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Google It

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Research Article

Google It: A Component Analysis of Free Online Violent Threat Assessment Tools for Schools

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Although school-based youth homicides and student fear of attack or harm at school have slowly decreased over the past two decades (Musu-Gillette et al., 2018), students are not free from worry; violence is still present in schools. School violence refers to acts of physical force, harm, or power that occur on school grounds or at school events (Centers for Disease Control and Prevention [CDC], 2017; World Health Organization, 2002). School violence is manifested over a vast continuum, encompassing incidents ranging from bullying and physical fighting to weapon use, bombings, and mass attacks among students (CDC, 2017). While bullying and fighting are much more likely to occur in schools, the nation at large appears to demonstrate greater concern and worry for more unlikely events, such as school shootings (Juvonen, 2001). Because of the mounting evidence related to wide-reaching effects of school violence (Crawford & Burns, 2016; Peguero, Connell, & Hong, 2016), threat assessment efforts to identify serious threats and prevent unnecessary harm are more needed than ever. Educational agencies that are underfunded, lack needed training, and may be geographically isolated, like rural schools, may turn to the internet for free or low-cost resources to retrieve the information and materials that they need to keep students and communities safe. The present study compares extant open-access violence threat assessment measures to Cornell's (2018a) Comprehensive School Threat Assessment Guidelines (CSTAG) to examine the relative quality of existing resources that are available online for rural and underserved school districts.

What Constitutes a "Real" Threat of Violence?

School violence is not simply a problem related to gun access and urban locale. All schools need proactive ways to address potential threats of violence or other actions that may indicate an escalation in harmful behavior among students. Before being able to prevent and, if necessary, intervene with students who pose a threat, reasonable measures to understand the relative risks of threat are essential. Large sample size, variable-based studies that explore risk factors, coupled with profiles of previous school shooters in the form of psychological autopsies are helpful in understanding school violence, but are not sufficient or even effective in all cases (Hall, Bertuccio, Mazer, & Tawiah, 2018). Tools with clear protocols and ways of quantifying risk with procedures for how to deal with various levels of risk are the most helpful for school-based professionals.

Since the twentieth century, the United States has engaged in several efforts to prevent targeted acts of violence in schools. Given the nation's disproportionate fears in response to highly publicized acts of terror, many strategies for decreasing or eliminating school violence were quite extreme (Borum, Cornell, Modzeleski, & Jimerson, 2010). Radical approaches such as zero tolerance policies, profiling, and school choice initiatives were thought to create the necessary changes to eliminate violence. However, these approaches were ultimately deemed controversial, legally questionable, or ineffective (Borum et al., 2010). Instead, it is recommended that schools prevent violence via a threat assessment approach (Borum et al., 2010; Cornell, 2018a; Marjory Stoneman Douglas High School Public Safety Commission, 2019; O'Toole, 2000). According to Cornell (2018a), *threat assessment* refers to an evaluation of a threat of targeted violence. The purpose of threat assessment is to problem-solve and determine whether statements of threat or threatening behavior are likely to endanger the lives of students, personnel, or community members (Cornell, 2018a). The threat assessment approach is a method of identifying whether students actually pose a threat by distinguishing non-serious or "transient" threats from

serious or "substantive" threats (Borum et al., 2010; Cornell, 2018a; O'Toole, 2000). Moreover, rather than placing focus on how to respond to acts of targeted violence as they appear, threat assessment procedures seek to address problems when they are first expressed, before they escalate.

Addressing threats of violence can be daunting for even the most seasoned professionals; thus, the use of clear protocols with empirical support is helpful to guide the student support personnel that are responsible for managing threatening behaviors in schools. Cornell and his team have developed and implemented the Virginia Threat Assessment Model for two decades across many public schools (Cornell, Sheras, Gregory, & Fan, 2009). The model includes procedures for examining level of threat including what was reported in the threat, information from witnesses, motivation for the threat, and risk factors to determine a level of threat and next steps to manage the threat. Mitchell and Palk (2016) noted a general lack of empirical support in their review of threat assessment methods, but progress has been made in terms of establishing comparisons between those schools that have used the Virginia Threat Assessment Model and those that have used other methods (either locally constructed or otherwise; Cornell 2018b).

In a retrospective study of over 300 schools who either used the Virginia Threat Assessment Model, another threat assessment model, or who had no threat assessment protocol, Cornell and colleagues (2009) found that schools who implemented a threat assessment model had students who reported a better school climate and less bullying. Schools that used the Virginia Threat Assessment Model had fewer long-term suspensions than schools who used another or no threat assessment model. Less bullying and teasing, a feeling of being respected by personnel in schools, and a sense that students could ask for help were all reported by those students in schools who used the Virginia Threat Assessment Model (Cornell et al., 2009), compared to other models. Because of the extensive use, study, and large scale implementation (i.e., thousands of schools in the United States and Canada [Virginia Youth Violence Project, n.d.]) of the Virginia Threat Assessment Model, the present investigation used the most current version of this model (i.e., the CSTAG; Cornell, 2018a) as the referent for evidence-based practices for threat assessment in the component analysis.

The CSTAG model is a comprehensive model that allows for ease of decision-making in violent threat assessment (Cornell, 2018a). Specifically, the model includes an emphasis on both disciplinary action and mental health supports and evaluation to support students who make violent threats. The CSTAG model includes a decision tree that helps to delineate what to do in the process and provides steps to follow for transient and substantive threats. Interview protocols with clear instructions about what to ask, what to document, and how to follow up with reintegration (e.g., return to school); notification of parents and law enforcement; and discipline are all included. Overall, the strengths of the model are that it not only demonstrates that it is scalable, given the adoption at the state-wide level in Virginia (Cornell et al., 2018), but also that it is user-friendly and provides clear guidance.

Rural Schools and Online Resources

According to Woitaszewki, Crepeau-Hobson, Connolly, and Cruz (2018), schools likely do not have the necessary tools or resources for addressing student threats of violence. This issue may be further compounded in more remote or rural locations that face unique barriers, given that school psychologists and counselors are often in limited numbers (Clopton & Knesting, 2006), or are likely the only practitioner in their small district. The challenges faced by rural schools have been well-documented in terms of retaining teachers, geographic isolation, lack of resources, and racial segregation (Johnson & Strange, 2007; Hannum, Irvin, Banks, & Farmer, 2009). Rural schools that encounter challenges in managing the daily business of educating students will likely also confront hardships when trying to gain access to training and support in handling violence, suicidal behavior, bullying, and other behavioral and emotional issues facing their students. Nevertheless, school violence prevention is an important issue that needs to be addressed—especially in underserved locations. For example, in a survey of Georgia superintendents (Ballard & Brady, 2008), almost all of them reported that addressing school violence was a specific action item that they wanted to address, yet only 20% of them had new policies drafted to address school violence. Further, fewer than half of the administrators reported that personnel had been specifically assigned to and trained to handle threats of violence. Although the results of the aforementioned survey are somewhat dated, a more recent review indicates that even though violence in

rural schools (i.e., shootings) remains a low base rate phenomenon, schools tend to be more passive in their prevention efforts compared to urban or suburban schools (Prine & Ballard, 2019). A dataset chronicling reports of school shootings from years 2009 through 2018 indicated that out of 180 recorded shootings, approximately 44% occurred in urban schools, 40% occurred in suburban schools, 14% occurred in rural schools, and 2% occurred in unspecified locale (Cable News Network [CNN], 2019). To address the limitations faced by rural, geographically remote, or underserved areas, online professional development and information-seeking have been found to be useful in connecting professionals to resources; however, questions still remain about the degree to which online resources are properly vetted, of adequate quality, and consistent with best practices (Dobo, 2017; Peltola, Haynes, Clymer, McMillan, & Williams, 2017).

