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ORIGINAL ARTICLE

Tabletop scenario exercises as a training tool for improving response to workplace violence

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Abstract

The objective was to evaluate the effectiveness of tabletop scenario exercises in improving threat management teams' response to workplace violence. Twenty-two threat management teams (TMTs) from a large multinational manufacturing company participated in two tabletop scenario exercises, one of which presented a worker-on-worker bullying case and the other an interpersonal stalking scenario. TMTs assessed the level of the threat, which steps they should take first in the response, how quickly steps needed to be initiated, and who should be involved, following prescribed threat response and incident management protocols developed from security industry standards. Tabletop exercises improved the teams' ability to correctly assess the scenario's level of threat and the comprehensiveness of the response. Improvements were particularly noted for teams with smaller caseloads. Tabletop scenario exercises can be valuable tools for evaluating how companies respond to simulated threats of workplace violence and for identifying the successes and gaps in the response.

Keywords Tabletop exercise · Workplace aggression · Threat management team · Bullying · Stalking

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Introduction

Homicides accounted for more than 450 workplace deaths in the United States in 2017 and were the second leading cause of workplace death among women (BLS 2018). However, less than one-third of businesses in the U.S. report having a workplace violence prevention program (BLS 2006). In a recent survey of large employers, workplace violence was the second leading security threat facing U.S. companies (Securitas 2016). Effective training methods, implementing best practices, and conducting threat assessments were among the top security management concerns reported by these employers.

Worker-on-worker violence, which includes violence between employees and past employees, and violence committed by personal acquaintances, which includes relatives and domestic partners, are significant concerns to employers. Over the past 20 years, homicides related to worker-on-worker violence have increased by more than 100%, and homicides related to personal acquaintances have increased by 60% despite decreases in workplace homicides overall (BLS 2018; Duhart 2001). Personal losses to victims of workplace violence include increased fear levels, decreased morale and increased absenteeism, and high costs incurred by the employer through workers' compensation and costs associated with absenteeism and injury leave (BLS 2006).

Best-practice guidelines for workplace violence response and management have been guided by standards developed by the American Society for Industrial Security and the Society for Human Resource Management (ASIS/SHRM 2011), through expert panels of the Federal Bureau of Investigation's Critical Incident Response Group (FBI 2004) and by industry leaders in threat management and response (Holbrook et al. 2018). Elements of these program guidelines include workplace violence prevention policy; composition and responsibilities of threat management teams; how to recognize potential warning signs of threatening behavior, threats, and acts of violence; processes and guidelines for assessing and responding to threat levels; documentation and record keeping (intake and case management); reporting systems; incident and post-incident management processes; and maintaining metrics. These guidelines are comprehensive and offer a structure for companies to develop workplace violence prevention and response programs. However, there is little understanding of how companies apply these guidelines, train their employees to implement programs, and evaluate program effectiveness.

Tabletop scenario exercises have been effectively used to measure responses to threats from natural disasters and bioterrorism (Dausey et al. 2007; FEMA 2013). The goals of disaster preparedness and the prevention and response of workplace violence have several common features. For example, both require early identification and communication about a potential threat, quick and appropriate actions taken by a variety of different positions within the company, and clear communication and follow-up. However, the effectiveness of applying tabletop scenario exercises to train companies in how to respond to workplace violence has not been evaluated.

In collaboration with a multinational manufacturing company of more than 160,000 employees, we evaluated the effectiveness of tabletop scenario exercises

in improving their threat management teams' (TMT) response to two scenarios of workplace violence: (1) an incident of worker-on-worker violence and (2) an incident of stalking by a previous domestic partner of a company employee. We evaluated the effectiveness of using a multidisciplinary approach to address the threats, the accuracy in assessing the levels of threat, and the comprehensiveness of the response.

Methods

Study population

Threat management teams are integral to an effective workplace violence prevention and response program (ASIS/SHRM 2011; Holbrook et al. 2018; Peek-Asa et al. 2017). These teams are responsible for responding to threats and incidents of workplace violence, and they are the line of authority and communication when reports are made. Their primary mission is to assess the likelihood of violence and determine the best means of intervention. An optimal response requires accurate assessment of the level of threat so that the appropriate resources are devoted to the response. Under-assessment of the threat could lead to worsening of the situation, while over-assessment of the response could lead to resource utilization that is not warranted based on the threat. Optimal response also requires balance of investigation and intervention, while considering the needs for consultation, notification, and documentation (Peek-Asa et al. 2017). This study used tabletop training to assess performance on these response components.

