the VSTAG model and the literature on warning behaviors (Cornell & Sheras, 2006; Meloy et al., 2012). For example, a higher number of warning behaviors was moderately associated with a substantive classification ($OR = 2.1$). Specifically, threats classified as substantive included more warning behaviors, such as history of violence, leakage, use of weapons, and other disturbing behaviors. These findings are consis-

tent with previous studies which found that warning behaviors indicate an individual's increasing risk of violence and are common among adolescent school shooters (Meloy et al., 2012). This study provides one of the few attempts to validate the association between warning behaviors and more serious threats within schools.

There was a strong association between a substantive classification and a threat to harm self as well as others. The presence of suicidal intent understandably raises concern, because it suggests the student is highly distressed, and a student who feels hopeless or desperate might be less inhibited by the risk of punishment (Cornell & Sheras, 2006). We caution, however, that most student threat cases do not involve concomitant threats of self-harm, and the correlation between suicide and threats to harm others is low (Burnette, Huang, Maeng, Datta, & Cornell, 2017, August).

As hypothesized, there was a strong association ($OR = 6.6$) between substantive classification and the possession of knives or other sharp-edged weapons. Unexpectedly, threats by students in possession of a firearm was not a statistically significant predictor of a substantive classification. One explanation may be that there was an insufficient number of substantive cases (13) involving a firearm to generate conclusive results. For example, the majority of threats involving the possession of a weapon were classified as transient because the students did not have access to such weapons and their threats were largely unsubstantiated. One case involved an elementary student who was not in possession of the weapon on school property. Another case involved an elementary student in special education services who threatened to shoot a classmate with his gun, but the threat was deemed transient after the school team confirmed the student did not have access to a firearm at home. In such cases, it is important not to dismiss a threat too quickly, and to consider all available information such as the student's previous behavior, his or her response to the assessment process, and whether the conflict or problem underlying the threat has been resolved.

Lastly, the moderate associations between a substantive classification and a threat of battery without a weapon was not hypothesized but in retrospect makes sense. School teams recognize

that fighting is a relatively common event in school settings (Kann et al., 2016) and so there is an appreciable risk that a threat to fight will be carried out. Although the threat of a shooting is more ominous and demands attention, it is far less likely to be carried out (Nekvasil et al., 2015) than a threat to physically assault someone (Singer & Flannery, 2000).

The transient/substantive distinction is not based on a single factor, and no single characteristic is determinative. Consequently, the significant predictors of a substantive classification should not be interpreted in isolation. Because the majority of student threats are not carried out (Cornell et al., 2004; Nekvasil & Cornell, 2012), threat assessment requires a comprehensive evaluation of the nature and characteristics of the threat, including the student's age, credibility, and previous history of violence and disciplinary referrals (Cornell & Sheras, 2006). For example, a threat should not be classified as substantive simply because a student carries a pocket knife. Although the possession of a knife for any reason is not acceptable in school, for the purposes of threat assessment, schools should be concerned with the student's potential to harm someone. The student might carry a pocket knife as a tool rather than as a weapon, or might have accidentally brought it to school.

The distinction between transient and substantive threats allows school teams to focus their efforts on threats that are considered serious. However, the threat assessment team is concerned with preventing violence as opposed to predicting violence. When schools identify that a threat is serious, they will take actions to prevent it from being carried out; thus it is not feasible to assess the predictive accuracy of the assessment with a conventional scientific design. A rigorous experimental study of prediction is not practical or ethical because it would involve teams taking no intervention so that researchers can observe which threats are carried out.

Threat outcomes. By definition, a threat is classified as substantive because the school team determines that the student might carry out the threat, in accordance with the VSTAG model. Only four threats (.5%) were carried out. Because so few threats were carried out, *attempts* to carry out the threat were examined. The frequency of threats that were attempted was still low (21 cases, approximately 3%), but

was sufficient to detect differences between substantive and transient cases. Our analyses found that substantive threats were much more likely to be attempted ($OR = 36.3$) than transient threats. Specifically, 19 of 189 (10%) substantive cases were attempted compared to two of 655 (.3%) transient cases. This is valuable support for the transient/substantive distinction and suggests that school teams are using the classification appropriately.

As expected, students identified as making substantive threats received more serious consequences. Substantive threats were strongly associated with change in placement ($OR = 9.7$) and legal action ($OR = 15.0$), and moderately associated with out-of-school suspensions ($OR = 4.8$). These findings make sense because school authorities are more likely to conclude that students who pose a more serious threat should be suspended from school and/or moved to a different school placement. Also, law enforcement authorities are more likely to arrest, charge, or incarcerate a student who has made a serious threat than one whose threat is deemed not to be serious. However, there are cases such as a false bomb threat that are not serious as threats, but nonetheless are serious crimes that could result in legal consequences.