Geographic isolation for rural schools has been addressed through several efforts including recruitment of teachers, incentive programs, and more specifically, the use of online tools for professional development and support of rural educators (Dobo, 2017; Peltola et al., 2017). Online professional development may include more interactive features such as narrated presentations, interactive quizzes, and even videochat coaching for support on a variety of topics. Most professionals have a "love-hate" relationship with online learning, as the access to training is invaluable, but the interface is sometimes lacking. In addition to online training efforts, online information-seeking has been, in some ways, the great equalizer for access to information that was once limited to proximity to public libraries, institutions of higher learning, and attendance at conferences for disorders common (e.g., attention deficit/hyperactivity disorder, autism) and low base rate (e.g., rare genetic disorders; Hall, Culler, & Frank-Webb, 2016). Teachers, student support personnel, administrators, and even parents now have access to multitudes of information that can help guide them simply by "googling" a key term or using another search engine.

Online information-seeking is not without its problems, however, as many professionals have raised concerns about the accuracy of information found online. In a systematic study of search engine results for Google related to autism spectrum disorders (ASDs), inconsistencies were found across multiple searches (Reichow, Naples, Steinhoff, Halpern, & Volkmar, 2012b). A review of the

references, readability, and quality of national association websites for ASDs also demonstrated unsubstantiated claims, outdated or incorrect references, and other challenges (Reichow et al., 2012a). The discerning consumer may be able to better evaluate for themselves whether the information being found online is consistent with the latest research findings, but the algorithms that drive search engine results may even bias the kinds of results that persons find when they enter terms into Google based upon their search and viewing history (Reichow et al., 2012a).

Despite concerns about relative quality, many large-scale platforms, such as Pinterest and Teachers Pay Teachers, have provided ways for educational professionals to share and find information that they can use in their daily practice for low to no-cost (Hall, Breeden, & Giacobe, 2018). Regardless of the hesitation, the internet and social media websites have provided a higher-tech grassroots avenue for professionals to disseminate ideas, tools, and practices. The use of techniques such as component analysis, or the systematic comparison of parts of programs or other tools to larger scale programs that have an established evidence base, may help to elucidate relative quality of tools shared online. Whether various tools being shared are at least consistent with evidence-based practice may help to provide guidance for busy professionals about where to turn for quality, low- and no-cost materials online. A recent study by Breeden and colleagues (2018) compared coping skills-related content that was shared on Pinterest to that of evidence-based coping skills program common core components (e.g., deep breathing, cognitive reframing) and found that about half of the content shared in the sample was consistent with evidence-based program components. Although it would be more encouraging to see a larger proportion of tools shared on social media being consistent with evidence-based practices, it is an impetus to continue to understand the relative quality of open-access resources found online as it relates to dissemination of best practices.

Present Study

Violence threat assessment is currently at the forefront of school violence prevention agendas (Woitaszewski et al., 2018), and rural schools may be particularly vulnerable given a lack of needed resources. As the internet is often seen as an economical receptacle for information (Cline &

Hayes, 2001), schools may consult the internet for free tools, guides, or programs on school violence threat assessment. However, it is unknown how well these resources reflect the framework of an evidence-based threat assessment model. The present study was guided by two primary research aims. First, we conducted descriptive and systematic comparisons of free, available, online school-based threat assessment resources to Cornell's (2018a) CSTAG. Because Cornell's CSTAG has such a large extant body of evidence related to its use and is comprehensive in its approach, it seemed to provide a way to examine which online resources may have helpful tools and possible gaps for practitioners searching for assistance.

The second research aim was to explore the extent to which various core components of the CSTAG were represented across reviewed programs. Descriptive insights gained from the first research aim may help to better understand the overall landscape of the resources available, yet do not help to determine the degree to which there are gaps in the resources overall as compared to CSTAG. Instead of evaluating the quality of each resource, the goal of the current investigation was to consider how online resources as a whole communicate information on school-based threat assessment. Commonalities, disparities, and areas of need were identified.

Method

The focus of this study was to evaluate the extent to which online threat assessment resources include evidence-based information from Cornell's (2018a) CSTAG. As such, the units of analysis in the present study were the free online resources that met the inclusion criteria. The sampling procedure is defined along with a description of the final sample of resources and the design and analysis. The resources were compared to Cornell's CSTAG using component analysis. There were 86 components of the CSTAG that were organized into nine categories. Each resource was evaluated to determine whether or not it included the information denoted by each of the 86 defined components. A description of the nine categories and their components are later described.

Sampling Procedure

In an effort to replicate authentic internet searches of school personnel who may lack access to research-focused or academic databases, resources were collected via the popular search engine, Google.

Prior to conducting any internet searches, browsing data and history were cleared each time search terms were entered into the search engine. The first search terms that were used to collect resources for the present review were "school" AND "threat assessment." Following this initial search, additional searches were included using the related search terms offered by Google. As the authors sought to gather comprehensive threat assessment materials, the only additional search terms that were utilized to retrieve online resources were those that best aligned with the goals of the current investigation. These additional search terms included (a) "threat assessment model," (b) "school threat assessment protocol," and (c) "threat assessment checklist." Thus, four total searches were completed using the aforementioned search terms. As research indicates that individuals searching the internet do not tend to look past the first 10 to 20 search results (Bar-Ilan, 2005; Eysenbach & Köhler, 2002), only the first 50 results for each search were considered for those that produced multiple results in order to be comprehensive, yet considerate of typical internet user behaviors. Advertisements listed in results were not reviewed.

Inclusion criteria. There were two main inclusion criteria: (a) resources from sponsored or noncommercial domains and (b) word-processed, exportable documents. According to the National Research Council (2005), there are 15 unsponsored (i.e., *.com*, *.net*) and sponsored (e.g., *.edu*, *.gov*) generic top-level domains that are used to connect internet users to websites. While unsponsored domain names are unrestricted, sponsored domain names are represented by organizations that are expected to communicate information relevant to the domain to which they correspond. As one of the goals of the present study was to evaluate credible resources, only resources from sponsored domain name websites relevant to the K-12 mission were included (i.e., *.edu*, *.mil*, *.gov*). Resources that originated from a *.org* domain name were also included in the present review; though the *.org* domain is technically unsponsored and unrestricted like its *.com* counterpart, it has historically been viewed as a noncommercial space for nonprofit organizations with a purposeful mission (National Research Council, 2005).