Twenty-two threat management teams (TMTs) from a large multinational manufacturing company participated in two tabletop scenario exercises at five company regional training seminars. The TMTs were multidisciplinary, including individuals from various departments within the company: security and fire protection, human resources, corporate investigations, employee assistance programs, ethics, health services, and legal. Each team averaged 7 members (range = 3–13).

Tabletop scenario exercise

A tabletop scenario exercise is a participatory problem-solving session where communication and decision-making processes can be systematically evaluated while a team responds to a simulated threat scenario (FEMA 2013). The goal of tabletop exercises is for stakeholders to gain experience in applying policies and procedures, evaluate areas of success and failure, and identify methods to improve response.

Two scenarios were presented to the TMTs, both of which were hypothetical cases in which current employees of the company were threatened. One scenario involved an incident in which one employee was bullied and the other involved an employee who was being stalked by another employee with whom the victim had an interpersonal relationship. To begin the scenario exercises with the TMTs, an experienced moderator presented a written scenario that described the potential

threat. The teams then assessed the level of the threat, which steps they should take first in the response, how quickly steps needed to be initiated, and who should be involved. The scenario and steps followed a prescribed threat response and incident management protocol developed from security industry standards (ASIS/SHRM 2011; Holbrook et al. 2018) and adapted by the research team (Peek-Asa et al. 2017) (Table 1). These protocols included steps to (1) identify the initial level of threat, (2) investigate and reassess the threat level, (3) determine intervention and referral measures, and (4) monitor the case once victim, perpetrator and workplace interventions were put in place.

Table 1 Scenarios describing the potential threats as provided to the Threat Management Teams

Scenario 1: Bullying scenario
Letter sent to Human Resources:
I work on an assembly line here in < city > . We have a situation that makes it very hard to work. Our boss, Mr. Sims has a "favorite" employee, and this guy really is a case. His name is John Andrews. He bosses people around, gets in our faces, and can be a real aggressive jerk. Our boss asks this guy to take care of his work for him, like when the line is down he wants this guy to fix it instead of him. Well, he fixes it but in a really bad way, and when we complain he yells at us, threatens us, and then tells the boss that *we* are the problem. The boss doesn't do anything because he likes this guy. At least one guy, Ken Egan, complained to the boss, and now he's afraid the boss and this guy John Andrews have it in for him. On three separate occasions, I've seen Andrews blow up in Egan's face, and it's getting worse. Andrews intimidates and bullies us sometimes, especially Egan. The last time, Andrews blocked Egan from his work station because he thought Egan's break was too long—looked like they were going to duke it out. It's getting real bad down here so I thought I should say something. I'm not signing this because I'm worried they'll have it in for me, too.
Scenario 2: Stalking scenario
An HR manager received the following notes from an interview that manager, Ann Thompson, had with one of her employees, Joan Hollings.
Date: July 6, 2010; Time: 8:20 AM
Joan Hollings a twenty-seven-year-old HR specialist with the company recently transferred from an East Coast facility to a new plant. Ms. Hollings approached me with the following information:
On her way to work today, she noticed that her car parked in her apartment complex had been "keyed"—a large scratch the length of her vehicle on the driver side. She thought it might be the work of vandals in the neighborhood. She was late and decided not to contact police or property management, but would deal with that later.
When she got to work, she turned on her computer to check her email. She saw an email from an unfamiliar address and opened it up. It said "I miss you!!" And was unsigned. Ms. Hollings looked disturbed and said "It's not over." Ms. Hollings said she befriended a young man, Peter Tork, when taking a continuing education course in the East Coast plant. They worked on class projects together, and often shared drinks and dinner. On a number of occasions, he asked if she would date him. She told him "no" as she recently left a bad relationship with a co-worker from the East Coast plant and didn't want to get involved with anyone right now. She thought Tork was ok with that, and they continued to see each other during class. When the class was over, they went their separate ways.
A few months afterwards, she started to receive flowers at her apartment from "an admirer from afar" as well as messages both to her work and personal email accounts with similar greetings. She thought they were from the student (Tork), but couldn't be sure. She never reported this to anyone in the East Coast plant. When the opening came up in the new plant, she jumped on it to be closer to family, which also got her away from this situation. So, she didn't think about it anymore until today.

