Planning for a Crisis, but Preparing for Every Day: What Predicts Schools' Preparedness to Respond to a School Safety Crisis?

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This study aimed to identify potential gaps related to crisis preparedness at 98 public secondary schools. We focused on crises that may occur following a substantiated eminent threat of school violence. Crisis preparedness data collected by trained external assessors captured knowledge of the procedure for responding in a safety-related crisis and process for notifying school staff, as well as the posting of the crisis plan in school locations. Data were analyzed in conjunction with data on student- and staff-reported school climate, school demographics, and external observations of the school. Analyses indicated that the staff were least aware of the process for *notifying* staff that a crisis was occurring. Middle schools, schools with higher levels of school disorder, and those with poorer reading and math scores were less likely to know the procedure, know the notification process, and have the plans posted in all locations. Schools also need to improve posting of school crisis procedures in shared and open spaces, such as the cafeteria and gymnasium; this is especially critical given that many school shootings occur in these large open spaces. Multilevel analyses indicated that staff perceptions of safety were significantly higher in schools in which the procedure was posted in all locations. Together, these findings provide evidence of a link among crisis planning, school context, and school climate, and complement the need for additional training on what to do following the substantiation of a credible and eminent threat.

Keywords: school safety, school climate, crisis planning, prevention, threat assessment, school processes

INTRODUCTION

Many researchers, families, practitioners, educators, and policy makers have expressed increased concerns regarding school safety in response to the recent increase in school shootings (Federal Bureau of Investigation, n.d). Federal efforts, such as *Now Is the Time* initiative (White House, 2013), noted that it is "essential that schools have in place effective and reliable plans to respond" to school shootings and other types of violence-related emergencies. In response to the recent uptick in school shootings, multiple researchers, professional organizations (Flannery et al., 2019), and policymakers (US Department of Education, 2018) also have highlighted the significance of school safety and crisis planning and prevention. Specifically, a "crisis is a situation where schools

could be faced with inadequate information, not enough time, and insufficient resources, but in which leaders must make one or many crucial decisions" (US Department of Education Office of Safe Drug-Free Schools, 2003). As such, crisis planning and management should include processes for mitigation/prevention, preparedness, response, and recovery. As a result, the recommended approaches for responding to specific types of crisis varies and change based on emerging evidence. For example, best practices in the field related to safety-crisis have shifted in recent years from more traditional "lockdown" approaches focused on securing persons in classrooms, to a more "active response," which includes running, hiding, and in some instances approaching the shooter. Given these changes, the seriousness of these issues, and the required involvement of school staff, it is imperative that we explore school staff members understanding of their schools' safety-related crisis plan.

The increased attention to school safety issues, including the use of prevention programming, enhanced security measures, and crisis assessment procedures is critical for advancing the field (Flannery et al., 2019), and potentially helpful for school staff who are often on the front lines of a safety crisis. Yet there is a limited research on the critical elements of school crisis preparedness (US Department of Education Office of Safe Drug-Free Schools, 2003). In fact, there is some concern that an excessive focus on school safety measures may actually make students and staff feel *less* safe, as it may contribute to a sense of vulnerability, anxiety, and hypervigilance (Lindstrom Johnson et al., 2018). Nevertheless, such responses to a school safety crisis, whether personally experienced or exposed to in the media, can heighten attention to issues of safety and motivate schools to develop and provide training on a plan for managing such situations. Actually having a crisis plan is just one aspect of the process, communicating the plan and having staff members remember, procedurally, what to do for all students in these instances is equally important. Threat assessment aims to systematize response to potential threats and thus awareness of the process is a critical component. This may also relate to ensuring appropriate communication upon disclosure of threats as often threats are communicated with members of the school staff not on the threat assessment team (Cornell, 2020).

The overarching goal of this study was to identify potential gaps related to school crisis preparation, with a particular focus on (1) knowledge of the procedure for responding in a crisis, (2) process for notifying school staff, and (3) the posting of the crisis plan in specific school locations. We leveraged data collected from outside assessors from middle and high schools to identify potential gaps in these three areas of crisis preparedness. We focused specifically on secondary schools, as the rates of school crisis and discipline problems are higher at this grade level compared to elementary schools (US Department of Education, 2018). We then explored the extent to which these three aspects of preparedness varied as a function of perceptions of school climate, school characteristics, and external ratings of the school environment, as these analyses may help identify schools in greatest need of professional development and training related to crisis preparedness. Having an enhanced understanding of the gaps in school safety and crisis responses may inform further

TABLE 1 | School-level demographics and correlations between school-level and the three crisis indicators.