Further, as the research team sought to evaluate resources that were packaged in portable or exportable documents, only word-processed

documents were included (e.g., *.doc*, *.docx*, *.pdf*) in the present component analysis. Some word-processed documents appeared directly in the search engine results, while others were hosted as direct links on sponsored or noncommercial domain websites. Though websites were not included, sponsored and noncommercial domain websites were reviewed for links to word-processed documents. Specifically, if a website provided a direct link to a word-processed document, the linked word-processed document was included in the review, provided that it did not meet any of the exclusion criteria (explained below); if a website provided a direct link to another website, the linked website was not reviewed for links to word-processed documents.

Exclusion criteria. There were several exclusion criteria that were employed in the present investigation. To start, resources were excluded if the content was irrelevant to the scope of assessing threats of violence in the school setting. For example, resources that described general crisis response (e.g., natural disasters, emergencies) or physical security in schools (e.g., metal detectors, video camera installation) were excluded from the component analysis, as they did not include information related to directly assessing student threats of violence. Next, any materials that required payment were excluded, as the purpose of the component analysis was to evaluate free prevention guides. Additionally, resources that communicated information irrelevant to the K-12 population were excluded (i.e., resources with a college or postsecondary audience). Older versions of resources that were updated were also excluded from review to avoid redundancy. As an example, the 2002 version of the "Threat Assessment in Schools" guide was not included in the current review, as the most recent version of the guide was developed in 2004 (Fein et al., 2004). Further, given that only word-processed documents were included in the present review, videos, websites, and other media were excluded. Any resources that detailed the operations of specific school districts or universities were excluded. For example, we excluded resources such as the Hamilton Community Schools Student Handbook, the Santa Cruz Countywide Threat Assessment Plan, and the Glendale Unified School District Suicide Prevention Guidelines and Procedures Booklet from the review, as they contained information that was only relevant to their districts and schools.

Description of Resources

A total of 11 resources were included in the present component analysis. One-hundred seventy-one resources were viewed, but the majority (*n* = 160, 93.5%) were excluded due to the aforementioned inclusion and exclusion criteria. Most resources in the current analysis (*n* = 6) consisted of thorough guidelines (i.e., 20- to 90-page documents) for assessing threat. Three resources followed a checklist format, ranging from one to five pages; one resource provided a one-page visual overview of an assessment model; and another resource consisted of a brief overview of threat assessment guidelines (i.e., less than 10 pages). Most resources (*n* = 8) were authored by government organizations (i.e., federal-based [*n* = 4], state-based [*n* = 4]). The remaining resources were produced by security and insurance institutions (*n* = 2) and a university (*n* = 1).

Components for Analysis

The sample of the collected resources were compared to Cornell's (2018a) CSTAG using a component analysis. Component analysis is a method of interpreting material in pieces, rather than as a whole (Daleiden et al., 2006). Evaluating pieces, or "components," allows researchers to understand a presenting body of information on a more detailed level (Chorpita & Daleiden, 2009). As such, the research team aimed to identify which specific components of the CSTAG were present across the sample resources.

The CSTAG is an expansion of the Virginia Student Threat Assessment Guidelines (VSTAG, Cornell, 2018a), which is the only evidence-based threat assessment model currently recognized by the National Registry of Evidence-Based Programs and Practices (NREPP, Cornell, 2018b). Content areas and subheadings were used to delineate the components of the CSTAG for evaluation in the present study. Irrelevant headings (e.g., adult threat assessment, case studies) were excluded, and some headings and subheadings were collapsed to reduce redundancy. A total of nine headings were used to categorize 86 components of the CSTAG (i.e., What Is Threat Assessment?, Threat Assessment Team, Beginning the Threat Assessment, Responding to Substantive Threats, Mental Health Assessment for Safety Purposes, Pathways to Youth Violence, Schoolwide Violence Protection and Prevention, Interventions After a Student Threat of Violence,

Implementation of Threat Assessment). These categories and components are represented in Figure 1 and are further described below.

What is threat assessment? Eleven components were reflected by the What Is Threat Assessment? category. These components measured whether the evaluated resources adequately included information related to the general background and procedures describing the basics of threat assessment, such as the purpose and goals of threat assessment, the key practices (e.g., gathering information from multiple sources, determining whether student poses a threat), the limits of threat assessment, and the limits of other approaches (e.g., profiling, zero tolerance).

Threat assessment team. There were eight components included in the Threat Assessment Team category. Together, these components measured whether the evaluated resources included important pieces of information related to threat assessment teams, such as the purpose of the threat assessment team, key members and a description of their roles, as well as situations in which threat assessment teams should meet.

Beginning the threat assessment. The Beginning the Threat Assessment category included 12 components that were used to identify the extent to which the evaluated resources communicated essential pieces of information related to the specific mechanisms and practices involved in threat assessment. Though some components of threat assessment were addressed in the What Is Threat Assessment? category, the components included in this category evaluated whether the resources included more specific details on how to conduct a threat assessment. For example, resources were evaluated based on whether they included information on evaluating the threat, interviewing as soon as possible, considering student and witness credibility, differentiating between the concept of "transient" and "substantive" threats (i.e., non-serious versus serious threats), deciding whether threats are transient and how to respond, and guidelines for disciplinary and protective action following threats.

Responding to substantive threats. There were 12 components included in the Responding to Substantive Threats category. These components were used to measure whether the evaluated resources adequately addressed how to respond to a serious threat. Important components of responding

to substantive threats included taking immediate precautions to protect potential victims, warning the intended victim, looking for ways to resolve conflict, disciplining students when appropriate, engaging in mental health screening and counseling with the individual who posed the threat, and generating safety plans in response to the threat.

Mental health assessment for safety purposes. The Mental Health Assessment for Safety Purposes category was made up of 12 components, which were used to measure whether the evaluated resources included information on using mental health assessments and services in response to violent threats. Some essential information included the purpose of mental health assessments, differentiating mental health assessments from violence risk assessments, identifying when to conduct mental health assessments, identifying who should conduct them, gathering interview information, and providing interview outlines and other templates. See Figure 1 for a full list of the components represented by this category.

Pathways to youth violence. There were 10 components that were reflected by the Pathways to Youth Violence category, which were used to measure whether the evaluated resources contained information on specific characteristics, traits, or behaviors that are often associated future violent behaviors, such as personality traits, and relationships with family members, peers, and school. For a detailed list of these components, see Figure 1.