Data collection

Throughout the tabletop scenario exercise, teams were guided through semi-structured surveys to document their response. Each TMT assigned an individual to document the specific actions taken at each step in the scenario. The instrument followed the standard threat response and incident management protocols, i.e., initial assessment, investigation and reassessment, intervention and referral, and case monitoring (Fig. 1). In the first scenario, teams were provided with an anonymous letter to a human resources representative describing an incident of bullying (Table 1). In the second scenario, teams were provided with notes from a human resources interview with an employee being stalked by a perpetrator possibly known to the employee (Table 1).

The teams were asked to first individually document their initial assessment of the threat level. They were then asked to discuss the incident as a team, document the level of threat decided through team consensus, and describe the next steps they would take. Teams were given additional information (injects) based on the steps they identified. These injects described hypothetical interviews and findings from internal (e.g., human resource records, security records, forensic analyses of computers) and external (e.g., law enforcement) records. Injects were developed by the research team and company, and reflected priority investigative steps established in

Fig. 1 Threat response and incident management protocol used to guide TMTs through tabletop scenario exercises

the company's workplace violence prevention policies. Using the information from the injects, TMTs were asked to reassess the level of threat and determine which steps they would take next in the case. At this point, the expectation was that teams would be moving toward the intervention and referral phase of the protocol. Some teams requested additional information for which injects had not been prepared. Those additional requests were documented but not incorporated into the scenario exercises by the moderator.

At the beginning of each phase in the protocol, questionnaires were distributed to the individuals and teams, and picked up by members of the research team at the conclusion of the phase. Each phase included time for the moderator to present and facilitate discussion of the scenario and for the teams to document their steps. Tables were situated to reduce the risk of contamination between teams. Each scenario took approximately two hours to conduct, including time for data collection. The study was approved by the Institutional Review Boards at the University of Iowa and University of North Carolina at Chapel Hill. Permission to use participant data was included in the informed consent.

Measures and analysis

The success of the tabletop scenario exercises was measured first by examining how well individuals and teams assessed the level of threat against the company's policies, comparing accuracy of the assessment in the Bullying scenario with assessments in the Stalking scenario. The level of threat was categorized as under-assess, assess accordingly, and over-assess, using company guidelines to benchmark the most appropriate threat level. Success of the scenario exercises was also measured by examining the comprehensiveness of the investigation, comparing the Bullying scenario with the Stalking scenario, and how comprehensiveness of the teams' investigations affected their reassessment of the threat level. Comprehensiveness was defined as the percentage of prepared injects the teams requested during their investigation. The total number of injects prepared for the Bullying scenario was nine, and the total number for the Stalking scenario was 13. Finally, we examined the degree to which teams identified priority actions in the intervention/referral and monitoring phases of the scenarios. This was measured as the percentage of priority actions, defined by the company, which the teams documented. The total number of priority actions defined by the company for the intervention/referral phase was 11 in the Bullying scenario and 6 in the Stalking scenario.

Percentages were used to examine the distribution of responses for the initial level of threat, comprehensiveness of the investigative steps, reassessment of threat following investigation, and comprehensiveness of the intervention/referral and case monitoring steps, for all teams combined and by each team's caseload (smaller caseload, larger caseload). Caseload was defined as the estimated average number of cases investigated per year over the last five years. The categories, "smaller caseload" and "larger caseload" were defined using the median cutpoint of the caseload distribution. The Wilcoxon rank-sum test was used to compare distributions by caseload.