School-level variables	Means (SD)	Notification	Location	Procedure
High school (vs. Middle)	0.59 (0.49)	0.043	0.053	0.300**
Enrollment	1077.4 (427.34)	−0.001	−0.075	0.066
Minority students (%)	56.70 (25.75)	−0.134	−0.031	−0.134
Attendance (%)	93.94 (1.37)	0.165	0.085	0.046
FARMs (%)	40.53 (17.53)	0.041	−0.059	−0.160
Mobility (%)	18.14 (15.74)	−0.100	−0.066	0.014
Suspension (%)	13.83 (10.80)	−0.088	−0.099	−0.190
Appearance[SAfETy]	6.60 (1.15)	−0.116	0.012	−0.098
Disorder[SAfETy]	3.28 (1.56)	−0.169	−0.238*	−0.108
Surveillance[SAfETy]	9.35 (4.55)	−0.004	−0.176	−0.006

*p < 0.05; **p < 0.01. School type: was coded 0 = middle school, 1 = high school. FARMs = percentage of students qualifying for free and reduced price meals. The Appearance, Disorder, and Surveillance variables represent mean observed composite scale score on the SAfETy.

professional development of school staff and school leaders to in turn reduce response times, confusion, and potentially life-threating errors when faced with a school safety crisis. This may be a needed component of threat assessment training for schools.
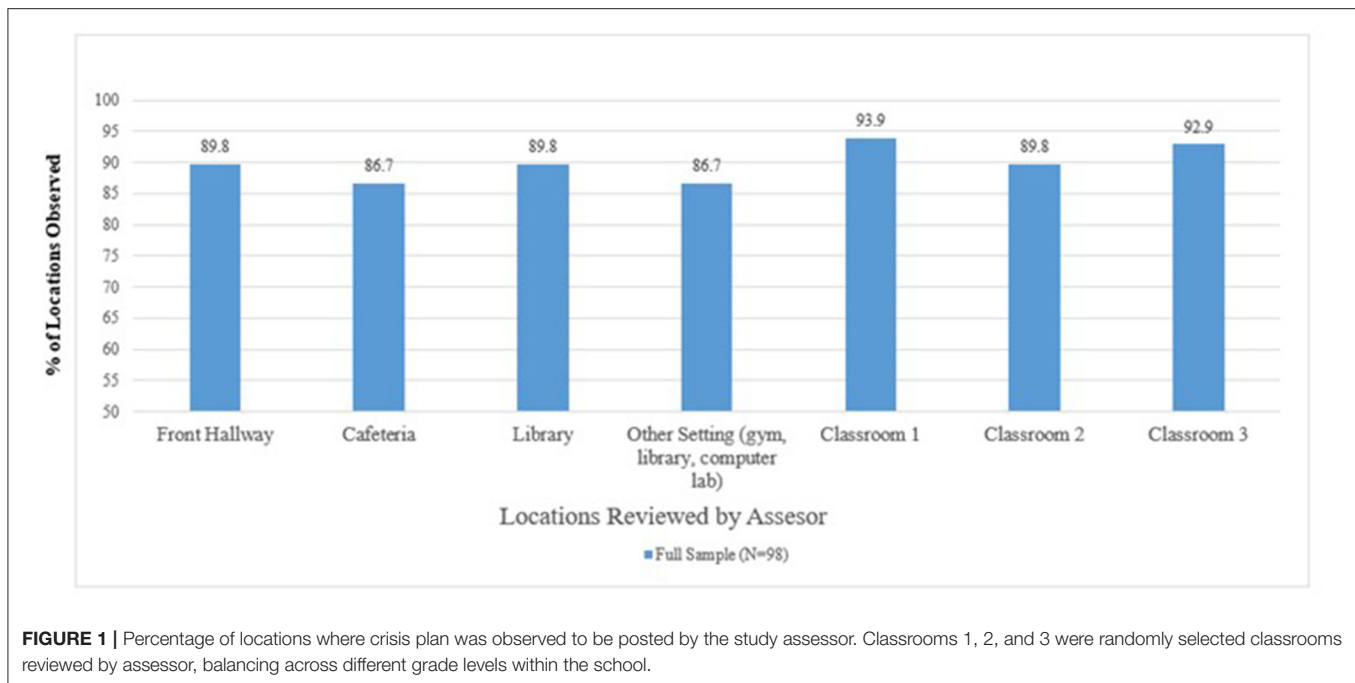
MATERIALS AND METHODS

Data were collected from 98 public schools (40 middle and 58 high) in a mid-Atlantic state. The schools spanned rural, suburban, and urban fringe contexts and served a diverse student body. See **Table 1** for school demographics.

Instruments and Procedures
An external evaluator following a formal training protocol and reliability assessment (see Debnam et al., 2012) scheduled a one-day visit to each school to administer the *School-wide Evaluation Tool* (SET; Sugai et al., 2001). SET data were collected using a written protocol, which includes brief interviews with administrators and 12 randomly-selected school staff members, a tour of the school, and a review of materials (e.g., posted signage, written plans and protocols, training plans). Specifically, the SET assessed whether school staff agreed with the administration on how staff will be *notified* (e.g., code word, how they would be notified of a safety emergency) of a safety crisis (e.g., stranger in building with a weapon) and the *procedures* for responding to a crisis. In addition, the evaluator recorded the posting of the crisis plan across seven pre-determined school *locations* (e.g., hallways, cafeteria, classroom) during the assessment.