Our findings indicate that school teams used the transient/substantive distinction consistent with the VSTAG model to make reasonable and defensible decisions in responding to students who have made threats of violence. Specifically, the VSTAG model's seven-step decision tree aids schools in distinguishing between serious threats and serious disciplinary infractions, and has been shown to reduce the number of long-term suspensions and other punitive actions toward students, such as transferring the student to another school (Cornell et al., 2012; Cornell et al., 2011; Cornell et al., 2009; Nekvasil & Cornell, 2015). As hypothesized, substantive cases were more likely to involve older students, possession of a weapon, and a higher number of warning behaviors. The findings suggest possible patterns in threat characteristics and warning behaviors that are associated with serious and nonserious. Transient and substantive cases also differed in case outcomes and more serious outcomes were implemented for threats classified as substantive, which is consistent with previous research (Cornell et al., 2004). Overall, these results provide evidence

that school teams systematically assessed and managed student threats of violence according to a set of guidelines and decision-tree process described in the VSTAG manual. These findings support the idea that threat assessment can be designed and evaluated as an evidence-based approach using structured professional judgment.

Study Limitations and Directions for Future Research

This was a retrospective study in which survey participants reported on threat cases at the end of the school year. In a prospective study, researchers could record information on threats as the cases unfold in real time to maintain independence of the threat classification and outcome. However, it was not possible to monitor or record case data prospectively. In an ideal study, team members would record their observations and decisions prospectively and the case outcome would be assessed by independent sources. Another limitation is that the assessment of warning behaviors was based on a review of available written narratives and may not have contained all the information relevant to the variables being measured. Nevertheless, this study provides new information regarding the consistency of team decision-making in distinguishing transient from substantive threats.

The current study provides direct empirical support for the transient/substantive distinction based on a large sample of schools that implemented threat assessment as a preventive measure. These schools were not formally conducting research on threat assessment, so these findings represent evidence of effectiveness rather than efficacy. The schools conducted threat assessments in real-world conditions without the benefits of researcher supervision and the controlled conditions found in efficacy studies (Gottfredson et al., 2015). Effectiveness studies often detect lapses in implementation fidelity or quality of program delivery. Although the overall results support the reliability and validity of the transient/substantive distinction, the study identified some problems in the fidelity of VSTAG implementation, described below.

Training implications. The current study uncovered some training needs for threat assessment teams. First, threat assessment training should emphasize that while a threat may be a

serious disciplinary violation, it may not be a serious threat of violence. The tendency for school teams to classify any bomb threat as substantive, regardless of student intent, threat credibility, and other factors, was evident through the strong association ($OR = 6.9$) observed in the first regression model. Even in instances where a threat is especially disruptive or disturbing, accurate threat assessment requires school teams to examine the seriousness of the threat of harm rather than the seriousness of the disciplinary infraction.

A second implication involves school responses to transient threats. In this study, 70.4% (133 of 189 suspensions) of substantive threats resulted in school suspensions compared to 31% (201 of 655 suspensions) of transient threats. Although this finding was consistent with the study hypothesis, nearly a third of transient threats resulted in suspensions. Out-of-school-suspensions are often unwarranted, and are only recommended for the most serious cases (Cornell & Sheras, 2006). School suspension has come under increasing criticism as a disciplinary practice that is associated with school disengagement, academic failure, and school dropout (Morgan, Salomon, Plotkin, & Cohen, 2014; U.S. Department of Education, 2014). Thus, suspension is rarely appropriate for a transient threat. Schools using suspension for transient threats should review their discipline practices.

In summary, this study contributes to an innovative effort to further establish threat assessment as an evidence-based practice for violence prevention. These findings indicate that school-based teams made reliable distinctions between transient and substantive threats, appropriately linking warning behaviors and concerning threat characteristics with substantive threats. The transient-substantive distinction helps schools to respond proportionately to the seriousness of a threat, avoiding overreactions and making limited use of severe consequences such as suspensions, change in school placement, and legal consequences.