Results

Tabletop scenario exercises

Phase 1: initial assessment of threat level

Approximately 40% of the individual responses (prior to discussion as a team) correctly assessed the initial level of threat, as benchmarked by company policies, in the Bullying and Stalking scenarios (Table 2). Following team discussion, 41% of the teams correctly assessed the threat level in the Bullying scenario and 59% in the Stalking scenario. Increased accuracy in threat level assessment was most pronounced among the teams with smaller caseloads, where 25% correctly assessed the threat in the bullying scenario compared to 67% in the stalking scenario. Approximately 20% of the individual participants over-assessed the initial level of threat. However, when these individuals worked in teams, only 9% of the teams over-assessed the threat level. Approximately 50% of the teams under-assessed the level of threat in the Bullying scenario, compared with 35% in the Stalking scenario.

Phase 2: investigation and reassessment of threat level

During the investigation phase, teams requested 82% of the prepared interview injects in the bullying scenario, which decreased to 66% in the stalking scenario (Table 3). In both scenarios, the teams with larger caseloads requested more interview injects to conduct their investigations, compared to the teams with smaller caseloads. Teams requested less than 50% of the prepared internal source injects in both scenarios. Internal sources included such items as referencing written policies and procedures from the company's threat management program, reviewing employee work histories, checking security records, and consulting with the company legal experts. In the stalking scenario, the teams with larger caseloads utilized more internal sources and external sources for their investigations than the teams with smaller caseloads.

Following the investigation, 68% of the teams in the bullying scenario correctly reassessed the level of threat, while 41% of the teams in the stalking scenario correctly reassessed the threat level (Table 4). When examined against the initial level of threat (i.e., before the investigation [Phase 1]), there was an improvement in the percentage of teams in the Bullying scenario correctly reassessing the threat level (i.e., after the investigation [Phase 2]) (41% in Phase 1 vs. 67% in Phase 2). In contrast, the percentage of teams correctly assessing the threat level in the stalking scenario before, compared to after, the investigation decreased (59% in Phase 1 vs. 41% in Phase 2). More than half of the teams over-assessed the threat level in the stalking scenario following the investigation.

Phases 3 and 4: intervention/referral and monitoring/case management

Teams in both the bullying and stalking scenarios identified a small percentage of intervention and referral steps suggested by company guidelines, and these

Table 2 Individual- and table-level initial threat assessments, by scenario

Initial threat assessment	Bullying scenario				Stalking scenario			
	Individual participants[a] N (%)	Table			Individual participants[b] N (%)	Table		
		All teams N (%)	Teams with smaller caseloads N (%)	Teams with larger caseloads N (%)		All teams[c] N (%)	Teams with smaller caseloads N (%)	Teams with larger caseloads N (%)
Under-assess	61 (37.7)	11 (50.0)	8 (66.7)	3 (30.0)	49 (35.0)	6 (35.3)	3 (25.0)	3 (60.0)
Assess accordingly	66 (40.7)	9 (40.9)	3 (25.0)	6 (60.0)	60 (42.9)	10 (58.8)	8 (66.7)	2 (40.0)
Over-assess	35 (21.6)	2 (9.1)	1 (8.3)	1 (10.0)	31 (22.1)	1 (5.9)	1 (8.3)	0
Total	162	22	12	10	140	17	12	5

[a]Missing $n=2$

[b]Missing $n=18$

[c]Missing $n=5$

Table 3 Average percentage of priority investigation responses identified by teams, by scenario and team caseload

Investigation step	Bullying scenario				Stalking scenario			
	All teams Average % injects (range)	Smaller caseload Average % injects (range)	Larger caseload Average % injects (range)	p-value	All teams Average % injects (range)	Smaller caseload Average % injects (range)	Larger caseload Average % injects (range)	p-value
Interviews[a]	81.8 (25–100)	77.1 (25–100)	87.8 (25–100)	0.13	65.5 (20–100)	56.7 (20–80)	76.0 (60–100)	0.07
Internal sources[b]	43.6 (20–100)	50.0 (20–100)	36.0 (20–40)	0.09	48.2 (0–100)	36.7 (0–80)	62.0 (20–100)	0.05
External sources[c]	n/a	n/a	n/a		53.0 (0–100)	47.2 (0–66.7)	60.0 (0–100)	0.25
All investigation steps	60.6 (22.2–88.9)	62.0 (22.2–88.9)	58.9 (22.2–66.7)	0.95	55.9 (15.5–92.3)	46.8 (15.4–76.9)	66.9 (53.8–92.3)	0.01