Schoolwide violence protection and prevention. Nine components were included under the Schoolwide Violence Protection and Prevention category. These components were used to determine whether the evaluated resources communicated any information relevant to practices, efforts, or programming used to prevent violence on a larger scale. Figure 1 includes a list of these components.

Interventions after a student threat of violence. There were four components represented by the Interventions After a Student Threat of Violence category that were used to measure whether the evaluated resources addressed general (e.g., assess, refer, monitor, support) and specific (e.g., motivational interviewing, problem-solving skills training) intervention practices that may be employed if a student makes a violent threat, as well as

Figure 1

Components Included in the Component Analysis (N = 86)

What Is Threat Assessment? (*n* = 14)
• Purpose of guidelines
• Goals of threat assessment
• Definition and/or description of threat assessment
o Prevention is possible
o Consider the context
o Adopt an investigative mindset
o Rely on facts, not profiles
o Gather information from multiple sources
o Determine whether a student poses a threat
• Purpose of threat assessment
o Identifying the limits of zero tolerance
o Identifying the limits of profiling
• Comparing threat assessment to other approaches
• Limitations of threat assessment

Threat Assessment Team (*n* = 8)
• Purpose of having a threat assessment team at each school
• List of who should be on the threat assessment team
o Role of school/assistant principal
o Role of school resource officers
o Role of school psychologist
o Role of school counselor
o Role of social workers and other team members
• Identifying situations in which threat assessment team meets

Beginning the Threat Assessment (*n* = 12)
• Evaluate the threat
o Interview as soon as possible
o Consider student and witness credibility
• Description of transient threat
• Description of substantive threat
o Presumptive indicators
o Factors to consider to distinguish transient and substantive threats
• How to decide whether a threat is transient
• How to respond to a transient threat
• Disciplinary consequences for transient threats
• Guidelines for protective action following a transient threat
• Guidelines for parent contact following a threat

Responding to Substantive Threats (*n* = 12)
• Take immediate precautions to protect potential victims
• Warn the intended victim
• Look for ways to resolve conflict
• Discipline student when time is appropriate
• Distinguish serious substantive threats from very serious substantive threats
• Screen students for mental health services and counseling
• Law enforcement investigation for evidence of planning
• Develop a safety plan document
o Describes school's immediate response to the threat
o Describes plan of action resulting from safety evaluation and condition sunder which student may return to school
• Maintain contact with student
• Revise safety plan as needed

Mental Health Assessment for Safety Purposes (*n* = 12)
• Purpose of mental health assessment
• When to conduct mental health assessment
• Who should conduct the mental health assessment
• Distinguishing mental health assessment from violence risk assessment
• Confidentiality in the context of mental health assessment
• Sources of information to assess mental health
• Directions for the mental health assessment
• Outline of subject interview
• Testing with subject
• Outline of parent interview
• Outline of teacher/staff interview
• Template of mental health assessment report

Pathways to Youth Violence (*n* = 10)
• Factors that indicate student violence
• Leakage of intentions
• Aggressive traits
• Paranoid and schizotypal traits
• Depressive traits
• Narcissistic traits
• Psychopathic-like traits
• Family dynamics
• School dynamics
• Social dynamics

Schoolwide Violence Protection and Prevention (*n* = 9)
• Positive behavioral approaches to discipline
• Restorative discipline
• Threat reporting
• Preventing threats
• Effectiveness of violence prevention efforts
• Characteristics of effective prevention programs
• Kinds of available programs
• Bullying prevention
• Realistic expectations for effectiveness of prevention programs

Interventions After a Student Threat of Violence (*n* = 4)
• Assess, refer, monitor, support
• Addressing threats for special education students
• Disciplinary options for special education students
• Individual interventions (e.g., motivational interviewing, multisystemic therapy, parent management training, problem-solving skills training)

Implementation of Threat Assessment (*n* = 5)
• How to implement threat assessment at school
• Necessary policy changes
• Steps to implement threat assessment (i.e., training, student education, parent awareness)
• Fidelity of implementation
• Understanding the flexibility of the guidelines

considerations for how to assess threats for special education students and how to discipline accordingly.

Implementation of threat assessment. The Implementation of Threat Assessment category was comprised of five components that were used to identify whether the evaluated resources adequately addressed information on the steps needed to implement threat assessments in schools, including policy changes. Figure 1 includes a list of these components.

Coding Procedure

Each resource that was included in the present study was rated on a binary scale to determine whether or not it reflected the components of the CSTAG ($0 = $ *not present*, $1 = $ *present*). Though some of the exact language included in the CSTAG may not have been used across all of the evaluated resources (e.g., "substantive" threats, "transient" threats), if the meaning and intent behind the language included in the evaluated resources aligned with the meaning and intent behind the language used in the CSTAG, the components were coded as "present." For example, the descriptions of "low level" threats and "medium level" threats in one resource (Indiana Department of Education, n.d.) were synonymous with Cornell's (2018a) definitions of "transient" and "substantive" threats, respectively; thus, the "description of transient threat" and "description of substantive threat" components (see Table 1) were coded as "present" for the resource.

Coding was completed by three of the authors. The coders consisted of a certified school psychologist, a data analyst who is a certified teacher, and a doctoral-level school psychology student. The first resource was coded collaboratively; all other ratings were completed independently. Each resource was coded by two authors. Consensus coding procedures were followed after each initial rating to determine a final list of codes, which are found in Table 1. Consensus coding involved a discussion between the two coders regarding any discrepancies on any initial ratings to determine a final agreed-upon rating for analysis in the present study. Though all codes were verified via consensus coding, interrater reliability (IRR) statistics were still calculated for each resource for descriptive purposes. IRR values reflect the level of agreement between the two coders on a given resource, prior to any consensus coding. As the first resource was coded collaboratively, IRR percentage values were calculated for only 10 out of the 11 resources. Based on the calculated IRR values, the level of agreement ranged from 72.09% to 98.84% with an average of 81.16% agreement between the raters for the initial coding of each of the resources.

Data Analysis

Within each category, the number of present components included in each resource were summed. These sums were used to calculate the proportion of components that were contained within a resource for each of the nine categories. The nine category sums were then added together to reflect the total number of components included in each resource; this number presented how many of the 86 CSTAG components were included in each of the evaluated resources. Further, means were calculated for each component in order to reflect the average representation across resources. The component means within each of the nine categories were then averaged to generate a "category mean;" category means were compared to one another in a one-way analysis of variance (ANOVA) to determine whether there were significantly different representations of the categories across the evaluated resources.

Results

Research Aim 1 - Descriptive Analyses

Out of the 11 resources that were evaluated in the present study, only three resources reflected just over half of the 86 components represented by the CSTAG. The resource that had the most components contained 49 of the 86 total components (56.98%). Overall, the evaluated resources communicated approximately 36% of the information on school-based threat assessment in the K-12 population, as detailed by the components of the CSTAG (Cornell, 2018a) that were addressed in the current study. Across the nine categories, the evaluated resources contained the most information on Pathways to Youth Violence and contained the least information on Mental Health Assessment for Safety Purposes. Descriptive findings for each category are described in detail below. Table 1 includes the codes and total sums for each resource and each component.