References

- Allen, K., Cornell, D., Lorek, E., & Sheras, P. (2008). Response of school personnel to student threat assessment training. *School Effectiveness and School Improvement, 19*, 319–332. <http://dx.doi.org/10.1080/09243450802332184>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- American Psychological Association. (2013). *Gun violence: Prediction, prevention, and policy*. Retrieved from <http://www.apa.org/pubs/info/reports/gun-violence-prevention.aspx>
- Burnette, A. G., Huang, F., Maeng, J., Datta, P., & Cornell, D. (2017, August). *How does threat assessment differ from suicide assessment? State prevalence and case characteristics*. Poster presented at the 2017 American Psychological Association Annual Convention, Washington, DC.
- Cornell, D., Allen, K., & Fan, X. (2012). A randomized controlled study of the Virginia Student Threat Assessment Guidelines in grades K–12. *School Psychology Review, 41*, 100–115.
- Cornell, D., & Datta, P. (2017). Threat assessment and violence prevention. In L. Wilson (Ed.), *The Wiley handbook of the psychology of mass shootings* (pp. 353–371). Hoboken, NY: Wiley.
- Cornell, D., Gregory, A., & Fan, X. (2011). Reductions in long-term suspensions following adoption of the Virginia Student Threat Assessment Guidelines. *Bulletin of the National Association of Secondary School Principals, 95*, 175–194.
- Cornell, D., & Sheras, P. (2006). *Guidelines for responding to student threats of violence*. Longmont, CO: Sopris West.
- Cornell, D., Sheras, P., Gregory, A., & Fan, X. (2009). A retrospective study of school safety conditions in high schools using the Virginia Threat Assessment Guidelines versus alternative approaches. *School Psychology Quarterly, 24*, 119–129. <http://dx.doi.org/10.1037/a0016182>
- Cornell, D. G., Sheras, P. L., Kaplan, S., McConville, D., Douglass, J., Elkon, A., . . . Cole, J. (2004). Guidelines for student threat assessment: Field-test findings. *School Psychology Review, 33*, 527–546.
- Douglas, K. S., & Kropp, P. R. (2002). A prevention-based paradigm for violence risk assessment: Clinical and research applications. *Criminal Justice and Behavior, 29*, 617–658. <http://dx.doi.org/10.1177/009385402236735>
- Fein, R. A., Vossekuil, B., Pollack, W. S., Borum, R., Modzeleski, W., & Reddy, M. (2002). *Threat assessment in schools: A guide to managing threatening situations and creating safe school climates*. Washington, DC: U.S. Department of Education, Office of Elementary and Secondary Education, Safe and Drug-Free Schools Program and U.S. Secret Service, National Threat Assessment Center.
- Gottfredson, D. C., Cook, T. D., Gardner, F. E., Gorman-Smith, D., Howe, G. W., Sandler, I. N., & Zafft, K. M. (2015). Standards of evidence for efficacy, effectiveness, and scale-up research in prevention science: Next generation. *Prevention Science, 16*, 893–926. <http://dx.doi.org/10.1007/s11121-015-0555-x>