School climate data came from the *Maryland Safe and Supportive Schools Climate Survey* (MDS3; Bradshaw et al., 2014), which was administered anonymously to students and staff at each school to assess perceptions of safety, engagement, and environment. Student- and staff-report scales were adapted from previously developed measures and have demonstrated strong psychometric properties (Bradshaw et al., 2014). This measure has robust psychometric properties, and has demonstrated strong

FIGURE 1 | Percentage of locations where crisis plan was observed to be posted by the study assessor. Classrooms 1, 2, and 3 were randomly selected classrooms reviewed by assessor, balancing across different grade levels within the school.

measurement invariance across middle and high schools (see Waasdorp et al., 2019).

The *School Assessment for Environmental Typology* (SAfETy; Bradshaw et al., 2015) was administered by a second set of trained external assessors who rated the presence/absence of various indicators across multiple school locations (e.g., alcohol bottles in playing fields, drug paraphernalia in playing fields, broken lights in hallways) to create Disorder, Surveillance, and Appearance scales (Lindstrom Johnson et al., 2018). For additional data and information on the reliability and training for the SAfETy, see Bradshaw et al. (2015).

School demographic data (e.g., suspensions, enrollment, attendance, free or reduced meals rate [FARMS]) were retrieved from the State Department of Education.

RESULTS

The biggest inconsistencies were in regard to the process for *notifying* staff that a crisis was occurring. Specifically, in approximately half of the schools (55.1%), all of the staff who were interviewed were aware of how they would be notified, whereas a quarter of the schools had <80% staff aware of how they would be notified. When it came to knowing what to do (i.e., procedure), ∼77.6% of schools had all staff who were aware of the procedure, whereas 7.15% of the schools had <90% of staff who knew the procedure. With regard to the posting of the procedure in the 7 specified locations, 70.4% of the schools had the procedure posted in all locations; whereas 12.2% had the plan posted in 5 or fewer locations; the cafeteria (13.3% not posted) and non-classroom activity space (i.e., gym, computer lab; 13.3%) were the locations where the plan was the least likely to be posted (see **Figure 1**).

The correlation analyses indicated that high schools were more likely to know the procedure for how to respond, and that higher disorder was associated with fewer locations where the procedure was posted (**Table 1**). Regression analyses (**Table 2**), which included a number of school-level covariates, further suggested that schools with a higher level of disorder, based on external observer ratings, were less clear on the notification process, procedure for responding, and had fewer locations where the procedures were posted. Similarly, both higher suspensions and being a middle school were associated with being less likely to know the procedure to respond, whereas higher attendance rate was associated with greater knowledge of the notification process. Finally, the multilevel analyses (not tabled) indicated that student perceptions of safety were inversely associated with suspension rates ($\beta_{student} = -0.010$, $p = 0.020$), but positively associated with attendance rates ($\beta_{student} = 0.325$, $p = 0.002$). Moreover, staff perceptions of safety were positively related to the number of locations in which the procedure was posted ($\beta_{staff} = 0.487$, $p = 0.008$); however, neither student- nor staff-reported safety was related to knowing the procedure or the notification process.

DISCUSSION

The overarching goal of this study was to identify gaps in crisis planning and response in secondary schools. In exploring this issue, we drew upon multiple sources of data, collected from external assessors, outside observations, students, staff, and administrative records. Together, the data suggested that although there was generally a high level of awareness of crisis procedures and consistent posting of the procedure, there was greater inconsistency in the notification process (e.g., code word,

TABLE 2 | Logistic regression analyses for school-level demographics and the mean SAfETy scores for the three crisis indicators.

Predictor variables	Notification			Location			Procedure		
	Coefficient	S.E.	Odds ratio	Coefficient	S.E.	Odds ratio	Coefficient	S.E.	Odds ratio
Intercept	−63.992	28.049	0.000*	−7.537	26.499	0.001	−47.319	39.117	0.000
High school (vs. Middle)	0.691	0.653	1.995	1.027	0.732	2.794	4.106	1.285	60.690*
Enrollment	0.001	0.001	1.001	0.000	0.001	1.000	−0.001	0.001	0.999
Minority students (%)	−0.027	0.014	0.973*	0.003	0.015	1.003	0.004	0.023	1.004
Attendance (%)	0.694	0.286	2.001*	0.108	0.269	1.114	0.563	0.404	1.757
FARMs (%)	0.062	0.026	1.064*	−0.001	0.027	0.975	−0.005	0.034	0.995
Mobility (%)	0.001	0.019	1.001	0.005	0.019	1.005	0.089	0.080	1.093
Suspension (%)	−0.024	0.026	0.976	−0.027	0.026	0.974	−0.096	0.039	0.909*
Appearance[SAfETy]	−0.344	0.248	0.709	−0.037	0.259	0.963	−0.539	0.401	0.584
Disorder[SAfETy]	−0.438	0.196	0.646*	−0.432	0.206	0.649*	−0.754	0.316	0.471*
Surveillance[SAfETy]	0.031	0.060	1.036	−0.064	0.064	0.938	0.099	0.093	1.104