Table 1
Coding Scheme for Component Analysis

CSTAG Components	A	B	C	D	E	Resources F	G	H	I	J	K	
I) What is threat assessment?	8	11	13	3	3	10	11	12	2	8	10	Total
a) Purpose of guidelines		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
b) Goals of threat assessment (i.e., preventing violence, resolving conflict)		✓	✓			✓	✓			✓	✓	6
c) Definition and/or description of threat assessment	✓	✓	✓	✓		✓	✓	✓		✓	✓	9
i. Prevention is possible	✓	✓	✓			✓	✓	✓		✓	✓	8
ii. Consider the context	✓	✓	✓			✓	✓	✓			✓	7
iii. Adopt an investigative mindset	✓	✓	✓			✓	✓			✓	✓	7
iv. Rely on facts, not profiles	✓	✓	✓			✓	✓				✓	6
v. Gather information from multiple sources	✓	✓	✓			✓	✓	✓		✓	✓	8
vi. Determining whether a student poses a threat	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	10
d) Purpose of threat assessment	✓	✓	✓		✓	✓	✓	✓		✓	✓	9
i. Identifying the limits of zero tolerance policies								✓				1
ii. Identifying the limits of profiling		✓	✓				✓	✓	✓			5
e) Comparing threat assessment to other approaches			✓					✓				2
f) Limitations of threat assessment			✓			✓		✓				3
II) The threat assessment team	7	2	4	1	0	1	3	2	0	2	3	Totals
a) Purpose of having a threat assessment team at each school	✓		✓									2
b) A list of who should be on the threat assessment team	✓	✓	✓			✓	✓			✓	✓	7
i. Role of school principal or assistant principal	✓		✓				✓			✓	✓	5
ii. Role of school resource officers								✓				1
iii. Role of school psychologist	✓											1
iv. Role of school counselor	✓											1
v. Role of social workers and other team members	✓											1
c) Identifying situations in which threat assessment team meets (e.g., concern about an intent to harm in the future)	✓	✓	✓	✓		✓	✓				✓	7
III) Beginning a threat assessment	11	10	3	0	3	3	7	11	0	3	2	Totals

	1	2	3	4	5	6	7	8	9	10	11	Total
a) Evaluate the threat	✓	✓	✓			✓	✓	✓		✓	✓	8
i. Interview as soon as possible	✓	✓					✓	✓				4
ii. Consider student and witness credibility	✓	✓	✓				✓	✓		✓		6
b) Description of transient threat	✓	✓			✓			✓				4
c) Description of substantive threat	✓	✓			✓			✓				4
i. Presumptive indicators	✓	✓			✓	✓	✓	✓		✓	✓	8
ii. Factors to consider in distinguishing between transient and substantive threats	✓							✓				2
d) How to decide whether a threat is transient	✓	✓						✓				3
e) How to respond to a transient threat	✓	✓					✓	✓				4
f) Disciplinary consequences for transient threats		✓					✓	✓				3
g) Guidelines for protective action following a transient threat	✓	✓				✓	✓					4
h) Guidelines for parent contact following a threat	✓		✓					✓				3
IV) Responding to substantive threats	**11**	**11**	**3**	**0**	**0**	**2**	**7**	**3**	**0**	**3**	**2**	**Totals**
a) Take immediate precautions to protect potential victims	✓	✓	✓			✓	✓	✓		✓		7
b) Warn the intended victim	✓	✓					✓					3
c) Look for ways to resolve conflict	✓	✓	✓				✓				✓	5
d) Discipline student when time is appropriate		✓					✓					2
e) Distinguishing serious substantive threats from very serious substantive threats	✓	✓						✓				3
f) Screen students for mental health services and counseling	✓	✓										2
g) Law enforcement investigation for evidence of planning	✓	✓	✓			✓	✓	✓			✓	7
h) Develop a safety plan document	✓	✓					✓					3
i. Describes school's immediate response to the threat	✓									✓		2
ii. Describes plan of action resulting from safety evaluation and conditions under which student may return to school	✓	✓										2
i) Maintain contact with student	✓	✓					✓					3
j) Revise safety plan as needed	✓	✓								✓		3
V) Mental health assessment for safety purposes	**4**	**2**	**0**	**0**	**0**	**4**	**0**	**3**	**0**	**0**	**0**	**Totals**
a) Purpose of mental health assessment	✓					✓		✓				3
b) When to conduct mental health assessment	✓	✓				✓						3

	1	2	3	4	5	6	7	8	9	10	11	Totals
c) Identifying who should conduct mental health assessment			✓	✓					✓		✓	4
d) Distinguishing mental health assessment from violence risk assessment			✓						✓			2
e) Confidentiality in the context of mental health assessment												0
f) Sources of information to assess mental health							✓					1
g) Directions for the mental health assessment												0
h) Outline of subject interview												0
i) Testing with subject												0
j) Outline of parent interview												0
k) Outline of teacher/staff interview												0
l) Template of mental health assessment report (i.e., identifying information, reason for referral, sources of information, major findings, conclusions)												0
VI) Pathways to youth violence	3	3	6	7	9	9	6	10	6	5	4	**Totals**
a) Factors that indicate student violence (e.g., antisocial, conflict, and psychotic pathways)			✓			✓	✓	✓	✓		✓	6
b) Leakage of intentions	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	10
c) Aggressive traits	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11
d) Paranoid and schizotypal traits				✓	✓	✓		✓	✓			5
e) Depressive traits	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11
f) Narcissistic traits				✓	✓	✓		✓				4
g) Psychopathic-like traits				✓	✓			✓	✓			4
h) Family dynamics			✓		✓	✓		✓				4
i) School dynamics					✓	✓	✓	✓		✓		5
j) Social dynamics			✓	✓	✓	✓	✓	✓	✓	✓		8
VII) Schoolwide violence protection and prevention	1	3	3	0	0	3	4	1	0	3	1	**Totals**
a) Positive behavioral approaches to discipline							✓					1
b) Restorative discipline												0
c) Threat reporting (e.g., clear reporting systems for teachers and students)	✓	✓	✓			✓	✓	✓		✓	✓	8
d) Preventing threats		✓	✓			✓	✓					4
e) Effectiveness of violence prevention efforts												0
f) Characteristics of effective prevention programs							✓					1
g) Kinds of available programs												0
h) Bullying prevention		✓	✓			✓				✓		4