[a]Total injects: Scenario 1 = 4, Scenario 2 = 5

[b]Total injects: Scenario 1 = 5, Scenario 2 = 5

[c]Total injects: Scenario 1 = 0, Scenario 2 = 3

Table 4 Table-level threat assessments following investigation, by team caseload and scenario

Threat level	Bullying scenario			Stalking scenario		
	All teams *N* (%)	Teams with smaller caseloads *N* (%)	Teams with larger caseloads *N* (%)	All teams *N* (%)	Teams with smaller caseloads *N* (%)	Teams with larger caseloads *N* (%)
Under-assess	7 (31.8)	4 (33.3)	3 (30.0)	1 (4.6)	1 (8.3)	0
Assess accordingly	15 (68.2)	8 (66.7)	7 (70.0)	9 (40.9)	7 (58.3)	2 (20.0)
Over-assess	0	0	0	12 (54.6)	4 (33.3)	8 (80.0)
Total	22	12	10	22	12	10

percentages did not significantly vary by scenario or team caseloads (Table 5). The final phase of the threat response is case monitoring. In this phase, teams identified 81% of the departments within the company that should take responsibility for case monitoring in the bullying scenario, and they identified 77% of the departments in the stalking scenario.

Discussion

We found that tabletop scenario exercises can be valuable tools for evaluating how companies respond to simulated threats of workplace violence and for identifying the successes and gaps in the response. Specifically, the tabletop exercises improved the teams' ability to correctly assess the scenario's level of threat and the comprehensiveness of the response. Improvements were particularly noted for the teams with smaller caseloads.

Threat level assessment was also markedly more accurate with the team assessment when compared with individual's assessments, which supports the benefit of having multidisciplinary teams working together. Group-based, collaborative training, such as through tabletop exercises, allows participants with diverse knowledge and perspectives to problem-solve and move toward comprehensive solutions (NASEM 2018). Research suggests that collaboration and teamwork can improve a team's performance and outcomes above what individual members of the team can accomplish independently (NASEM 2018). Tabletop exercises in particular have been effective tools to improve response techniques through self- and team-reflection, to practice a team's functionality, and to increase participants' understanding of their roles in an urgent situation using a less stressful but realistic scenario (High et al. 2010).

At the end of the worker-on-worker bullying tabletop exercise, teams were better able to assess the level of threat and respond accordingly. The multidisciplinary nature of the teams likely contributed to these findings. In a study by High et al. (2010), tabletop scenario exercises resulted in participants acknowledging their need

Table 5 Average percentage of priority intervention/referral and case management responses identified by teams, by team caseload and scenario

Threat management phase	Bullying scenario				Stalking scenario			
	All teams Average % priority response (range)	Smaller caseload Average % priority response (range)	Larger caseload Average % priority response (range)	p-value	All teams Average % priority response (range)	Smaller caseload Average % priority response (range)	Larger caseload Average % priority response (range)	p-value
Intervention/Referral[a]	30.6 (0–54.5)	28.0 (0–45.5)	33.6 (18.2–54.5)	0.61	28.1 (16.7–50.0)	29.2 (16.7–50.0)	27.1 (16.7–50.0)	0.73
Monitoring/case management	80.7 (50–100)	78.1 (50–100)	83.8 (75–100)	0.42	76.7 (25–100)	74.0 (25–100)	80.0 (62.5–100)	0.62

[a]Bullying scenario: Intervention/Referral for victim, perpetrator, management, work group; $n = 11$. Stalking scenario: Intervention/Referral for victim, perpetrator, work group; $n = 6$

to enhance coordination and cooperation both inter- and intra-agency. They found that when tables included multiple disciplines and levels of government, the team's ability to respond to higher-level threats improved; there was more urgency to communicate effectively and to develop a comprehensive and realistic plan for addressing the threat. More than 50% of the participants responded to have somewhat to much more certainty in how the different agencies would interact to arrive at solutions to the threat (High et al. 2010). Another study found that tabletop scenario exercises increased participants' understanding of their agencies' roles and responsibilities and were satisfied that the team included the right mix of disciplines (Biddinger et al. 2010).