*$p < 0.05$. School type was coded 0 = middle school, 1 = high school. FARMs = percentage of students qualifying for free and reduced price meals. The Appearance, Disorder, and Surveillance variables represent mean observed composite scale scores on the SAfETy.

how they would be notified). High schools also appeared to be better prepared when it came to having awareness of the procedure for managing a crisis, suggesting that additional training is needed in middle schools. In addition, schools also need to improve posting of school crisis procedures in shared and open spaces, such as the cafeteria and gymnasium; this is especially critical given that many school shootings occur in these large open spaces (US Department of Education, 2018).

Although the associations examined were cross-sectional and causality cannot be inferred, school staff also felt safer in schools where the procedure for managing a crisis was posted in more locations across the school. The results more generally suggested a link between school climate and crisis planning, whereby more disordered schools may be less likely to be prepared for responding in a crisis. These findings are consistent with prior studies and the recent report of the *Federal Commission on School Safety* (US Department of Education, 2018) which have concluded that school climate is critical to preventing school violence (Flannery et al., 2019). Moreover, school staff need training to enhance preparedness, and to reduce gaps between what is intended by the administration and what are known procedures by school staff in a crisis. Research has emphasized the importance of consistent training for high quality implementation of the core features of evidence-based threat assessment models (see, for example, Cornell et al., 2017).

Taken together, these findings provide rather compelling evidence of the importance of providing ongoing training, especially regarding the *notification* process. Additional training is needed to ensure that staff are aware that a crisis is occurring, in order to trigger a rapid response. This is particularly important during threat assessment so that the notification can begin the process of evaluating if there is a threat. Regular review of procedures and the notification process is needed to ensure that staff, and in turn students, are prepared to respond efficiently and appropriately in a crisis situation. These findings extend previous studies by highlighting the importance of regular training for both students and staff on crisis procedures as being critical to enhancing school preparedness (Ramirez et al.,

2009). These gaps appear to be particularly salient for middle schools and those schools with higher disorder, as indicated by elevated suspensions, external observations of disorder, and low attendance. This is important as research suggests the importance of dynamic and situational factors as precursors for violence (Cornell, 2020).

There are a number of important implications of these findings. For example, members of threat assessment teams can play an important role in this process by providing consultation, training, and ongoing monitoring of the staff members' knowledge of the procedures to use in a school safety crisis. It is also important to conceptualize this issue as a public health concern (Flannery et al., 2019), and accordingly help schools receive training and support across all three levels of preventive intervention. More specifically, crisis preparedness is considered a *secondary intervention* which outlines the steps to be taken in the event of a crisis. As such, it is a critical element of a school safety plan. But also important are *primary prevention* activities, such as positive behavior interventions and supports (Bradshaw et al., 2012) and social-emotional learning programs (Bradshaw, 2015); these research-based models are also needed to provide universal supports to all students on an everyday basis to help prevent problems before they occur. Moreover, these prevention approaches can also improve school climate (i.e., safety and disorder; Bradshaw et al., 2014), which was shown in the current study to be associated with better preparedness for a crisis. In addition, *tertiary intervention*, which involves long-term, follow-up mental health supports to victims of a crisis is a critical support system following an event.

These findings highlight the importance of ongoing training for all school staff in crisis planning to ensure a timely and accurate response. This training needs to be extended beyond select members of the school, such as the threat assessment team, to the broader school staff in order to ensure the goals of preventing a safety-crisis are met (Cornell, 2020). In addition, crisis management and planning needs to be situated within tiered prevention models in order to both prevent and identify a broad range of threats to school safety

(Flannery et al., 2019). Together these interventions allow schools to not just be prepared for a crisis, but improve the school environment and allow for students to fully participate in learning.

DATA AVAILABILITY STATEMENT

Data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by University of Virginia, Social and Behavioral Sciences. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

AUTHOR CONTRIBUTIONS

CB conceptualized the study, oversaw the statistical analysis, and led the writing of the manuscript. KD led the collection of the data for the study and contributed to the writing of the manuscript. JK performed the statistical analysis and contributed to writing of the manuscript. SL contributed to writing of the manuscript. All authors contributed to the article and approved the submitted version.

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