		A	B	C	D	E	F	G	H	I	J	K	
i)	Realistic expectations for effectiveness of prevention programs										✓		1
VIII) Interventions after a student threat of violence		1	2	1	0	0	1	1	0	0	2	1	Totals
a)	Assess, refer, monitor, support		✓	✓							✓	✓	4
b)	Addressing threats for special education students		✓										1
c)	Disciplinary options for special education students												0
d)	Individual interventions (i.e., motivational interviewing, CBITS, multisystemic therapy, parent management training, problem-solving skills training)	✓					✓	✓			✓		4
IX) Implementation of threat assessment		3	0	4	0	0	1	2	2	0	4	3	Totals
a)	How to implement threat assessment at school	✓		✓							✓	✓	4
b)	Necessary policy changes	✓		✓							✓	✓	4
c)	Steps to implement threat assessment (i.e., training, student education, parent awareness)	✓		✓			✓	✓			✓	✓	6
d)	Fidelity of implementation												0
e)	Understanding the flexibility of the guidelines			✓			✓	✓	✓		✓		5
Total Number of Components Included		49	44	37	11	15	34	41	44	8	30	26	

Note. A=Colorado School Safety Resource Center (2015), B=Deisinger (2016), C=Fein et al. (2004), D=Houston-Tilloston University (2011), E=Indiana Department of Education (n.d.), F=National Threat Assessment Center (2015), G=National Threat Assessment Center (2018), H=O'Toole (2000), I=Pictore International Private Security (n.d.), J=United Educators (2015), K=Virginia Department of Criminal Justice Services (n.d.).

What is threat assessment? On average, the evaluated resources included more than half (i.e., 59.09%) of the information communicated by the 14 components included in the What Is Threat Assessment? category from the CSTAG. Out of the evaluated resources, eight contained over half of the components that were included in this category. Overall, the majority of resources ($n = 10$, 90.91%) described the purposes of the guidelines and contained information on determining whether a student poses a threat. A large percentage of resources ($n = 9$, 81.82%) also included a definition and/or description of threat assessment, as well as information on the importance of gathering information from multiple sources to assess threat. Additionally, there were nine resources that communicated the purpose of threat assessment and eight resources that included the message that prevention is possible. Only one resource identified the limits of zero tolerance policies. Two resources compared threat assessment to other approaches, and three resources explained the limitations of threat assessment.

Threat assessment team. A total of eight components were included in the Threat Assessment Team category. The evaluated resources communicated an average of approximately 28% of the components from this category. Ten out of the 11 evaluated resources included less than half of the information represented by the components. Two of the evaluated resources included no information on the threat assessment team. The majority of resources ($n = 7$, 63.64%) included a list of individuals who should be on a threat assessment team and identified situations in which threat assessment teams meet. Overall, the resources were lacking specific information on the purpose of having a threat assessment team at each school and the roles of each key member of the threat assessment team.

Beginning the threat assessment. Twelve components were represented by the Beginning the Threat Assessment category. An average of 40% of the components from this category was addressed across the evaluated resources. Nearly three-quarters of the resources ($n = 8$, 72.73%) included information on evaluating the presenting threat and identifying presumptive indicators within the context of the conducting a threat assessment. More than half of the resources ($n = 6$, 54.55%) indicated that

considering student and witness credibility should be included in threat assessment. Less than 20% of the evaluated resources ($n = 2$, 18.18%) included the factors to consider in distinguishing between transient and substantive threats. The evaluated resources were largely missing information related to how to decide whether a threat is transient, disciplinary consequences for transient threats, and guidelines for contacting parents following a threat.

Responding to substantive threats. There were 12 components that were represented by the Responding to Substantive Threats category. The evaluated resources contained less than one-third of the components from this category. Two of the evaluated resources contained more than 90% of the components, while three resources only contained 25% of the components, and three demonstrated none of the components from this category. The majority of resources ($n = 7$, 63.64%) included information on taking immediate precautions to protect potential victims, as well as information on using a law enforcement investigation for evidence of planning. Less than half of the evaluated resources ($n = 5$) included information on conflict resolution, and even fewer resources ($n = 2$, 18.18%) included information on disciplining students when the time is appropriate, screening students for mental health services and counseling, and developing a safety plan. The evaluated resources were missing information across a wide array of areas within this category, ranging from a lack of information on warning the victim and maintaining contact with the student who posed the threat, distinguishing substantive threats from very substantive threats, acknowledging relevant information and procedures related to safety planning.

Mental health assessment for safety purposes. Twelve components were represented by the Mental Health Assessment for Safety Purposes category. Overall, the evaluated resources communicated little information on mental health assessment. On average, the resources contained less than 10% of the components from this category. The majority of resources ($n = 7$, 63.64%) failed to contain any information on mental health at all. The resources that did contain information on mental health had only one-sixth to one-third of the necessary components. Across resources, the most commonly addressed components were: (a) the purpose of mental health assessment ($n = 3$, 27.27%), (b)

conducting a mental health assessment in the event of a substantive threat ($n = 3$, 27.27%), and (c) identifying who should conduct the assessment ($n = 4$, 36.36%). There were no resources that had information on directions for a mental health assessment; a description of how to conduct a mental health interview with a student, parents, or teachers; details describing how to conduct testing with the student; a template for a mental health assessment report; or anything related to confidentiality in the context of a mental health assessment

Pathways to youth violence. There were 10 components that comprised the category of Pathways to Youth Violence. This category was the most widely addressed category across the evaluated resources. In fact, the evaluated resources had an average of 61.82% of the components from the category. Most resources ($n = 7$, 63.64%) had at least 60% or more of the components from the category. All resources indicated that aggressive traits ($n = 11$, 100%) and depressive traits ($n = 11$, 100%) were common pathways to youth violence. The large majority of resources also noted that leakage of intentions ($n = 10$, 90.91%) was another indication of a potential pathway to youth violence. Few resources reported narcissistic traits ($n = 4$, 36.36%), psychopathic-like traits ($n = 4$, 36.36%), or family dynamics ($n = 4$, 36.36%) as having a connection with pathways to youth violence.

Schoolwide violence protection and prevention. Nine components were included under the category of Schoolwide Violence Protection and Prevention. The resources that were evaluated in the present study communicated an average of less than 20% of the components from the category. There were three resources that contained none of the information posed by the components; the resources that did communicate information in this area contained less than one-half of the components. Almost three-quarters of the resources (n = 8, 72.73%) had information on threat reporting as a process for schoolwide violence prevention. Four of the evaluated resources (36.36%) contained information on preventing threats, and four of the resources communicated information on bullying prevention. Only one resource shared information related to positive behavioral approaches to discipline, and only one resource communicated information related to realistic expectations for the effectiveness of prevention programs. None of the

evaluated resources included information on restorative discipline, the effectiveness of violence prevention efforts, or the kinds of programs that are available to address and prevent school violence.