Teams requested more interview injects for the bullying scenario than for the stalking scenario, and the teams with larger caseloads utilized more internal and external resources to conduct the stalking investigation than teams with smaller caseloads. These findings are likely a reflection of the scenario types, where teams felt more prepared to respond to a worker-on-worker bullying case than an intimate partner violence (IPV) stalking case, suggesting to the company that their TMTs may need more training in how to respond to IPV cases or that company policies and procedures for handling IPV cases need to be modified. Workplace training in the assessment and response of IPV threats and acts of violence is becoming more and more important for employers. More than one-third of women in the U.S. have experienced intimate partner violence at some point in their lifetime (Smith et al. 2018), and this violence can infiltrate the workplace (Paziotopoulos 2018). Work disruption and work-related stalking are the primary tactics that abusers use to continue the abuse away from home, and these tactics can affect the physical safety and psychological well-being of the victims as well as their coworkers (Swanberg et al. 2005; Swanberg and Logan 2005; Tiesman et al. 2012; Harrell 2011). In 2017, homicides were the second leading cause of workplace death among women, and most of these homicides were perpetrated by an intimate partner or relative (BLS 2018).

Similar to other studies (Dausey et al. 2007; High et al. 2010; Lurie et al. 2004), we found that tabletop scenario exercises identified steps in the threat management process where additional training may be needed, as well as employee groups where increased knowledge and involvement in the threat management process is needed. For example, a small percentage of the teams identified priority intervention and referral recommendations for the victim, perpetrator, management, and/or work group in both scenarios. We also noted that while the multinational manufacturing company has an electronic threat management documentation system, very few of the teams mentioned documentation as a step in the threat management process. Furthermore, teams suggested that training frontline managers would be important because they are in a position to observe employee behaviors and intervene before they escalate to a violent act needing TMT involvement.

We are aware of only one other study (Gillespie et al. 2014) that has examined the effectiveness of tabletop scenario exercises in training employees on an organization's workplace violence prevention program. This other study, conducted with emergency department employees in a large healthcare system, found that tabletop scenario exercises paired with an online educational program increased employee knowledge of how to prevent, manage, and report incidents

of workplace violence (Gillespie et al. 2014). Other studies, which have evaluated implementation of state- and local-level disaster preparedness programs, have focused on biological and chemical threats (Dausey et al. 2007; High et al. 2010; Lurie et al. 2004).

This study has limitations. First, the effectiveness of the tabletop exercises was evaluated at one time point. We did not assess knowledge retention or changes in response over time as a result of the tabletop exercise training. It is well recognized that ongoing training and assessment is critical for learning and identifying needed changes (NASEM 2018). We therefore recommend that tabletop exercises be implemented on an ongoing basis to reinforce team members' roles and responsibilities, efficiently and effectively apply their company's workplace violence prevention program, identify gaps in the program, and build confidence in responding to various types and levels of threat. Second, our study examined the effectiveness of tabletop exercises as a single training platform. Studies have shown that participants of tabletop exercises have higher degrees of transferability and retention when combined with other educational programs (Biddinger et al. 2010; Gillespie et al. 2013). Furthermore, the Homeland Security Exercise and Evaluation Program supports a progressive approach to training where discussion-based exercises (such as tabletop exercises) are built upon with operations-based exercises that include drills and real-time, full-scale exercises (FEMA 2013).

Conclusion

Tabletop exercises provide an opportunity for threat management teams to practice their response to threats using real scenarios and to gain a better understanding of their role within a team. Using a tabletop exercise for training on workplace violence can identify deficits in existing plans, procedures, and resources to workplace violence prevention programs. In addition, active learning and collaborative problem-solving reinforces written policies, procedures, and processes in an organization.

Since these tabletop exercises took place, the multinational manufacturing company has used the information and lessons learned from the study to make continuous improvements with the threat management program and training for their threat management teams as well as successfully launched mandatory training for all employees throughout the company. Tabletop exercise scenarios are an excellent training tool to reinforce threat management policies, procedures, and processes while improving TMTs knowledge and experience in applying threat assessment and threat management practices.

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Declarations

Conflict of interest The authors have no conflicts to disclose.

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