- Hart, S. D., & Logan, C. (2011). Formulation of violence risk using evidence-based assessments: The structured professional judgment approach. In P. Sturmey & M. McMurrin (Eds.), *Forensic case formulation* (pp. 83–106). Chichester, United Kingdom: John Wiley and Sons.
- Hoffmann, J., & Roshdi, K. (2013). School shootings in Germany: Research, prevention through risk assessment and threat management. In N. Böckler, T. Seeger, P. Sitzer, & W. Heitmeyer (Eds.), *School shootings* (pp. 363–378). New York, NY: Springer. http://dx.doi.org/10.1007/978-1-4614-5526-4_16
- Kann, L., McManus, T., Harris, W. A., Shanklin, S. L., Flint, K. H., Hawkins, J., . . . Zaza, S. (2016). Youth Risk Behavior Surveillance: United States, 2015. *Morbidity and Mortality Weekly Report*, *65*, 1–174.
- Leuschner, V., Fiedler, N., Schultze, M., Ahlig, N., Göbel, K., Sommer, F., . . . Scheithauer, H. (2017). Prevention of targeted school violence by responding to students' psychosocial crises: The NET-WASS Program. *Child Development*, *88*, 68–82. <http://dx.doi.org/10.1111/cdev.12690>
- Meloy, J. R., Hart, S. D., & Hoffmann, J. (2014). Threat assessment and threat management. In J. R. Meloy & J. Hoffmann (Eds.), *The international handbook of threat assessment* (pp. 3–17). New York, NY: Oxford University Press.
- Meloy, J. R., Hoffmann, J., Guldman, A., & James, D. (2012). The role of warning behaviors in threat assessment: An exploration and suggested typology. *Journal of Behavioral Sciences & the Law*, *30*, 256–279.
- Meloy, J. R., Hoffmann, J., Roshdi, K., Glaz-Ocik, J., & Guldman, A. (2014). Warning behaviors and their configurations across various domains of targeted violence. In J. R. Meloy & J. Hoffmann (Eds.), *The international handbook of threat assessment* (pp. 39–53). New York, NY: Oxford University Press.
- Meloy, J. R., & O'Toole, M. E. (2011). The concept of leakage in threat assessment. *Behavioral Sciences & the Law*, *29*, 513–527. <http://dx.doi.org/10.1002/bsl.986>
- Mohandie, K. (2014). Threat assessment in schools. In J. R. Meloy & J. Hoffmann (Eds.), *The international handbook of threat assessment* (pp. 126–141). New York, NY: Oxford University Press.
- Monahan, J. (2010). The classification of violence risk. In R. Otto & K. Douglas (Eds.), *Handbook of violence risk assessment* (pp. 187–198). New York, NY: Routledge.
- Monahan, J., & Steadman, H. J. (1994). *Violence and mental disorders: Developments in risk assessment*. Chicago, IL: The University of Chicago Press.
- Morgan, E., Salomon, N., Plotkin, M., & Cohen, R. (2014). *The school discipline consensus report: Strategies from the field to keep students engaged in school and out of the juvenile justice system*. New York, NY: Council of State Governments Justice Center.
- National Association of School Psychologists School Safety and Crisis Response Committee. (2014). *Threat assessment for school administrators and crisis teams*. Bethesda, MD: National Association of School Psychologists. Retrieved from <https://www.nasponline.org/resources-and-publications/resources/school-safety-and-crisis/threat-assessment-at-school/threat-assessment-for-school-administrators-and-crisis-teams>
- Nekvasil, E., & Cornell, D. (2012). Student reports of peer threats of violence: Prevalence and outcomes. *Journal of School Violence*, *11*, 357–375. <http://dx.doi.org/10.1080/15388220.2012.706764>
- Nekvasil, E., & Cornell, D. (2015). Student threat assessment associated with positive school climate in middle schools. *Journal of Threat Assessment and Management*, *2*, 98–113. <http://dx.doi.org/10.1037/tam0000038>
- Nekvasil, E., Cornell, D., & Huang, F. (2015). Prevalence and offense characteristics of multiple casualty homicides: Are schools at higher risk than other locations? *Psychology of Violence*, *5*, 236–245. <http://dx.doi.org/10.1037/a0038967>
- Nicholls, T. L., Petersen, K. L., & Pritchard, M. M. (2016). Comparing preferences for actuarial versus structured professional judgment violence risk assessment measures across five continents: To what extent is practice keeping pace with science? In J. P. Singh, S. Bjørkly, & S. Fazel (Eds.), *International perspectives on violence risk assessment* (pp. 127–149). New York, NY: Oxford University Press. <http://dx.doi.org/10.1093/acprof:oso/9780199386291.003.0008>
- O'Toole, M. E. (2000). *The school shooter: A threat assessment perspective*. Quantico, VA: FBI Academy, National Center for Analysis of Violent Crime. Retrieved from <http://www.fbi.gov/stats-services/publications/school-shooter>
- Otto, R. K., & Douglas, K. S. (Eds.). (2011). *Handbook of violence risk assessment*. New York, NY: Routledge.
- Reddy, M., Borum, R., Berglund, J., Vossekuil, B., Fein, R., & Modzeleski, W. (2001). Evaluating risk for targeted violence in schools: Comparing risk assessment, threat assessment, and other approaches. *Psychology in the Schools*, *38*, 157–172. <http://dx.doi.org/10.1002/pits.1007>
- Regier, D. A., Narrow, W. E., Clarke, D. E., Kraemer, H. C., Kuramoto, S. J., Kuhl, E. A., & Kupfer, D. J. (2013). DSM–5 field trials in the United States and Canada, Part II: Test-retest reliability of selected categorical diagnoses. *The American*

- Journal of Psychiatry*, 170, 59–70. <http://dx.doi.org/10.1176/appi.ajp.2012.12070999>
- Robers, S., Zhang, A., Morgan, R. E., & Musu-Gillette, L. (2015). *Indicators of School Crime and Safety: 2014* (NCES 2015–072/NCJ 248036). National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs. Washington, DC: U.S. Department of Justice.
- Singer, M. I., & Flannery, D. J. (2000). The relationship between children's threats of violence and violent behaviors. *Archives of Pediatrics & Adolescent Medicine*, 154, 785–790. <http://dx.doi.org/10.1001/archpedi.154.8.785>
- Threat Assessment Teams and Oversight Committees, Va. Code §22.1–79.4. (2013). U.S. Department of Education. (2014). *School climate and discipline*. Retrieved from <http://www2.ed.gov/policy/gen/guid/school-discipline/index.html>
- Virginia Department of Criminal Justice Services. (2016). *Threat assessment in Virginia public schools: Model policies, procedures, and guidelines*. Retrieved from <https://www.dcjs.virginia.gov/virginia-center-school-and-campus-safety/k-12/resources>
- Vossekuil, B., Fein, R., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States*. Washington, DC: U.S. Secret Service and U.S. Department of Education.
- Warren, L. J., Mullen, P. E., Thomas, S. D., Ogloff, J. R., & Burgess, P. M. (2008). Threats to kill: A follow-up study. *Psychological Medicine*, 38, 599–605. <http://dx.doi.org/10.1017/S003329170700181X>

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