Interventions after a student threat of violence. There were four components within the category of Interventions After a Student Threat of Violence. The evaluated resources contained an average of approximately 20% of the components from the category. Over one-third of the resources ($n = 4$, 36.36%) included information on specific individual interventions for use in the school setting (e.g., motivational interviewing, multisystemic therapy, parent management training, problem-solving skills training, Cognitive Behavioral Intervention for Trauma in Schools [CBITS]). Additionally, more than one-third of the resources contained information on the assess, refer, monitor, support (ARMS) process ($n = 4$, 36.36%) Though a few resources addressed the topic of disciplining students when the time is appropriate ($n = 2$, 18.18%), none of the resources described specific disciplinary options following a student threat of violence.

Implementation of threat assessment. Five components were used to reflect the category of Implementation of Threat Assessment. An average of 34.55% of the components from the Implementation of Threat Assessment category were included in the evaluated resources. Only four resources had 60% or more of the components from the category of Implementation of Threat Assessment. The component that was most widely included across resources ($n = 6$, 54.55%) was the steps to implement threat assessment. Approximately one-third of the evaluated resources ($n = 4$, 36.36%) addressed how to implement threat assessment at school. Additionally, approximately one-third of the resources ($n = 4$, 36.36%) contained information on the policy changes that are necessary for implementing threat assessment in schools. Four of the evaluated resources contained none of the information in the Implementation of Threat Assessment category.

Research Aim 2 - Inferential Analyses

In order to address whether or not various components of the CSTAG were more present than others across resources, inferential examination of mean representation of categories of components

Table 2
Category Means and SDs

Category	Number of Components	*M*	*SD*
What Is Threat Assessment	14	0.59	0.26
Threat Assessment Team	8	0.28	0.25
Components of Threat Assessment	12	0.40	0.18
Responding to Substantive Threats	12	0.32	0.17
Mental Health Assessment for Safety Purposes	12	0.10	0.14
Pathways to Youth Violence	10	0.62	0.27
Schoolwide Violence Protection and Prevention	9	0.20	0.25
Interventions After a Student Threat of Violence	4	0.20	0.19
Implementation of Threat Assessment	5	0.35	0.21
Total	86	0.36	0.27

were conducted. Across all 11 evaluated programs the percentages of components present under each category were combined into means (see Table 2). The category means were then compared to one another. To identify whether there were significant differences between the nine category means, a one-way ANOVA was conducted. Though the Shapiro Wilk test indicated that the assumption of normality was not met (Shapiro Wilk = .937, $p < .001$), skewness (Skewness = 0.54, $SE = 0.26$) and kurtosis (Kurtosis = -0.51, $SE = 0.51$) fell within acceptable limits. Further, the assumption of homogeneity of variances was met (Levene's Test; $F[8, 77] = 1.66$, $p = .123$). Consequently, normal ANOVA procedures were followed. According to the findings from the one-way ANOVA, there was a statistically significant difference between the categories of the CSTAG as represented in the reviewed resources ($F[8, 77] = 7.19$, $p = .000$). Table 3 contains the full ANOVA table.

Tukey's honestly significant difference (HSD) post-hoc tests revealed that there were statistically significant differences between the means of several of the categories. Specifically, according to the post-hoc tests, the evaluated resources demonstrated statistically significantly more information in the category of What Is Threat Assessment? ($M = 0.59$,

$SD = 0.26$) and Pathways to Youth Violence ($M = 0.62$, $SD = 0.27$) compared to the categories of Threat Assessment Team ($M = 0.28$, $SD = 0.25$), Responding to Substantive Threats ($M = 0.59$, $SD = 0.26$), Mental Health Assessment for Safety Purposes ($M = 0.10$, $SD = 0.14$), and Schoolwide Violence Protection and Prevention ($M = 0.20$, $SD = 0.25$). Further, there was significantly more information included in the Pathways to Youth Violence category compared to the Interventions After a Student Threat of Violence category ($M = 0.20$, $SD = 0.19$). Table 2 contains all of the means and standard deviations for each of the categories.

Discussion

The purpose of the present investigation was to use component analysis to examine the composition and quality of school-based threat assessment resources from credible sources found on the internet, as they compare to Cornell's (2018a) widely studied model of threat assessment, the CSTAG. Though violence threat assessment is a top priority in schools (Woitaszewski et al., 2018) and the internet is commonly consulted for information, especially for remote and underserved populations (Cline & Hayes, 2001; Hall et al., 2016), there is currently a paucity of

Table 3
One-Way Analysis of Variance for Differences Between Categories

	Sum of Squares	*df*	Mean Square	*F*
Between Groups	2.67	8	0.33	7.19*
Within Groups	3.58	77	0.05	
Total	6.25	85		

* $p < .05$

research on the evaluation of internet-based resources on school-based threat assessment. As such, the goal of the present study was to provide valuable information to schools in rural or remote locations by evaluating free, available, online school violence threat assessment resources in comparison to an evidence-based framework. Rural schools, in particular, are at a relative disadvantage given the profiles of risk that exist for rural students (Chanlongbutra, Signh, & Mueller, 2018; Khattri, Riley, & Kane, 1997; Webber, Rizo, Cotter, Evans, & Smokowski, 2013), along with the limited numbers of mental health service providers and community resources (Clopton & Knesting, 2006) that may assist in the event of violent behavior and threat.

Based on the findings from the current study, it appears as though online threat assessment resources, while helpful, are not quite as comprehensive as Cornell's CSTAG. Containing an average of just over one-third of the CSTAG components, the evaluated resources were subsequently missing an average of nearly two-thirds of essential information. The analyses showed that there were certain categories and components of the CSTAG that were better addressed than others across the evaluated resources. Overall, these findings indicated that there were noteworthy gaps in information related to managing student threats of violence, following up with threats of violence, implementing threat assessment practices in schools, and preventing violence in schools. Thus, it seems that the assessment piece is covered more so than what to do about those various threats. As it relates to rural educators, the lack of community resources and access for prevention and mental health services makes these findings even more concerning, as they are not addressing the very gaps for which rural educational professionals may be seeking support online.

Managing Student Threats of Violence

Most of the evaluated resources provided a definition of threat assessment, described the purpose of threat assessment guidelines, and highlighted the need for determining whether a student poses a threat in the context of threat assessment. While all of these factors are essential (Modzeleski & Randazzo, 2018), there are also very critical factors of the threat assessment process that were not widely addressed across resources, based on the findings from the

present study. For example, many resources did not incorporate a description of one of the most important features of threat assessment itself: differentiating transient threats from substantive threats; without any mention of this practice, individuals may be inclined to treat all threats equally, mirroring the highly controversial practice of zero tolerance (Borum et al., 2010). Though many of the evaluated resources made reference to "evaluating the threat" and "determining whether the student poses a threat," the majority of the resources did not include descriptions of transient, substantive, or very substantive threats. As many resources did not include descriptions of the different kinds of threats, most of the evaluated resources failed to describe appropriate responses to transient or substantive threats. Only some resources addressed conflict resolution and disciplinary options when managing transient or substantive threats of violence. Moreover, these findings suggest that while the evaluated resources generally seemed to provide sufficient background information related to threat assessment, more detailed and thorough descriptions would eliminate any ambiguities associated with the threat assessment process, ensure that threat assessment is practiced with fidelity, and help schools to comprehensively manage student threats of violence. For rural educational professionals who have limited access to resources, the lack of differentiation for what to do at varying levels of threat necessitating differing interventions and supports, coupled with a lack of guidance may not assist them to the extent that they need.

Following Up with Student Threats of Violence

Threat assessment has been described as a "support-focused" process (Modzeleski & Randazzo, 2018, p. 112). In an effort to promote the larger goal of violence prevention and to facilitate a safe and healthy learning environment for students and staff alike, the threat assessment approach emphasizes the importance of evaluating the socioemotional needs of the individuals who make violent threats or demonstrate threatening behaviors (Cornell, Allen, & Fan, 2012; Modzeleski & Randazzo, 2018). Threat assessment provides school-based professionals with the opportunity to investigate a variety of student challenges and provide integrated services accordingly (Modzeleski & Randazzo, 2018). However, across the evaluated resources, there was a

clear lack of information on mental health assessment, safety planning, and intervention. The reason behind the dearth of representation in these areas is unclear. It is possible that because threat assessment has been historically viewed as a disciplinary approach (Modzeleski & Randazzo, 2018), even the developers of threat assessment guides or tools may unintentionally fail to separate themselves and their work from that belief. Another potential reason for the gap in information is that mental health and related supports may be viewed as separate from issues involving threat assessment, which is less-than-helpful for practitioners in areas where they require supports for how to help those students who display threat toward others. Nevertheless, no matter the reason, these findings illuminate the need for threat assessment guides to increase attention in the areas of mental health, safety plans, and interventions when threat assessments are involved.

Implementing Threat Assessment Practices in Schools

Many of the evaluated resources from the present study were limited in describing threat assessment implementation. Most resources failed to describe important factors related to implementing threat assessment practices in schools, including policy changes, training, and other preparatory procedures needed for effective implementation. Unlike manualized programs or curricula that have strict instructions and procedures, the threat assessment model by design follows a flexible set of guidelines (Cornell et al., 2012). Nevertheless, all systems-level change requires thoughtful consideration of the implementation process in order to ensure its sustainability and success (Merrell, Ervin, & Gimpel-Peacock, 2012). For schools seeking to incorporate threat assessment practices throughout their systems, it is necessary to gain buy-in, negotiate policies, mold the threat assessment model into existing structures, and prepare the resources that are necessary for the process to function in schools. While these considerations may seem intuitive to some, they cannot go without mentioning. It is still important that threat assessment guidelines explicitly describe the implementation process and related considerations so that threat assessment practices are employed appropriately. For rural schools, in particular, which likely already face a variety of barriers, a lack of information related to

implementation may create unwanted complications when introducing threat assessment practices on a systemwide level.

Preventing Violence in Schools

The ultimate goal of threat assessment practices is to prevent violence and to promote the safety and well-being of all individuals (Modzeleski & Randazzo, 2018). Surprisingly, the evaluated resources made little to no mention of prevention programs, restorative discipline, or positive behavioral approaches to discipline as they relate to threat assessment and violence prevention. However, every evaluated resource did describe aggressive traits and depressive traits as pathways to youth violence. Based on this finding, it seems as though developers of threat assessment guidelines are focused on identifying indicators of potentially threatening behavior as a preventative measure; however, this practice alone is not sufficient for preventing violence in schools. Further, several of the evaluated resources also placed great focus on incorporating law enforcement into threat assessment procedures as a means to prevent potential acts of violence. Though involvement with law enforcement is important, it is not the only way to stop violence from happening—nor should it be. Violence prevention does not fall to the responsibility of one police officer or one school psychologist; it requires a team-based effort, and more importantly, it requires a change in school climate (Modzeleski & Randazzo, 2018). In a rural school setting where student support personnel may be the lone practitioner and community resources may be constrained, the need for team-based approaches for supporting at-risk students is even more apparent. Nationwide shortages of school psychologists, counselors, and other school-based professionals, especially in rural communities (Clopton & Knesting, 2006), is a crisis that makes finding solutions challenging. Moreover, it appears as though some key messages regarding schoolwide violence prevention are missing from the evaluated online threat assessment resources and rural educators are in a situation that requires more supports in this area.

Limitations

There are some limitations that must be considered when interpreting the results of this study. One limitation is the sample size of this study. We recognize that the inclusion and exclusion criteria

were rather stringent, which ultimately reduced the number of resources that were included in the sample. Though it is hoped that administrators and other school personnel would only seek out resources from credible sources, it is likely that many may consult the commercialized *.com* resources that were excluded from the present analyses. Further, schools seeking out threat assessment guides may not exclusively search for information that is formatted in portable, word processed documents. Future studies may consider creating inclusion and exclusion criteria that is less restrictive to include a wider variety of resources, from a wider range of sources. We are also aware that the evaluated resources were quite varied from one another, ranging from short, one-page checklists, to thorough and lengthy guidelines. As such, the differences in the makeup of each resource may introduce some variability into the study that may have confounded some of the results. Additionally, we also acknowledge that the findings of this study are reliant upon the coding of from three different individuals. Though IRR values were calculated and consensus coding was employed, it is possible that other research teams may have interpreted the data somewhat differently. Consequently, some caution must be used when interpreting the results.

Implications and Future Directions

Schools seeking out resources on the internet should use caution, as online resources may not include all of the evidence-based recommendations from the CSTAG (Cornell, 2018a); these resources may be limited in their scope and quality—even if they come from credible sources. There are particular components of the CSTAG that may not be well-addressed in online resources, namely, details about the threat assessment team, appropriate practices for responding to substantive threats, mental health assessment, intervention, and schoolwide prevention. Though rural schools may seek out threat assessment guidelines from the internet due to various extenuating challenges, they should be aware that they may need to gather additional information in the aforementioned areas to adequately incorporate threat assessment procedures into their systems.

Given that the evaluated resources demonstrated some limitations, it is important for future developers of threat assessment tools to address the identified gaps when creating new guidelines, tools, or resources. If free online resources continue to demonstrate these inadequacies, rural schools may consider purchasing Cornell's (2018a) CSTAG. Though rural schools may face financial limitations, the CSTAG is a relatively inexpensive and evidence-based tool that comprehensively addresses all aspects of threat assessment. School personnel from rural schools may also wish to consult with other personnel in their area or from nearby schools that have implemented threat assessment procedures to consider what may be feasible in their locale (Modzeleski & Randazzo, 2018). Future researchers would do well to continue comparing free online threat assessment resources to the CSTAG to monitor progress over time, identify any changes in content, and make appropriate suggestions for more disadvantaged or vulnerable schools.

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